Improving financial security in the context of the Environmental Liability Directive

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Study

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Improving financial security in the context of the Environmental Liability Directive
ABSTRACT

This report examines and analyses financial security for liabilities under the Environmental Liability Directive (ELD) in Member States in which it is voluntary and those in which it is mandatory (the Czech Republic, Ireland, Portugal, Slovakia and Spain).

Insurance is the only feasible type of voluntary financial security for ELD liabilities; it would prejudice an operator to set aside money in bank accounts, trust funds or similar instruments unless it is required to do so.

This report therefore focuses on insurance because the vast majority of Member States have not introduced mandatory financial security for ELD liabilities. The report discusses other financial security instruments and mechanisms in the context of mandatory financial security for liabilities under the ELD and other environmental legislation as well as environmental responsibilities.

The report finds that insurance for ELD liabilities is not generally available to most small and medium sized, as well as many large, operators in many Member States.

The report concludes that it is premature for the European Commission to recommend:

- harmonised mandatory financial security for ELD liabilities because many operators would be unable to comply with it; or
- an EU-wide fund because there is no underlying tier of insurance below the threshold for a fund.

The report further concludes, however, that effective implementation of the ELD cannot occur in the absence of insurance for liabilities under it.

The report, therefore, recommends that the Commission and Member States carry out the measures detailed in this report to increase the availability of, and demand for, insurance for ELD liabilities.
ABSTRACT

Ce rapport examine et analyse la garantie financière pour les responsabilités au titre de la directive sur la responsabilité environnementale (DRE) dans les États membres où elle est volontaire et dans ceux où elle est obligatoire (République tchèque, Irlande, Portugal, Slovaquie et Espagne).

L'assurance est le seul type de garantie financière volontaire possible pour les responsabilités liées à la DRE; il serait préjudiciable à un opérateur de mettre de l'argent de côté sur des comptes bancaires, des fonds fiduciaires ou des instruments similaires, à moins qu'il ne soit tenu de le faire.

Le présent rapport se concentre donc sur l'assurance, car la grande majorité des États membres n'ont pas introduit de garantie financière obligatoire pour les responsabilités au titre de la DRE. Le rapport examine d'autres instruments et mécanismes de garantie financière dans le contexte de la garantie financière obligatoire pour les responsabilités découlant de la DRE et d'autres législations environnementales, ainsi que des obligations environnementales.

Le rapport constate que la plupart des petites et moyennes entreprises, ainsi que de nombreux grands exploitants dans de nombreux États membres, n'ont généralement pas accès à une assurance pour les responsabilités liées à la DRE.

Le rapport conclut qu'il est prématuré pour la Commission européenne de recommander:

- une garantie financière obligatoire harmonisée pour les responsabilités liées à la DRE, car de nombreux exploitants ne seraient pas en mesure de s'y conformer; ou
- un fonds à l'échelle de l'UE, car il n'y a pas de niveau d'assurance sous-jacent en dessous du seuil fixé pour un fonds.

Le rapport conclut toutefois que la DRE ne peut être mise en œuvre efficacement en l'absence d'assurance pour les responsabilités qu'elle prévoit.

Le rapport recommande donc à la Commission et aux États membres de mettre en œuvre les mesures détaillées dans le présent rapport pour accroître l'offre et la demande d'assurance des responsabilités liées à la DRE.
EXECUTIVE SUMMARY

This report on Improving Financial Security in the Context of the Environmental Liability Directive (ELD) analyses the status of financial security for liabilities under the ELD and recommends measures to improve that status.

The report carries out the analysis by examining, discussing and analysing the following developments and fundamental issues concerning financial security in the context of the ELD:

- history of financial security in the ELD;
- environmental liabilities and environmental responsibilities;
- comparison of the ELD with similar federal legislation in the US;
- mandatory financial security for US and EU environmental liabilities and responsibilities;
- mandatory financial security for ELD liabilities in Member States;
- mandatory financial security under EU and national legislation in Member States;
- developments in US and EU environmental insurance and markets;
- availability of, and demand for, environmental insurance in Member States;
- funds, disasters, and problems involving financial security for ELD liabilities; and
- innovations for financial security in corporate law.

The report then makes recommendations for measures to improve financial security at EU and Member State level. Finally, the report makes recommendations for further work to improve the effectiveness and efficiency of the ELD.

I. APPROACH

The legal research and analysis for this report was carried out by examining and analysing primary and secondary legislation that implements the ELD and/or has provisions that mandate financial security for environmental liabilities and responsibilities in all Member States as well as guidance. In addition, academic and other literature, including articles, research papers, reports and books in Member States and other States were examined and analysed in order to attain knowledge of all aspects of financial security for ELD and other environmental liabilities and responsibilities.

The empirical research and analysis included three questionnaires to provide information on the current status of financial security instruments and mechanisms for ELD liabilities in all Member States. Meetings, telephone interviews and email exchanges were also carried out to obtain as much information as possible. The empirical research included over 4,000 emails to ensure that as much information as possible was obtained and that it was accurate.

A key factor was meaningful consultation with members of the ELD Government Experts Group and many other ELD stakeholders, especially experts in the re/insurance industry, to gather information, gain insights, and to support the report’s findings and recommendations.

The consultation also included a workshop in October 2019 with financial security experts and ELD stakeholders to discuss the researched results at that time and to gather information and obtain views from delegates to take into account in the report.

II. DEVELOPMENTS AND ISSUES

The report includes an examination and analysis of a wide range of developments and issues. The wide range was intentional because it is not possible to make recommendations on how
to improve financial security in the context of the ELD without an excellent knowledge and understanding of the many factors that influence it.

**A. History of financial security in the ELD**

The history of financial security in the ELD was controversial. Re/insurers in particular opposed its introduction due in large part to having paid out many millions of dollars in claims by re/insureds in the US for cleaning up contaminated sites under the Comprehensive Environmental Response, Compensation, and Liability Act (commonly called Superfund). They were obviously concerned about the introduction of similar legislation in the EU.

The proposed Directive that became the ELD rejected the introduction of mandatory financial security. Amendments by the European Parliament to introduce it gradually if markets for insurance and other financial security had not been established by five years after the ELD had entered into force failed. In lieu of a requirement, the ELD directs Member States to encourage the development of financial security instruments and markets.

**B. Environmental liabilities and environmental responsibilities**

The main types of environmental liabilities to which financial security applies are (1) the remediation of pollution and other environmental damage and the prevention of further damage, and (2) claims for bodily injury, property damage and (in jurisdictions that recognise it) pure economic loss that results from environmental damage.

Insurance is the predominant mandatory financial security instrument for environmental liabilities, followed by bank guarantees. A few jurisdictions accept a financial reserve in an operator’s accounts. Reserves are not, however, necessarily secure, sufficient or available when required but, rather, are vulnerable to deterioration of the operator’s financial viability as well as its potential insolvency.

Insurance is the only financial security instrument for voluntary financial security. Operators do not have bank guarantees or similar instruments or mechanisms that set aside funds for remediating environmental damage from an accident unless they are compelled to do so.

Financial security also applies to environmental responsibilities such as the closure and post closure of a landfill as required by the conditions of a permit. Financial security instruments and mechanisms for environmental responsibilities, which again are not obtained unless financial security is mandatory, include bank guarantees, reserves, and bonds. Insurance is not appropriate because it covers fortuities not certainties. If purchased, insurance is only for risks such as closure costs exceeding the estimate for them.

Mandatory financial security for environmental responsibilities is much less controversial than that for environmental liabilities. This is because environmental responsibilities inevitably occur whereas environmental liabilities may never occur.

Insurance for environmental liabilities is available, depending on individual Member States, in two main forms: stand-alone environmental insurance policies, and environmental extensions to general liability policies. Environmental extensions to property policies are available in a few Member States but their availability, and demand for them, is rare.

**C. Comparison of the ELD with similar federal legislation in the US**

The availability of environmental insurance, and the demand for it, necessarily depends on underlying environmental liabilities. If enforcement of legislation that imposes liabilities for remediating environmental damage and related claims is lax, insurers will not develop products to provide cover for them because demand is likely to be low. Similarly, businesses
will not purchase insurance for risks that are unlikely to occur.

Conversely, if the underlying environmental legislation is onerous and aggressively enforced (as in the US), insurers will develop products and businesses will purchase them.

**D. Mandatory financial security for US and EU environmental liabilities and responsibilities**

Mandatory financial security for environmental liabilities is a major driver for environmental insurance policies. Mandatory financial security for environmental responsibilities may be a major driver for other instruments and mechanisms but not for insurance for the reasons stated in section I(B) above.

Some of the main US federal (and State) environmental legislation requires certain businesses to have financial security for environmental liabilities such as remediating pollution and claims for bodily injury and property damage even though liability for the latter is imposed by State tort law and not the federal legislation.

No EU legislation requires businesses to have financial security for environmental liabilities; the requirements are all limited to environmental responsibilities usually in the form of obligations under an environmental permit or other authorisation.

A key driver for environmental insurance in the US is thus absent in the EU.

**E. Mandatory financial security for ELD liabilities in Member States**

Four Member States (the Czech Republic, Portugal, Slovakia and Spain) have introduced financial security systems specifically for ELD liabilities. Ireland has introduced a hybrid system for ELD liabilities and environmental responsibilities for holders of environmental permits. Italy has indirectly introduced financial security for ELD liabilities on a limited basis. Poland has directly introduced it on a wider basis and has gradually extended its scope.

Article 8(2) of the ELD directs competent authorities to recover costs incurred by them in preventing or remediating environmental damage from an operator that has caused an imminent threat of, or actual, environmental damage by ‘security over property or other appropriate guarantees’. Most Member States require an operator to have ex post financial security only if a competent authority remediates environmental damage caused by it.

Three Member States (France, Hungary and Slovenia) require an operator to have ex post financial security to remediate environmental damage caused by it whether the operator or the competent authority carries out remediation measures. This requirement is similar to US federal law that requires operators that have caused damage to have financial security to ensure they have adequate funding to complete its remediation.

One Member State (Bulgaria) provides an option to operators to have financial security for a potential ELD incident. If an operator does not do so and causes environmental damage, it must obtain financial security for the costs of remediating it and preventing further damage.

**F. Mandatory financial security under EU and national legislation in Member States**

Member States accept varying types of instruments and mechanisms under financial security requirements in EU legislation; bank guarantees are the most common.

Seventeen Member States (Belgium, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, the Netherlands, Poland and Spain) have introduced mandatory financial security that goes beyond requirements in EU legislation for activities associated with waste. Croatia is in the process of bringing its requirements into force.
Some Member States have introduced mandatory financial security in national legislation that implements EU legislation that does not include mandatory financial security provisions. Six Member States (Cyprus, France, Ireland, Italy, Malta and Sweden) have introduced mandatory financial security for holders of environmental permits including permits under the Industrial Emissions Directive. Five Member States (France, Ireland, Italy, Slovakia and Sweden) have introduced mandatory financial security for Seveso III facilities. The Netherlands is in the process of introducing it for environmental liabilities and responsibilities for holders of permits for activities that may have ‘significant adverse effects on the physical environment’.

There is a clear trend towards the introduction of financial security for activities involving waste, environmental permits, and Seveso III facilities beyond that required by EU legislation. This trend shows no signs of abating or reversing. Rather, its continued increase now appears to be inevitable.

G. Developments in US and EU environmental insurance and markets

There are similarities but also substantial differences between environmental insurance policies and markets for them in the US and the EU. There are more types of policies in the US, plus the US environmental insurance market is much larger than the EU market.

As explained in detail in the report, reasons for the differences include different types of pollution exclusions in general liability policies, the availability of environmental extensions to them, the nature and enforcement of underlying environmental legislation, mandatory financial security requirements, and awareness of environmental liabilities between the US and the EU.

H. Availability of, and demand for, environmental insurance in Member States

A substantial proportion of the research for this report involved determining the availability of, and demand for, environmental insurance in individual Member States.

The research revealed that, whereas stand-alone environmental insurance policies that provide cover for ELD liabilities are widely available from multinational insurers for large businesses that have sites and/or operations in multiple Member States, the situation is very different for businesses that have sites and/or operations in a single Member State.

Stand-alone environmental insurance policies are widely available in some Member States (France, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Slovakia, Spain and the United Kingdom). The reverse is true in other Member States.

Cover provided by the policies in 10 Member States (Bulgaria, Croatia, Cyprus, Estonia, Greece, Hungary, Latvia, Lithuania, Malta and Romania) is limited. The general availability of the policies is limited or non-existent. Further, even when the policies are available, or even widely available, demand is sometimes low, although it is growing in some Member States.

Environmental extensions to general liability policies are more widely available. With the exception of Austria and Germany where they are specifically designed to provide cover for ELD liabilities, virtually none of them provides any cover for ELD liabilities with the limited exception of liability for remediating off-site land/soil pollution from a sudden and accidental incident on an insured’s site when liability for that remediation is imposed by other environmental legislation and overlaps with liability for land damage under the ELD. Further, many, if not most, brokers and operators appear to consider that cover provided by the extensions is much, sometimes very much, more extensive than it actually is.
I. Funds, disasters, and problems involving financial security for ELD liabilities

Only two Member States (Portugal and Spain) have established funds to provide funding for remediating environmental damage under the ELD; both funds are linked to their mandatory financial security systems for ELD liabilities.

The general absence of funds for ELD liabilities across the EU is despite industrial disasters at Moerdijk and Kolontár, and also despite at least nine Member States paying to remediate or prevent further environmental damage because operators that caused it became insolvent or otherwise could not pay to remediate it.

In order for a Member State to establish a fund to remediate environmental damage and to pay for related losses, environmental insurance must be available to form an underlying tier below its threshold. As indicated above, this does not exist in a substantial number of Member States raising significant issues about the feasibility at this time of establishing an EU wide fund for insolvency risks and industrial disasters that complies with the polluter pays principle.

J. Innovations for financial security in corporate law

Some Member States (including Austria, France and Spain) have provisions in their corporate law to impose secondary liability on various persons, such as directors and officers, if a company becomes insolvent or otherwise cannot pay to remediate environmental damage caused by it.

Queensland, Australia, and Ontario, Canada, have particularly extensive provisions with Queensland having introduced them in 2016 following environmental damage caused by companies that became insolvent.

K. Measures to improve financial security for ELD liabilities at EU and Member State level

The report examines the following measures to improve financial security for ELD liabilities at EU and Member State level: obligation for competent authorities to assess the sufficiency of financial capacity of operators; obligation for operators to carry out risk assessments; and gradual phasing in of mandatory financial security for the riskiest activities.

Due to the unavailability of insurance for ELD liabilities in a substantial number of Member States, the report examines the above measures at Member State, as well as, EU level. Accordingly, the report sets out factors, including best practices, that Member States that are introducing mandatory financial security for ELD liabilities (Greece) or that may subsequently decide to do so may wish to take into account.

III. RECOMMENDATIONS

The report makes recommendations at an EU and Member State level, as well as for further work, to improve the availability of, and demand for, financial security for ELD liabilities.

A. Measures to improve financial security at EU and Member State level

For the reasons stated above, the report recommends that the Commission considers introducing an EU wide training programme, especially for small and medium sized operators and brokers, loss adjusters and other ELD stakeholders to raise the level of awareness and knowledge about liabilities under the ELD and other environmental legislation, corporate risk management and environmental risk management.

The purpose of the training programme would be to enable operators, brokers and other ELD stakeholders to understand environmental risks to businesses, when and how environmental insurance is required, and cover provided by different insurance products.
In developing the programme, the Commission could seek the advice of European trade organisations such as the Federation of European Risk Management Associations (FERMA), the European Federation of Insurance Intermediaries (BIPAR), Insurance Europe, the International Underwriting Association (IUA) and the European Federation of Loss Adjusting Experts (FUEDI), as well as their members for training programmes in specific Member States.

The report does not recommend that the Commission proposes harmonised mandatory financial security for ELD liabilities for the reasons stated above. In particular, most small and medium sized, as well as many large, operators in a substantial number of Member States would not be able to comply with the requirements because insurance for the liabilities is not currently available to them.

The report does not recommend that the Commission proposes the creation of an EU fund. Such a fund requires a tier of environmental insurance below the threshold for the fund. As indicated above, this underlying tier does not currently exist in many, if not most, Member States.

The report recommends that Member States that have not introduced mandatory financial security for ELD liabilities consider introducing it for specified activities such as waste activities and, depending on the Member State, also phase it in for other activities such as the operation of Seveso III facilities and extractive waste storage facilities. Mandatory financial security requirements already exist in some Member States for environmental liabilities (including civil liabilities) and responsibilities that go beyond financial security required by EU legislation.

The report recommends that Member States that have introduced financial security for environmental responsibilities as well as environmental liabilities other than the ELD should extend the requirements to include ELD liabilities.

The report further recommends that Member States consider whether to introduce secondary liability under the ELD for persons, such as directors and officers, when a company/operator that has caused environmental damage cannot pay to remediate the damage because it has become insolvent or otherwise does not have the necessary funding.

B. Further work

The report recommends the following further work, linked to the above recommendations, to assist the Commission in improving the effectiveness and efficiency of the ELD:

- facilitate enforcement of the ELD by competent authorities;
- encourage operators to comply with the ELD and attain financial security for environmental risks; and
- protect the environment and the public purse from the externalisation of liabilities for environmental damage under the ELD by introducing secondary liability for persons related to an operator that becomes insolvent.
Improving financial security in the context of the Environmental Liability Directive

RESUME

Ce rapport sur l'amélioration de la sécurité financière dans le contexte de la directive sur la responsabilité environnementale (DRE) analyse l'état de la sécurité financière pour les responsabilités au titre de la DRE et recommande des mesures pour améliorer cet état.

Le rapport effectue l'analyse en examinant, discutant et analysant les développements et les questions fondamentales suivantes concernant la sécurité financière dans le contexte de la DRE:

- l'historique de la sécurité financière dans la DRE;
- les responsabilités et les obligations en matière d'environnement;
- comparaison de la DRE avec la législation fédérale similaire aux États-Unis;
- la sécurité financière obligatoire pour les responsabilités environnementales des États-Unis et de l'UE;
- la garantie financière obligatoire pour les responsabilités liées à la DRE dans les États membres;
- la garantie financière obligatoire en vertu de la législation européenne et nationale dans les États membres;
- l'évolution des assurances et des marchés environnementaux aux États-Unis et dans l'Union européenne;
- la disponibilité et la demande d'assurances environnementales dans les États membres;
- les fonds, les catastrophes et les problèmes liés à la garantie financière des engagements liés à la DRE; et
- des innovations pour la sécurité financière en droit des sociétés.

Le rapport formule ensuite des recommandations de mesures visant à améliorer la sécurité financière au niveau de l'UE et des États membres. Enfin, le rapport formule des recommandations pour la poursuite des travaux visant à améliorer l'efficacité et l'efficience de la DRE.

I. APPROCHE

La recherche et l'analyse juridiques pour ce rapport ont été effectuées en examinant et en analysant la législation primaire et secondaire qui met en œuvre la DRE et/ou qui comporte des dispositions exigeant une garantie financière pour les responsabilités et les obligations environnementales dans tous les États membres ainsi que des orientations. En outre, la littérature universitaire et autre, y compris les articles, les documents de recherche, les rapports et les livres dans les États membres et d'autres États ont été examinés et analysés afin d'acquérir des connaissances sur tous les aspects de la sécurité financière de la DRE et d'autres responsabilités et obligations environnementales.

La recherche et l'analyse empiriques comprenaient trois questionnaires visant à fournir des informations sur l'état actuel des instruments et mécanismes de sécurité financière pour les responsabilités liées à la DRE dans tous les États membres. Des réunions, des entretiens téléphoniques et des échanges de courriels ont également été organisés pour obtenir le plus d'informations possible. La recherche empirique a porté sur plus de 4 000 courriels afin de s'assurer que le plus grand nombre d'informations possible a été obtenu et que celles-ci étaient exactes.

Un facteur clé a été la consultation significative des membres du groupe d'experts gouvernementaux de la DRE et de nombreuses autres parties prenantes de la DRE, en
particulier des experts du secteur de la réassurance et de l'assurance, afin de recueillir des informations, de se faire une idée et de soutenir les conclusions et recommandations du rapport.

La consultation comprenait également un atelier en octobre 2019 avec des experts en sécurité financière et des parties prenantes de la DRE pour discuter des résultats des recherches à ce moment-là et pour rassembler des informations et obtenir les points de vue des délégués afin de les prendre en compte dans le rapport.

II. DÉVELOPPEMENTS ET QUESTIONS

Le rapport comprend un examen et une analyse d'un large éventail de développements et de questions. Ce large éventail était intentionnel car il n'est pas possible de faire des recommandations sur la manière d'améliorer la sécurité financière dans le contexte de la DRE sans une excellente connaissance et compréhension des nombreux facteurs qui l'influencent.

A. Historique de la sécurité financière au sein de la DRE

L'histoire de la sécurité financière au sein de la DRE a été controversée. Les réassureurs et assureurs en particulier se sont opposés à son introduction, en grande partie parce qu'ils avaient payé plusieurs millions de dollars en indemnités aux assurés et réassurés aux États-Unis pour le nettoyage de sites contaminés dans le cadre de la Comprehensive Environmental Response, Compensation, and Liability Act (communément appelée Superfund). Ils étaient évidemment préoccupés par l'introduction d'une législation similaire dans l'UE.

La proposition de directive qui est devenue la DRE a rejeté l'introduction d'une garantie financière obligatoire. Les amendements du Parlement européen visant à l'introduire progressivement si les marchés des assurances et d'autres garanties financières n'avaient pas été mis en place cinq ans après l'entrée en vigueur de la directive ont échoué. Au lieu d'une obligation, la DRE enjoint aux États membres d'encourager le développement d'instruments et de marchés de garantie financière.

B. Responsabilités environnementales et obligations en matière d'environnement

Les principaux types de responsabilité environnementale auxquels s'applique la garantie financière sont (1) la réparation de la pollution et d'autres dommages environnementaux et la Prévention de nouveaux dommages, et (2) les réclamations pour dommages corporels, dommages aux biens et (dans les juridictions qui les reconnaissent) pertes économiques pures résultant de dommages environnementaux.

L'assurance est le principal instrument de garantie financière obligatoire pour les responsabilités environnementales, suivie par les garanties bancaires. Quelques juridictions acceptent une réserve financière dans les comptes d'un exploitant. Cependant, les réserves ne sont pas nécessairement sûres, suffisantes ou disponibles en cas de besoin, mais sont plutôt vulnérables à la détérioration de la viabilité financière de l'exploitant ainsi qu'à son insolvabilité potentielle.

L'assurance est le seul instrument de sécurité financière pour la garantie financière volontaire. Les exploitants ne disposent pas de garanties bancaires ou d'instruments ou mécanismes similaires qui mettent de côté des fonds pour remédier aux dommages environnementaux causés par un accident, sauf s'ils y sont contraints.

La garantie financière s'applique également aux obligations environnementales telles que la fermeture et la post-fermeture d'une décharge, comme l'exigent les conditions d'un permis. Les instruments et mécanismes de sécurité financière pour les obligations environnementales,
qui, là encore, ne sont pas obtenus à moins qu'une sécurité financière ne soit obligatoire, comprennent les garanties bancaires, les réserves et les obligations. L'assurance n'est pas appropriée car elle couvre des forfaits et non des certitudes. Si elle est souscrite, l'assurance ne concerne que les risques tels que les coûts de fermeture dépassant l'estimation qui en est faite.

La garantie financière obligatoire pour les obligations environnementales est beaucoup moins controversée que celle pour les responsabilités environnementales. En effet, les obligations environnementales sont inévitables alors que les responsabilités environnementales peuvent ne jamais se produire.

L'assurance des responsabilités environnementales est disponible, selon les États membres, sous deux formes principales: les polices d'assurance environnementale autonomes et les extensions environnementales des polices d'assurance responsabilité civile générale. Des extensions environnementales aux polices de propriété sont disponibles dans quelques États membres, mais leur disponibilité, et la demande pour celles-ci, est rare.

C. Comparaison de la DRE avec une législation fédérale similaire aux États-Unis

La disponibilité et la demande d'assurances environnementales dépendent nécessairement des responsabilités environnementales sous-jacentes. Si l'application de la législation qui impose des responsabilités pour la réparation des dommages environnementaux et les demandes d'indemnisation correspondantes est laxiste, les assureurs ne développeront pas de produits pour les couvrir car la demande sera probablement faible. De même, les entreprises ne souscriront pas d'assurance pour des risques peu susceptibles de se produire.

À l'inverse, si la législation environnementale sous-jacente est onéreuse et appliquée de manière agressive (comme aux États-Unis), les assureurs développeront des produits et les entreprises les achèteront.

D. Garantie financière obligatoire pour les responsabilités et obligations environnementales des États-Unis et de l'UE

La garantie financière obligatoire pour les responsabilités environnementales est l'un des principaux moteurs des polices d'assurance environnementale. La garantie financière obligatoire pour les obligations environnementales peut être un moteur important pour d'autres instruments et mécanismes, mais pas pour l'assurance pour les raisons indiquées dans la section I(B) ci-dessus.

Certaines des principales législations environnementales fédérales (et étatiques) des États-Unis exigent de certaines entreprises une garantie financière pour les responsabilités environnementales telles que la réparation de la pollution et les réclamations pour dommages corporels et matériels, même si la responsabilité de ces derniers n'est pas imposée par la législation.

Aucune législation européenne n'impose aux entreprises de constituer une garantie financière pour les responsabilités environnementales; les exigences sont toutes limitées aux obligations environnementales, généralement sous la forme d'obligations découlant d'un permis environnemental ou d'une autre autorisation.

Un élément clé de l'assurance environnementale aux États-Unis est donc absent dans l'UE.

E. Garantie financière obligatoire pour les responsabilités liées à la DRE dans les États membres

Quatre États membres (la République tchèque, le Portugal, la Slovaquie et l'Espagne) ont mis
en place des systèmes de garantie financière spécifiques pour les responsabilités liées à la DRE. L'Irlande a mis en place un système hybride pour les responsabilités liées à la DRE et les obligations environnementales des titulaires de permis environnementaux.

L'Italie a indirectement introduit une garantie financière limitée pour les responsabilités liées à la DRE. La Pologne l’a directement introduite sur une base plus large et a progressivement étendu son champ d’application.

L'article 8, paragraphe 2, de la DRE impose aux autorités compétentes de recouvrer les coûts qu’elles ont engagés pour prévenir ou réparer les dommages environnementaux auprès d’un exploitant qui a causé une menace imminente de dommages environnementaux ou des dommages environnementaux réels, par le biais d’une "garantie sur les biens ou d'autres garanties appropriées". La plupart des États membres exigent qu’un exploitant ne dispose d'une garantie financière ex post que si une autorité compétente répare les dommages environnementaux qu'il a causés.

Trois États membres (la France, la Hongrie et la Slovénie) exigent d’un exploitant une garantie financière ex post pour réparer les dommages environnementaux qu’il a causés, que l’exploitant ou l’autorité compétente prenne des mesures de réparation. Cette exigence est similaire à la loi fédérale américaine qui exige que les exploitants qui ont causé des dommages aient une garantie financière pour s’assurer qu’ils disposent d’un financement adéquat pour mener à bien la réparation.

Un État membre (Bulgarie) offre la possibilité aux exploitants de disposer d'une garantie financière en cas d'incident potentiel lié à la DRE. Si un exploitant ne le fait pas et cause des dommages environnementaux, il doit obtenir une garantie financière pour les coûts de remise en état et de prévention de nouveaux dommages.

**F. Garantie financière obligatoire en vertu de la législation communautaire et nationale des États membres**

Les États membres acceptent différents types d'instruments et de mécanismes en vertu des exigences de sécurité financière prévues par la législation européenne; les garanties bancaires sont les plus courantes.

Dix-sept États membres (Belgique, Croatie, Chypre, République tchèque, Danemark, Estonie, France, Allemagne, Grèce, Hongrie, Irlande, Italie, Lettonie, Lituanie, Pays-Bas, Pologne et Espagne) ont introduit une garantie financière obligatoire qui va au-delà des exigences de la législation européenne pour les activités liées aux déchets. La Croatie est en train de faire entrer ses exigences en vigueur.

Certains États membres ont introduit une garantie financière obligatoire dans la législation nationale qui met en œuvre la législation de l’UE qui ne comporte pas de dispositions relatives à la garantie financière obligatoire. Six États membres (Chypre, France, Irlande, Italie, Malte et Suède) ont introduit une garantie financière obligatoire pour les titulaires de permis environnementaux, y compris les permis délivrés en vertu de la directive sur les émissions industrielles. Cinq États membres (France, Irlande, Italie, Slovaquie et Suède) ont introduit une garantie financière obligatoire pour les installations Seveso III. Les Pays-Bas sont en train de l’introduire pour les responsabilités et obligations environnementales des titulaires de permis pour les activités qui peuvent avoir des "effets négatifs importants sur l’environnement physique".

La tendance est clairement à l’introduction d’une garantie financière pour les activités impliquant des déchets, les permis environnementaux et les installations Seveso III au-delà de ce qui est exigé par la législation européenne. Cette tendance ne montre aucun signe de
ralentissement ou d'inversion. Au contraire, son augmentation continue semble désormais inévitable.

**G. Évolution des assurances et des marchés environnementaux aux États-Unis et dans l'UE**

Il existe des similitudes mais aussi des différences substantielles entre les polices d’assurance environnementale et les marchés qui les proposent aux États-Unis et dans l'UE. Il existe davantage de types de polices aux États-Unis, et le marché américain de l'assurance environnementale est beaucoup plus vaste que le marché européen.

Comme l'explique en détail le rapport, les raisons de ces différences sont notamment les différents types d'exclusions de la pollution dans les polices d’assurance responsabilité civile générale, la possibilité d'en obtenir des extensions environnementales, la nature et l'application de la législation environnementale sous-jacente, les exigences de garantie financière obligatoire et la sensibilisation aux responsabilités environnementales entre les États-Unis et l’UE.

**H. Disponibilité et demande d'assurances environnementales dans les États membres**

Une part importante de la recherche effectuée pour ce rapport a consisté à déterminer la disponibilité et la demande d'assurances environnementales dans les différents États membres.

Les recherches ont révélé que, alors que les polices d'assurance environnementale autonomes qui couvrent les responsabilités liées à la DRE sont largement disponibles auprès des assureurs multinationaux pour les grandes entreprises qui ont des sites et/ou des activités dans plusieurs États membres, la situation est très différente pour les entreprises qui ont des sites et/ou des activités dans un seul État membre.


La couverture offerte par les polices dans 10 États membres (Bulgarie, Croatie, Chypre, Estonie, Grèce, Hongrie, Lettonie, Lituanie, Malte et Roumanie) est limitée. La disponibilité générale des polices est limitée, voire inexistante. En outre, même lorsque les polices sont disponibles, voire largement disponibles, la demande est parfois faible, bien qu'elle soit en augmentation dans certains États membres.

Les extensions environnementales des polices d’assurances responsabilité civile générale sont plus largement disponibles. À l’exception de l’Autriche et de l'Allemagne, où elles sont spécifiquement conçues pour couvrir les responsabilité liées à la DRE, pratiquement aucune d'entre elles ne couvre les responsabilité liées à la DRE, à l’exception limitée de la responsabilité pour la remise en état d'un terrain ou d'un sol pollué par un incident soudain et accidentel sur le site d'un assuré, lorsque la responsabilité de cette remise en état est imposée par une autre législation environnementale et qu'elle recoupe la responsabilité pour les dommages causés au sol dans le cadre de la DRE. En outre, de nombreux courtiers et exploitants, si ce n'est la plupart, semblent considérer que la couverture fournie par les extensions est beaucoup, parfois beaucoup plus étendue qu'elle ne l'est en réalité.

**I. Fonds, catastrophes et problèmes liés à la garantie financière des responsabilités au titre de la DRE**

Seuls deux États membres (le Portugal et l'Espagne) ont créé des fonds pour financer la réparation des dommages environnementaux dans le cadre de la DRE; ces deux fonds sont liés...
à leurs systèmes de garantie financière obligatoire pour les responsabilités liées à la DRE.

Les fonds pour les responsabilités liées à la DRE sont généralement absents dans l'UE malgré les catastrophes industrielles de Moerdijk et Kolontár, et en dépit du fait que neuf États membres au moins ont payé pour réparer ou prévenir d'autres dommages environnementaux parce que les exploitants qui les ont causés sont devenus insolvables ou ne pouvaient pas payer pour les réparer.

Pour qu'un État membre puisse créer un fonds destiné à réparer les dommages environnementaux et à payer les pertes qui en découlent, il faut qu'il existe une assurance environnementale permettant de constituer un niveau sous-jacent en dessous de son seuil. Comme indiqué ci-dessus, cela n'existe pas dans un grand nombre d'États membres, ce qui soulève des questions importantes quant à la faisabilité, à l'heure actuelle, de la création d'un fonds européen pour les risques d'insolvabilité et les catastrophes industrielles qui soit conforme au principe du pollueur-payeur.

**J. Innovations pour la sécurité financière en droit des sociétés**

Certains États membres (dont l'Autriche, la France et l'Espagne) ont prévu dans leur droit des sociétés des dispositions imposant une responsabilité secondaire à diverses personnes, telles que les directeurs et les cadres, si une société devient insolvable ou ne peut pas payer pour réparer les dommages environnementaux qu'elle a causés.

Le Queensland, en Australie, et l'Ontario, au Canada, ont des dispositions particulièrement étendues, le Queensland les ayant introduites en 2016 à la suite de dommages environnementaux causés par des entreprises devenues insolvables.

**K. Mesures visant à améliorer la sécurité financière pour les responsabilités liées à la DRE au niveau de l'UE et des États membres**

Le rapport examine les mesures suivantes pour améliorer la garantie financière des responsabilités liées à la DRE au niveau de l'UE et des États membres: obligation pour les autorités compétentes d'évaluer la suffisance de la capacité financière des opérateurs; obligation pour les opérateurs de procéder à des évaluations des risques; et mise en place progressive de la garantie financière obligatoire pour les activités les plus risquées.

En raison de l'absence d'assurance pour les responsabilités liées à la DRE dans un grand nombre d'États membres, le rapport examine les mesures ci-dessus au niveau des États membres et de l'UE. En conséquence, le rapport présente les facteurs, y compris les meilleures pratiques, que les États membres qui introduisent une garantie financière obligatoire pour les responsabilités liées à la DRE (la Grèce) ou qui pourraient décider de le faire par la suite pourraient vouloir prendre en compte.

**III. RECOMMANDATIONS**

Le rapport formule des recommandations au niveau de l'UE et des États membres, ainsi que pour la poursuite des travaux, afin d'améliorer la disponibilité et la demande de sécurité financière pour responsabilités liées à la DRE.

**A. Mesures visant à améliorer la sécurité financière au niveau de l'UE et des États membres**

Pour les raisons exposées ci-dessus, le rapport recommande à la Commission européenne d'envisager l'introduction d'un programme de formation à l'échelle de l'UE, en particulier pour les petits et moyens opérateurs et courtiers, les experts en sinistres et les autres parties
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prenantes à la DRE, afin d’accroître le niveau de sensibilisation et de connaissance des responsabilités au titre de la DRE et d’autres législations environnementales, de la gestion des risques des entreprises et de la gestion des risques environnementaux.

L’objectif du programme de formation serait de permettre aux opérateurs, courtiers et autres parties prenantes de la DRE de comprendre les risques environnementaux pour les entreprises, quand et comment une assurance environnementale est nécessaire, et la couverture fournie par les différents produits d’assurance.

Lors de l’élaboration du programme, la Commission pourrait demander l’avis d’organisations professionnelles européennes telles que la Fédération des associations européennes de gestion des risques (FERMA), la Fédération européenne des intermédiaires d’assurance (BIPAR), Insurance Europe, l’Association internationale des assureurs (IUA) et la Fédération européenne des experts en sinistres (FUEDI), ainsi que de leurs membres pour les programmes de formation dans certains États membres.

Le rapport ne recommande pas à la Commission de proposer une garantie financière obligatoire harmonisée pour les responsabilités liées à la DRE pour les raisons mentionnées ci-dessus. En particulier, la plupart des petits et moyens opérateurs, ainsi que de nombreux grands opérateurs dans un nombre important d’États membres, ne seraient pas en mesure de se conformer aux exigences parce qu’ils ne disposent pas actuellement d’une assurance pour ces responsabilités.

Le rapport ne recommande pas que la Commission propose la création d’un fonds européen. Un tel fonds exige un niveau d’assurance environnementale inférieur au seuil fixé pour le fonds. Comme indiqué ci-dessus, ce niveau sous-jacent n’existe pas actuellement dans de nombreux États membres, voire dans la plupart d’entre eux.

Le rapport recommande aux États membres qui n’ont pas introduit de garantie financière obligatoire pour les responsabilités liées à la DRE d’envisager de l’introduire pour des activités spécifiques telles que les activités liées aux déchets et, selon l’État membre, de l’introduire également progressivement pour d’autres activités telles que l’exploitation d’installations Seveso III et d’installations de stockage de déchets d’extraction. Des exigences de garantie financière obligatoire existent déjà dans certains États membres pour les responsabilités environnementales (y compris les responsabilités civiles) et les responsabilités qui vont au-delà de la garantie financière exigée par la législation de l’UE.

Le rapport recommande que les États membres qui ont introduit une garantie financière pour les obligations environnementales ainsi que pour les responsabilités environnementales autres que celles découlant de la DRE, étendent les exigences pour inclure les responsabilités découlant de la DRE.

Le rapport recommande également que les États membres examinent s’il convient d’introduire une responsabilité secondaire au titre de la DRE pour les personnes, telles que les directeurs et les cadres, lorsqu’une entreprise/exploitant qui a causé des dommages environnementaux ne peut pas payer pour réparer les dommages parce qu’elle/qu’il est devenu(e) insolvable ou ne dispose pas des fonds nécessaires.

B. Poursuite des travaux

Le rapport recommande les travaux supplémentaires suivants, liés aux recommandations ci-dessus, pour aider la Commission à améliorer l’efficacité et l’efficience de la DRE:

- faciliter l’application de la DRE par les autorités compétentes;
- encourager les exploitants à se conformer à la DRE et à obtenir une garantie financière pour les risques environnementaux; et
- protéger l'environnement et le trésor public contre l'externalisation des responsabilités en matière de dommages environnementaux dans le cadre de la DRE en introduisant une responsabilité secondaire pour les personnes liées à un exploitant qui devient insolvable.
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**LIST OF ACRONYMS**

AG Advocate General

AGERS Asociación Española de Gerencia de Riesgos y Seguros (Spain)

AHVB/EHVB General Terms and Conditions of Liability Insurance (AHVB 2005) and the Supplementary General Terms and Conditions of Liability Insurance (EHVB 2005) (Allgemeine und Ergänzende Allgemeine Bedingungen für die Haftpflichtversicherung) (Austria)

AIBA Associazione Italiana Brokers di Assicurazioni e Riassicurazioni (Italy)

ANRA Associazione Nazionale dei Risk Manager e Responsabili Assicurazioni Aziendali (Italy)

ANRM National Agency for Mineral Resources (Agenţia Naţională pentru Resurse Minerale) (Romania)

AOC Administrative order on consent (US)

APA Portuguese Environment Agency (Agência Portuguesa do Ambiente)

APETRO Portuguese Association of Petroleum Companies (Associação Portuguesa de Empresas Petrolíferas)

APM Environmental Protection Agency (Agenţia pentru Protecția Mediului) (Romania)

APOGERIS Associação Portuguesa de Gestão de Riscos e Seguros (Portugal)

ARSO Slovenian Environment Agency (Agencija Republike Slovenije za okolje)

ASARCO American Smelting and Refining Company LLC

AVB BHV Model terms and conditions for public and products liability insurance (Allgemeine Versicherungsbedingungen für die Betriebs- und Berufshaftpflichtversicherung) (Germany)

AWG Waste Management Act 2002 (Abfallwirtschaftsgesetz) (Austria)

BAT Best available techniques

BBL Barrel

BGN Bulgarian lev

BIPA Bureau International Assurances et Reassurance

BIPAR Federation of Insurance Intermediaries

BlmSchG Federal Immission Control Act (Bundes-Immissionsschutzgesetz) (Germany)

BOEM Bureau of Ocean Energy Management (US)

BRAC Base Realignment and Closure Act (US)

BREF BAT reference document

BRIMA Bulgarian Risk Management Association

BRZ Major Accidents (Risks) Decree (Besluit risico’s zware ongevallen) (The Netherlands)
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>B-UHG</td>
<td>Act on environmental liability with regard to the prevention and remedying of environmental damage of 19 June 2009 (<em>Bundes-Umwelthaftungsgesetz</em>) (Austria)</td>
</tr>
<tr>
<td>CAAA</td>
<td>Companies’ Creditors Arrangement Act (Ontario, Canada)</td>
</tr>
<tr>
<td>CAP</td>
<td>Chapter (Malta)</td>
</tr>
<tr>
<td>CCEIP</td>
<td>Contractor controlled environmental insurance programme</td>
</tr>
<tr>
<td>CC-RA</td>
<td>Consultative Council for Environmental Liability (<em>Conselho Consultivo para a Responsabilidade Ambiental</em>) (Portugal)</td>
</tr>
<tr>
<td>CEA</td>
<td><em>Comité Européen des Assurances</em></td>
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<tr>
<td>CEN</td>
<td>European Committee for Standardisation (<em>Comité Européen de Normalisation</em>)</td>
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<td>CER</td>
<td>Canada Energy Regulator</td>
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<td>CERCLA</td>
<td>Comprehensive Environmental Response, Compensation, and Liability Act (US)</td>
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<td>CERCLIS</td>
<td>CERCLA Information System (US)</td>
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<td>CFR</td>
<td>Code of Federal Regulations (US)</td>
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<td>CGL policy</td>
<td>Commercial general liability policy (US)</td>
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<td>CJEU</td>
<td>Court of Justice of the European Union</td>
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<td>CWA</td>
<td>Clean Water Act (US)</td>
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<td>CO2</td>
<td>Carbon dioxide</td>
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<tr>
<td>COGOA</td>
<td>Canada Oil and Gas Operations Act</td>
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<tr>
<td>COMAH</td>
<td>Control of Major Accident Hazards</td>
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<td>CPA-RA</td>
<td>Permanent Monitoring Commission for Environmental Liability (<em>Comissão Permanente de Acompanhamento para a Responsabilidade Ambiental</em>) (Portugal)</td>
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<tr>
<td>CPL policy</td>
<td>Contractors pollution liability policy</td>
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<tr>
<td>CRAMP</td>
<td>Closure Restoration and Aftercare Management Plan (Ireland)</td>
</tr>
<tr>
<td>CZK</td>
<td>Czech koruna</td>
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<tr>
<td>DGEGER</td>
<td>Directorate General for Energy and Geology (<em>Direcção Geral de Energia e Geologia</em>) (Portugal)</td>
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<tr>
<td>DGRM</td>
<td>Directorate-General for Natural Resources, Safety and Maritime Services (<em>Direção-Geral de Recursos Naturais, Segurança e Serviços Marítimos</em>) (Portugal)</td>
</tr>
<tr>
<td>DL</td>
<td>Decree-Law (<em>Decreto-Lei</em>) (Portugal)</td>
</tr>
<tr>
<td>DM</td>
<td>Ministerial Decree (<em>Decreto Ministeriale</em>) (Italy)</td>
</tr>
<tr>
<td>DREAL</td>
<td>Regional Directorate for the Environment, Planning and Housing (<em>Direction Régionale de l’Environnement, de l’Aménagement et du Logement</em>) (France)</td>
</tr>
<tr>
<td>DRG</td>
<td>Decision of the Regional Council (<em>Deliberazione della Giunta Regionale</em>) (Italy)</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Full Form</td>
</tr>
<tr>
<td>--------------</td>
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</tr>
<tr>
<td>EEA</td>
<td>European Economic Area</td>
</tr>
<tr>
<td>EIC</td>
<td>Environmental Investment Centre (Keskonnainvesteeringute Keskus) (Estonia)</td>
</tr>
<tr>
<td>EIL policy</td>
<td>Environmental impairment liability policy</td>
</tr>
<tr>
<td>ELA</td>
<td>Environmental Liability Act, Law 26/2007, of 23 October (Ley 26/2007, de 23 de octubre, de Responsabilidad Medioambiental) (Spain)</td>
</tr>
<tr>
<td>ELD</td>
<td>Directive 2004/35/CE on environmental liability with regard to the prevention and remedying of environmental damage</td>
</tr>
<tr>
<td>ELRA</td>
<td>Environmental Liability Risk Assessment (Ireland)</td>
</tr>
<tr>
<td>EMAS</td>
<td>EU Eco-Management and Audit Scheme</td>
</tr>
<tr>
<td>EPA 1994</td>
<td>Environmental Protection Act 1994 (Queensland, Australia)</td>
</tr>
<tr>
<td>EPO</td>
<td>Environmental Protection Order (Queensland, Australia)</td>
</tr>
<tr>
<td>ERA</td>
<td>Environment and Resources Authority (Malta)</td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
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<tr>
<td>EUR</td>
<td>Euro</td>
</tr>
<tr>
<td>FAQ</td>
<td>Frequently Asked Questions (Perguntas Frequentes) (Portugal)</td>
</tr>
<tr>
<td>Fed Reg</td>
<td>Federal Register (US)</td>
</tr>
<tr>
<td>FERMA</td>
<td>Federation of European Risk Management Associations</td>
</tr>
<tr>
<td>FUEDI</td>
<td>European Federation of Loss Adjusting Experts</td>
</tr>
<tr>
<td>GD</td>
<td>Government Decree (Hungary)</td>
</tr>
<tr>
<td>GD</td>
<td>Government Decision (Guvernul României-Hotărâre) (Romania)</td>
</tr>
<tr>
<td>GEDV</td>
<td>German Insurance Association (Gesamtverband der Deutschen NFU Versicherungswirtschaft)</td>
</tr>
<tr>
<td>GIE</td>
<td>Garpol Groupement d’Intérêt Economique (France)</td>
</tr>
<tr>
<td>GMO</td>
<td>Genetically modified organism</td>
</tr>
<tr>
<td>GEO</td>
<td>Government Emergency Ordinance (Ordonanță de Urgență) (Romania)</td>
</tr>
<tr>
<td>GVNW</td>
<td>Gesamtverband der versicherungsnehmenden Wirtschaft e.v. (Germany)</td>
</tr>
<tr>
<td>HUF</td>
<td>Hungarian forint</td>
</tr>
<tr>
<td>ICPE</td>
<td>Installations classified for environmental protection (installations classées pour la protection de l'environnement) (France)</td>
</tr>
<tr>
<td>IDM</td>
<td>Environmental Damage Index (Spain)</td>
</tr>
<tr>
<td>IED</td>
<td>Industrial Emissions Directive (2010/75/EU)</td>
</tr>
<tr>
<td>IGAMAOT</td>
<td>General Inspectorate of Agriculture, Sea, Environment and Spatial Planning (Inspeção-Geral da Agricultura, do Mar, do Ambiente e do Ordenamento Territorial) (Portugal)</td>
</tr>
<tr>
<td>IMPEL</td>
<td>European Union Network for the Implementation and Enforcement of Environmental Law</td>
</tr>
<tr>
<td>IPC/IED licence</td>
<td>Integrated Pollution Control/Industrial Emissions Directive licence (Ireland)</td>
</tr>
</tbody>
</table>
Improving financial security in the context of the Environmental Liability Directive

IPPE Integrated Pollution Prevention and Control
Irish EPA Irish Environmental Protection Agency
ISO International Organisation for Standardisation
ISPRA Italian National Institute for the Environmental Protection and Research
IUA International Underwriting Association
LPREDAA Liability for Prevention and Remediation of Environmental Damages Act (Закон за отговорността за предотвратяване и отстраняване на екологични щети) (Bulgaria)
MAL Ajkai Timföldgyár (Hungary)
MAS Pool Milieu Aansprakelijkheidsverzekering Samenwerkings-verband pool (The Netherlands)
MAV Environmental Liability Insurance policy (Milieuaansprakelijkheidsverzekering) (The Netherlands)
MAWP Multi-Annual Work Programme on the ELD
MEPA Malta Environment and Planning Authority
MIRAT Model environmental risk reports (modelos de informe de riesgos ambientales tipo) (Spain)
MODU Mobile offshore drilling unit
MoEW Ministry of Environment and Water (Министерство на околната среда и водите) (Bulgaria)
MORA Environmental Liability Supply Model (Modelo de Oferta de Responsabilidad Ambiental) (Spain)
MSV Environmental Damage Insurance policy (Milieuschadeverzekering) (The Netherlands)
NAIC National Association of Insurance Commissioners (US)
NFU National Farmers Union (UK)
NGO Non-governmental organisation
NIEA Northern Ireland Environment Agency
NOAA National Oceanic and Atmospheric Administration (US)
NOGEPA Dutch Oil and Gas Exploration and Production Association
NPDES permit National pollutant discharge elimination permit (US)
NPL National Priorities List (US)
NRD Natural resource damages
NRW Natural Resources Wales
OCEIP Owner controlled environmental insurance programme
OCIP Owner controlled insurance programme
OCIOIEL Ministry of Environment and Energy, Coordination Office for the Implementation of Environmental Liability (Συντονιστικό Γραφείο
Improving financial security in the context of the Environmental Liability Directive

Αντιμετώπισης Περιβαλλοντικών Ζημιών (ΣΥΓΑΠΕΖ) (Greece)

OECD Organisation for Economic Co-operation and Development

OPA Oil Pollution Act (US)

OPOL Offshore Pollution Liability Association Ltd

OSFR Oil spill financial responsibility (US)

OSLTF Oil Spill Liability Trust Fund (US)

OVAM Public Waste Agency of Flanders (Openbare Afvalstoffenmaatschappij voor het Vlaamse Gewest) (Belgium)

ÖWAV Austrian Water and Waste Management Association (Österreichischer Wasser- und Abfallwirtschaftsverband)

PBB Polybrominated biphenyls

PBDE Polybrominated diphenyl ethers

PCBs Polychlorinated biphenyls

PdR Prassi di Riferimento (Italy)

PFAS Perfluorooalkylated substances

P&I Club Protection and Indemnity Club

PLIA Pollution Liability Insurance Association

PLL policy Pollution legal liability policy

PLN Polish złoty

PRP Potentially responsible party (US)

RCRA Resource Conservation and Recovery Act (US)


SEK Swedish krona

SEPA Scottish Environment Protection Agency

SL Subsidiary Legislation (Malta)

SLASPO Slovak Insurance Association (Slovenská asociácia poisťovní)

SME Small or medium sized enterprise

SNG Synthetic natural gas

SYKE Finnish Environment Institute

TFEU Treaty on the Functioning of the European Union

TSDF Treatment, storage and disposal facility (US)

Tukes Finnish Safety and Chemicals Agency (Turvallisuus- ja kemikaalivirasto)

UAO Unilateral administrative order (US)

UEAPME European Association of Craft, Small and Medium-Sized Enterprises

UNI Ente Nazionale Italiano di Unificazione (Italy)
UK United Kingdom

UNICE Union of Industrial and Employers Confederations of Europe

UNSAR National Association of Insurance and Reinsurance Companies in Romania
(Uniunea Națională a Societăților de Asigurare și Reasigurare din România)

URV Model terms and conditions October 2019 version (A2 Umweltrisikoversicherung) (Germany)

US United States

USC United States Code

US EPA United States Environmental Protection Agency

USKV Insurance for costs of remediation of environmental damage (Umweltsanierungskostenversicherung) (Austria)

USV Insurance for costs of remediation of environmental damage (Umweltschadensversicherung) (Germany)

VersVG Austrian Insurance Contracts Act (Versicherungsvertragsgesetz) (Austria)

VLAREBO 2008 Decision of the Flemish Government on the Decree on soil remediation and soil protection (Besluit van de Vlaamse Regering houdende vaststelling van het Vlaams Reglement betreffende de bodemsanering en de bodembescherming van 14 December 2007) (Belgium)

VLAREM II Flemish Regulations on the Environmental Licence II (Besluit van de Vlaamse Regering tot wijziging van het besluit van de Vlaamse Regering van 6 februari 1991 houdende vaststelling van het Vlaams reglement betreffende de milieuvergunning, van het besluit van de Vlaamse Regering van 1 juni 1995 houdende algemene en sectorale bepalingen inzake milieuhygiëne en van het besluit van de Vlaamse Regering van 14 december 2007 houdende vaststelling van het Vlaams reglement betreffende de bodemsanering en de bodembescherming ter doorvoering van technische actualisering) (Belgium)

VLAREM III Flemish Regulations on the Environmental Licence III (Besluit van de Vlaamse Regering houdende bijkomende algemene en sectorale milieuvoorwaarden voor GPBV-installaties) (Belgium)

VVO Austrian Insurance Association (Versicherungsverband Österreich)

Wabo General Provisions on Environmental Law Act (Wet algemene bepalingen omgevingsrecht) (The Netherlands)

WEEE Waste electrical and electronic equipment

Wm Environmental Management Act (Wet milieubeheer) (The Netherlands)

WOTUS Waters of the United States

WRG Austrian Water Act (Wasserrechtsgesetz)

WWF World Wildlife Fund

ZIEU Hydrocarbons Exploration and Production Act (Official Gazette Nos 52/18 and 52/19) (Zakon o istraživanju i eksploataciji ugljikovodika) (Croatia)

ZT Triglav Insurance Company (Zavarovalnica Triglav d.d.) (Slovenia)
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZVO-1</td>
<td>Environmental Protection Act (<em>V.a - Zakon o varstvu okolja</em>) (Slovenia)</td>
<td>Slovenia</td>
</tr>
<tr>
<td>ZVO-1B</td>
<td>Law on amendments to the Environmental Protection Act (<em>Zakon o spremembah in dopolnitvah Zakona o varstvu okolja</em>) (Slovenia)</td>
<td>Slovenia</td>
</tr>
</tbody>
</table>
1. INTRODUCTION

The increased development of secure, sufficient and available financial security instruments including but not limited to insurance would aid the effectiveness and efficiency of the Environmental Liability Directive (ELD) and would protect the public purse in the event of an operator’s insolvency or other inability to pay to remediate environmental damage and/or to prevent further damage. It would also reinforce application of the polluter pays principle, which is central to the ELD.

In order to rectify the lack of knowledge about the availability of environmental insurance and other financial security instruments and mechanisms for ELD and other environmental liabilities, this project researched, examined and analysed the status of financial security for ELD liabilities in all Member States in order to provide a base of information upon which to examine and analyse any shortcomings, gaps and other challenges as well as good practices.

The financial security instruments and mechanisms that are the focus of the report are ex ante instruments and mechanisms covered by article 14(1) of the ELD, namely financial security instruments and mechanisms for unforeseen liabilities, that is, liabilities arising from environmental damage caused by accidental emissions, events or incidents covered by the ELD. The report also discusses and analyses ex post instruments and mechanisms covered by article 8(2) of the ELD. This discussion is, however, secondary and more limited.

A wide range of financial security instruments are discussed and analysed including bank guarantees, escrow accounts and bonds that operators enter into in response to mandatory financial security requirements. Some financial security instruments are available on a voluntary and mandatory basis; some are available only for mandatory financial security.

The main financial security instrument discussed in this report is insurance. This is because it is the only financial security instrument available for ELD and other environmental liabilities in Member States that have not introduced mandatory financial security for ELD liabilities. It is also one of the main financial security instruments in Member States that have adopted mandatory financial security for unforeseen liabilities.

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1 The term ‘secure, sufficient and available’ means ‘secure in the event of the operator’s insolvency; sufficient to cover all of the operator’s environmental liabilities, and available when required’, as specified in the IMPEL project: IMPEL, Financial Provision; Protecting the Environment and the Public Purse (Report No 2016/20, 6 September 2016), 7; http://www.impel.eu/wp-content/uploads/2016/12/FR-2016-20-Financial-Provision-2016.pdf


3 When this project commenced, the United Kingdom was a member of the EU. Although the United Kingdom left the EU on 31 January 2020, it is still in the transition period. This report therefore includes the United Kingdom and for the sake of simplicity refers to it as a ‘Member State’ whilst noting that the United Kingdom is no longer a Member State of the EU.

4 Article 14(1) provides that: ‘Member States shall take measures to encourage the development of financial security instruments and markets by the appropriate economic and financial operators, including financial mechanisms in case of insolvency, with the aim of enabling operators to use financial guarantees to cover their responsibilities under this Directive’.

5 Article 8(2) provides, in pertinent part, that: ‘... the competent authority shall recover, inter alia, via security over property or other appropriate guarantees from the operator who has caused the damage or the imminent threat of damage, the costs it has incurred in relation to the preventive or remedial actions taken under this Directive’.
Financial security instruments and mechanisms discussed in the report are not limited to those available for liabilities under the ELD and other legislation. For example, some Member States have introduced mandatory financial security requirements for operators with specified environmental permits including permits under national legislation transposing the Industrial Emissions Directive⁶ and the Seveso III Directive.⁷ A substantial number of Member States have introduced mandatory financial security requirements for waste activities.

The report also discusses EU legislation that has financial security requirements. This legislation includes the Landfill Directive (1999/31/EC),⁸ which requires an operator to have financial security for the closure and post closure (aftercare) of a landfill,⁹ and the Extractive Waste Directive (2016/21/EC),¹⁰ which requires an operator to have financial security for closure, including rehabilitation, and post closure of facilities that store extractive waste. The report discusses such requirements because they are combined with mandatory financial security for accidental environmental damage in some Member States. In addition, if mandatory financial security for ELD liabilities is introduced in a Member State, the financial security instruments must not conflict with existing instruments.

Financial security instruments for known responsibilities are not, however, the focus of this report because, in contrast to financial security instruments for ELD incidents, they involve certainties inasmuch as it is known that they will occur although the timing and precise costs may not be known. As such, mandatory financial security for environmental responsibilities tends not to be controversial, whereas the opposite is often true in respect of financial security for environmental liabilities such as ELD liabilities.

In order to examine the widest possible range of financial security instruments and mechanisms for the Commission to consider, the report also takes into account those for environmental liabilities and responsibilities outside the EU, especially the US, where there is a long history of mandatory financial security and where financial security instruments and mechanisms for environmental liabilities and responsibilities have evolved. In particular, the report examines developments in financial security for environmental liabilities and the environmental insurance market in the US as a benchmark to examine them in the EU.

Further, the report examines innovations in Australia and Canada in extending liability for environmental damage beyond an operator/company in the event that the operator becomes insolvent or otherwise does not pay to remediate damage caused by it.

The report also discusses problems that have arisen due to the lack of financial security, for example the insolvency of an operator that has caused an imminent threat of, or actual, environmental damage or its other inability to pay to prevent further damage or to remediate the damage. A corollary issue examined by the report is large scale industrial accidents that

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cause environmental damage and other losses that far exceed limits of financial security instruments or mechanisms.

In this respect, the report examines the feasibility of an EU wide fund as expressed in the European Parliament’s Resolution of 26 October 2017. In order to examine the feasibility, the report evaluates funds established by Member States for remediating environmental damage under the ELD when the liable operator cannot be found or is not financially viable, with the caveat that these exist (so far) only in Portugal and Spain.

1.1. Background

The background against which the research for this report took place was, as stated in the Commission’s Report and the REFIT Evaluation published in April 2016, that, in contrast to findings in reports prepared for the Commission in 2008 and 2009 and its report on the ELD in 2010, by 2014 sufficient insurance cover for environmental and ELD liabilities was available in most insurance markets across the EU, including cover for complementary and compensatory remediation under the ELD (which had previously been limited).

The research carried out for this report, which is the first in-depth and detailed report on the status of insurance for ELD and other environmental liabilities in each of the Member States, showed that the surveys and other information on which the Commission relied in its Report and REFIT Evaluation concerning demand for insurance for ELD liabilities was correct. Demand was – and still is – low in many, if not most, Member States.


17 Insurance Europe, Briefing note Survey of environmental liability insurance developments (June 2014); https://www.insuranceeurope.eu/sites/default/files/attachments/Survey%20of%20environmental%20liability%20insurance%20developments.pdf
The research for this report also showed that insurance cover for ELD liabilities, including complementary and compensatory remediation, is widely available to large operators with sites and/or operations in more than one Member State. It further showed that insurance and, to a lesser extent, other financial security instruments for environmental, especially ELD, liabilities are available in a few Member States. Still further, it showed that insurance for remediating damage to land/soil caused by pollution that migrates off-site from a sudden and accidental incident at an insured’s site is available in most Member States, albeit with low limits of liability and generally subject to restrictions.

Conversely, the research showed that the surveys and other information concerning the availability of insurance for ELD liabilities in 2014 were overly optimistic. Insurance for ELD liabilities was not available in many Member States when this report was published, especially for complementary and compensatory remediation. The research also showed that there has not been retraction in its availability between 2014 and 2020; in fact the reverse is true.

In other words, sufficient insurance cover for environmental and ELD liabilities was not available in most insurance markets across the EU, especially for complementary and compensatory remediation, when this report was published.

Some smaller Member States had indicated in their 2013 reports to the European Commission under then article 18(1) of the ELD18 that there were difficulties in ensuring adequate financial security instruments for ELD liabilities and markets for them. The research for this report showed that such difficulties exist not only in some smaller Member States; they exist in a substantial number of Member States.

The REFIT evaluation of the ELD stated that low demand by operators for insurance for ELD liabilities may be due to three factors: low reporting of ELD incidents; sub-optimal implementation of the ELD; and a lower demand by operators, and low offer by insurers, in newer or emerging markets. This report examines these three factors.19

Against the background of low availability in, and low demand for, environmental insurance in many if not most Member States, the research for this report also showed a slow but steady increase in mandatory financial security requirements for environmental liabilities and responsibilities, not only in EU environmental legislation but also in the national legislation of Member States. This increase shows no signs of abating or reversing. Rather, its continued increase now appears to be inevitable. Accordingly, this report examines these requirements especially in the context of financial security for ELD liabilities.

1.2. Objectives

The objectives of the report are to enhance the evidence base for the ELD in relation to the current situation in Member States on ‘sufficient availability and demand for financial security to cover ELD liabilities’, identify recommendations for Member States, and explore options for financial security, including funds, at EU and Member State level.

The specific objectives within the overall objective are, in particular, to:

- establish the current situation in all Member States and provide a baseline of how the various financial security instruments operate, their size and structure and their effectiveness and efficiency;

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18 See Member State reports on the experience gained in the application of the ELD (‘Member State Reports’); http://ec.europa.eu/environment/legal/liability/index.htm
19 REFIT Evaluation 47
• for comparison reasons provide information on, and an analysis of, the situation of the financial security market for environmental liabilities (covering the same elements as above) in the US as a benchmark;
• investigate the feasibility and conditions for making financial security for ELD liabilities more effective and even across the EU including for insolvency, as required by article 14(1) of the ELD;
• recommend improvements of the current situation to Member States, highlighting, in particular, good practices; and
• explore possible options for enhanced financial security for ELD liabilities at EU level and Member State level.

1.3. Approach
The overall approach in carrying out this project was a combination of legal research and analysis and empirical research and analysis.

The legal research and analysis focussed on primary legal sources and available academic and other literature, including articles, research papers, reports and books in many Member States and other States, so as to provide knowledge of all aspects of financial security for environmental, especially ELD, liabilities. It also included a review of primary and secondary legislation that implements the ELD and/or contains provisions that mandate financial security for environmental liabilities and responsibilities in all Member States as well as guidance when available.

The empirical research and analysis included three questionnaires designed to provide information on the current status of financial security instruments and mechanisms for ELD liabilities in all Member States. The questionnaires were designed for the following groups:
• insurers, reinsurers, re/insurance pools, mutuals, brokers, loss adjusters, risk managers and others in the insurance industry and their trade associations at EU and Member State level;
• governmental and competent authorities; and
• operators and their trade associations at EU and Member State level, environmental NGOs and academics.

Meetings, telephone interviews and emails before and after circulation of the questionnaires were also carried out to obtain as much information as possible, especially on the current status of financial security for ELD and other environmental liabilities and responsibilities in all Member States. In all, the empirical research included over 4,000 emails to ensure that as much information at Member State level as possible was obtained and that such information was accurate.

A key factor in the project was meaningful consultation with members of the ELD Government Experts Group and many other ELD stakeholders, especially experts in the re/insurance industry, to gather information, gain insights, and to support the report’s findings and recommendations.

The consultation also included a workshop with ELD financial security experts and other ELD stakeholders to discuss the researched results until that time and to gather information and take views from delegates at the workshop into account in the report.

Finally, the report builds on, but intentionally does not duplicate, the discussions and analyses in studies carried out for the Commission before, as well as during, the Multi-Annual Work
Programme on the ELD (MAWP)20 and the three studies on ‘Financial provision; Protecting the Environment and the Public Purse’ published by the European Union Network for the Implementation and Enforcement of Environmental Law (IMPEL) in September 2016 (Phase I),21 September 2017 (Phase II),22 and November 2018 (Phase III).23

The report is structured as follows:

- Chapter 1: introduction to the study regarding its context, background, objectives and approach;
- Chapter 2: history of financial security in the ELD including views of stakeholders, application of the polluter pays principle, the European Commission report on financial security, and post-2004 (that is, post ELD adoption) views on insurability and mandatory financial security;
- Chapter 3: environmental liabilities to which financial security applies, examination, comparison and analysis of voluntary and mandatory financial security instruments and mechanisms, and types of financial security instruments and mechanisms;
- Chapter 4: overview of the ELD and similar federal legislation in the US, and a comparison and analysis of similarities and differences;
- Chapter 5: overview of mandatory financial security requirements for environmental liabilities and responsibilities in the US and the EU, with a comparison and analysis of similarities and differences;
- Chapter 6: examination of mandatory financial security for ELD liabilities in Member States that have adopted such requirements, plus an examination of ex post financial security under article 8(2) of the ELD;
- Chapter 7: examination of mandatory financial security in individual Member States under EU legislation;
- Chapter 8: examination of mandatory financial security in individual Member States under national legislation;
- Chapter 9: overview of developments in environmental insurance and markets for them in the US and the EU, using developments in the US as a benchmark for developments in the EU;
- Chapter 10: examination and analysis of the availability of, and demand for, environmental insurance, especially insurance for ELD liabilities, in individual Member States;
- Chapter 11: a discussion of funds and risk-sharing facilities, industrial disasters, and problems resulting from operators that are financially unable to remediate environmental damage due to insolvency;
- Chapter 12: a brief overview of innovations in corporate law in Canada and Australia to prevent the public purse having to pay to remediate environmental damage;
- Chapter 13: an overview of measures taken by Member States to improve financial security for ELD liabilities, especially environmental insurance;


• Chapter 14: a discussion of potential measures to improve financial security for ELD liabilities at EU and Member State level;
• Chapter 15: an examination of potential measures to improve funding for environmental damage when an operator becomes insolvent or a large scale industrial accident exceeds the operator’s finances;
• Chapter 16: recommendations for the improvement of financial security at EU and Member State level; and
• Chapter 17: recommendations for further work.

The report also includes a table of acronyms, a glossary of financial security instruments and mechanisms and related terms, a bibliography, acknowledgements; and three annexes, consisting of reports of the status of financial security for ELD and other environmental legislation in all Member States, summaries of key points from those reports, and the availability of, and demand for, environmental insurance in individual Member States.
2. FINANCIAL SECURITY AND THE ENVIRONMENTAL LIABILITY DIRECTIVE

The ELD raised two key issues concerning financial security for measures to prevent or remediate environmental damage. The first issue was whether such measures were insurable and, if so, whether insurance was available to provide cover for them in all Member States. As this chapter discusses, the answer to the first part of this issue is in the affirmative with the proviso that re/insurers may be unwilling to provide re/insurance for ELD and other environmental liabilities in some Member States. The answer to the second part depends on whether an operator is a small or medium sized or a large business with sites and/or operations only in that Member State, or whether the operator is a large business with sites and/or operations in multiple States.

The second issue was whether it should be mandatory for an operator to have evidence of financial security in the event that its operations cause an imminent threat of, or actual, environmental damage (also sometimes referred to in this report as a ‘responsible operator’). As indicated in this report, this issue has been, and continues to be, highly controversial.

This chapter is structured as follows.

First, the chapter briefly describes the history of the financial security provisions in the ELD including the views of ELD stakeholders on them before the adoption of the ELD on 21 April 2004.

The chapter then very briefly describes the polluter pays principle as it relates to accidental environmental damage.

The chapter then sets out the two financial security provisions (articles 14(1) and 8(2)) in the ELD.

This is followed by a brief description of the European Commission’s 2010 report on the availability of financial security pursuant to article 14(2).

Finally the chapter discusses the views of ELD stakeholders since adoption of the ELD on financial security in respect of its insurability and whether it should be mandatory.

2.1. History of financial security in the ELD

The insurability of the costs of preventing or remediating an imminent threat of, or actual, environmental damage and the potential introduction of mandatory financial security for such costs were controversial throughout the long history of the ELD. A major reason for this was the fact that liabilities for remediating environmental damage were relatively new in the EU during the 1990s when the European Commission began discussing the legislation that became the ELD.

A further reason was rulings by many courts in the US that insurers were liable under public/general liability policies for remediation costs imposed on their insureds under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund) even though the policies had been issued many years before Superfund was enacted in December 1980.

General liability policies in the EU, as well as in the US, provide compensation/damages for claims for bodily injury and property damage; their intent was not – and still is not – to provide cover for remediating pollution following a demand from a competent authority to remediate it. In the US, however, many courts construed general liability policies to provide such cover.

Re/insurers in the EU, a substantial number of which had been called on to pay claims by their US insureds for remediating contamination under CERCLA, therefore understandably opposed
any EU legislation that resembled Superfund however remotely, especially its retroactive provisions.

The growing gap in cover for the above environmental liabilities in general liability policies created a market for specialised environmental insurance policies. During the 1990s, an increasing number of insurers in the EU – often affiliates of US insurers that had introduced policies in the US for environmental liabilities in the 1970s and 1980s – began to introduce environmental insurance policies – and later and less commonly - extensions to general liability or, in the case of Austria and Germany, model wordings drafted by the insurance associations in those countries. The environmental insurance policies (referred to in this report as stand-alone environmental insurance policies) not only provided cover for remediating gradual as well as sudden pollution; they provided cover for remediating pollution at an insured’s site, which is not covered by a general liability policy. Property policies do not fill this gap because they provide cover only for damage to ‘insured property’, which does not include land. In addition, by the 1990s, most property policies barred cover for pollution.

As discussed below, the introduction of stand-alone environmental insurance policies and extensions across the EU was relatively slow before introduction of the ELD in 2004. Since that time it has increased albeit with a wide variance in the rates of increase across the EU.

The European Commission first discussed the introduction of mandatory financial security – then under the topic of mandatory insurance – for the costs of remediating environmental damage in its Green Paper in 1993. The Commission was concerned about the insurability of the relatively new liability in the EU for remediating environmental damage and the availability of insurance cover especially for smaller businesses. The Commission noted, in respect of contaminated land, that France, Italy and the Netherlands had established insurance pools that provided cover for gradual as well as sudden pollution.24

*Groupement d’Intérêt Economique* (GIE Garpol) had been created in France in 1977, superseded by *Assurpol* in 1989.25 *Pool Inquinamento* (called *Pool Ambiente* since 2019) had been created in Italy in 1979.26 The MAS (*Milieu Aansprakelijkheidsverzekering Samenwerkings-verband*) pool had been created in the Netherlands in 198427 (then called *Milieupool* in 2008 until it was dissolved in 2019). *Pool Español de Riesgos Medioambientales* was subsequently created in Spain in 1994.28 A major reason for the creation of re/insurance

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26 See ibid 505

27 See ibid 506

28 Pool Español de Riesgos Medioambientales was established in 1994. Cover is provided by it for ELD and other environmental risks. See European Commission, Study on pools and on ad-hoc (re)insurance agreements on the subscription market (Ernst & Young, 8 February 2013) 393; [https://www.vnab.nl/CmsData/Downloads Algemeen/Oude nieuwsberichten/Study_on_co(re)insurance_pools_and_on_ad-hoc_co(re)insurance_agreements_on_the_subscription_market.pdf](https://www.vnab.nl/CmsData/Downloads Algemeen/Oude nieuwsberichten/Study_on_co(re)insurance_pools_and_on_ad-hoc_co(re)insurance_agreements_on_the_subscription_market.pdf)
pools is to provide cover for liabilities that are difficult to cover by individual re/insurers at the
time of their creation.\textsuperscript{29}

A key concern of insurers in respect of mandatory insurance was that they would, in effect, be
‘licensors’ that determined whether operators were good or bad risks and, thus, were able to
continue operating. The Commission noted that the German Environmental Liability Act of
1990 already required specified facilities to have financial security to cover liabilities.\textsuperscript{30} As
discussed further below, the Act, which imposes liability for death, personal injury or property
damage caused by an environmental impact from specified facilities, provides that such
facilities must have evidence of financial security in the form of insurance, a hold harmless or
indemnity guarantee from the State or federal government or from specific credit
institutions.\textsuperscript{31}

In 1994, the Commission carried out informal consultations with representatives of the
insurance sector, the financial sector, industry, and environmental non-governmental
organisations (NGOs) concerning financial security for liabilities under the potential regime,
as well as the scope of liability, the remediation of environmental damage, and access to
justice.\textsuperscript{32}

The consultations were followed by a report for the Commission on the economic aspects of
liability and joint compensation systems. The report noted that insurers had two key concerns
in respect of environmental liability systems; their ‘increased vulnerability’ to exposure from
historic pollution, especially if retroactive liability was to be introduced, and a need to revise
insurance policies to deal with the stricter environmental liabilities that were being
introduced. The report also noted that insurance policies had already begun to change, with
environmental risks being covered by separate policies to general liability policies. In respect
of compulsory insurance, the report reiterated the concerns of insurers noted in the Green
Paper.\textsuperscript{33} Again, however, the issue was mandatory insurance, not mandatory financial
security.

In 2000, the Commission ruled out retroactive liability in its White Paper. The White Paper
discussed the new type of liability in the EU of natural resource damage (NRD), considering
that insurance cover for it would develop gradually.

The focus on insurance as the only means of financial security had changed however. The
Commission commented that:

> When looking at the insurance market – insurance being one of the possible ways of
> having financial security, alongside, among others, bank guarantees, internal reserves
> or sector-wide pooling systems – it appears that coverage of environmental damage
> risks is still relatively undeveloped, but there is clear progress being made in parts of
> the financial markets specialising in this area. One example is the development of new

\textsuperscript{29} See ibid 72-73

\textsuperscript{30} Communication from the Commission to the Council and Parliament and the Economic and Social
Committee: Green Paper on remedying environmental damage (COM(93) 47 final, 14 May 1993), s 2.1.11, 11-13

\textsuperscript{31} See William C. Hoffman, ‘Strict Pollution Liability Under Germany’s New Environmental Liability Act’ (1991) 3
Environmental Claims Journal 487, 494 (referring to Environmental Liability Act, s 19)

\textsuperscript{32} Answer given by Ritt Bjerregaard on behalf of the Commission to written question E-14/96 by Kenneth
Coates [1996] OJ C173/31

\textsuperscript{33} ERM Economics, Economic Aspects of Liability and Joint Compensation Systems for Remediying
Environmental Damage; Summary Report (March 1996), s 3.2
types of insurance policies for the coverage of costs involved in the clean up of contaminated sites, for instance in the Netherlands.\textsuperscript{34}

The Commission further stated that:

the [environmental damage] regime should not impose an obligation to have financial security, in order to allow the necessary flexibility as long as experience with the new regime still has to be gathered. The provision of financial security by the insurance and banking sectors for the risks resulting from the regime should take place on a voluntary basis. The Commission intends to continue discussions with these sectors in order to stimulate the further development of specific financial guarantee instruments.\textsuperscript{35}

By this time, however, the provision for mandatory financial security in the German Environmental Liability Act had failed to be brought into force because, as noted by the Commission, it had ‘run into difficulties’.\textsuperscript{36} That is, the order to bring the provision into effect has never been issued due to re/insurers declining to provide the necessary re/insurance cover.\textsuperscript{37}

Also by the early 2000s a further report for the Commission, this time on financial security associated with liability for NRD in the US, had been published.\textsuperscript{38} The Commission subsequently stated that the paper showed that NRD (which is somewhat similar to damage to water and protected species and habitats under the ELD; see directly below and section 4.3.6) is insurable in the US and also that associated insurance markets had developed over time with few problems.\textsuperscript{39}

In 2001, the Commission issued its Working Paper in which it stated that the liability system it would propose ‘would not require any compulsory insurance but Member States [would] retain the right to require it’.\textsuperscript{40} The Working Paper further stated that Member States would be required to remedy environmental damage if the liable operator could not be found or was insolvent. In other words, any motivation at EU level towards imposing mandatory financial security at EU level had been substantially reduced because Member States had another motivation to remediate environmental damage in that they would be required to remediate it if the liable operator failed to do so. Accordingly, the Working Paper stated that:

Member States would be free to decide how best to achieve that objective (requiring operators to be covered by a kind of financial security, setting up a fund system fed

\begin{footnotes}
\item[34] European Commission, White Paper on Environmental Liability (COM(2000) 66 final, 9 February 2000), s 4.9, 24. That policy, called the \textit{Milieuschadeverzekering} or MSV policy is discussed in the Member State report for the Netherlands
\item[35] Ibid
\item[36] Ibid
\item[37] See Nils Hellberg, ELD implementation: Update on German developments (presentation, 15 January 2013); \url{http://ec.europa.eu/environment/legal/liability/pdf/eld_meetings/German_insurance_update.pdf}
\item[39] European Commission, Proposal for a Directive on environmental liability with regard to the prevention and remedying of environmental damage (COM(2002) 17 final, 23 January 2002), explanatory memorandum s 4, 8
\item[40] Environment Directorate General Working Paper on Prevention and Restoration of Significant Environmental Damage (Environmental Liability) (July 2001), s 18
\end{footnotes}
through contributions from the industry, imposing liability on other categories of persons, such as the owner of the polluted site, etc.).

In 2002, the proposed Directive that became the ELD retained the requirement for Member States to remediate environmental damage if the responsible operator failed to remediate it. The proposal also continued to reject mandatory financial security. The proposed Directive stated that:

Member States shall encourage the use by operators of any appropriate insurance or other forms of financial security. Member States shall also encourage the development of appropriate insurance or other financial security instruments and markets by the appropriate economic and financial operators, including the financial services industry.

The explanatory memorandum to the proposal stated that financial security for environmental liability benefitted all stakeholders, commenting that ‘it is one of the most effective, if not the only, way of ensuring that restoration actually takes place in line with the polluter pays principle’.

The impetus for Member States to require operators to have financial security changed in 2003, when the Council, in the Common Position, deleted the requirement for Member States to ensure that remedial measures are taken when a liable operator is not identified or does not have sufficient financial resources to carry out the measures. A further change in the Common Position directed the Commission to:

report on the effectiveness of the Directive in terms of actual remediation of environmental damages, on the availability at reasonable costs and on conditions of insurance and other types of financial security for the activities covered by Annex III. In the light of that report, the Commission may submit proposals for mandatory financial security.

In its second reading, the European Parliament amended the proposed Directive to delete the above provision. Instead, the amendment added a requirement that if appropriate instruments had not been developed or if Member States had not established appropriate markets for insurance or other financial security by five years after the Directive’s entry into force, the Commission should ‘submit proposals for a harmonised compulsory financial guarantee for water and soil damage based on a gradual approach’, to be extended to the remediation of damage to protected species and habitats two years later. The amendment further stated that a ceiling may be established for the financial guarantees by case and location, to be determined by a sliding scale drawn up by Member States that took into account, in particular, the risks of operations and annual turnover. An optional exception for low risk activities was also included.

41 Ibid s 10
42 European Commission, Proposal for a Directive on environmental liability with regard to the prevention and remedying of environmental damage [2002] OJ C151 E/132, arts 5(1), (2)
43 Ibid art 16
46 European Parliament legislative resolution on the Council’s common position for adopting a European
The European Commission rejected the above amendment because, among other things, it would be difficult for the Commission to adopt rules to mandate financial security when providers of such security had stated that they were unable to provide it. The Council subsequently also rejected the amendment.

Throughout the above legislative process and beyond, the EU trade organisations of operators and insurers strongly opposed mandatory financial security for environmental liabilities under the ELD on the basis that damage to natural resources, as discussed and then proposed by the European Commission, was unquantifiable and uninsurable.

Whilst an environmental insurance market as such in the EU did not exist at that time, by the mid 1990s, a few insurers had begun to offer environmental insurance policies that provided cover for environmental liabilities, including liabilities under the ELD, in some Member States and by ‘passporting’, a process by which an insurance company that is authorised in one State of the European Economic Area (EEA) can carry on permitted activities in any other EEA State by either establishing a branch or agents in that State (right of establishment) or providing cross-border services across the EEA (freedom of services).

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47 Opinion of the Commission pursuant to Article 251(2), a third subparagraph, point (c) of the EC Treaty, on the European Parliament’s amendments to the Council’s common position regarding the proposal for a Directive of the European Parliament and of the Council on environmental liability with regard to the prevention and remedying of environmental damage (COM(2004) 55 final, 26 January 2004), amendment 22

48 See Organisation for Economic Co-operation and Development, Policy Issues in Insurance Environmental Risks and Insurance; A Comparative Analysis of the Role of Insurance in the Management of Environment-Related Risks (2003), 61 (quoting CEA, Position paper on environmental liability with regard to the prevention and remedying of environmental damage (May 2002) (‘To meet the prerequisites of insurability, means would have to be decided to establish the amount of compensation to be paid by the liable party. The means would need to be reliable and consistent within the European Union. Biodiversity damage as described in the proposal is not at the moment measurable and thus cannot be insured through the existing insurance solutions. There is no real experience of compensating these types of damage in Europe nor in the US and the first attempts to develop these concepts are only in their initial stage, developed by some environmental insurance pools. Insurers are, nevertheless, willing to contribute to any development that would allow the quantification of ecological damage’); Bureau International Assurances et Reassurance (BIPA), CEA, Eurochambres, FERMA, European Association of Craft, Small and Medium-Sized Enterprises (UEAPME), Common Statement on the proposal for a Directive on Environmental Liability (February 2003) (‘Environmental damage and damage to biodiversity in particular are new concepts, as is compensatory restoration and coverage of interim losses …. The insurance markets have no experience in this field and quantification of risks is currently impossible, which might result in the absence of insurances for most businesses’)

49 See Proposal for a Directive on environmental liability with regard to the prevention and remedying of environmental damage (COM(2002) 17 final, 23 January 2002), Annex – public consultation, 27 (industry ‘is concerned about the difficulties relating to the evaluation of environmental damage [and] is worried about the difficulty operators could encounter in finding appropriate insurance coverage’)

50 CEA, Environmental Liability Directive Adopted (press release, 23 February 2004) (‘As of today, there is no established environmental liability insurance market providing products that match the scope of the agreement. The insurance sector can offer products for part of the scheme (clean-up of soil and water) but many risks, such as biodiversity damage, are difficult to evaluate. More work needs to be done to make those risks insurable’); see also Juliane Kokott, Axel Klaphake and Simon Marr, ‘Key Elements of a Liability Regime Taking into Account Ecological Damages’ (2005) 2(4) Journal for European Environmental and Planning Law 277, 277 (insurability of ecological damage was one of the reasons why the ELD encountered considerable resistance)

51 Bank of England, Passporting; https://www.bankofengland.co.uk/prudential-regulation/authorisations/passporting; Lloyd’s, Passporting in the EU;
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In contrast to the strong opposition of trade organisations for industry and the trade organisations for insurers, Insurance Europe, environmental NGOs argued that financial security should be mandatory to create a strong incentive to prevent environmental damage and, if it was caused, to remediate it.\footnote{See, e.g., WWF and BirdLife International, The European Directive on Environmental Liability – “Polluter Pays”: from principle to practice? An Environmental NGO commentary on the Environmental Liability Directive: its adoption at EU level and what it means for the future (July 2004), 9; http://assets.panda.org/downloads/environmentalliabilityjuly2004.pdf}

\section{2.2. \hspace{1em} Polluter pays principle}

The EU adopted the ELD on 21 April 2004. An overview of the ELD is set out at section 4.1 below. The following is a very brief description of the polluter pays principle as it relates to the ELD to set the overview of the ELD and other sections of this report in context.

The polluter pays principle is at the heart of the ELD. Article 1 states that ‘The purpose of this Directive is to establish a framework of environmental liability based on the “polluter-pays” principle, to prevent and remedy environmental damage’.

The purpose of the polluter pays principle is to allocate the cost of pollution to the person responsible for it; it is not a liability principle. The Organisation for Economic Co-operation and Development (OECD) introduced the principle in 1972\footnote{See OECD ‘Recommendation of the Council on Guiding Principles concerning International Economic Aspects of Environmental Policies’ (C(72)128 1972)} in the context of international trade.\footnote{OECD, Joint Working Party on Trade and Environment ‘The polluter-pays principle as it relates to international trade’ (COM/ENV/TD(2001)44/final 23 December 2002)}

In 1987, the Single European Act inserted the polluter pays principle and other environmental principles in an environment article in the then EEC Treaty\footnote{Consolidated Treaty of the European Union art 130r(2).} (now article 191(2) of the Treaty on the functioning of the European Union (TFEU)).

Article 191(2) provides that:

\begin{quote}
Union policy on the environment shall aim at a high level of protection taking into account the diversity of situations in the various regions of the Union. It shall be based on the precautionary principle and on the principles that preventive action should be taken, that environmental damage should as a priority be rectified at source and that the polluter should pay.\footnote{Treaty on the functioning of the European Union [2012] OJ C326/47; https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:12012E/TXT&from=EN}
\end{quote}

In 1989, the OECD extended the polluter pays principle to accidental pollution. It recommended that the cost of carrying out measures to prevent and control substantial accidental off-site pollution from ‘hazardous installations’ should be borne by operators of the installations.\footnote{OECD, Recommendation of the Council concerning the Application of the Polluter-Pays Principle to Accidental Pollution (C(89)88/Final, 1989), Annex, cl 4} The OECD considered that the operator of the activity that caused potential or actual pollution should, as a general rule, be regarded as the ‘polluter’ because ‘the operator
is usually in the best position to prevent and to limit [the] consequences [of the accident] in a cost-effective way.\textsuperscript{58}

That is, the OECD did not designate the operator as the polluter on the basis of liability. Instead, it designated the operator as the polluter in order to internalise environmental costs more efficiently than designating a person at another level in the chain of pollution.\textsuperscript{59} The reasoning is that the operator should pay the costs of preventing or controlling pollution because it can then factor the costs into its decision-making, including deciding whether to include the costs in the price of its goods.\textsuperscript{60}

In this respect, the ELD allocates the costs of preventing and remediating pollution (and other environmental damage) without regard to ultimate liability. Recital 2 of the ELD illustrates the emphasis on cost allocation by stating that the ‘fundamental principle’ of the ELD is:

that an operator whose activity has caused the environmental damage or the imminent threat of such damage is to be held financially liable, in order to induce operators to adopt measures and develop practices to minimise the risks of environmental damage so that their exposure to financial liabilities is reduced.

Recital 2 is markedly similar to a 1990 report by the Business and Industry Advisory Committee to the OECD, which stated as follows:

the principal objective of liability regimes should be to promote environmental protection. This can best be achieved by linking liability to operational control [in order to create an] incentive for the controlling entity to adopt all precautions for environmental protection.\textsuperscript{61}

In \textit{Raffinerie Mediterranee (ERG) SpA, Polimeri Europa SpA and Syndial SpA v Ministero dello Sviluppo economico}, one of the few cases by the Court of Justice of the European Union (CJEU) concerning the ELD, AG Kokott reiterated the cost allocation emphasis of the polluter pays principle in the ELD as follows:

The [ELD] seeks to implement the ‘polluter pays’ principle in a certain form. In essence, operators are to bear the costs of environmental damage which they cause. This allocation of costs creates an incentive for operators to prevent environmental damage. This is fair in so far as the operators carry on an activity involving risk, particularly in the case of strict liability, and generally also benefit from an economic return on that activity.\textsuperscript{62}

\textsuperscript{58} OECD, Recommendation of the Council concerning the Application of the Polluter-Pays Principle to Accidental Pollution (C(89)88/Final, 1989), Annex, cl. 4. Explanatory Reports, Application of the Polluter-Pays Principle to Accidental Pollution, s. III, para. 19

\textsuperscript{59} See Jean-Philippe Barde, Economic Instruments in Environmental Policy: Lessons from the OECD Experience and their Relevance to Developing Economies (OECD Development Centre, Working Paper No. 92 (OCDE/GD(93)193, January 1993), 31


\textsuperscript{61} OECD Analyses and Recommendations, Environment Directorate (OCDE/GD(92)81, 1992), Explanatory Reports, Compensation for Victims of Accidental Pollution, s C, para 9

\textsuperscript{62} Case C-378/08 \textit{Raffinerie Mediterranee (ERG) SpA v Ministero dello Sviluppo economico} [2010] ECR I-1919, 126, Opinion of AG Kokott, para 94
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Application of the polluter pays principle in the ELD does not mean that an operator is necessarily liable. As the CJEU subsequently stated in the above case:

in accordance with the ‘polluter pays’ principle, the obligation to take remedial measures is imposed on operators only because of their contribution to the creation of pollution or the risk of pollution.\(^{63}\)

That is, there must be a causal link, however remote, between an operator and environmental damage in order for the operator to be liable under the ELD.

2.3. Financial security provisions in the ELD

The ELD does not direct Member States to require mandatory financial security for liabilities that may arise under the ELD. Instead, article 14(1) provides that:

Member States shall take measures to encourage the development of financial security instruments and markets by the appropriate economic and financial operators, including financial mechanisms in case of insolvency, with the aim of enabling operators to use financial guarantees to cover their responsibilities under this Directive.

Chapter 13 below examines measures taken by Member States to encourage the development of financial security instruments and markets. As indicated in that chapter, some Member States have carried out more measures than others.

Article 8(2) of the ELD provides that:

Subject to [application of the ‘defences’ to liability], the competent authority shall recover, inter alia, via security over property or other appropriate guarantees from the operator who has caused the damage or the imminent threat of damage, the costs it has incurred in relation to the preventive or remedial actions taken under this Directive.

Section 6.3 examines the legislation that transposed article 8(2) into the national law of Member States.

2.4. European Commission report on financial security

Article 14(2) of the ELD directed the Commission, before 30 April 2010, to:

present a report on the effectiveness of the Directive in terms of actual remediation of environmental damages, on the availability at reasonable costs and on conditions of insurance and other types of financial security for the activities covered by Annex III. The report shall also consider in relation to financial security the following aspects: a gradual approach, a ceiling for the financial guarantee and the exclusion of low-risk activities. In the light of that report, and of an extended impact assessment, including a cost-benefit analysis, the Commission shall, if appropriate, submit proposals for a system of harmonised mandatory financial security.

The Commission submitted its report on 12 October 2010. The report commented on the slow transposition of the ELD by Member States (it was not transposed into the law of all Member States until July 2010), noting that Member States had taken only limited action in respect of article 14(1) and had restricted measures taken by them to encourage the development of financial security instruments and markets to discussions with insurers and/or their trade

\(^{63}\) Case C-378/08 Raffinerie Mediterranee (ERG) SpA v Ministero dello Sviluppo economico [2010] ECR I-1919, 126, para 57
organisations. The Commission further noted that insurance markets for ELD liabilities had started to grow in Member States but this was due to initiatives by insurers even when a Member State had established mandatory financial security.64

The Commission stated that the most popular instrument to cover environmental liability was insurance, followed by bank guarantees, and then market-based instruments such as funds and bonds. The Commission further stated that it was difficult to assess whether the re/insurance market had sufficient capacity to cover ELD liabilities efficiently, noting that capacity was increasing as demand for insurance for ELD liabilities increased65 but that exclusions still existed for gradual environmental damage, compensatory remediation and some other types of remediation.66

The Commission concluded that it was premature to propose mandatory financial security at EU level due to Member States having adopted divergent views in implementing the ELD, and some Member States that had stated they would introduce mandatory financial security systems having failed to do so. The Commission commented that an assessment of mandatory financial security systems that had been introduced suggested a gradual approach, exclusion of low risk activities, and ceilings for financial guarantees.67

The Commission concluded that the information available to it did not allow it to draw reliable conclusions on the need for a harmonised system of mandatory financial security at EU level. The Commission therefore announced that it would ‘re-examine the option of mandatory financial security possibly even before the review of the Directive planned for 2014 in conjunction with the Commission report under Article 18(2) ELD’.68

2.5. Post-2004 views on insurability and mandatory financial security

In 2008, Insurance Europe commented that environmental insurance still had a long way to progress before it was ‘mainstream’.69 By this time, however, environmental insurance markets in the EU had begun to grow. Environmental re/insurance pools established in France, Italy, the Netherlands and Spain, as well as individual environmental insurers were offering policies that provided cover for ELD and other environmental, liabilities, with individual insurers having modified their stand-alone environmental insurance policies to include ELD liabilities.70 The reason for the inclusion of cover for liabilities under the ELD and other environmental liabilities in a stand-alone environmental insurance policy is that liability under

65 Ibid
66 Ibid 8
67 Ibid
68 Ibid 10
the ELD is subject to a threshold of environmental damage. Virtually all environmental insurance policies that provide cover for ELD risks therefore necessarily also provide cover for liabilities under national law below that threshold. Environmental insurance policies that provide cover for these national liabilities had been available in some Member States many years before the ELD was adopted.

Insurance Europe and the Federation of European Risk Management (FERMA) have continued to oppose the introduction of mandatory financial security for ELD liabilities.

In 2013, FERMA stated that:

FERMA has consistently stated that that the environmental insurance market should be allowed to develop without any constraints from a rigid and ‘one-size-fits-all’ kind of regime. The ELD-related risks are too diverse and their exposure is over a long time. They cannot be covered by one single mandatory insurance scheme ....

[I]t is up to industry to convince the Commission that imposing mandatory financial security schemes on European operators would lead to unintended and potentially damaging consequences, as it would be a long and risky task to reach a consensus over such measures among member states with very uncertain results.71

In 2014, Insurance Europe stated that:

[Our] survey shows that many different insurance solutions are available in EU member states to cope with market demand. It also clearly demonstrates that a voluntary free market is working in this challenging area, with different products and approaches available, and that a ‘one size fits all approach’ at EU level would not be feasible. On the contrary, such an approach could impede the current encouraging development of insurance products in the member states.72

As Insurance Europe stated, many different insurance solutions were becoming available in the EU, mainly those offered by multinational insurers in global programmes and to operators with sites and/or operations in multiple Member States. As noted in section 1.1 above, however, such policies were not available in all Member States, especially to operators with sites and/or operations in a single Member State.

In 2017, FERMA stated that:

mandatory financial security or an industry fund at EU level would not give incentives to reduce and mitigate environmental incidents. On the contrary, it was likely to reduce the capacity of businesses to invest in prevention and risk management.73

The research for this report indicated that the above views had not changed when this report was published.


72 Insurance Europe, Briefing note; Survey of environmental liability insurance developments (June 2014), 2; https://www.insuranceeurope.eu/sites/default/files/attachments/Survey%20of%20environmental%20liability%20insurance%20developments.pdf; see also CEA Comments on the financial security provisions of the Proposal for a Directive on the geological storage of carbon dioxide (COM(2008) 30 Final (23 October 2008) (‘CEA opposes the creation of any compulsory insurance by Member States ... and proposes a voluntary insurance solution’)

3. VOLUNTARY AND MANDATORY FINANCIAL SECURITY FOR ENVIRONMENTAL LIABILITIES

Chapter 3 provides the background for the in-depth discussion and analysis of financial security instruments and mechanisms in the context of the ELD and other environmental liabilities as well as responsibilities.

The chapter is structured as follows.

First the chapter briefly describes the types of environmental liabilities and responsibilities to which financial security instruments and mechanisms generally apply.

This is followed by a comparison of the two types of financial security instruments and mechanisms that can apply to each type, namely voluntary financial security and mandatory financial security, and those that do not apply. As discussed, environmental insurance is the only feasible type of financial security for environmental liabilities in the absence of mandatory financial security.

The chapter then describes the three main types of environmental insurance in the EU; stand-alone environmental insurance policies, environmental extensions to general liability policies, and environmental extensions to property policies. As discussed, there are substantial differences between them.

Finally, the chapter describes the various types of financial security instruments and mechanisms that are used across the EU for environmental liabilities and responsibilities and those that are generally accepted by competent authorities in Member States.

3.1. Types of environmental liabilities and responsibilities to which financial security can apply

The main environmental liabilities to which financial security generally applies are the remediation of environmental damage and the prevention of further damage, and claims for bodily injury, property damage and (in some jurisdictions) pure economic loss.\(^{74}\) This is true whether an incident results in damage to: (1) land/soil; (2) surface, ground, transitional, coastal and/or marine waters; or (3) fauna and flora. In the context of the ELD, therefore, financial security can apply to all three types of environmental damage. Chapter 4 examines these types of environmental liabilities in US federal legislation and the ELD including similarities and differences.

The main environmental responsibilities to which financial security generally applies are obligations that an operator must carry out pursuant to its environmental permit or other authorisation. These include the obligation to carry out (1) closure and post closure obligations for landfills and other waste facilities and, in some cases, the rehabilitation/restoration of land

\(^{74}\) Pure economic loss is compensation in the absence of bodily injury or property damage. If economic loss is connected to even minimal property damage or bodily injury (called consequential economic loss), it is recoverable under a claim for bodily injury or property damage. In contrast, ‘pure economic loss strikes the victim’s wallet and nothing else’. Vernon Valentine Palmer and Mauro Bussani, ‘Pure Economic Loss: The Ways to Recovery’ (December 2007) 11(3) Netherlands Comparative Law Association, Electronic Journal of Comparative Law, 7; [http://www.ejcl.org/113/article113-9.pdf](http://www.ejcl.org/113/article113-9.pdf)

Pure economic loss is recoverable in France; it is unsettled whether it is recoverable in Italy, Greece and the Netherlands; it is not recoverable in England, Germany, Portugal, Scotland and Spain. See Bio by Deloitte, ‘Civil liability, financial security and compensation claims for offshore oil and gas activities in the European Economic Area’ (31 October 2014), s 3.8.2, 96-98; [https://ec.europa.eu/energy/sites/ener/files/documents/BIO_Offshore Civil Liability_Revised Final Report%20%2831102014%29.pdf](https://ec.europa.eu/energy/sites/ener/files/documents/BIO_Offshore Civil Liability_Revised Final Report%20%2831102014%29.pdf)
damaged by the facility, (2) other measures pursuant to an environmental permit, and (3) measures to remediate pollution set out in an order or agreement issued by a competent authority to a responsible operator.

There is thus a major difference between an environmental responsibility and an environmental liability in that an environmental responsibility will inevitably occur whereas an environmental liability may never occur.

Chapter 5 examines mandatory financial security for environmental responsibilities and liabilities in US federal legislation and environmental responsibilities in EU legislation. EU legislation does not contain mandatory financial security provisions for environmental liabilities.

The examination of environmental liabilities and mandatory financial security for them and for environmental responsibilities in the US and the EU help explain the differences between the US environmental insurance market and the EU environmental insurance market, as discussed in chapter 9 and, thus, the availability and demand for stand-alone environmental insurance policies and extensions to general liability and property policies, as discussed in chapter 10.

3.2. Comparison of voluntary and mandatory financial security

The typical financial security instrument for environmental liabilities is insurance. Unless a Member State has adopted a mandatory financial security system or provisions for liabilities under the ELD or liabilities or responsibilities under other environmental legislation, it is highly unlikely that there will be a market for financial security instruments and mechanisms other than insurance.

Operators do not set aside money in dedicated bank accounts, trust funds, escrow accounts or any other type of financial security instrument if there is no requirement for them to do so. Indeed, doing so would prejudice a business in its operations because the money would not be available to use for the business itself. Further, businesses do not take out bank guarantees for liabilities if there is no requirement to do so; the collateral for the guarantee would not be available for the business’ other operations and obligations. Still further, businesses do not take out surety bonds if there is no requirement to do so. Not only is there no value to the business from such a bond; there is a detriment in the form of the premium the business must pay for it. Finally, businesses do not set aside funds for environmental liabilities or responsibilities in reserves in the absence of a requirement to do so. Again, the funds in the reserve could not be used for the businesses’ other operations or obligations.

Thus, if a Member State has not adopted mandatory financial security for liabilities under the ELD or other environmental legislation, the only financial security instrument for such liabilities tends to be insurance.

Businesses may – and frequently do – purchase liability insurance policies to provide cover for losses that may be suffered by them even when there is no requirement to do so. Businesses – obviously – must pay a premium for the policies but the policies protect them from risks to their financial viability if an unforeseen incident occurs. A key example of such a policy is a general liability policy, which is not mandatory in most if not all Member States. In addition, businesses may – and frequently do – purchase other policies such as property policies to provide cover for the destruction or harm to their buildings and other structures. Again, the policy protects them from risks to their financial viability if destruction or harm occurs.
As explained by Insurance Europe:

Insurance is ... a means of reducing uncertainty. In return for buying an insurance policy for a smaller, known premium, the possibility of a larger loss is removed. By pooling premiums and insured events, the financial impact of an event that could be disastrous for one policyholder is spread among a wider group.⁷５

Stand-alone environmental insurance policies (sometimes called environmental impairment liability – or EIL – policies) that are purchased to provide cover for environmental liabilities voluntarily and those that are purchased pursuant to mandatory financial security requirements are not mutually exclusive. Stand-alone environmental insurance policies have been adapted in many States so that they also provide cover for mandatory requirements. For example, some insurers that provide voluntary stand-alone environmental insurance policies, including cover for ELD liabilities, in Ireland, Portugal and Spain also provide such policies to satisfy an insured’s mandatory financial security requirements. The policies differ in that the latter may include additional or revised provisions to satisfy mandatory financial security requirements. Depending on the mandatory financial security system, cover for such risks may be required to be ring-fenced, that is, cover provided by them may be required to be protected from erosion by claims for other losses under the policy.

Financial security instruments and mechanisms in a Member State that has a mandatory financial security system for ELD or other environmental liabilities include instruments in addition to environmental insurance. For example, environmental insurance policies, bank guarantees, environmental funds, and own dedicated reserves are acceptable financial security instruments for ELD liabilities in Portugal. Bank guarantees and environmental insurance policies are acceptable financial security instruments for environmental liabilities in Malta.

As indicated above, financial security instruments and mechanisms for environmental responsibilities differ from those for environmental liabilities. A significant distinction is the absence of environmental insurance as the sole means of financial security for measures such as the closure or aftercare of a landfill or other waste facility. Insurance may be used to provide cover for the risk of carrying out measures to, say, close a landfill or waste facility exceeding the estimated costs of closure, the operator being required to close the landfill or waste facility before the planned date for doing so, or environmental damage from incidents during closure or aftercare. Other financial security instruments, such as bank guarantees, deposits or bonds, however, are required to pay for the estimated costs of closure and aftercare. Insurance covers fortuities; it does not cover certainties. Thus insurance may be part of the financial security for responsibilities but only to the extent that liabilities may arise from them.

There are, of course, differences in insurance law between Member States. For example, civil liability policies in France must have a five-year extended reporting period,⁷⁶ that is, a period of five years after the termination of the policy period in which an insured may notify a claim to insurers for damage that occurred during the policy period.

It is beyond the remit of this report to examine details of insurance law in the various Member States.

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States. The report thus comments on Member State insurance law only as relevant in the context of the report.

3.3. Voluntary financial security instruments and mechanisms

There are three main types of insurance for liabilities under the ELD and other environmental legislation in Member States: environmental extensions to general liability policies; environmental extensions to property policies; and stand-alone environmental insurance policies. The availability of reinsurance plays a critical role in the availability of all three types.

This section describes the different types of insurance. In order to set the discussion in context, this section first briefly describes the general format of an insurance policy.

3.3.1. Insurance policies

There are many types of insurance policies from relatively short policies to policies with over 100 pages, especially combined policies that include many different types of cover within a single overall policy. Regardless of their length insurance policies tend to have the same basic format: a wording; a schedule (sometimes called the declarations); and, if applicable, one or more endorsements.

The wording is the body of an insurance policy. It includes the coverage clauses (also called insuring agreements or clauses) under which the insurer agrees to indemnify the insured for losses covered by the policy, definitions of words and terms used in the wording, exclusions to the coverage clauses, and other terms and conditions including notification clauses, claims co-operation clauses, applicable law, applicable jurisdiction and venue, assignment, subrogation, etc. The wordings of an individual insurer for a specific class (line) of business such as general liability policies, property policies, directors' and officers’ policies, products liability policies, employers’ liability policies, etc. tend to be standardised. A standardised policy wording is sometimes referred to as a specimen wording. Insurers can – and do- draft bespoke policies for very large and complex risks.

Wordings vary greatly between insurers and jurisdictions. Some, such as general liability policies, may be more standardised than others such as directors’ and officers’ policies.

Any extensions to the main coverage clauses of the policy are set out in the body of the policy or in an endorsement to it.

The schedule is the part of the policy that is specific to an individual insured. It includes the insured’s name and address, the names of any additional insureds, the sections of the policy covered by the particular policy if the policy has several/multiple coverage clauses, the policy period (that is the length of time covered by the policy with the time and date on which the period begins and ends), the deductible (excess) or self insured retention, the limit(s) of liability, any sub-limits of liability, the amount of the premium, the name of the broker (if any), and the names of endorsements attached to the policy.

The schedule to a stand-alone environmental insurance policy will also include, as appropriate, any locations specifically covered by the policy and, in the case of construction liability policies, a description of the contractor’s services and/or project that are covered by the policy. The policy may also include a retroactive date, which is often but not always the date at which the policy incepted. The retroactive date is the date before (or after) which environmental damage covered by the policy must occur. For example, policies that provide cover solely for pollution caused by an insured’s operations do not provide cover for pollution that occurred at the insured’s site before the retroactive date. Policies that provide cover solely for pre-existing pollution that is unknown to an insured or declared by the insured to
the insurer do not provide cover for pollution caused after the retroactive date.

A policy may have one or more endorsements. These delete, revise or add terms to the policy wording or schedule. They may, for example, add additional insureds to the schedule, or revise definitions or clauses in the policy wording. Endorsements may, in some cases, be added during the policy period. Endorsements include the name of the policy onto which they are endorsed and the date on which they are added to the policy.

Environmental insurers typically have libraries of standard endorsements for their stand-alone environmental insurance policies. In addition, they draft bespoke endorsements when applicable for a particular risk.

3.3.2. Environmental extensions to general liability policies

In order to understand how environmental extensions to general liability policies extend cover to the policies, the following is a brief description of the policies followed by a description of the extensions.

➢ General liability policies

General liability policies have been available for over 100 years. In the EU, the wordings are drafted by insurers, brokers, and/or national insurance associations. Most wordings are standardised according to the insurer that offers them. Wordings for large and complex risks for large businesses may be drafted on a bespoke basis. In Austria and Germany, the insurance associations provide model terms and conditions that an insurer may use or adapt if it wishes.

The most common type of general liability policy is a primary general liability policy. Further amounts of cover may be provided by excess general liability policies which, as their name implies, provide cover in amounts excess to the amount covered by the primary policy. For example, an insured may have a primary policy with a limit of indemnity of EUR 2,000,000, an excess liability policy that provides cover for, say, EUR 3,000,000 excess of EUR 2,000,000, and so on. In the example, the insured would have cover for EUR 5,000,000.

General liability policies typically provide an insured with cover against third party claims for bodily injury and property damage caused by the acts or omissions of the insured. In States in which pure economic loss is recognised under national law, they may also provide cover for claims for such loss.

A major reason for the growth of general liability policies many years ago was the growth in tort law, particularly negligence. The policies thus provide cover for losses caused by an insured’s negligent acts or omissions. General liability policies do not provide cover for damage to an insured’s own property. This is because such damage does not result from a third party claim against the insured, that is, the damage does not result from a liability. Cover for such damage is covered by a property policy.

General liability policies contain insuring/coverage clauses under which the insurer agrees to indemnify the insured for losses covered by the policy up to the limit of liability specified in the policy. In the EU, that limit tends to include costs to defend the insured against third party claims. In some States, such as the US, there are separate insuring agreements for indemnity costs and defence costs.

The limits of liability in a general liability policy include limits for ‘each and every’ loss, and in the aggregate. A general liability policy may also include sub-limits of liability for, say, an environmental extension to it.

As a general rule, general liability policies are underwritten on an ‘occurrence’ basis. That is,
the policy provides cover for bodily injury, property damage or other covered harm that occurs during the policy period rather than the time at which a claim is made against the insured. In the case of losses from bodily injury or property damage caused by a pollutant such as asbestos, this can mean that policies underwritten many years ago may be called on to respond to a claim due to the potentially lengthy latency period before the bodily injury manifests itself or otherwise ‘occurs’, depending on the law of the relevant jurisdiction. General liability policies are thus said to have a ‘long tail’ of liability.

It is highly unusual, at least in the EU, for general liability policies to provide cover for claims against an insured for preventing or remediating pollution. This is because such claims are brought by competent authorities and generally require an insured to carry out measures to prevent or remediate the pollution. As indicated above, general liability policies provide cover for claims by third parties for damages or compensation. They do not provide cover for measures that a governmental authority requires an insured to carry out, such as preventing and remediating environmental damage under the ELD or other environmental legislation. This issue, in fact, led to a massive amount of litigation in the US where courts in some States construed general liability policies to provide cover for remediating pollution (see section 9.1.1 below).

When legislatures around the world began enacting legislation to impose liability for the remediation of pollution, including retroactive liability in some jurisdictions such as the US for historic contamination/pollution, insurers began inserting pollution exclusions into general liability policies. These exclusions are absolute or qualified. An absolute exclusion bars cover for claims for bodily injury, property damage and economic loss absolutely. A qualified exclusion bars cover for claims for bodily injury, property damage and economic loss caused by gradual pollution. The exclusions generally do this by barring all cover for pollution and then writing back cover for sudden and accidental pollution.

- **Environmental extensions**

In order to fill the gap in cover described above, some insurers in the EU began offering environmental extensions to general liability policies.

There are many varieties of environmental extensions. Some are called ‘hours clauses’ in that they provide cover for remediating pollution or providing cover for other losses from pollution only if the incident that caused the pollution starts and ends within a specified time and is notified to insurers within another specified time. Other extensions have a sub-limit of liability, sometimes a very low sub-limit, for claims that arise from pollution. Others require the existence of a claim for bodily injury or property damage against the insured before cover under the extension is triggered. Others provide cover only for bodily injury or property damage that arises from pollution.

The extensions rarely provide cover for ELD liabilities unless liability for the remediation of pollution that has migrated from an insured’s site onto off-site land/soil under the ELD overlaps with liability for the remediation of pollution under other environmental legislation. That is, the policies – if at all – do not specifically provide cover for ELD liabilities. Instead, they may provide some cover for remediating off-site land/soil pollution, without specifying the legislation that imposes liability for it. The extensions do not provide cover for remediating pollution or other environmental damage on an insured’s site.

Due to the limitation of most environmental extensions to general liability policies in the EU to cover for sudden and accidental pollution, the extensions do not have the ‘long tail’ of liability that may apply to claims for bodily injury or property damage. As a general rule, an insured must notify the insurer of a claim that arises from pollution within the policy period.
of the policy to which the extension is part. General liability policies in the EU tend to be underwritten on an annual basis.

It is extremely rare for an environmental extension to a general liability policy to provide cover for complementary or compensatory remediation. Indeed, the research into this report indicated that such cover exists only in three environmental extensions provided by a single insurer in France and the United Kingdom. There is very little demand for these extensions.

3.3.3. **Environmental extensions to property policies**

As with general liability policies, in order to understand how environmental extensions to property policies extend cover to the policies, the following is a brief description of the policies followed by a description of the extensions.

- **Property policies**

Property policies provide cover for the loss of or damage to property covered by the policy. They are sometimes known as fire policies because a common claim against them is destruction of or damage to an insured’s property by fire. Property policies are first party policies in that they do not provide cover for claims by third parties against an insured. Instead, they provide cover for losses directly suffered by an insured under property covered by the policy. Crucially, a property policy only provides cover for ‘insured property’. Almost invariably, land is not ‘insured property’. Therefore, property policies do not provide cover for preventing or remediating land/soil or water that has been polluted by say, the rupture of a tank in a fire or the release of substances contained in a tank by flooding, or another peril that is insured against.

Property policies typically include a debris removal clause. These clauses provide cover for costs incurred by an insured in removing debris when there has been physical damage to insured property, such as damage from a fire. The clause thus provides cover for removing and disposing of insured property in the form of a structure that has suffered damage, such as an oil storage tank; it does not provide cover for remediating land/soil that has been polluted by an escape of oil from the damaged tank.

Property policies tend to have absolute pollution exclusions. That is, they bar cover for all losses arising from pollution.

- **Environmental extensions**

Due to the above limitations to a property policy, in order to provide cover for preventing or remediating environmental damage, the policy must have an environmental extension that provides cover for the costs of such measures.

Environmental extensions to property policies are uncommon in the EU. When available, they tend to be enhanced debris removal clauses in that they provide cover for remediating land/soil that has been polluted during an incident that has caused damage to property insured under the policy.

3.3.4. **Stand-alone environmental insurance policies**

When legislatures began introducing legislation that created liability for remediating contaminated land and polluted water and when insurers began adding pollution exclusions to their general liability policies, some insurers began developing stand-alone environmental
insurance policies to fill the gap in cover. The development of such policies began in the US in the late 1970s. There are three main reasons for this. First, environmental liabilities had substantially increased in the US since 1970. Second, stand-alone environmental insurance policies provided cover for losses from gradual pollution that were being excluded in general liability policies either by insurers that underwrote the policies or, in some cases, by States that placed a statutory bar on cover for such losses. Environmental extensions to general liability policies that provide cover for gradual pollution were not available; and still tend not to be available. Third, the introduction of financial security requirements for environmental liabilities provided an impetus for businesses subject to the requirements to purchase the policies (see further section 9.1.1 below).

Most stand-alone environmental insurance policies, with the exception of contractors’ pollution liability policies which are also underwritten on an occurrence basis, are underwritten on a claims made and reported basis. This means that a claim must be made against an insured during the policy period and reported (notified) by the insured to insurers either within the policy period or, if applicable, during the extended reporting period. Many stand-alone environmental insurance policies have an automatic extended reporting period of up to 90 days long (depending on the insurer), and an optional extended reporting period of up to three years for an additional premium. There is no long tail of liability as in general liability policies. The policies do not provide cover for any claims that are made against the insured after the policy period. They also do not provide any cover for claims that are made against an insured during the policy period and notified to the insurer after the policy period or any applicable extended reporting period.

There is a wide variety of stand-alone environmental insurance policies depending on the jurisdiction. They include policies for operators, contractors, professionals, businesses with real estate portfolios, environmental consultants, lenders, etc. Some policies are underwritten to provide cover for all activities carried out by an insured including liabilities from pollution at properties owned or operated by it. Other policies list sites that are covered by the policy as well as the insured’s operations. Section 9.1 below describes stand-alone environmental insurance policies that are available in the US. Section 9.2 describes stand-alone environmental insurance policies that are available in some Member States in the EU.

As a general rule, stand-alone environmental insurance policies in the EU do not provide cover only for ELD liabilities. This is because of the thresholds for environmental damage in the ELD for damage to protected species and natural habitats under the Birds and Habitats Directives (biodiversity damage), water damage, and land damage. Due to these thresholds, there would be a gap in cover for an insured if its policy only provided cover for environmental damage above the threshold. An insurance policy that provides cover only for ELD liabilities is not, therefore, generally offered by insurers because there would be no demand for it.

Some stand-alone environmental insurance policies (often called property transfer policies) provide cover for remediating environmental damage that occurred before the policies incepted, usually referred to as pre-existing pollution conditions. In order to be covered by the policy, the pollution condition must not be known to a ‘responsible insured’, which is usually defined to include an environmental manager of an insured’s site or the person responsible for the insured’s environmental matters. Alternatively, insurers may agree to provide cover for a known pollution condition as long as it is reported to insurers before the

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77 This report uses the term ‘stand-alone environmental insurance policy’ only to differentiate these policies from environmental extensions. This is not a commonly used term. The policies are usually known as environmental insurance policies or EIL policies.
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In this case, insurers may carve out cover for the known pollution condition by specifically excluding it in an endorsement to the policy. Policies that provide cover for pre-existing contamination always list the sites to be covered in the schedule or an endorsement.

The most common stand-alone environmental insurance policy in the EU is a menu-type policy that enables an insured to select from among the insuring agreements. The following insuring agreements may be available in stand-alone environmental insurance policies depending on the Member State, individual insurers, and their reinsurers:

- the remediation of on-site and off-site environmental damage under the ELD caused by operations, including transportation, carried out by the insured operator during the policy period;
- the remediation of pollution under other environmental legislation caused by operations, including transportation, carried out by the insured operator during the policy period;
- the remediation of pre-existing environmental damage including pollution at or emanating from sites owned or occupied by the insured provided that the damage is disclosed by the insured to insurers, or is unknown to the insured, before the inception of the policy;
- third-party claims for bodily injury and property damage from environmental damage including pollution;
- first party business interruption costs and extra expense caused by environmental damage including pollution;
- third-party business interruption costs and extra expense caused by environmental damage including pollution;
- the remediation of pollution from waste generated by the insured at a non-owned disposal site that is authorised to accept the waste when it is disposed at it;
- crisis response costs arising from an incident that has caused environmental damage including pollution;
- emergency measures to prevent or remediate environmental damage, including pollution, that occurs during the policy period; and
- related legal costs.

In addition to the information indicated in section 3.3.1 above, the schedule to a stand-alone environmental insurance policy indicates the insuring agreements that are covered by the policy and those that are not covered. The schedule also lists limits of liability for each and every pollution condition (or other loss) and in the aggregate, with a total aggregate of liability for cover under the entire policy.

Some stand-alone environmental insurance policies have automatic acquisition extensions or endorsements that provide cover for sites and/or companies acquired by an insured. In order to be automatically covered, the acquired sites and/or companies must meet criteria specified in the policy. In addition, the insured must provide a list of the sites or companies to insurers at specified regular periods during the policy period. Some policies provide cover for sites that have inadvertently been omitted from a list of sites acquired by an insured.

As indicated above, not all the insuring agreements that may be provided in a stand-alone environmental insurance policy provide cover for liabilities, whether under the ELD, other environmental legislation, or civil law. As also indicated above, some provide cover, called business interruption clauses, for losses to a business if it must cease operations during the time that environmental damage at its site is remediated; others, called crisis/disaster management clauses, provide cover for measures to protect the insured’s reputation if the
Insurers do not tend to offer stand-alone environmental insurance policies unless they have a specialised environmental underwriter or a team of specialised environmental underwriters. The underwriters generally have expertise in environmental science and technology in order to understand the risks involved.

As described in chapter 10, insurers, and reinsurers, do not necessarily offer all the above coverage in stand-alone environmental insurance policies to insureds in some Member States. As discussed in that chapter, stand-alone environmental insurance policies are not offered in some Member States or are subject to strict limitations such as providing cover only for remediating sudden and accidental pollution.

Stand-alone environmental insurance policies for voluntary and mandatory financial security are not mutually exclusive. They may typically be used for both.

In some Member States, competent authorities that accept a stand-alone environmental insurance policy as a financial security instrument for environmental liabilities require the policy to include specified clauses. These may include clauses that ‘ring fence’ the insuring clauses for environmental liabilities to which mandatory financial security applies so that the limit of liability for these is not eroded by other claims covered by the policy.

If an insurer in a Member State offers stand-alone environment insurance policies, the first stage in the underwriting process is for the prospective insured to complete a proposal form that contains questions about the current and previous uses of the site(s) to be covered by the policy, its environmental sensitivity and the sensitivity of the surrounding area, any previous or suspected pollution incidents, any claims arising from such incidents, any above ground or underground storage tanks at the site(s), etc.

The prospective insured, which usually purchases a stand-alone environmental insurance policy through a broker, must generally provide insurers with more information about sites to be insured. Such information typically includes a recent environmental assessment or audit of such sites, details of any pollution incidents at them and whether – and if so how – they have been remediated. The underwriter may also visit a site, or sites, prior to deciding whether to provide a stand-alone environmental insurance policy to cover risks from it.

A prospective insured generally approaches one or more environmental insurers through a broker. The number of specialised environmental insurance brokers is good in some Member States but low or non-existent in others.

### 3.3.5. Comparison of stand-alone environmental insurance policies and environmental extensions

As a general rule, the detailed underwriting process for stand-alone environmental insurance policies does not apply to environmental extensions to general liability or property policies except for model terms and conditions in Austria and Germany. It is thus easier for a business to obtain an extension, with the caveat that environmental liabilities covered by the extensions are much more limited than those covered by a stand-alone environmental insurance policy and are often subject to low or very low sub-limits of liability. These factors are also key reasons why insurers, and reinsurers, offer environmental extensions but not necessarily stand-alone environmental insurance policies in some Member States.

There is a general misconception in the EU that environmental extensions to general liability and property policies provide adequate cover for environmental risks.

For example, a brochure by one of the leading environmental insurers in the EU states as
There is an over-reliance on mainstream commercial insurances when it comes to pollution. Too many property owners/industrial operators are assuming that ‘pollution cover’, available under more standard forms of liability and property insurance, provides sufficient scope. [A stand-alone environmental insurance] policy is the only form specifically designed to cover pollution and is underwritten by experts who understand environmental risk. 78

In 2010, the International Underwriting Association (IUA) published two papers on the differences between stand-alone environmental insurance policies, general liability policies, environmental extensions to general liability policies, and property policies. 79 The papers showed the absence of cover for remediating environmental damage in general liability and property policies and the severely reduced cover for remediating environmental damage in many environmental extensions to general liability policies.

3.4. Reinsurance

The availability of reinsurance is critical to the availability of insurance regardless of the type of insurance or whether the insurance is purchased voluntarily or is subject to mandatory financial security (or mandatory insurance) requirements.

There are two main forms of reinsurance; treaty reinsurance, and facultative reinsurance. Treaty reinsurance is the reinsurance of an entire book of business, such as all the stand-alone environmental insurance policies, or all the motor policies, or all the employers’ liability policies underwritten by a single insurer. Facultative reinsurance is the reinsurance of a single risk. Reinsurance treaties are highly specialised and generally subject to extensive negotiations between an insured (called a reinsured) and a reinsurer. Facultative reinsurance tends to be subject to less extensive negotiations but is still highly complex. Both types are between sophisticated re/insurance companies.

If a reinsurance treaty excludes environmental liabilities (as some do in the EU) but an insured with an environmental management system and a good record of compliance with environmental legislation requests cover, the reinsurer may provide such cover to the insurer by facultative reinsurance. Just as there are insurance brokers; there are also reinsurance brokers.

Reinsurance treaties (and facultative reinsurance) include exclusions. For example in the context of environmental insurance, a reinsurance treaty may exclude cover for gradual pollution, or environmental risks in a specified geographic area such as a Member State. A reinsurance treaty may also limit the amount of cover to policies ceded by an insurer/reinsured to the treaty. Such limitations generally include limits of liability above a specified amount and, in the case of environmental extensions to general liability policies, sub-limits up to a specified amount. Other limitations include cover for measures to remediate gradual, as opposed to sudden and accidental, pollution.


79 International Underwriting Association, ‘Comparison of Insurance Policies in Respect of Pollution and/or Environmental Damage’ (August 2010); https://www.iua.co.uk/IUA_Member/Publications/Environmental_Liability.aspx?WebsiteKey=84dca912-b4fb-4a0f-a6e5-47ad899350aa#; International Underwriting Association, ‘Environmental Risks: insured or not?’ (August 2010)
3.5. **Mandatory financial security instruments and mechanisms**

As indicated in section 3.2 above, operators do not purchase financial security instruments other than insurance for environmental liabilities unless they are required to do so by mandatory financial security.

A substantial number of insurance policies are mandatory. Common types of mandatory insurance policies are employers’ liability policies and motor policies. Depending on the State, insurance policies for specified professionals are also mandatory.

The Solvency II Directive states that:

> Where a Member State imposes an obligation to take out insurance, an insurance contract shall not satisfy that obligation unless it complies with the specific provisions relating to that insurance laid down by that Member State.\(^8^0\)

Mandatory insurance is not the same as mandatory financial security. The latter may be provided by financial security instruments that may include, but are not limited, to insurance. Some Member States have introduced mandatory insurance for some environmental liabilities, as described in chapter 8 below.

The most common type of financial security for environmental responsibilities subject to mandatory requirements is a bank guarantee. The most common types of financial security for environmental liabilities subject to mandatory requirements are insurance and bank guarantees. Other financial security instruments and mechanisms that are often accepted by competent authorities for environmental liabilities and responsibilities are self insurance (also called corporate financial test), corporate guarantees, cash or the equivalent of cash, bonds, and charges on assets. Less stringent mechanisms are frequently used for governmental authorities subject to the such requirements.

The various types of mandatory financial security instruments and mechanisms that one or more Member States have specified as being acceptable for liabilities and responsibilities under EU and national environmental legislation are briefly described below. Financial security instruments are also briefly described in the Glossary. The Member State reports indicate the financial security instruments and mechanisms for EU and national environmental legislation acceptable in that Member State for each piece of environmental legislation.

The EU environmental legislation for which the financial security instruments and mechanisms described below may be acceptable, depending on the Member State, are the Landfill Directive, the Extractive Waste Directive, the Directive on the geological storage of carbon dioxide,\(^8^1\) the Regulation on shipments of waste, the Directive on waste electrical and electronic equipment, and the Basic Safety Standards Directive. The mandatory financial security requirements for these Directives are described in section 5.2 below. The mandatory financial security requirements implemented by Member States for the legislation that implements the Landfill Directive, the Extractive Waste Directive, and the Directive on the geological storage of carbon dioxide are described in the Member State reports. The mandatory financial security requirements for the other EU legislation indicated above are not

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described in the Member State reports because the liabilities and responsibilities under that legislation differ substantially from liabilities under the ELD.

The Member State reports also describe any financial security requirements in national legislation that implements the Offshore Safety Directive\textsuperscript{82} and, if applicable, the Recommendation on minimum principles for the exploration and production of hydrocarbons (such as shale gas) using high-volume hydraulic fracturing recommends financial security.\textsuperscript{83} The financial security provisions of these are described respectively in sections 5.3.1 and 5.3.2 below.

Some Member States require businesses that carry out operations under legislation that implements the Industrial Emissions Directive and/or the Seveso III Directive to have mandatory insurance or other financial security. The mandatory financial security provisions of national legislation that requires such financial security is set out in the Member State reports and summarised in section 7.1 below. Financial security provisions in other national legislation are described in section 7.2 below as well as in Member State reports.

Mandatory financial security instruments and mechanisms are many and varied. The following are nine main groups of instruments and mechanisms with the caveat that the groupings are somewhat arbitrary and that there are many variations.

The nine main groups as follows:

- cash or the equivalent of cash;
- corporate financial tests and guarantees;
- financial reserves;
- insurance;
- bonds;
- charges on property;
- mutual funds;
- governmental schemes; and
- mechanisms for governmental authorities.

The following financial security instruments and mechanisms are all described in the context of security for environmental liabilities and responsibilities. Templates exist for some of the instruments in some but not all States.

3.5.1. Cash or the equivalent of cash

Financial security instruments that can be broadly categorised as cash or the equivalent of cash include bank guarantees, letters of credit, cash deposits, insurance guarantees, escrow accounts, trust funds and external financial reserves.

- Bank guarantees

A bank guarantee is an unconditional written agreement between a business and a bank to create a guarantee in favour of a competent authority. The business agrees to provide security in the form of cash or other assets, and also to pay regular premiums, to the bank or other

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\textsuperscript{83} Recommendation on minimum principles for the exploration and production of hydrocarbons (such as shale gas) using high-volume hydraulic fracturing [2014] OJ L39/72; https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014H0070
lending institution. In turn, the bank agrees to pay up to a specified amount of money on demand to the competent authority.

If the business fails to comply with its obligations to the competent authority, as specified in the agreement, the bank transfers the funds, subject to the amount of the guarantee, to the competent authority to satisfy those obligations.

The transfer of funds to the competent authority is unconditional. The bank is generally not even required to notify the business when it transfers the funds.

Bank guarantees are irrevocable, that is they are perpetual in that they remain in effect until the competent authority notifies the bank that they are no longer required, all monies have been paid to the competent authority, or the business has provided the competent authority with another type of financial security acceptable to it.

Bank guarantees are most suitable for environmental responsibilities that have quantifiable costs. Typically a competent authority will determine the amount that is required to be guaranteed. A disadvantage for a business is that the guarantee may tie up working capital.

As indicated above, the research for the final report indicates that in most, but not all, Member States, bank guarantees are the most common financial security instruments for mandatory financial security requirements for environmental responsibilities and, together with insurance, for environmental liabilities.

- **Letters of credit**

A letter of credit is an undertaking by a bank that authorises the payment of money to a competent authority subject to conditions. The letter of credit specifies the maximum amount payable and the conditions under which the letter of credit can be claimed by the competent authority from the bank. In order to be entitled to payment from the bank, the competent authority must present documents to the bank that specify why it is entitled to the payment. In the case of environmental responsibilities, such evidence would normally be a default by the regulated business.

Letters of credit are similar to bank guarantees with the difference that they are conditional whereas bank guarantees are unconditional. Due to the conditions, a letter of credit may be less expensive for a business than a bank guarantee.

- **Cash deposits**

A cash deposit (also called a dedicated bank account) is a deposit of cash in a bank, usually in a dedicated account. The agreement between the business, the bank and the competent authority may authorise the bank to pay monies from the deposit to the competent authority if the authority demands money in the account because the business has defaulted on the obligations to the authority specified in the agreement.

Some competent authorities require interest on a deposit to be paid into the deposit.

- **Insurance guarantees**

An insurance guarantee is a guarantee issued by an insurer/surety that authorises the competent authority to access the money in the guarantee if the business fails to comply with obligations set out in the agreement between the insurer, the business and the competent authority that established the guarantee. The business must pay a regular premium to the insurer for the guarantee. In addition, the business may be required to secure the guarantee by assets.
For example, Poland accepts insurance guarantees secured by a business’ future receivables payable to the State Treasury represented by the relevant competent authority as security. The competent authority can access the guarantee if the business fails to comply with an order to remediate environmental damage caused by it or fails to pay part or all of the amount ordered by the competent authority within the time specified in the order (see Member State report for Poland, section 9.1).

- **Escrow accounts**

An escrow account (also called a secured fund) is a sum of money provided by a business to an approved third party (usually a bank or other financial institution) to be held in a dedicated account by that institution to satisfy obligations by the business to a competent authority.

The bank or other third party agrees to pay the assets (escrow) to the competent authority or the business according to the terms of the agreement that established the account. In order to ensure that the account is secure, the agreement generally restricts the business’ access to it in the absence of agreement by the competent authority.

Depending on the purpose of the escrow account, it may allow the business to build up the cash or other assets in it over a period of time rather than to deposit the entire amount when the account is established.

- **Trust funds**

A trust fund for environmental liabilities is a fund established by a business for the benefit of specified beneficiaries. The business deposits money or other assets into the trust; the trustee then administers those assets and pays them out subject to the trust deed. The trustee owes a fiduciary duty to the competent authority, as beneficiary of the trust, to pay out the assets of the trust according to the deed that created it. The trust agreement sets out the powers of the trustees and the rights of the beneficiary(ies). The business may be the beneficiary with the competent authority being a contingent beneficiary, or the competent authority may be the only beneficiary.

The trust fund may be required to be irrevocable; thus preventing the trustee from terminating it on the instructions of the regulated business.

An accumulating (or standby) trust fund is a trust fund in which the regulated business builds up the amount required under a financial security requirement over a period of time.

3.5.2. **Corporate financial tests and guarantees**

There are two main types of corporate financial tests and guarantees; self insurance and parent company guarantees.

- **Self insurance**

Self insurance usually consists of a company or other business setting up a reserve fund in its accounts.

Self insurance is only available to large companies. The test generally sets out specific criteria concerning net working capital and/or net worth that a company must satisfy in order to qualify. A company’s net worth is its total assets minus its total liabilities, that is, the equity held by the company. A company’s working capital is its current assets minus its current liabilities.

The evidence required to be submitted by the company to a competent authority to satisfy the test may include the following: a level of net working capital or a level of net worth that
satisfies the minimum limits required by the legislation; a minimum level of the company’s current assets to its current liabilities that, again, satisfies the minimum level required by the legislation; the location of a specified proportion of the company’s assets in the relevant jurisdiction; and a minimum rating for the company’s bonds by a recognised rating agency/company.84

A competent authority’s acceptance of the evidence submitted by the company is based, among other things, on its conclusion that the company’s financial strength sufficiently minimises the likelihood that public funds will be required to pay to remedy environmental damage or to pay other losses that arise from the company’s activities.

A major problem with self insurance and corporate guarantees is that the financial security may not be secure, sufficient and available when it is required. If the company that satisfies mandatory financial security requirements by self insurance becomes insolvent, any monies that have been set aside for financial security are generally included in the bankruptcy estate. Unless the competent authority that has imposed the requirement for financial security has a sufficiently high priority in the bankruptcy estate (which is not the case under the law in many Member States), the funds in the estate will be paid to other creditors.85 In other words, self insurance is vulnerable. If the company becomes insolvent, even a financial reserve that has been set aside as financial security is considered to be part of the company’s general assets and is included in the bankruptcy estate. Any financial security mechanism that is not provided by a third party is vulnerable to an operator’s insolvency.

As described by the US Bureau of Ocean Energy Management (BOEM) in the US, ‘self-insurance is effectively an unsecured line of credit that transfers the risk of non-performance from the [regulated company] to [the competent authority]’86. Following a study that BOEM commissioned into unsecured credit lines in the energy industry, BOEM reduced the amount of self insurance that a company with an AAA credit rating could have as financial security to 10% of the company’s tangible net worth.

Another issue is the availability of self insurance only to large companies. Self insurance is, of course, available only to large companies that can provide evidence of the requisite level of net worth or other financial viability. They thus have a financial advantage over small and medium sized businesses that must pay insurance premiums, make other payments to a third party, or set money aside in an escrow account or other financial security instrument in order to satisfy the requisite test.

A further issue is the need for a competent authority to understand what may be very complex company law to understand the security provided by the company. Yet another issue is that self insurance provides only a snapshot of the company’s financial position at a specific point in time. In order to ensure the continued financial viability of the company, the competent authority must continue to monitor it on a regular basis. If the company’s financial position deteriorates, it may no longer be in a position to acquire and submit another financial security instrument to the competent authority.

84 See, e.g., 40 CFR s 264.143 (hazardous waste facilities)
➢ **Parent company guarantees**

A parent company guarantee (also called a corporate guarantee) is a guarantee or indemnity by a parent company or other affiliated company under which the parent or affiliate agrees to satisfy the subsidiary’s obligations to a competent authority if the subsidiary fails to do so. The agreement, which is entered into by the company and the parent or affiliate, is similar to self insurance in that the company that is required to provide evidence of financial security may do so by providing evidence of the financial viability of its parent company or an affiliate instead of providing evidence of its own financial viability, as described above.

Some jurisdictions may require a director of the subsidiary to provide a personal guarantee in addition to that provided by the parent or affiliate. In addition, some jurisdictions may append the relevant licence or notice that sets out the company’s obligations to the agreement. 87

As indicated above, the main advantage to a business with a sufficiently large parent company or other affiliate is that the subsidiary does not incur the cost of paying a third party such as a bank or surety to provide evidence of its financial security.

As also indicated above, the use of parent company guarantees, like self insurance, raise many issues concerning vulnerability.

### 3.5.3. Financial reserves

A business that is not large enough to self insure may be permitted to establish financial security by a financial reserve in its accounts. As described in section 3.5.2 above, financial reserves can be vulnerable if the operator becomes insolvent.

An example of this vulnerability could be the reserve held in an annex III operator’s own account under the mandatory financial security system for ELD liabilities in Portugal. The legislation states that the reserves must be documented by a statement by the certified accountant or statutory auditor, stating that the company is sufficiently solvent to be able immediately to liquidate the funds in it without any restrictions (see Member State report for Portugal, section 6.2). The operator’s financial situation may however change from that time. Even though the legislation further provides that the competent authority may request the operator to have its Certified Accountant or the Official Account Reviewer validate a certification of the accounts and the audit report for all years since the reserve was constituted, if the competent authority does not do this regularly, it may not be kept up to date on the operator’s financial viability. Another example is a technical reserve in the accounts of an operator in Spain (see Member State report for Spain, section 6.2).

An example of national legislation that provides for a financial reserve subject to time restrictions is the Czech legislation that implements the Landfill Directive. The legislation requires the operator of a landfill to create a financial reserve into which the operator must deposit funds for the costs of closure, post closure and restoration of the landfill. On the last day of each month the operator must transfer the funds in the financial reserve to a dedicated bank account (see Member State report for the Czech Republic, section 11.1.2).

Such a system greatly reduces the vulnerability of the financial reserve to an operator’s insolvency.

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3.5.4. Insurance

Insurance, together with bank guarantees, is the most common form of financial security instrument for potential environmental damage, particularly for small and medium sized businesses. Evidence of the insurance policy is provided by the policy itself or, more commonly, a certificate of insurance that confirms the existence of the policy and key details of it. A competent authority may also require confirmation of payment of the premium.

The legislation that authorises the use of insurance policies as a financial security instrument may specify express or minimum terms and conditions for the policies. For example, the legislation may specify exclusions that may not be present in the policy and may require exclusion of fees or other costs from the limit of liability. In addition, the insurer may be required to pay the full amount of liability subject to recovering the deductible from the insured.

Other conditions may specify that an insurer cannot refuse to pay losses covered by the policy even if the insured failed to disclose information when the policy was placed, or that the insured misrepresented material information to the insurer. In one case in the US, the authority had barred the insurer from rescinding an environmental insurance policy on the basis that the insured had made misrepresentations that there was no contamination at an insured petrol station.88

Cancellation provisions in insurance policies to satisfy mandatory financial security requirements may be strictly limited in that the insured and the insurer may be required to provide notice to the competent authority at a specified time before the termination of the policy before they may cease to renew it or cancel it. If the authority pays the premium to renew the policy within that time (say from monies that it has required the insured to deposit with it), the policy is renewed.

Whereas financial security instruments consisting of cash or cash equivalents are closely related to a business’ creditworthiness, an insurance policy for environmental liabilities tends to be closely related to the risk of environmental damage as a result of the business’ operations. Thus a business with an environmental management system is likely to pay relatively lower premiums than a business that does not have such a system.

A potential problem with insurance is that there may be a delay in insurers paying a claim after an environmental incident. This problem was examined in an investigation into the effectiveness of environmental insurance policies as mandatory financial security instruments for unforeseen liabilities arising from underground storage tanks by the US Environmental Protection Agency (US EPA). The US EPA analysed 25 policies issued by 12 different insurers between 2000 and 2009. All the policies complied with the mandatory financial security requirements and minimum amounts of financial security. The US EPA concluded that some policies included definitions, terms and conditions that negatively affected the scope of cover provided by them and that insurers did not always respond timely to a claim on them.89

Instead of purchasing a commercial environmental insurance policy, a large company may set up a captive insurance company. In turn, the captive may (or may not) purchase reinsurance from a commercial reinsurer.

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The use of captives for financial security requirements has been questioned in the US due mainly to the close link between them and the companies to which they are affiliated. That is, if the company encounters financial difficulties, the captive is also likely to encounter them. Insurance policies are not suitable for costs that are known to be incurred such as the closure or post closure of a landfill or the disposal of stockpiles of waste.

3.5.5. Bonds

Two main types of bonds may be used for environmental responsibilities; payment bonds, and performance bonds. A payment bond provides funds to the authority to pay sub-contractors, suppliers of materials, and others for a project, such as the closure of a landfill or other waste facility, in order to complete it. A performance bond covers the cost of completing works that the business has agreed to perform, such as measures for the closure of a landfill or other waste facility.

Bonds may be issued by a bank or other lending institution or a surety, often a subsidiary of an insurance company. If the business defaults on its obligations to a competent authority, the bank or surety steps into its shoes according to the terms and conditions of the agreement that established the bond.

A difference between a bond issued by a bank and one issued by a surety, depending on the jurisdiction, is that the former affects the business’ borrowing capacity because it is offset against the business’ borrowing facilities, in addition to the business paying a premium. A surety company, meanwhile, charges a premium for the bond and bases its decision to issue one on the creditworthiness of the business. A surety company may, however, also take a charge on the business’ land or other assets or require the addition of a guarantor to the agreement that establishes the bond.

Bonds are effective until they are cancelled or terminated. They may thus have a specified term. Bonds used as evidence of financial security for the closure and aftercare phases of a landfill are necessarily long term due to the lengthy period of time of the aftercare period, which may be as long as 30 to 60 years in some Member States. This lengthy time period may create problems in their availability.

3.5.6. Charges on property

Charges may be made on real or personal property. Examples include charges on assets, liens, pledged accounts and garnishment.

- Charges on land or other assets

A charge on assets, also called security over land or other assets, involves a competent authority making a charge on a business’ assets, such as land or securities, in order to ensure that a source of funding exists for possible future environmental liabilities. The competent authority may require an independent valuer to provide a valuation of the land. The charge can be established by the business and the competent authority entering into an agreement that creates an equitable charge on the land including a mortgage over the land. The charge may also be in the form of a mortgage over the land.

The advantages of a charge on assets for a business are low transaction costs and an absence of premiums or levies.

Disadvantages for the competent authority include the potential depreciation of the asset, continual monitoring and verification of the company’s financial performance and the value
of the asset. Another disadvantage in some jurisdictions is the potential for land that is used as an asset to be or to become contaminated, resulting in a depreciation in its value.

A further disadvantage is the length of time for the competent authority to acquire funds from the sale of the asset. In recognition of this delay, the Irish Environmental Protection Agency (Irish EPA) accepts a charge on land in the form of a first ranking fixed charge in its favour as financial security but limits the proportion of the environmental responsibilities for which it is financial security (see Member State report for Ireland, section 6.2).

- **Liens**

A lien is an encumbrance on real property owned by the business that caused environmental damage to secure the reimbursement of costs incurred by a competent authority in remediating the damage or preventing further damage. The lien is generally recorded.

For example, if the US EPA cleans up a contaminated site, it may impose a lien on the site for its clean-up costs. Such a lien is not a ‘super lien’. That is, the US EPA’s lien does not have priority over other encumbrances against the property. Some States in the US have, however, created super liens over property that they have cleaned up under State programmes that have priority over any other encumbrances against the property whether or not the encumbrances are recorded, registered or filed prior to the super lien.

- **Pledged accounts**

A pledged account is an account used as security. In addition to cash, the pledge may be of receivables, personal property or securities. An agreement accompanying the pledge authorises the competent authority to access or sell the security and use the proceeds for the purposes stated in the agreement if the business fails to meet the obligations for which the security is provided. The authority may then convert any receivables, personal property or securities to cash.

- **Garnishment**

A garnishment is a legal procedure that allows the competent authority to take the property of a business that has caused environmental damage when that property is not in the possession of the responsible operator.

3.5.7. **Mutual fund**

A mutual fund (also called a mutual guarantee fund, a mutual guarantee society, and an industry sponsored mutual guarantee fund) is a fund created by or on behalf of multiple companies or other persons, usually in a specific commercial or industrial sector. The agreement that creates the fund establishes the entity that has overall management of the fund, how contributions to the fund will be made, how claims are to be made against the fund, and how claims are determined and paid. Other terms and conditions include procedures for withdrawal from the fund, applicable law, and dispute resolution procedures. The agreement is accompanied by an agreement by members of the fund to form the management entity.

An alternative type of mutual fund is a risk pooling entity that is designed to pay a claim against a member of the mutual that becomes insolvent.

The UK Offshore Pollution Liability Association Ltd (OPOL) is an example of a voluntary compensation system for pollution damage from offshore oil and gas operations. The OPOL agreement obliges a member that causes pollution by its operations to be liable for compensation for pollution damage and remedial measures up to a maximum of $250 million.
Improving financial security in the context of the Environmental Liability Directive

(EUR 230,775,000)\textsuperscript{90} per incident subject to the provisions of the agreement. If the member becomes insolvent, the other members of OPOL must provide the requisite compensation up to the maximum limit.\textsuperscript{91}

The OPOL agreement is accompanied by articles of association that establish the entity that manages the fund. This document sets out, among other things, notices of meetings, votes of members, powers of directors, proceedings of directors, reserves, and accounts.\textsuperscript{92} A further document sets out the rules of the association. The rules specify parties to OPOL, application procedures for becoming a member, evidence of financial security required by members, notification of incidents and filing claims, a dispute resolution procedure and applicable law.\textsuperscript{93}

Operators in an industry that is subject to mandatory financial security requirements may form a mutual insurance company rather than individually purchasing insurance policies from commercial insurers. Mutuals generally charge an initial premium to their members followed by annual premiums. Some mutuals are established so that they may make a call on their members for additional premiums if losses exceed the total premiums. Alternatively, a mutual may purchase reinsurance from a commercial reinsurer.

An environment-related example of a mutual is a mutual that provides liability insurance for remediating accidental releases from underground storage tanks in the US. The establishment of the mutual followed legislation that established technical requirements for underground storage tanks and required their owner or operator to have evidence of financial security for harm caused by them.\textsuperscript{94} A mutual that was established in Texas to provide insurance to owners and operators of underground storage tanks in the 1980s was subsequently purchased by a commercial insurer in 2018.\textsuperscript{95}

3.5.8. Governmental schemes

A government or governmental entity may establish a scheme to assist businesses that are subject to mandatory financial security in complying with them. An example is a pool or public fund that is funded either by general taxes, taxes on specified businesses or other persons, or a combination of the two. Other schemes that may be established by a governmental entity include schemes to provide subsidised or non-profit insurance policies to businesses.

A disadvantage of a pool that is funded by taxes is the lack of an incentive for an operator to reduce environmental risks from its operations. Another potential disadvantage, depending on the number of businesses affected by the requirement, is the effect of the pool on commercial financial security mechanisms. For example, in the 1990s many States in the US established funds to enable owners and operators of underground storage tanks to meet

\textsuperscript{90} The Euro equivalents of US dollars and other currencies in this report are approximately due to the fluctuating exchange rates.


\textsuperscript{92} OPOL, ‘Articles of Association of the Offshore Pollution Liability Association Limited, as altered’; \url{http://www.opol.org.uk/downloads/opol-articles-4Sept14.pdf}

\textsuperscript{93} OPOL, ‘Rules of the Offshore Pollution Liability Association Limited’; \url{http://www.opol.org.uk/rules.htm}

\textsuperscript{94} 42 USC ss 6924(u), 6991b(d); 40 CFR s 280.93(a)

\textsuperscript{95} See Mid-Continent Group, ‘Pollution Liability Coverage for Underground Storage Tanks with the TankOwners Pollution (TOP) Policy’ (2018); \url{http://www.mcg-ins.com/products/tankowners-pollution-liability/}
financial security requirements for remediating contamination caused by their tanks. Many of the State funds, which tended to be funded by taxes on petrol introduced into, delivered or sold in the State and annual registration fees from owners and operators of underground storage tanks, quickly became insolvent due to being overwhelmed by claims.96

The major reason for establishing the funds was to enable persons who owned or operated tanks that did not comply with newly introduced technical requirements for the tanks to continue operating. Compliance with the technical requirements would have necessitated many owners and operators, such as ‘mom and pop’ service stations, purchasing and installing new tanks. The availability of the funds, however, discouraged owners and operators of tanks from purchasing insurance to cover the financial security requirements and, thus, insurers from developing policies to provide cover for remediating contamination and other losses from leaking tanks.97

3.5.9. Mechanisms for governmental authorities

Financial security mechanisms for governmental authorities are virtually always less stringent than those for private businesses.

Some Member States do not require specified public authorities to provide evidence of financial security for some activities to which mandatory financial security requirements apply. For example, an enterprise or company that is wholly owned by a public corporation, a consortium of municipalities, or a public institution is not required to provide financial security for closure and aftercare costs under the legislation that implements the Landfill Directive in Germany provided that ‘it is ensured, by way of guarantee obligations entered into by the German Federal Government, the Länder or municipalities, [and] that the desired purpose of the security is guaranteed at all times’ (see Member State report for Germany, section 11.1.3).

Spain does not require the following public bodies to have mandatory financial security for ELD liabilities: General State Administration and public bodies linked to or dependent on it; local governments and any public law bodies dependent on them; and regional bodies and any public law bodies dependent on them (see Member State report for Spain, section 5.2.10).

Some Member States accept a reserve in accounts from a governmental authority, with other Member States accepting such a reserve accompanied by a declaration from the authority that it has a provision in its accounts exclusively for the purposes of the financial security.

The reason for the less stringent requirements for governmental entities is, obviously, the financial backing of the government rather than a private company.

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96 See Valerie Fogleman, Environmental Liabilities and Insurance in England and the United States 140-144 (Witherby, 2005)

97 See ibid 144-145
4. ELD AND US LEGISLATION THAT IMPOSES SIMILAR LIABILITIES

Chapter 4 examines the ELD and US federal legislation that imposes liability for preventing and remediating environmental damage.

The chapter is structured as follows.

First, the chapter provides an overview of the ELD including generalised comments on similarities and differences between the ELD and national legislation in Member States that imposes liability for preventing and remediating environmental damage. These similarities and differences are important in respect of the availability of, and demand for, environmental insurance because environmental insurance is rarely, if at all, offered only for ELD liabilities; it invariably includes – or in some cases is limited to – liabilities under national environmental legislation.

In addition, this section includes, as applicable, comments by Insurance Europe and EU trade organisations for operators to the imposition of liability for preventing and remediating environmental damage under the ELD. The comments provide background for the current status of environmental insurance for liabilities under the ELD examined in chapter 10 by reflecting the attitudes of insurers and operators across the EU.

Next the chapter examines federal legislation in the US that imposes liability for the prevention and remediation of land damage, water damage and biodiversity damage, following the same format as the examination of the ELD. This section focuses on CERCLA because it is one of the main drivers for environmental insurance in the US.

The chapter then compares and analyses liabilities under the ELD with liabilities under CERCLA in order to identify key similarities and differences.

The purpose of examining CERCLA and other US federal environmental liability legislation is to analyse how such legislation has affected the availability and demand for environmental insurance in the US compared to the effect of the ELD on the availability and demand for environmental insurance in the EU. In addition, it is impossible to describe stand-alone environmental insurance policies in the US without understanding the underlying environmental liabilities covered by them.

4.1. Environmental Liability Directive


98 The term ‘operator’ is defined as ‘any natural or legal, private or public person who operates or controls the occupational activity or, where this is provided for in national legislation, to whom decisive economic power over the technical functioning of such an activity has been delegated, including the holder of a permit or authorisation for such an activity or the person registering or notifying such an activity’. ELD art 2(6)

99 ELD art 2(12)

Marine Strategy Framework Directive,\textsuperscript{101} and species and natural habitats protected by the Birds Directive\textsuperscript{102} and the Habitats Directive.\textsuperscript{103}

4.1.1. Enforcing authorities

The legislation that implements the ELD is enforced by competent authorities in each Member State. The number of competent authorities varies widely between Member States. Some Member States such as Austria, Germany and the United Kingdom (England, Wales and Scotland) have several hundred competent authorities. Others such as Ireland, Malta and Portugal have only one competent authority.

4.1.2. Prospective and/or retroactive liability

The ELD imposes retrospective and prospective liability.

Article 17 of the ELD provides, in pertinent part, that:

This Directive shall not apply to:

1. damage caused by an emission, event or incident that took place before the date referred to in Article 19(1), [and]
2. damage caused by an emission, event or incident which takes place subsequent to the date referred to in Article 19(1) when it derives from a specific activity that took place and finished before the said date.\textsuperscript{104}

The date referred to in article 19(1) is 30 April 2007, the deadline for transposing the ELD into Member States law. Although many Member States missed this deadline, and although a smaller but still significant number of Member States that missed the deadline did not impose liability under the ELD retrospectively to 30 April 2007, the CJEU has stated and reiterated that 30 April 2007 is the applicable date for application of the ELD.\textsuperscript{105}

The ELD does not impose retroactive liability. That is, it does not operate backwards to change the law from what it was when an event occurred. An operator cannot, therefore, be liable under the ELD for environmental damage caused by its activities if the damage ended before 30 April 2007.

The ELD is, however, retrospective in that it changes the law from what it otherwise would have been with respect to an event that occurred before the legislation was adopted. That is, the ELD imposes liability on a responsible operator for preventing and remediating progressive environmental damage caused by an emission from an activity that began before 30 April 2007.


\textsuperscript{104} Case C-534/13 Ministero dell’Ambiente e della Tutela del Territorio e del Mare v Fipa Group Srl [2015] ECLI:EU:C:2015:14, para 44

\textsuperscript{105} Case C-378/08 Raffinerie Mediterranee (ERG) SpA v Ministero dello Sviluppo economico [2010] ECR I-1919, para 38; ; Case C-529/15 Gert Folk v Unabhängiger Verwaltungssenat für die Steiermark [2017] ECLI: EU:C:2017:419, para 22
and continued after that date unless the operator can prove that the damage occurred entirely before 30 April 2007.\textsuperscript{106}

In contrast to the imposition of retrospective as well as prospective liability by the ELD, many Member States have enacted legislation in the form of regimes to remediate historic contamination.\textsuperscript{107} The liability systems of these regimes necessarily have retroactive, as well as prospective, effect in that they require persons that contaminated land/soil before the legislation was enacted to remediate it even though the requirement to do so did not exist when the contamination was caused.

4.1.3. Operator

The ELD channels liability for preventing and remediating environmental damage to the operator that causes an imminent threat of, or actual, environmental damage, respectively. Only an operator can be primarily liable under the ELD.\textsuperscript{108} Member States may impose liability on another person but that person’s liability is secondary. Austria, Hungary and Poland have imposed secondary liability on landowners.\textsuperscript{109} In addition, the legislation that implements the ELD in Spain provides that legal and \textit{de facto} managers of companies whose conduct is the determining factor of the company’s liability, are secondarily liable for preventing or remediating environmental damage caused by the company (see section 12.3 below).

The channelling of liability to an operator under the ELD contrasts with the scope of liability under the national law of Member States. Most Member States impose primary liability on owners and occupiers of contaminated sites as well as persons that cause or are otherwise responsible for environmental damage. Some Member States have an ‘innocent landowner’ defence. An owner or occupier satisfies the defence, depending on the jurisdiction, if it can prove that it did not know and had no reason to know that its site was contaminated when it acquired it.

The defence is usually satisfied by instructing environmental consultants to carry out environmental assessments of the site when it is acquired. A Phase I environmental assessment is a desk top assessment that includes accessing environmental registers, reports, etc. and a ‘walk over’ of the site. If the assessment indicates a moderate to high risk of contamination, a Phase II environmental assessment is generally carried out. This involves intrusive measures such as sampling soil and/or groundwater. The assessments must of course indicate that contamination is unlikely in order to satisfy the innocent landowner defence, with the caveat that it is impossible to prove a negative.

There are two types of operators under the ELD. The operator of an activity that is carried out under EU legislation listed in annex III of the ELD is liable for measures to prevent or remedy an imminent threat of, or actual, environmental damage caused by the activity to water, species and habitats protected by the Birds Directive and the Habitats Directive, and land.\textsuperscript{110}

\begin{itemize}
  \item[\textsuperscript{107}] See Valerie Fogleman, ‘Landowners’ liability for remediating contaminated land in the EU: EU or national law? Part II: National law’ (2015) 23(2) Environmental Liability, 42, 46-54
  \item[\textsuperscript{108}] Case C-534/13 Ministero dell’Ambiente e della Tutela del Territorio e del Mare v Fipa Group Srl [2015] ECLI:EU:C:2015:140, para 52
  \item[\textsuperscript{109}] See Valerie Fogleman, ‘Landowners’ liability for remediating contaminated land in the EU: EU or national law? Part I: EU law’ (2015) 23(1) Environmental Liability 6, 10-11
  \item[\textsuperscript{110}] ELD arts 3(1)(a), 5(1), 6(1)
\end{itemize}
Annex III sets out 14 types of activities:

1. activities permitted by the Industrial Emissions Directive;
2. waste management operations, including the operation of landfills;
3. discharges of specified dangerous substances into inland surface water that require prior authorisation;
4. discharges of specified dangerous substances into groundwater that require prior authorisation;
5. discharges of pollutants into surface water and groundwater that require prior authorisation;
6. water abstraction and impoundment;
7. manufacture, use, storage, processing, filling, release into the environment and onsite transport of dangerous substances, dangerous preparations, pesticides and other plant protection products and biocidal products;
8. transport of dangerous or polluting goods by road, rail, inland waterways, sea or air;
9. operation of installations authorised under air pollution legislation;
10. contained use, including transport, of genetically modified organisms (GMOs);
11. deliberate release into the environment, marketing and placing on the market of GMOs;
12. transboundary shipments of waste;
13. extractive waste management; and
14. the operation of storage sites for carbon dioxide.

The operator of an activity under legislation that is not listed in annex III is liable for preventing or remediating an imminent threat of, or actual, environmental damage caused by the activity only to protected species and natural habitats.111

The division of operators into annex III and non-annex III operators in the ELD is unusual. There are no lists of legislation, activities or persons that may be liable for preventing or remediating environmental damage in environmental liability legislation in most, if not all, Member States; all persons that cause pollution or other damage according to the national legislation tend to be able to be liable at least for land/soil and water damage.

4.1.4. Standard of liability

There are two standards of liability under the ELD. Annex III operators are strictly liable. Non-annex III operators are liable only if they are negligent or otherwise at fault.

The inclusion of two liability regimes in the ELD contrasts with the standard of liability in environmental liability legislation in Member States.

Some Member States such as Belgium (Flemish Region) and the Netherlands impose fault-based liability for contamination that was caused before a specified date and strict liability for contamination caused after that date. Strict liability often applies, however, to persons that cause current and future pollution, in particular pollution to land/soil, according to the national legislation of individual Member States.

111 Ibid art 3(1)(b)
4.1.5. **Scope of liability**

The ELD provides that Member States may select the scope of liability to apply in their legislation that transposed the ELD. If more than one operator causes environmental damage, a Member State may impose either joint and several or proportionate liability. Most Member States adopted joint and several liability or mitigated/combined joint and several liability. Denmark, Finland, France and Slovakia adopted proportionate liability. The division between Member States that impose joint and several liability or proportionate liability reflects differences in Member State national law.

4.1.6. **Environmental damage**

There are three categories of environmental damage that operators may be liable for preventing or remediating under the ELD; land damage, water damage, and biodiversity damage.

- **Land damage**

Damage to land under the ELD occurs if there is ‘a significant risk of human health being adversely affected as a result of the direct or indirect introduction, in, on or under land, of substances, preparations, organisms or micro-organisms’. In contrast to water and biodiversity damage, land damage under the ELD must have an effect on human health, and must be caused only by substances, preparations, organisms or micro-organisms. If land damage has been caused, the operator must carry out measures to remove the significant risk to human health caused by the damage. As described below, water and biodiversity damage do not include such limitations.

Damage to land, in contrast to damage to water and biodiversity, is the only category of damage in the ELD for which there is no EU legislation. This is because, although the European Commission proposed a Directive establishing a framework for the protection of soil, following opposition from some Member States, the Commission withdrew the proposal on 21 May 2014. The inclusion of liability to remediate contaminated land in the ELD was not controversial. By the late 1990s, most Member States had enacted legislation imposing liability for remediating contaminated land.

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112 Ibid art 9
114 ELD art 2(1)(c)
115 Ibid annex II, s 2
Water damage

Damage to water under the ELD is linked to waters under the Water Framework Directive, that is, surface, transitional, coastal and ground waters, and marine waters under the Marine Strategy Framework Directive. Examples of water damage include the pollution of a river or aquifer, and damage to the ecological status of a river, both provided that the threshold for liability under the ELD has been exceeded.

The introduction of liability for water damage was not controversial; liability for remediating water pollution had existed in most Member States for many years. Although the ELD extends liability beyond pollution to include, among other things, damage to the ecological status of surface water that does not involve pollution, with minor exceptions such as Gert Folk v Unabhängiger Verwaltungssenat für die Steiermark, ELD cases that have been brought tend not to involve damage to water under the Water Framework Directive other than by pollution.

As discussed in section 4.1.8 below, however, the measures to remediate water damage introduced by the ELD were controversial. As indicated in sections 3.3.1 and 3.3.2, with the exception of Austria and Germany (cover for surface but not ground water) in environmental extensions to general liability policies, extensions to them and extensions to property policies generally do not provide cover for water damage.

Biodiversity damage

Damage to protected species and natural habitats under the ELD is linked to the Birds Directive and the Habitats Directive and, at the option of a Member State, species or habitats designated for equivalent purposes under national law.

Fourteen Member States (Austria, Belgium, Cyprus, the Czech Republic, Estonia, Greece, Hungary, Latvia, Lithuania, Poland, Portugal, Spain, Sweden, and the United Kingdom) adopted the option to extend liability for biodiversity damage in part or all of their territories. Examples of biodiversity damage include a spill of hydrocarbons at a Natura 2000 site, damage to protected birds at a Natura 2000 site by wind turbines near to it, and the abstraction of water next to a water-dependent Natura 2000 site.

When the ELD was adopted, only a few Member States imposed liability for remediating biodiversity damage. Further, such liability tended – and still tends – to be imposed only in limited cases such as unlawful damage in some Member States. The imposition of liability for biodiversity damage was highly controversial, especially due to issues concerning its quantification.

The explanatory memorandum to the proposed Directive that became the ELD stated that industry ‘is concerned about the difficulties relating to the evaluation of environmental damage [and] is worried about the difficulty operators could encounter in finding appropriate

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119 ELD art 2(1)(b)(i)
120 Ibid art 2(1)(b)(ii)
121 Case C-529/15 Gert Folk v Unabhängiger Verwaltungssenat für die Steiermark [2017] ECLI: EU:C:2017:419; see Valerie Fogelman, ‘ The duty to prevent environmental damage in the environmental liability directive; a catalyst for halting the deterioration of water and wildlife’ (2020) 20(4) ERA Forum, 707, 714-716
122 ELD art 2(3)(c)
insurance coverage’. In its first reading of the proposed Directive the European Parliament stated that:

the problem is the risk of non-insurability. Representatives of insurance companies have underlined that they would not be able to offer insurance coverage for operators given the following features ... strict liability with regard to activities mentioned in Annex I and coverage of ‘biodiversity damages’.

The concerns, and opposition, voiced by EU trade organisations for industry and insurers include the following.

In 2002, the Union of Industrial and Employers Confederations of Europe (UNICE; now Business Europe) commented that it found ‘it surprising that the Commission is proposing liability for biodiversity damage, considering that it would be impossible to assess the impact of such a proposal’.

Also in 2002, UNICE commented that:

[i]n the absence of clear criteria to evaluate and quantify damage to biodiversity, and without a cap on liability, companies would be exposed to unlimited liability which could lead to disproportionate and ruinous claims against which they may be unable to insure themselves. This prospect is extremely damaging to companies, whether big or small, and might frustrate numerous legitimate business projects to the detriment of European competitiveness.

A press release in 2003 by the Comité Européen des Assurances (CEA; now Insurance Europe) and other trade organisations stated that liability for remedying ecological damage was uninsurable and that ‘The insurance markets have no experience in this particular field and quantification of risks is currently impossible, which would mean insurance not being available for most businesses’. Other press releases had similar language.

In February 2004, the CEA issued a press release that stated that:

As of today, there is no established environmental liability insurance market providing

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126 UNICE, Proposal for a Directive on Environmental Liability with regard to the prevention and restoration of environmental damage; UNICE Comments (No 22.3/281/1, 22 March 2002), 2, s 2

127 Ibid

128 European Association of Chambers of Commerce and Industry, European Association of Craft, Small and Medium-sized Enterprises, Business Europe, European Federal of Insurance Intermediaries, and CEA, ‘European Business Associations and Insurance Sector Concerned About Future Directive on Environmental Liability (press release, 26 February 2003) (‘insurance market can only function in a well-defined scheme. Environmental damage and damage to biodiversity in particular are new concepts, as is compensatory restoration and coverage of interim losses …’)

129 See CEA, ‘Environmental Damage Insurance’ (press release, 10 February 2003) (‘[a]s long as this vague notion has not been clarified, biodiversity damage is not measurable and thus cannot be covered by existing insurance solutions’)
products that match the scope of the agreement. The insurance sector can offer products for part of the scheme (clean-up of soil and water) but many risks, such as biodiversity damage, are difficult to evaluate. More work needs to be done to make those risks insurable.\textsuperscript{130}

The concern, especially by Insurance Europe, helps explain the continued reticence of some insurers to offer stand-alone environmental insurance policies that provide cover for biodiversity damage, with the exception of multinational insurers. As indicated in section 3.3.1 and 3.3.2, with the exception of Austria and Germany in respect of environmental extensions to general liability policies, environmental extensions to general liability and property policies do not provide cover for biodiversity damage.

4.1.7. \textit{Threshold of liability}

The ELD has three thresholds of liability; one for each type of environmental damage.

As indicated in section 4.1.6 above, the threshold for land damage is ‘any land contamination that creates a significant risk of human health being adversely affected as a result of the direct or indirect introduction, in, on or under land, of substances, preparations, organisms or micro-organisms’.\textsuperscript{131}

The threshold for water damage is a significant adverse effect on the ecological, chemical or quantitative status or the ecological potential of waters under the Water Framework Directive,\textsuperscript{132} or the environmental status of marine waters\textsuperscript{133} under the Marine Strategy Framework Directive.\textsuperscript{134}

The threshold for biodiversity damage is ‘any damage that has significant adverse effects on reaching or maintaining the favourable conservation status of [protected] habitats or species’.\textsuperscript{135} The threshold is determined by reference to the conservation status of the habitat or species within ‘the European territory of the Member States to which the Treaty applies or the territory of a Member State or the natural range of that habitat [species]’.\textsuperscript{136}

The thresholds have been considered to limit application of the ELD by some to only the most severe cases.\textsuperscript{137}

In contrast, Member State environmental liability laws do not tend to have specified thresholds. A key reason for the difference is that many if not most Member States provide discretion to competent authorities to order persons that are responsible for threatened or actual environmental damage to prevent or remediate it. There is no need for ‘bright line’ thresholds in such legislation; competent authorities have discretion whether and, if so, when,

\textsuperscript{131} ELD art 2(1)(c)
\textsuperscript{133} Ibid art 2(1)(b)(ii)
\textsuperscript{134} Directive 2008/56/EC establishing a framework for community action in the field of marine environmental policy [2008] OJ L164/19
\textsuperscript{135} ELD art 2(1)(a)
\textsuperscript{136} Ibid art 4
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to issue the orders or other requests for remediation. The ELD, however, has self-executing provisions in that it imposes a direct duty to act on a person that causes a threat of, or actual, environmental damage.\(^{138}\) The duty is necessarily linked to a threshold.

4.1.8. Prevention and remedial measures

The ELD established liability for preventive actions as well as remedial actions.

The ELD provides, in the article on preventive measures, that ‘Where environmental damage has not yet occurred but there is an imminent threat of such damage occurring, the operator shall, without delay, take the necessary preventive measures’.\(^{139}\)

The term ‘preventive measures’ is defined as ‘any measures taken in response to an event, act or omission that has created an imminent threat of environmental damage, with a view to preventing or minimising that damage’.\(^{140}\) The term ‘imminent threat of damage’ is defined as ‘a sufficient likelihood that environmental damage will occur in the near future’.\(^{141}\)

The ELD established two types of remedial actions. The first type is short-term actions including emergency measures, namely:

all practicable steps to immediately control, contain, remove or otherwise manage the relevant contaminants and/or any other damage factors in order to limit or to prevent further environmental damage and adverse effects on human health or further impairment of services.\(^{142}\)

The second type of remedial actions is ‘remedial measures’,\(^{143}\) which are defined as:

any action, or combination of actions, including mitigating or interim measures to restore, rehabilitate or replace damaged natural resources and/or impaired services, or to provide an equivalent alternative to those resources or services as foreseen in Annex II.\(^{144}\)

Annex II sets out ‘a common framework’ for selecting the most appropriate measures to ensure that environmental damage is remedied. Remedial measures tend to be long-term in nature.

The introduction of preventive actions and remedial actions was not controversial. Member States had included both in their legislation before the adoption of the ELD with the emphasis on remedial measures due to the focus in contaminated land regimes on measures to remediate historic contamination. As discussed below, however, the type of measures that were introduced to remediate water and biodiversity damage was controversial.

The measures to remediate land damage are the removal, control, containment or diminution of contaminants in soil to ensure that the land no longer presents a significant risk of adversely affecting human health, with the standard of remediation being the current use or approved

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\(^{139}\) ELD art 5(1)

\(^{140}\) Ibid art 2(10)

\(^{141}\) Ibid art 2(9)

\(^{142}\) Ibid art 6(1)(a)

\(^{143}\) Ibid art 6(1)(b)

\(^{144}\) Ibid, art 2(11)
future use of the land.\footnote{Ibid annex II, s 2} As indicated above, remedial measures for land were not new; they had been used for many years in Member States that had imposed liability for damage to land.

Three types of remediation were introduced for water and biodiversity damage; primary, complementary, and compensatory remediation.

Primary remediation is any remedial measure that restores the natural resource and services rendered by it to its baseline condition, that is, its condition before the environmental damage occurred. Services to other natural resources must be restored as well as services to the public.\footnote{Ibid annex II, s 1(c)}

Complementary remediation is any remedial measure that is carried out to compensate for the inability fully to restore a natural resource to its baseline condition by providing a similar level of natural resources or services at another site.\footnote{Ibid annex II, s 1(b)}

Compensatory remediation is any action taken to compensate for the interim loss of a natural resource,\footnote{Ibid annex II, s 1(c)} that is, loss that results from the inability of a damaged natural resource to perform its ecological functions or to provide services to other natural resources or the public until the primary or complementary measures have taken effect.\footnote{Ibid annex II, s 1(d)}

The introduction of primary, complementary and compensatory remediation for water and biodiversity damage was recognised by the European Commission to be ‘little known’ in the EU when the ELD was proposed.\footnote{European Commission, Proposal for a Directive on environmental liability with regard to the prevention and remedying of environmental damage (COM(2002) 17 final, 23 January 2002), explanatory memorandum s 4, 8} The Commission had therefore carried out a study of the insurability of natural resource damages (NRD) in the US,\footnote{Boyd, A Market-Based Analysis of Financial Assurance Issues Associated with U.S. Natural Resource Damage Liability (2001). See Comprehensive Environmental Response, Compensation, and Liability Act, 42 US Code s 9607(a)(4)(C)} which had been introduced under CERCLA in 1980 and which includes liability for restoring, replacing or acquiring the equivalent of a damaged natural resource.\footnote{42 USC s 9607(f)(1)} The Commission commented in the proposal for the ELD in 2002 that the study showed that NRD was insurable in the US and that ‘associated insurance markets [had] developed over time with little problems’.\footnote{European Commission, Proposal for a Directive on environmental liability with regard to the prevention and remedying of environmental damage (COM(2002) 17 final, 23 January 2002), explanatory memorandum s 4, 8}

As noted in section 4.1.6 above, however, there was strong opposition by insurers and operators to the introduction of liability for complementary and compensatory measures for water and biodiversity damage.

4.1.9. Exclusions

The ELD has the following exceptions/exclusions.

It does not apply to environmental damage caused by:

- an act of war including terrorism;
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- an act of God, that is, ‘a natural phenomenon of exceptional, inevitable and irresistible character’;
- damage covered by specified marine and nuclear conventions;
- diffuse pollution when it is impossible to establish a causal link between the damage and activities of individual operators; and
- an activity the main purpose of which is to serve national defence or international security, or an activity the sole purpose of which is to protect from natural disasters.\(^{154}\)

In contrast, national environmental liability laws in some Member States do not have exclusions.

4.1.10. Defences

An operator has a ‘defence’ (often called a ‘mandatory defence’ in that it applies to all Member States), to costs arising from preventive or remedial actions if the operator proves that the imminent threat of, or actual, environmental damage was caused by a third party and occurred despite appropriate safety measures,\(^{155}\) or resulted from compliance with a public authority’s compulsory order or instruction provided that the order or instruction was not related to the operator’s actions in respect of the environmental damage.\(^{156}\) In such cases, the ELD provides that ‘Member States shall take the appropriate measures to enable the operator to recover the costs incurred’.\(^{157}\)

The ELD also includes two optional ‘defences’ in that Member States have discretion whether to transpose them into their national law. These provide that an operator has a defence to the costs of remedial measures if the operator proves that it was not negligent and the damage was caused by either:

- an emission or event expressly authorised by and fully in accordance with a permit under legislation listed in annex III of the ELD (the so-called permit defence);\(^{158}\)
- an emission or activity that was not considered likely to cause environmental damage according to the state of scientific or technical knowledge when it occurred (the so-called state-of-the-art defence).\(^{159}\)

If either ‘defence’ applies, a Member State ‘may allow the operator not to bear the cost of remedial actions taken pursuant to [the ELD]’.\(^{160}\)

The permit defence was adopted by 15 Member States partially or fully and in part or all of their territory (Belgium (regional level), Croatia, Cyprus, Czech Republic, Denmark, Estonia (except GMOs), Greece, Italy, Latvia (except GMOs), Lithuania, Malta, Portugal, Slovakia, Spain, United Kingdom (except GMOs in Wales and Scotland), with Finland, the Netherlands and Sweden adopting modified or mitigated forms of the defence.

The state-of-the-art defence was adopted by 14 Member States, again partially or fully and in part or all of their territory (Belgium (regional level), Croatia, Cyprus, Czech Republic, Estonia (except GMOs), France, Greece, Italy, Latvia (except GMOs), Malta, Portugal, Slovakia, Spain,

\(^{154}\) ELD art 4
\(^{155}\) Ibid art 8(3)(a)
\(^{156}\) Ibid art 8(3)(b)
\(^{157}\) Ibid art 8(3)
\(^{158}\) Ibid art 8(4)(a)
\(^{159}\) Ibid art 8(4)(b)
\(^{160}\) Ibid art 8(4)
United Kingdom (except GMOs in Wales and Scotland)), with the Netherlands and Sweden adopting modified or mitigated forms of the defence.

Neither the permit nor the state-of-the-art defence are true defences to liability. An operator may raise them only after it has carried out preventive or remedial measures and only in an action to recover costs from a third party or a public authority.

The inclusion of the optional defences contrasts with most national laws in Member States. Many if not most Member States do not include either defence, with at least one Member State having specifically rejected their inclusion in national law for remediating contamination.161

4.1.11. Enforcement

The ELD provides that an operator shall carry out necessary preventive measures ‘without delay’ if there is an imminent threat of environmental damage.162 The responsible operator must also notify the competent authority of the damage and related circumstances ‘without delay’ if the preventive measures do not dispel the imminent threat.163

Further, an operator must also carry out short term remedial actions (see section 4.1.8 above) ‘immediately’ and notify the competent authority of all relevant aspects of the situation ‘without delay’.164

The above duties are self-executing in that a responsible operator must carry them out even without the intervention of a competent authority.

In addition, a responsible operator must identify potential (long-term) remedial measures and submit them to the competent authority.165 After the authority has determined the remedial measures that must be implemented, the operator must carry them out.166

A competent authority has a duty, among other things, to require an operator to carry out preventive measures167 and/or remedial measures168 if the operator fails to carry them out. The operator may appeal a ‘decision’ by a competent authority by requesting a court ‘to review its procedural and substantive legality’.169

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161 The UK Government had rejected incorporating the permit defence and the state-of-the-art defence when it created a regime to remediate contaminated land. The Government’s spokesman in the House of Lords stated, in debates on the regime, ‘[i]ntroducing exemptions from liability of this kind would run clearly against the widely accepted ‘polluter pays’ principle ... the exemption would only have the effect of transferring the necessary costs of remediation to someone else, whether another person or the public at large’. HL Deb 31 January 1995, vol 560, col 1457 (statement of Viscount Ullswater).

162 ELD art 5(1)
163 Ibid art 5(2)
164 Ibid art 6(1)
165 Ibid art 7(1)
166 Ibid art 6(b)
167 Ibid art 5(4)
168 Ibid art 6(3)
169 Ibid art 13(1); see ibid art 12(1)
A competent authority may carry out necessary preventive measures or remedial measures itself but only if the operator fails to carry them out, the authority cannot identify the responsible operator, or the authority decides that a mandatory defence applies. The competent authority can carry out remedial measures itself only ‘as a means of last resort’.

If the competent authority carries out preventive or remedial measures itself, it may seek reimbursement for its costs from the responsible operator within five years from the date on which the measures are completed or the competent authority identifies the operator, whichever is later.

Article 8(2) of the ELD authorises the authority to place ‘security over property or other appropriate guarantees’ on the responsible operator to provide financial security for the reimbursement (see section 6.3 below for a description of measures taken by Member States to comply with article 8(2)).

The ELD does not establish any offences or penalties if a responsible operator breaches the ELD. Member States have introduced such offences under national law that transposed the ELD. The penalties are many and varied from administrative civil penalties to criminal penalties depending on the Member State.

Member States have not brought many enforcement actions under the ELD. Indeed, there had not been any ELD incidents in some Member States when this report was published.

The 2013 reports to the European Commission under then article 18(2) of the ELD reported the following number of cases:

- no ELD incidents: Austria, Cyprus, Czech Republic, Denmark, France, Ireland, Luxembourg, Slovakia, Slovenia;
- between one and 10 incidents: Belgium, Bulgaria, Estonia, Finland, Lithuania, Malta, Netherlands, Portugal, Romania, Sweden;
- between 10 and 20 incidents: Italy, Latvia, Portugal, Spain, United Kingdom;
- between 50 and 60 incidents: Greece, Germany;
- 506 incidents: Poland; and
- 563 incidents: Hungary.

4.1.12. Public participation

The ELD includes public participation provisions. Natural or legal persons including qualified NGOs may submit comments to the relevant competent authority if they consider that environmental damage has occurred or if (at the discretion of a Member State) there is an imminent threat of environmental damage. They may also request a court or another independent and impartial public body to review the procedural and substantive legality of the competent authority’s decisions, acts or failure to act.

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170 Ibid art 5(4)
171 Ibid art 6(3)
172 Ibid art 6(3)
173 Ibid art 10
175 ELD art 12
176 Ibid art 13
The inclusion of public participation in the ELD differs from environmental liability legislation in Member States. Public participation requirements tend not to be included in national legislation that imposes liability to prevent or remEDIATE environmental damage.

4.1.13. Limit of liability

There is no limit of liability under the ELD for the costs of preventing or remediating environmental damage.

The imposition of unlimited liability equates with the environmental liability law in most Member States, which also do not include limits of liability.

4.1.14. Limitations

Article 17 of the ELD provides that the ELD does not apply to environmental damage ‘if more than 30 years have passed since the emission, event or incident, resulting in the damage’.

In contrast, national environmental liability laws in Member States do not have a statute of limitations for remediating environmental damage.

4.1.15. Financial security provisions

As indicated in section 2.3 above, the ELD did not introduce a mandatory financial security system. Instead, the ELD encourages the development of financial security instruments and markets.

The Czech Republic, Ireland, Portugal, Slovakia and Spain have introduced a mandatory financial security system for ELD liabilities (see section 6.1 below and individual Member State reports).

4.2. US federal environmental liability legislation

The two main federal Acts that impose liability for remediating land/soil, water and biodiversity damage in the US are CERCLA and the Oil Pollution Act (OPA). The States have also enacted legislation that imposes similar liability under their versions of CERCLA and the OPA. This legislation is in addition to CERCLA and the OPA; it does not replace it.

This section focuses on CERCLA, not the OPA, because CERCLA is one of the main drivers for voluntary environmental insurance in the US whereas the OPA is not a driver for such insurance in respect of liabilities under it.

This section first briefly discusses the OPA, which amended the Clean Water Act (CWA), other provisions of the CWA and the Resource Conservation and Recovery Act (RCRA) but only as relevant to this report.

179 33 USC ss 1251 et seq
180 42 USC ss 6901 et seq
To set the discussion of CERCLA in context compared to the CWA and RCRA, the following very briefly describes a process called co-operative federalism under which the CWA (but not the OPA) and RCRA are implemented and enforced. The reason for the brief description is that CERCLA (and the OPA) are implemented and enforced centrally by federal administrative agencies and not by State administrative agencies. As discussed in section 4.4 below, this contrasts with the implementation and enforcement of the ELD.

Under co-operative federalism (which also applies to other federal legislation such as the Clean Air Act), the US EPA issues, or revises, regulations to implement the statutes, establishes national standards and, in some cases reviews State standards. Individual States submit plans to the US EPA detailing how they will implement and enforce the federal legislation. The plans include the State equivalents of the federal statutes and regulations. If the US EPA approves a State’s plan, which must be at least as stringent as the federal Act and regulations, the State requests the US EPA to delegate authority to it to implement and enforce the plans in lieu of the US EPA implementing and enforcing the federal version in that State. The State’s implementation and enforcement is subject to the US EPA’s right to oversee the implementation and to retain independent enforcement authority.

4.2.1. Oil Pollution Act

The OPA was enacted on 18 August 1990\(^\text{181}\) mainly in response to the \textit{Exxon Valdez} oil spill in Prince William Sound, Alaska, on 24 March 1989. The OPA has some similarities to CERCLA, an early version of it having been introduced into the US Congress as companion legislation to CERCLA in 1979.\(^\text{182}\)

The OPA established a liability regime for remediating oil spills and restoring damaged natural resources in the inland zone of the US and the marine environment, compensatory damages for persons harmed by an oil spill, a programme to clean up the spills, and financial security (called financial responsibility) requirements.

The OPA also established a separate liability regime for the remediation of NRD. The OPA differs from CERCLA in that a ‘responsible party’ is liable for a broad range of ‘damages’ in addition to the costs of removing oil from waters of the United States which include ‘[d]amages for injury to, or destruction of, or loss of use of, natural resources, including the reasonable costs of assessing the damage’. Unlike CERCLA, the OPA also includes ‘claims for [d]amages for injury to, or economic losses resulting from destruction of, real or personal property’ and various other types of losses.\(^\text{183}\)

The clean-up provisions of the OPA are implemented and enforced by the US Coast Guard in the coastal zone of the US, designated ports on inland rivers and the US exclusive economic zone including the Great Lakes. They are administered and implemented by the US EPA for non-transportation-related facilities that store oil above ground or use oil and that, due to their location, could reasonably be expected to discharge harmful quantities of oil into

\(^{181}\) Pub L No 101-380, 104 Stat 484 (1990), codified at 33 USC ss 2701 et seq
\(^{182}\) H.R. 85, 96th Cong, 1st Sess (1979)
\(^{183}\) 33 USC 2702(b). The other categories are: damages for loss of the subsistence use of natural resources; claims by the federal or a State government or a political subdivision of them for ‘the net loss of taxes, royalties, rents, fees or net profit shares due to the injury, destruction, or loss of real property, personal property, or natural resources’; claims for ‘loss of profits or impairment of earning capacity due to the injury, destruction, or loss of real property, personal property, or natural resources’; and claims by a State or a political subdivision of a State for ‘net costs of providing increased or additional public services during or after removal activities, including protection from fire, safety, or health hazards, caused by a discharge of oil’.
navigable waters and ‘natural resources belonging to, appertaining to, or under exclusive management authority of the United States’.\(^\text{184}\)

As with CERCLA (see section 4.3 below), only natural resource damage trustees may bring a claim for NRD under the OPA. Also as with CERCLA, there are detailed regulations for its enforcement, in this case promulgated by the National Oceanic and Atmospheric Administration (NOAA) of the US Department of Commerce.\(^\text{185}\)

This report does not discuss the OPA further in the context of liability because it was not, and still is not, a main driver for environmental insurance in the US. Section 5.1.3 discusses mandatory financial security under the OPA for offshore oil and gas facilities, in part because the Deepwater Horizon oil rig was subject to the requirements. The financial security requirements were revised after the disaster.

4.2.2. **Clean Water Act**

The major federal Act that concerns inland water in the US is the CWA, which established a regulatory system to control discharges of oil and hazardous substances into navigable waters.\(^\text{186}\) The CWA includes an extensive system of water quality controls and programmes to attain water quality standards.

The term ‘navigable waters’ is defined by the CWA as ‘the waters of the United States, including the territorial seas’.\(^\text{187}\) The term ‘waters of the United States’, often referred to as WOTUS, is not defined. The term is very broad, including wetlands, and has long been controversial because the regulatory programmes of the US Army Corps of Engineers and the US EPA under the CWA, including authorisations to dredge and fill such waters, are based on it.

On 23 January 2020, the US EPA, the US Department of Defense and the US Department of the Army (of which the US Army Corps of Engineers is part) finalised a rule defining ‘waters of the United States’ to include the following four categories of waters that are federally regulated under the CWA:

- territorial seas and traditional navigable waters;
- perennial and intermittent tributaries to those waters;
- certain lakes, ponds, and impoundments; and
- wetlands adjacent to jurisdictional waters.\(^\text{188}\)

The final rule, which becomes effective on 22 June 2020, repeals a rule promulgated in 2015 that had a more extensive definition of WOTUS.\(^\text{189}\) The new rule follows a judgment by the US

\(^{184}\) 40 CFR s 112.1(a)

\(^{185}\) 15 CFR part 990

\(^{186}\) 33 USC ss 1251 et seq

\(^{187}\) Ibid s 2701(21); see ibid, s 1362(7)


Supreme Court that navigable waters include only waters with a ‘continuous surface connection’ or ‘significant nexus’ to traditionally navigable water.\(^{190}\)

In essence, the CWA prohibits the discharge of oil or hazardous substances in harmful quantities into navigable waters, shorelines, or waters in the contiguous zones subject to broad exceptions including discharges in compliance with technology based and water quality based effluent limitations, toxic and pre-treatment effluent standards, discharges under national pollutant discharge elimination permits (called NPDES permits), and permits for the discharge of dredged or fill material.\(^{191}\) The details and procedures for these limitations, standards, permits, etc. comprise a large proportion of the CWA.

The CWA imposes liability on the owner or operator of an onshore facility (as well as the owner or operator of an offshore facility and a vessel) for costs and expenses incurred by the federal or State government ‘in the restoration or replacement of natural resources damaged or destroyed as a result of [an unlawful] discharge of oil or a hazardous substance’.\(^{192}\)

As indicated above, a detailed description of the CWA is outside the remit of this report.

### 4.2.3. Resource Conservation and Recovery Act

RCRA imposes liability for remediating hazardous waste. In addition, RCRA created the RCRA ‘corrective action’ programme to clean up hazardous waste, which is enforced by the US EPA as is the Superfund programme (see section 4.3.1 below).

The term ‘corrective actions’ is the term used under RCRA for ‘cleaning up current environmental problems caused by the mismanagement of waste’.\(^{193}\) They are carried out to investigate and clean up releases of hazardous waste into soil, groundwater, surface water and air.

The RCRA corrective action programme is more general than the Superfund programme although there are similarities such as the RCRA data base being similar to CERCLIS (see section 4.3.1 below).

The RCRA programme applies to ‘hazardous waste’, not ‘hazardous substances’ as in CERCLA, a term that includes hazardous waste.

As a general rule, operational RCRA facilities are cleaned up under the RCRA programme; abandoned and non-permitted sites are cleaned up under the Superfund programme. The US EPA defers placing sites on the National Priorities List (NPL) (see sections 4.3.8 and 4.3.11 below) if they are subject to the RCRA programme.

This report does not discuss liability under RCRA or the RCRA corrective action programme because RCRA does not have the notoriety among re/insurers (including re/insurers in the EU) as does CERCLA. Mandatory financial security requirements under RCRA are described in sections 5.1.2 and 5.1.4 below.

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\(^{191}\) 33 USC § 1311(a)

\(^{192}\) Ib id § 1321(f)(4)

\(^{193}\) See US Environmental Protection Agency, ‘RCRA Corrective Action Cleanup Enforcement’; [https://www.epa.gov/enforcement/rcra-corrective-action-cleanup-enforcement](https://www.epa.gov/enforcement/rcra-corrective-action-cleanup-enforcement)
4.3. Comprehensive Environmental Response, Compensation, and Liability Act

CERCLA was enacted on 11 December 1980. Legislation in the US had previously imposed liability for remediating pollution that was being caused or would be caused in the future. There was no specific legislation, however, that imposed liability for remediating historic pollution.

The primary purpose of CERCLA was to establish a programme, called the Superfund Programme, specifically to clean up ‘releases’ (very broadly defined) or ‘threatened releases’ (even more broadly defined) of ‘hazardous substances’ (very broadly defined) from a ‘facility’ (very broadly defined) into the ‘environment’ (again very broadly defined) when the hazardous substances continue to pose a threat to human health or the environment.

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194 Pub L No 96-510, 94 Stat 2767 (1980); codified at 42 USC ss 9601 et seq

195 The term ‘release’ is defined as: ‘any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles containing any hazardous substance or pollutant or contaminant), but excludes (A) any release which results in exposure to persons solely within a workplace, with respect to a claim which such persons may assert against the employer of such persons, (B) emissions from the engine exhaust of a motor vehicle, rolling stock, aircraft, vessel, or pipeline pumping station engine, (C) release of source, byproduct, or special nuclear material from a nuclear incident, as those terms are defined in the Atomic Energy Act of 1954 [42 U.S.C. 2011 et seq.], if such release is subject to requirements with respect to financial protection established by the Nuclear Regulatory Commission under section 170 of such Act [42 U.S.C. 2210], or, for the purposes of section 9604 of this title or any other response action, any release of source byproduct, or special nuclear material from any processing site designated under section 7912(a)(1) or 7942(a) of this title, and (D) the normal application of fertilizer’. 42 USC 9601(22)

196 See State of New York v Shore Realty Corporation, 759 F.2d 1032 (2nd Circuit 1985) (presence of corroding tanks at a facility is a threatened release)

197 The term ‘hazardous substance’ is defined as ‘(A) any substance designated pursuant to section 311(b)(2)(A) of the Federal Water Pollution Control Act [33 U.S.C. 1321(b)(2)(A)], (B) any element, compound, mixture, solution, or substance designated pursuant to section 9602 of this title, (C) any hazardous waste having the characteristics identified under or listed pursuant to section 3001 of the Solid Waste Disposal Act [42 U.S.C. 6921] (but not including any waste the regulation of which under the Solid Waste Disposal Act [42 U.S.C. 6901 et seq.] has been suspended by Act of Congress), (D) any toxic pollutant listed under section 307(a) of the Federal Water Pollution Control Act [33 U.S.C. 1317(a)], (E) any hazardous air pollutant listed under section 112 of the Clean Air Act [42 U.S.C. 7412], and (F) any imminently hazardous chemical substance or mixture with respect to which the Administrator has taken action pursuant to section 7 of the Toxic Substances Control Act [15 U.S.C. 2606].’ 42 USC s 9601(14)

198 The term ‘facility’ is defined as ‘(A) any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or publicly owned treatment works), well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, or aircraft, or (B) any site or area where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come to be located; but does not include any consumer product in consumer use or any vessel’. 42 USC s 9601(9); see Environmental Transportation Systems, Inc v Ensco, Inc, 763 F. Supp. 384 (C.D. Illinois 1991) (facility includes a roadside), affirmed, 969 F.2d 503 (7th Circuit 1992)

199 The term ‘environment’ is defined as ‘(A) the navigable waters, the waters of the contiguous zone, and the ocean waters of which the natural resources are under the exclusive management authority of the United States under the Magnuson-Stevens Fishery Conservation and Management Act [16 U.S.C. 1801 et seq.], and (B) any other surface water, ground water, drinking water supply, land surface or subsurface strata, or ambient air within the United States or under the jurisdiction of the United States’. 42 USC s 9601(8)
Oil is not a ‘hazardous substance’ under CERCLA. The term ‘hazardous substance’ is defined so that it does not include:

petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance under [the definition of hazardous substance] and the term does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).200

The purpose of the exclusion is to exclude oil spills, which are covered by the OPA (see section 4.2.1 above), from CERCLA but not releases of contaminated oil. Thus, the presence of a hazardous substance in petrol removes petrol from the exclusion unless the substance is indigenous to petrol or has entered it during the refining process.201 The presence of contaminated oil in groundwater beneath an oil refinery is also not within the exclusion.202

CERCLA also established a separate liability regime for the remediation of NRD (see section 4.3.6 below).

The Superfund is a revolving fund that is funded annually by the US Congress. The Superfund provides funding to the US EPA to administer and implement the Superfund programme. Persons who are liable under CERCLA (see section 4.3.3 below) must reimburse the Superfund for cleaning up hazardous substances for which they are liable.

4.3.1. Enforcing authorities

The US EPA administers and enforces the Superfund programme, including the liability system for cleaning up hazardous substances, through its 10 regions, according to detailed and extensive regulations called the National Contingency Plan.203 The US EPA encourages States to participate in clean-up actions that are financed by the Superfund by entering into cooperative agreements.

The Superfund programme enables the US EPA to enforce CERCLA to meet its two primary goals: (1) to enable the US EPA “to respond efficiently and expeditiously to toxic spills”; and (2) to hold “those parties responsible for the releases liable for the costs of the cleanup” in order that the US EPA can recoup its costs and taxpayers are not “required to shoulder the financial burden of nationwide cleanup”.204

When the US EPA receives information about a site that may pose a threat to human health or the environment, the site is investigated and assessed. The site was formerly listed in the CERCLA Information System (CERCLIS) (which was replaced with a new listing system in 2013). A site was archived if it was not contaminated, the contamination was not sufficiently serious to be cleaned up under the Superfund programme, the site was deferred for cleaning up under a State programme or the RCRA programme, or the US EPA had cleaned up the site.

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200 Ibid s 9601(14)
201 Wilshire Westwood Association v Atlantic Richfield Corporation, 881 F.2d 801 (9th Circuit 1989)
203 40 CFR part 300
In 2009, CERCLA included 12,679 current sites and 35,375 archived sites. The archival of sites facilitated them being cleaned up under State brownfield programmes. The State programmes led, in turn, to a demand for stand-alone environmental insurance policies (see section 9.1.1 below).

State environmental authorities implement and enforce similar programmes, sometimes called mini-CERCLAs or mini-Superfunds at State level, generally for less contaminated sites. Proceedings for NRD under CERCLA are brought by natural resource damage trustees. These are generally the Secretaries of the Interior, Agriculture and Commerce at the federal level and the heads of State conservation agencies at State level.

4.3.2. **Prospective and/or retroactive liability**

As indicated above, CERCLA has two liability systems; one for cleaning up hazardous substances and one for assessing and restoring NRD.

CERCLA imposes retroactive, as well as prospective, liability for cleaning up releases of hazardous substances in the environment.

CERCLA imposes only prospective liability for NRD. Liability for NRD does not apply to ‘[natural resource] damages and the release of a hazardous substance from which such damages resulted [if they] occurred wholly before December 11, 1980’, the date on which CERCLA became law.

4.3.3. **Potentially responsible parties**

CERCLA imposes liability for a release or threatened release of a hazardous substance from a facility into the environment on the following persons:

- current owners and operators of facilities;
- owners and operators of facilities at the time at which the disposal of hazardous substances took place;
- persons who arranged to dispose of or treat a hazardous substance (often called generators); and
- transporters that selected the facility at which the hazardous substance was disposed or treated.

In order to be in one of the above categories, an individual or an entity must be a ‘person’, which has been described as including ‘all known forms of business and commercial enterprises’.

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207 42 USC s 9607(f)(1)

208 Ibid s 9607(a)

209 The term ‘person’ is defined as ‘an individual, firm, corporation, association, partnership, consortium, joint venture, commercial entity, United States Government, State, municipality, commission, political subdivision of a State, or any interstate body’. Ibid, s 9601(21)

The broad categories of persons that are liable, called ‘potentially responsible parties’ or ‘PRPs’, was intentional due to CERCLA’s retroactivity and thus need to include a broad range of persons under its provisions. Its broad remit was reinforced by the ‘remarkable frequency’ with which federal district and appellate courts interpreted it in accordance with its remedial purpose of protecting human health and the environment from dangers posed by hazardous substances.\textsuperscript{211} It is irrelevant that a PRP did not breach any law when it caused contamination or that it disposed of hazardous substances in accordance with best practices at the time of the disposal.

4.3.4. **Standard of liability**

The standard of liability under CERCLA is strict liability.

4.3.5. **Scope of liability**

The scope of liability under CERCLA is mitigated joint and several liability. That is, a PRP is jointly and severally liable unless it proves that the harm caused by it is divisible and that there is a reasonable basis for apportioning liability.

4.3.6. **Environmental damage**

CERCLA imposes liability for remediating land damage, and assessing and restoring NRD.

- **Land damage**

The main focus of CERCLA is the remediation of contaminated land/soil, which necessarily includes the remediation of groundwater and sediments in rivers and other surface water.

- **Biodiversity damage**

CERCLA imposes liability for NRD under separate provisions that are distinct from those that impose liability for remediating contaminated land.

Liability for NRD was introduced as an extension of the public trust doctrine under which the federal government or State holds natural resources in its jurisdiction in trust to maintain and protect them for the benefit of the public.\textsuperscript{212}

In this respect, CERCLA defines ‘natural resources’ as follows:

- land, fish, wildlife, biota, air, water, ground water, drinking water supplies, and other such resources belonging to, managed by, held in trust by, appertaining to, or otherwise controlled by the United States ..., any State or local government, any foreign government, any Indian tribe ....\textsuperscript{213}

Injury to a natural resource occurs when there is:

- a measurable adverse change, either long- or short- term, in the chemical or physical quality or the viability of a natural resource resulting either directly or indirectly from exposure to a ... release of a hazardous substance, or exposure to a product of


\textsuperscript{212} See Valerie Fogleman, ‘Liability for damage to natural resources: a landmark US case provides guidance on its scope’ (2007) 1 Environmental Liability, 1, 1

\textsuperscript{213} 16 USC s 9601(16)
Improving financial security in the context of the Environmental Liability Directive

reactions resulting from the ... release of a hazardous substance.\textsuperscript{214}

\begin{itemize}
\item Water damage
\end{itemize}

The remediation of contaminated land includes the remediation of groundwater as well as wetlands.

The definition of ‘natural resources’ set out directly above includes water, ground water and drinking water supplies, as well as fish.

4.3.7. Threshold of liability

CERCLA does not include a threshold of liability. It does, however, limit the US EPA’s right to issue a unilateral administrative order (UAO) to a determination that there is ‘an imminent and substantial endangerment to the public health or welfare or the environment because of an actual or threatened release of a hazardous substance from a facility’.\textsuperscript{215}

4.3.8. Prevention and remedial measures

CERCLA does not refer specifically to prevention actions although it does include actions to prevent pollution.

Clean-up actions under CERCLA are called ‘response actions’\textsuperscript{216} because they are actions to respond to the release of hazardous substances into the environment. There are two types of response actions; ‘removal actions’, and ‘remedial actions’.

A removal action is a relatively short-term action that is carried out to respond to an imminent threat of, or actual, harm to human health or the environment.\textsuperscript{217}

A ‘remedial action’ is a relatively long-term permanent action that is generally not carried out unless the US EPA lists a site on the NPL.\textsuperscript{218}

\begin{itemize}
\item \textsuperscript{214} 43 CFR s 11.14(v)
\item \textsuperscript{215} 42 USC s 9606(a)
\item \textsuperscript{216} The term ‘respond’ or ‘response’ is defined as ‘remove, removal, remedy, and remedial action;’[3] all such terms (including the terms “removal” and “remedial action”) include enforcement activities related thereto
\item \textsuperscript{217} The term ‘remove’ or ‘removal’ is defined as ‘the cleanup or removal of released hazardous substances from the environment, such actions as may be necessary taken in the event of the threat of release of hazardous substances into the environment, such actions as may be necessary to monitor, assess, and evaluate the release or threat of release of hazardous substances, the disposal of removed material, or the taking of such other actions as may be necessary to prevent, minimize, or mitigate damage to the public health or welfare or to the environment, which may otherwise result from a release or threat of release. The term includes, in addition, without being limited to, security fencing or other measures to limit access, provision of alternative water supplies, temporary evacuation and housing of threatened individuals not otherwise provided for, action taken under section 9604(b) of this title, and any emergency assistance which may be provided under the Disaster Relief and Emergency Assistance Act [42 U.S.C. 5121 et seq.]’
\item \textsuperscript{218} The term ‘remedy’ or ‘remedial action’ is defined as ‘those actions consistent with permanent remedy taken instead of or in addition to removal actions in the event of a release or threatened release of a hazardous substance into the environment, to prevent or minimize the release of hazardous substances so that they do not migrate to cause substantial danger to present or future public health or welfare or the environment. The term includes, but is not limited to, such actions at the location of the release as storage, confinement, perimeter protection using dikes, trenches, or ditches, clay cover, neutralization, cleanup of released hazardous substances and associated contaminated materials, recycling or reuse, diversion, destruction, segregation of reactive wastes, dredging or excavations, repair or replacement of leaking containers, collection of leachate and runoff, onsite treatment or incineration, provision of alternative water supplies, and any monitoring reasonably required to assure that such actions protect the public health and welfare and the environment. The term includes the costs of permanent relocation of residents and businesses and community facilities
\end{itemize}
The NPL, which was established by CERCLA when it was enacted, is often referred to as the list of the most contaminated sites in the US.

On 26 May 2020, 1,178 non-federal and 157 federal sites were listed on it for a total of 1,335; 407 non-federal and 17 federal sites had been deleted from it for a total of 424; and 48 non-federal and 3 federal sites were proposed to be listed on it for a total of 51.219

The NPL does not include removal actions, of which there are many thousands, with the caveat that removal actions may be carried out at an NPL site in addition to remedial actions.

4.3.9. Exclusions

There are six exemptions from liability under CERCLA. Five exemptions apply to persons, namely de micromis PRPs, generators of municipal solid waste, bona fide prospective purchasers, contiguous property owners, and lenders. In addition, there is a federally-permitted releases exemption.

The exemptions from liability for de micromis PRPs and specified generators of municipal solid waste were created by the Small Business Liability Protection Act.220

A person is a de micromis PRP if it generated or transported less than 110 gallons (500 litres) of liquid material containing hazardous substances or less than 200 pounds (91 kilogrammes) of solid materials containing hazardous substances to a NPL site at which all or part of the disposal, treatment or transport occurred before 1 April 2001 provided that a settlement is lodged or a judgment is issued after 11 January 2002221 (the date that the Small Business Liability Act became law). The exemption does not apply if, among other things, the PRP is liable due to some other action, the US EPA determines that the materials could have contributed or could significantly contribute to the costs of cleaning up the site or restoring natural resources, or the PRP has been convicted of a criminal offence for the conduct to which the exemption would apply.

A person is a generator of municipal solid waste if it is an owner, operator or lessee of residential property from which all of its municipal solid waste was generated with respect to an NPL site, a small business that meets specified criteria, or a non-profit organisation that also meets specified criteria.222

The exemptions for bona fide prospective purchasers and contiguous property owners were introduced by the Brownfields Revitalization and Environmental Restoration Act, which also became law on 11 January 2002).223 They exempt a bona fide prospective purchaser of a

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221 42 USC s 9607(o)(1)

222 Ibid s 9607(p)

contaminated site from liability under CERCLA, and the owner of a site that is contaminated by polluted groundwater migrating to its site from a contaminated site.

The exemption for lenders was created following judgments by courts that lenders that had foreclosed on their borrowers’ contaminated sites were liable. CERCLA subsequently provides a security interest exception under which a lender is not liable as an owner or operator if the lender ‘without participating in the management of a vessel or facility, holds indicia of ownership primarily to protect his security interest in the vessel or facility’. As discussed in section 9.1.1 below, the exemptions to CERCLA and State programmes to remediate brownfields led, in turn, to a demand for stand-alone environmental insurance policies by persons that developed the brownfield sites.

CERCLA has a ‘federally-permitted releases’ exemption that provides that a person is not liable under CERCLA (but not under any other law) when damage is caused by an emission authorised by a permit issued under specified federal laws. The exemption is narrow and does not apply to emissions that exceed restrictions in a permit, occurred prior to a permit being effective, or are not expressly allowed by the permit.

The reason for the exemption has sometimes been misinterpreted. Its purpose is not to avoid imposing any liability on PRPs but, instead, to ensure that liability is ‘properly addressed under the respective federal regulatory programs in which they were administered in the first place’. That is:

Congress specifically recognized that ‘in view of the large sums of money spent to comply with specific regulatory programs,’ any liability for releases of hazardous substances in accordance with duly issued permits ‘should be determined based on the facts of each individual case’. Accordingly, Congress provided that liability for these types of releases should not arise under CERCLA, but should more properly be determined under the law pursuant to which the release was authorized or under common law so as to ‘give regulated entities clarity in their legal duties and responsibilities.’

4.3.10. Defences

CERCLA has narrow defences to liability. In order to succeed in them, a PRP must prove by a preponderance of the evidence (balance of probabilities) that the release or threatened release of the hazardous substance at issue is caused solely by an act of God, an act of war, the act of an unrelated third party, or a combination of the above.

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224 42 USC s 9601(40)
225 Ibid s 9607(q)(1)(A)
227 42 USC s 9601(20)(A)
228 42 U.S.C. ss. 9601(10), 9607(j)
230 Baker Botts LLP, Superfund, 3 (April 2009)
232 42 USC s 9607(b)
It is notoriously difficult for a PRP to succeed in any of the defences. For example, a court held that a defence that heavy rainfall was not an act of God because the rainfall was foreseeable, the PRP could have prevented harm from it by constructing adequate drainage channels, and the rainfall was not the sole cause of the contamination at issue. Another court held that the involvement of the US Government in the production of aviation fuel during World War II was not an act of war and also that the contamination was not caused solely by it.

In order to succeed in the defence of an act of an unrelated third party, a PRP must prove that:

- a third party was the sole cause of the release or threatened release of the hazardous substance;
- the third party’s acts or omissions did not occur ‘in connection with a contractual relationship, existing directly or indirectly, with the [PRP]’;
- the defendant took precautions against any such third party’s foreseeable acts or omissions and their foreseeable consequences; and
- the defendant ‘exercised due care with respect to the hazardous substance concerned, taking into consideration the characteristics of such hazardous substance, in light of all relevant facts and circumstances’.

The term ‘contractual relationship’ is defined to include, but not be limited to ‘land contracts, deeds, easements, leases, or other instruments transferring title or possession …’. In effect, the definition of ‘contractual relationship’ probably limits the defence to the contamination of a PRP’s property by a ‘midnight dumper’ (fly tipper), an adjoining landowner, or in certain cases a lessee acting outside the terms and conditions of a lease, depending, as with the other defences, on the PRP meeting the other elements of the defence.

In respect of the act of an unrelated third party defence, a PRP may prove that it is an ‘innocent purchaser’.

The innocent purchaser defence was added to CERCLA in 1986 by the Superfund Amendments and Reauthorization Act (SARA), which comprehensively revised and re-authorised CERCLA and the Superfund programme. The provision provides a PRP that had inadvertently acquired contaminated land with a defence if the PRP proved that:

\[\text{at the time [it] acquired the facility [it] did not know and had no reason to know that any hazardous substance which is the subject of the release or threatened release was disposed of, on, in or at the facility.}\]

In order to prove that it had ‘no reason to know’ that a hazardous substance was disposed of

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233 United States v Stringfellow, 661 F. Supp, 1053 (C.D. Cal. 1987)
235 42 USC 9607(b)(3).
236 Ibid s 9601(35)(A)
237 See Valerie Fogleman, Environmental Liabilities and Insurance in England and the United States 293 (Witherby, 2005)
238 Pub L No 99-499, 100 Stat 1613 (1986); codified at 42 USC ss 9601 et seq
239 42 USC s 9601(35)(A)(i)
on, in, or at the facility, the PRP:

must have undertaken, at the time of acquisition, all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice in an effort to minimize liability.\(^{240}\)

A PRP must comply with lengthy criteria including showing that it carried out specified and detailed ‘appropriate enquiries’ and took reasonable steps, including stopping any continuing release and preventing any threatened future release, in order to qualify for the defence.\(^{241}\) Taking ‘appropriate enquiries’ involves instructing environmental consultants to carry out environmental assessments that meet specific criteria.

The defence subsequently became much more detailed and subject to increased criteria in January 2002 when the Brownfields Revitalization and Environmental Restoration Act became law.\(^{242}\)

4.3.11. Enforcement

The enforcement provisions of CERCLA are onerous. Unlike other federal legislation, liability under CERCLA is based on the relationship of a PRP to the contamination; liability is not based on a breach of the legislation itself. Thus a person can have ‘status’ liability such as the status of owning a contaminated site that it did not contaminate.

The US EPA enforces CERCLA in respect of clean-up costs. It has discretion whether to enforce it both in respect of contaminated sites and PRPs.

When the US EPA has identified one or more PRPs for a contaminated site, it issues a notice letter that ‘requests’ the PRP(s) to carry out response actions at the site. There are several types of notice letters depending on factors such as whether the requested action is a removal action, whether the site is listed on the NPL, and whether the US EPA is requiring the PRP to carry out actions or is seeking reimbursement.

If a PRP receives a notice letter and does not reach a settlement with the US EPA, CERCLA authorises the US EPA, among other things, to issue a UAO, that is, an order that demands that the PRP complies with its provisions under threat of a fine.

The UAO sets out the actions to be carried out, the US EPA’s right to carry them out in an emergency or if they are not carried out adequately, and deadlines for completing them.

If the PRP does not comply with a UAO, the US EPA may request the US Department of Justice to enforce it judicially.\(^{243}\) In addition, the US EPA may seek penalties of up to $58,328 (EUR 53,440) per day of non-compliance with the order.\(^{244}\) The penalty has increased eight times to adjust for inflation since CERCLA was enacted when it was up to $25,000 (EUR 22,905) per day.\(^{245}\)

\(^{240}\) Ibid s 9601(35)(B)

\(^{241}\) Ibid 9601(35)(B)


\(^{243}\) 42 USC s 9606(a). Federal administrative agencies in the US do not bring judicial actions. Instead, the US Department of Justice brings actions on behalf of them.

\(^{244}\) Ibid s 9606(b)(1)

\(^{245}\) Memorandum from Kenneth Patterson, Director, Regional Support Division, Office of Site Remediation Enforcement to Regional Superfund Legal Branch Chiefs, Regions I-X, ‘2020 Revised Penalty Matrix for CERCLA s 106(b)(1) Civil Penalty Policy’ (23 January 2020); https://www.epa.gov/sites/production/files/2020-
In addition, if the US EPA cleans up the site instead of enforcing the UAO, the US Department of Justice may file an action on its behalf to seek recovery of the US EPA’s clean-up costs plus punitive damages of up to three times the amount of money incurred by the US EPA in cleaning up the site.\(^ \text{246} \)

CERCLA specifically prohibits any judicial review of the US EPA’s actions until a clean up has been completed or until the Department of Justice seeks, on behalf of the US EPA, to enforce a UAO in court or judicially seeks to recover costs incurred by the US EPA in cleaning up a site.\(^ \text{247} \) Until the Department brings such an action, federal courts have no jurisdiction to hear a challenge to the US EPA’s actions.

The regime for NRD is more difficult to enforce than the regime to clean up hazardous substances.

A natural resource damage trustee must prove that there has been a release or a threatened release of a hazardous substance from a facility into the environment and that the defendant is a PRP. In addition, the trustee must prove that there was an actual injury to a natural resource and that the injury ‘result[ed] from’ the release of a hazardous substance.\(^ \text{248} \)

Unlike an action for clean-up costs in which the US EPA must prove only that the release or threatened release led to the incurrence of clean-up costs whether or not they were incurred in respect of a PRP’s actions or inactions, a trustee must thus establish a causal link between the release and the injury.

Further, a PRP is not liable if it establishes that the NRD:

\begin{itemize}
  \item were specifically identified as an irreversible and irretrievable commitment of natural resources in an environmental impact statement, or other comparable environment analysis, and the decision to grant a permit or license authorizes such commitment of natural resources, and the facility or project was otherwise operating within the terms of its permit or license.\(^ \text{249} \)
\end{itemize}

This provision effectively exempts natural resources that have been ‘written off’ in an environmental impact statement or an environmental assessment prepared to comply with the National Environmental Policy Act (the US equivalent of the Environmental Assessment Directive).\(^ \text{250} \)

Still further, the trustee may recover only the reasonable costs of assessing NRD.\(^ \text{251} \)

The liability faced by an operator for NRD is as follows:

\begin{itemize}
  \item the cost of restoring a damaged natural resource to its baseline condition or its replacement by the acquisition of an equivalent natural resource;
  \item the cost of any emergency restoration measures;
\end{itemize}

\(^{246}\) 42 USC s 9607(c)(3)

\(^{247}\) Ibid s 9613(h)

\(^{248}\) Ibid s 9607(a)(4)

\(^{249}\) Ibid s 9607(f)(1)


\(^{251}\) 42 USC s 9607(a)(4)(C)
• the lost use of the natural resource between the time that it was damaged until it has been restored or replaced;
• the reasonable and necessary cost of assessing the above damage including administrative costs and expenses; and
• interest on recoverable amounts.\textsuperscript{252}

The US Department of the Interior has issued extensive regulations, supported by computer models, under CERCLA to assess and quantify NRD claims that include the following phases: a pre-assessment phase; an assessment plan phase; and a post-assessment phase.\textsuperscript{253} The procedures differ depending on whether the assessment is standardised for minor short-duration releases at or near surface water (Type A),\textsuperscript{254} or is more complex (Type B).\textsuperscript{255}

Settlements under CERCLA for clean-up costs and NRD can be substantial. For example, a settlement between NCR Corporation and the US EPA, US Department of Justice, the Kalamazoo River Natural Resource Trustee Council, and Michigan Department of Environment, Great Lakes, and Energy, for clean-up costs and NRD for contamination by polychlorinated biphenyls (PCBs) in the Kalamazoo River, announced on 11 December 2019, amounted to $135,700,000 (EUR 123,663,410) for clean-up costs incurred by NCR Corporation, $76,500,000 (EUR 69,714,450) to the US EPA for past and future costs in support of cleaning up the river, $27,000,000 (EUR 24,605,100) to natural resource trustees for NRD assessment and claims, and $6,000,000 (EUR 5,467,800) to the State of Michigan for past and future costs.\textsuperscript{256}

Another example is a settlement between the US, the State of Michigan, the Saginaw Chippewa Indian Tribe of Michigan and Dow Chemical Company for NRD caused by Dow releasing dioxin-related compounds and other hazardous substances from its facility at Midland, Michigan. Dow agree to carry out eight natural resource restoration projects at its expense, subject to oversight and approval by the natural resource trustees, to pay $6,750,000 (EUR 6,151,275) plus interest to a restoration account to be used by the trustees to fund five other restoration projects, to pay another $15,000,000 (EUR 13,669,500) plus interest to the trustees for various other purposes, and to reimburse costs incurred by federal and state trustees in connection with the assessment of NRD relating to Dow’s releases.\textsuperscript{257}

4.3.12. Public participation

CERCLA specifically provides for public participation in the clean up of Superfund sites. The local community near the site must be notified and provided with an opportunity to comment.\textsuperscript{258} For more hazardous sites, the US EPA must carry out interviews with the local

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\textsuperscript{252} 43 CFR s 11.15
\textsuperscript{253} Ibid ss 11.20-.25, 11.90-.91
\textsuperscript{254} Ibid ss 11
\textsuperscript{255} Ibid ss 11.60-.84
\textsuperscript{256} US Department of Justice, ‘EPA and Justice Department Announce $245 Million Agreement for Cleanup at the Allied Paper Inc./Portage Creek/Kalamazoo River Superfund Site’ (11 December 2019); https://www.justice.gov/opa/pr/epa-and-justice-department-announce-245-million-agreement-clean-up-allied-paper-incportage
\textsuperscript{257} US Department of Justice, ‘Settlement Reached With Dow Chemical Co. to Restore Natural Resources in Three Mid-Michigan Counties’ (8 November 2019); https://www.justice.gov/opa/pr/settlement-reached-dow-chemical-co-restore-natural-resources-three-mid-michigan-counties
\textsuperscript{258} 42 USC s 9617
community to determine how they prefer to be involved, and then prepare and implement a formal community relations plan based on the interviews.259

4.3.13. Limit of liability
There is no limit of liability under CERCLA for cleaning up hazardous substances. The limit of liability for NRD is $50,000,000 (EUR 45,810,000) for any one release or any one incident that involves a release.260 If the release of hazardous substances resulted from wilful misconduct or wilful negligence within a PRP’s privity or knowledge or if the primary cause of the release was a breach within the PRP’s privity or knowledge of applicable safety, construction or operating standards or regulations, liability is unlimited.261 The $50,000,000 limit does not apply if there is more than one ‘occurrence or serious of occurrences of relatively short duration involving a single release or a series of releases all resulting from or connected to the event or occurrence’.262

4.3.14. Limitations
CERCLA does not include a statute of limitations.

4.3.15. Financial security provisions
CERCLA has two financial security provisions. The provisions under section 9608(a) that require vessels to have financial security for harm caused by them are not discussed in this report because the ELD excludes liability under the International Maritime Organisation’s International Convention of 27 November 1992 on Civil Liability for Oil Pollution Damage,263 which concerns liability for pollution damage from marine vessels, with the caveat that item 8 of annex III of the ELD includes ‘[t]ransport by ... inland waterways, sea ... of dangerous goods or polluting goods as defined [by Directive 93/75/EEC]’.264 The provisions under section 9608(b) of CERCLA are discussed in section 5.1.7 below.

4.4. Comparison and analysis
There are substantial differences as well as similarities between liability for environmental damage under the ELD and liability for remediating contaminated land and NRD under CERCLA, as well as their enforcement.

4.4.1. Enforcing authorities
Unlike CERCLA, which is enforced in respect of cleaning up contamination/pollution by centralised authorities, there is no central authority in the EU to enforce the ELD. The ELD is enforced by competent authorities in Member States, with the number of competent authorities varying between them.

259 40 CFR § 300.415(n)
260 42 USC § 9607(c)(1)(D)
261 Ibid § 9607(c)(2)(A)
262 State of California v Montrose Chemical Corporation, 104 F.3d 1507 (9th Circuit 1997)
263 ELD art 4(2) and annex IV
Natural resource damage trustees enforce the NRD provisions of CERCLA at a federal and State level in the US. Whereas the trustees liaise with the US EPA, they are distinctly separate entities that enforce different programmes. The competent authorities that enforce the ELD for the remediation of land, the remediation of water, and the remediation of biodiversity are often the same entities.

4.4.2. Prospective and/or retroactive liability

Liability under CERCLA is retroactive and prospective for cleaning up contamination; it is prospective only for NRD.

Liability under the ELD is retrospective and prospective. The ELD does not impose retroactive damage.

4.4.3. Liable persons

Unlike the ELD, which imposes primary liability only on operators, CERCLA imposes liability on a broad category of persons.

4.4.4. Standard of liability

The only standard of liability under CERCLA is strict liability, whereas the ELD has a strict liability system and a negligence system, with liability under the latter limited to biodiversity damage.

There is no requirement in CERCLA for a PRP to be negligent or otherwise at fault. Liability can and does arise if a PRP owns contaminated land even if the PRP does not know that the land is contaminated.

Under the ELD, however, an operator must have ‘contributed by [its] conduct to the risk that the pollution caused by [the incident] will occur’.265

4.4.5. Scope of liability

CERCLA imposes mitigated joint and several liability.

The scope of liability in the ELD is optional in that Member States can select joint and several or proportionate liability. Most Member States have imposed joint and several liability that is the same or similar to joint and several liability under CERCLA, with the caveat that the scope of liability for remediating pollution under CERCLA from a ‘chemical soup’ of multiple liquid hazardous substances is complex.

Some Member States have imposed proportionate liability under the ELD that differs from that under CERCLA.

4.4.6. Environmental damage

Liability for NRD under CERCLA is distinct from liability for the remediation of land contamination. In contrast, the ELD combines damage to land, water and biodiversity as ‘natural resources’ rather than imposing different liability systems for them, with the caveat that remedial measures for water and biodiversity damage differ from the remedial measures for land damage.

265 C-188/07 Commune de Mesquer v Total France SA [2008] ECR I-4501 paras 82, 89
Land damage

The ELD imposes liability for remediating contaminated land only if there is ‘a significant risk of human health being adversely affected’.

Liability for remediating contaminated land under CERCLA is much broader and does not require any risk to human health. In addition, CERCLA was enacted specifically to remediate historically contaminated land whereas most Member States already imposed liability for land damage when the ELD was enacted, thus making it a much lesser focus of the ELD than the remediation of land damage in CERCLA.

Water damage


There is no legislation in the US that equates to either of the above Directives. The OPA and the CWA have a very different scope (see sections 4.2.1 and 4.2.2 above).

CERCLA imposes liability for remediating water damage from hazardous substances but it does so in the context of groundwater that must be remediated as part of damage to land/soil, sediments in rivers, etc.

CERCLA imposes liability for assessing and restoring water, ground water and drinking water supplies in actions for NRD.

Biodiversity damage

Biodiversity damage under the ELD is limited to species and natural habitats protected by the Birds Directive and the Habitats Directive and equivalent legislation under Member State law if a Member State has adopted the optional extension in the ELD.

NRD under CERCLA is not limited to legislation to protect species and natural habitats such as the Endangered Species Act, the primary federal Act that protects endangered and threatened species of animals and plants.

Thus, liability for damage to ‘natural resources’ under CERCLA is much broader than liability for damage to species and natural habitats under the ELD.

These differences have led to the wordings of some stand-alone environmental insurance policies offered by multinational insurers in Member States being based on NRD under CERCLA and, thus, not applying well to liabilities under the ELD.

The term ‘measurable adverse change’ appears in CERCLA in the criteria for determining whether there has been NRD. The term also appears in the definition of ‘damage’ in article 2(2) of the ELD in respect of whether there has been environmental damage. This is not surprising, the European Commission commissioned a paper on NRD under the OPA (which, as indicated in section 4.2.1 above has similar liability for NRD to CERCLA) when it was considering the ELD.  

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266 16 USC ss 1531 et seq

Liability for NRD under CERCLA must result from damage caused by a hazardous substance and not other types of environmental damage. In contrast, environmental damage under the ELD may be caused by pollution but may also have other causes.

The US Department of the Interior (and NOAA) have issued detailed regulations to assess NRD and implement proceedings concerning it. There are no similar provisions under the ELD.

4.4.7. Threshold of liability

The ELD has a threshold for land, water and biodiversity damage before liability under the ELD applies.

CERCLA does not have a specified threshold for the amount of hazardous substances that are on a site, or a specified threshold for NRD, before the Act applies. As indicated above, the US EPA can only issue a UAO if it:

- determines that there may be an imminent and substantial endangerment to the public health or welfare or the environment because of an actual or threatened release of a hazardous substance from a facility (see section 4.3.7 above).268

4.4.8. Prevention and remedial measures

The ELD has specified prevention measures, unlike CERCLA which refers to them in the context of remedial actions.

Remedial actions under the ELD are divided into short-term and long-term measures. CERCLA also divides remedial actions into short-term and long-term measures.

A major difference between preventive and remedial actions under the ELD and CERCLA is that the ELD is not retroactive, whereas liability for cleaning up contamination under CERCLA is. Enforcement under CERCLA is, therefore, geared more towards remediating historic contamination whereas the ELD applies more to current and future incidents that cause environmental damage.

4.4.9. Exclusions

The exclusions in the ELD and CERCLA are substantially different.

The ELD’s exclusions to liability are based on the reasons for environmental damage that has occurred and international conventions. CERCLA’s exclusions are mainly based on specified persons, with a narrow exemption for federally-permitted releases.

4.4.10. Defences

The ‘defences’ in the ELD are quasi defences in that an operator must remediate environmental damage before they apply.

The defences in CERCLA are true defences but they are notoriously narrow and PRPs rarely succeed in them. Further, PRPs cannot challenge their alleged liability under CERCLA until the US Department of Justice, on behalf of the US EPA, enforces a UAO judicially or seeks recovery of clean-up costs. Until that time, the court has no jurisdiction.

4.4.11. Enforcement

The US EPA implements and enforces the Superfund programme throughout the entire US.

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268 42 USC s 9606(a)
State environmental authorities enforce their own versions of CERCLA (and the OPA) under separate legislation and programmes. In the case of CERCLA, they tend to be for less contaminated sites. The US EPA may liaise with State authorities in enforcing CERCLA.

Proceedings for NRD under CERCLA are brought by federal and State natural resource damage trustees. In contrast, competent authorities in each Member State implement and enforce the ELD. Many Member States do not split enforcement between environmental authorities and nature conservation authorities.

The liability system for clean-up costs under CERCLA is much more onerous than the liability system under the ELD.

4.4.12. Public participation

Both the ELD and CERCLA have public participation provisions but these are for very different reasons.

The public participation provisions of the ELD authorise NGOs and other persons to comment on whether the ELD applies to a specific incident of environmental damage and to bring a judicial action to require a competent authority to enforce the ELD.

The public participation provisions of CERCLA authorise local communities near a site that is being remediated to be kept informed of the remediation and to participate in the selection and carrying out of the measures to remediate it.

4.4.13. Limit of liability

The limit of liability for cleaning up contamination under CERCLA is unlimited as is the limit of liability for remediating environmental damage under the ELD.

The limit of liability for NRD under CERCLA is $50,000,000 (EUR 45,915,000) each incident.

4.4.14. Limitations

The ELD contrasts with CERCLA by including a limitations period for making a claim to 30 years since the emission, event or incident that resulted in environmental damage.

CERCLA does not include any statute of limitations.

4.4.15. Financial security provisions

The ELD does not have any financial security provisions whereas CERCLA (and the OPA) have financial security provisions as described in sections 5.1.7 and 5.1.3 below.
5. US AND EU MANDATORY FINANCIAL SECURITY REQUIREMENTS

Financial security requirements in US federal environmental legislation began to be introduced in the 1980s. Financial security requirements in EU environmental legislation began to be introduced in 1999. There are many similarities between the US and the EU requirements but there are also substantial differences.

This chapter describes, analyses and compares mandatory financial security requirements in the US and the EU. It is structured as follows.

First it examines the main mandatory financial security requirements for environmental liabilities and responsibilities under federal legislation in the US.

Next, it examines mandatory financial security requirements under EU environmental legislation, both legislation that includes such requirements as well as legislation that implies or recommends them.

Finally, the chapter compares the US and EU requirements and analyses similarities and differences between them.

The purpose of examining the financial security requirements in the US is to use the US as a benchmark for the examination and analysis of financial security, especially in the form of environmental insurance, under the ELD and other EU legislation.

In examining the similarities and differences, it is possible to analyse whether the US requirements (together with US federal environmental legislation; see sections 4.2 and 4.3 above) have assisted in the development of the environmental insurance market in the US. A further purpose is to indicate financial security instruments and mechanisms in the US that could potentially be used in the EU.

This report does not discuss mandatory financial security for decommissioning facilities or equipment. These financial security requirements differ substantially from those under the ELD and are, therefore, outside the remit of this report.

5.1. US mandatory financial security requirements

Financial security requirements are included in a wide range of federal and State legislation in the US. Requirements include those for:

- hazardous waste treatment, storage and disposal facilities (TSDFs) and hazardous waste management units (see section 5.1.2 below);
- offshore oil and gas facilities under the OPA (see section 5.1.3 below) and vessels and deepwater ports under the OPA;
- underground storage tanks (see section 5.1.4 below);
- non-hazardous waste landfills under RCRA;269
- nuclear facilities;
- mine reclamation under, in particular, the Surface Mining Control and Reclamation Act;270
- oil and gas leases on the outer continental shelf under the Outer Continental Shelf Lands Act.271

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269 40 CFR ss 258.71-.73
270 30 USC ss 1201 et seq
271 43 USC ss 1331 et seq
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- the exploration and production of coal, oil, phosphate, sodium, potassium and other minerals under the Mineral Leasing Act;\(^{272}\)
- the reclamation of land that has been mined for precious metals, gemstones and other minerals;\(^{273}\)
- the storage of PCBs as required by the Toxic Substances Control Act;\(^{274}\)
- underground injection wells under the Safe Drinking Water Act;\(^{275}\)
- oil recycling operations; and
- dry cleaning establishments.

This section briefly describes the financial security provisions in the Motor Carrier Act which, whilst not environmental legislation, is an early version of federal legislation that requires financial security for environmental damage.

Next, the section describes three examples of financial security requirements for environmental liabilities in federal environmental legislation for: TSDFs and hazardous waste management units; offshore oil and gas facilities; and underground storage tanks.

The section also describes financial security for environmental responsibilities for TSDFs and hazardous waste management units due to similarities between these requirements and those under the Landfill Directive and the Extractive Waste Directive.

The section then describes legislation that requires financial security by persons that remediate pollution in compliance with an order from the US EPA under RCRA and CERCLA.

Finally, it discusses financial security requirements under CERCLA for offshore oil and gas facilities (and vessels), and industrial sectors specified by the US EPA. In respect of the latter, despite the US EPA being directed to begin the process to promulgate the requirements in December 1980, they have still not been promulgated.

5.1.1. Transportation of hazardous materials, substances and waste, and oil

The Motor Carrier Act requires interstate commercial motor carriers of hazardous materials, oil or hazardous substances, and hazardous waste to have evidence of a minimum level of financial security for ‘public liability, property damage, and environmental restoration’.\(^{276}\)

The term ‘environmental restoration’ is defined as:

\[ \text{restitution for the loss, damage, or destruction of natural resources arising out of the accidental discharge, dispersal, release or escape into or upon the land, atmosphere, watercourse, or body of water of any commodity transported by a motor carrier. This shall include the cost of removal and the cost of necessary measure taken to minimize or mitigate damage to human health, the natural environment, fish, shellfish, and wildlife.} \]\(^{277}\)

Acceptable financial security requirements are insurance, a guarantee, a surety bond issued by a bonding company authorised to do business in the US, qualification as a self insurer, or a

\[^{272}\text{30 USC ss 181 et seq}\]
\[^{273}\text{Ibid ss 22 et seq}\]
\[^{274}\text{15 USC ss 2601 et seq}\]
\[^{275}\text{42 USC ss 300f to 300j-9}\]
\[^{276}\text{49 USC s 31139(d)}\]
\[^{277}\text{49 CFR s 387.5}\]
The minimum level of financial security differs according to the nature and amount of the cargo that is transported. The minimum level for specified hazardous substances of 10,001 or more pounds (4,536 kilograms) is $5,000,000 (EUR 4,625,500). The minimum level for oil, hazardous waste, hazardous materials and certain other specified hazardous substances of 10,001 or more pounds is $1,000,000 (EUR 925,100).

5.1.2. Hazardous waste storage, treatment and disposal facilities and hazardous waste management units

RCRA directed the US EPA to issue financial security (called financial assurance) requirements for owners and operators of TSDFs. In addition, RCRA directed the US EPA and States to include financial responsibility requirements in permits for TSDFs and hazardous waste management units. Hazardous waste management units include containers, tanks, containment buildings, waste piles and surface impoundments.

Two types of financial assurance requirements apply to TSDFs and hazardous waste management units; environmental responsibility (called operational) requirements, and liability requirements. The US EPA’s website includes various fact sheets on financial assurance including fact sheets for the different types of financial security instruments and mechanisms. They also include regulatory requirements, recommended best practices, sources of additional information and frequently asked questions.

➤ Environmental responsibility requirements

RCRA requires the owner or operator of a TSDF and a hazardous waste management unit to have financial assurance for closure and post closure.

The owner or operator of a TSDF or a hazardous waste management unit must estimate the costs of both. The costs for closure include expenses to cease operating the TSDF or unit, safely closing it and cleaning up any contamination. Post closure costs include long-term maintenance of the TSDF or unit, monitoring and record keeping. The post-closure phase of the TSDF has a minimum period of 30 years after closure.

If a hazardous waste management unit is subject to ‘clean closure’ requirements, that is, the closure of tanks, surface impoundments and the removal of waste piles, it is not required to have financial assurance for post closure measures. This is because clean closure entails the removal of all waste from the unit and the decontamination or removal of all equipment, structures and surrounding soil.

The costs of closure and post closure are based on paying a third party to carry out the measures for each as detailed in the operating permit for the facility or unit. Cost estimates

278 42 USC s 31139(f)
279 Ibid s 6924(a)(6), (t)
280 Ibid s 6924(u)
282 40 CFR part 265
283 Ibid part 264
284 Ibid s 264.117(a)(1)
for each must be adjusted annually during the operational phase of the facility or unit.\textsuperscript{285}

Acceptable financial assurance instruments and mechanisms are:

- a trust fund;\textsuperscript{286}
- a surety payment bond or performance bond together with a standby trust fund;\textsuperscript{287}
- an irrevocable letter of credit together with a standby trust fund;\textsuperscript{288}
- an insurance policy;\textsuperscript{289}
- self insurance (called financial test) according to net working capital criteria or tangible net worth criteria;\textsuperscript{290} and
- a corporate guarantee from a direct corporate parent company, a corporate grandparent, a sibling corporation or a company that has a ‘substantial business relationship’ with the owner or operation of the facility or unit.\textsuperscript{291}

A ‘substantial business relationship’ arises if there is a pattern of recent or ongoing business transactions that satisfies the relevant US EPA Regional Administrator.\textsuperscript{292}

Funds in a trust fund and a standby trust fund may be accumulated over time.

A TSDF that is federally or State owned or operated is not subject to the requirements.

The regulations set out detailed criteria, including templates, for each instrument and mechanism. The template for an insurance policy is for a certificate of insurance/endorsement.

- \emph{Environmental liability requirements}

The environmental liability financial assurance regulations for TSDFs cover its three main phases, that is, the operational phase, during which hazardous waste is treated, stored or disposed; the closure phase; and the post-closure (aftercare) phase.

During the operational phase, the owner or operator of the TSDF must have financial assurance for ‘bodily injury and property damage to third parties caused by sudden accidental occurrences arising from operations of the facility or group of facilities’.\textsuperscript{293} Examples of sudden accidental occurrences are releases of hazardous waste caused by fires or explosions, that is releases that are not continuous or repeated.

If the facility is a land based TSDF, financial assurance is also required for ‘bodily injury and property damage to third parties caused by ‘nonsudden accidental occurrences’ arising from

\begin{flushright}
\textsuperscript{286} 40 CFR s 264.143(a) or s 265.143(a)
\textsuperscript{287} Ibid s 264.143(b),(c) or s 265.143(b)
\textsuperscript{288} Ibid s 264.143(d) or s 265.143(c)
\textsuperscript{289} Ibid s 264.143(e) or s 265.143(d)
\textsuperscript{290} Ibid s 264.143(f) or s 265.143(e)
\textsuperscript{291} Ibid s 264.143(f) or s 265.143(e)
\textsuperscript{293} 40 CFR s 264.147(a)
\end{flushright}
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operations of the facility or group of facilities’. Examples of nonsudden accidental occurrences are liquid waste that leaks from a landfill or surface impoundment and contaminates groundwater.

Acceptable financial assurance instruments are:

- a financial test (also called self insurance);
- a financial guarantee;
- an irrevocable letter of credit;
- an insurance policy;
- a surety bond;
- a trust fund; or
- a combination of the above.

Unlike trust funds and standby trust funds for operational requirements, trust funds and standby trust funds for liability requirements are not subject to payments over time; they must be fully funded.

As with the operational financial assurance requirements, the regulations set out detailed criteria for the above instruments. Templates that show mandatory wordings for each are also set out. The mandatory wording for an insurance policy is for a certificate of insurance/endorsement, as in the operational requirements.

The minimum level of financial responsibility for third party bodily injury and property damage from a sudden and accidental occurrence is $1,000,000 (EUR 895,700) per occurrence with an annual aggregate limit of $2,000,000 (EUR 1,791,400). The minimum level for third party bodily injury and property damage from a nonsudden and accidental occurrence is $3,000,000 (EUR 2,687,100) with an annual aggregate limit of $6,000,000 (EUR 5,374,200). Owners or operators may combine the requirements and provide a minimum level of $4,000,000 (EUR 3,582,800) per occurrence with an annual aggregate limit of $8,000,000 (EUR 7,165,600).

The minimum levels have not been revised since the mandatory financial security requirements were phased in between 1983 and 1985.

If the owner or operator of a TSDF is involved in bankruptcy proceedings or is solvent but, with reasonable due diligence, jurisdiction cannot be obtained over it in a federal or State court, ‘any claim arising from conduct for which evidence of financial responsibility must be provided … may be asserted directly against the guarantor that provides such evidence of financial responsibility’.

The US EPA has issued guidance to its regions on the financial assurance requirements. The guidance includes information on responding to owners and operators of TSDFs that claim they are unable to provide financial assurance for corrective actions, as well as the treatment of environmental claims in bankruptcy proceedings.

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294 Ibid s 264.17(b)
295 Ibid s 264.147
296 40 CFR s 264.151 (setting out precise wordings for agreements for trust funds, surety bonds, insurance certificates and corporate guarantees)
297 Ibid s 264.147(b)
298 42 USC s 6924(t)(2)
299 US Environmental Protection Agency, ‘Memorandum from Susan E. Bromm, Director of Site Remediation Enforcement and Robert Springer, Director, Office of Solid Waste, on Transmittal of Interim Guidance on Financial Responsibility for Facilities Subject to RCRA Corrective Action’ (30 September 2003);
5.1.3. Offshore oil and gas facilities

The OPA requires owners and operators of offshore oil and gas facilities, including mobile offshore drilling units (MODUs) (and vessels), in US waters to have financial responsibility to cover liability for removal costs and damages under the OPA.°300 As indicated in section 4.2.1 above, ‘damages’ under the OPA includes claims for property damage.

Financial security for offshore facilities may be evidenced by self insurance, insurance, an indemnity, a surety bond or another financial security instrument approved by the competent authority.°301 If an owner or operator proposes other evidence of financial responsibility, which may include pooling, letters of credit, pledges of Treasury notes or other compatible methods, it must be approved by the Director of BOEM.°302

The regulations under the OPA sets out detailed criteria for each instrument and mechanism, including forms for each one, including the form of the certificate of insurance to provide evidence of an insurance policy.°303

The amount of financial security for liability varies depending on the type of offshore facility and its location.°304 The amounts are based on worst case oil spill discharge volume,°305 which is determined pursuant to response plans prepared by the person applying for oil spill financial responsibility (OSFR).

The term ‘OSFR’ is defined as:

the capability and means by which a responsible party for a covered offshore facility will meet removal costs and damages for which it is liable under [the OPA] with respect to both oil-spill discharges and substantial threats of the discharge of oil.°306

Claims for the costs of cleaning up oil and for damages may be asserted directly against the guarantor that provides evidence of financial responsibility°307 if the claimant, other than the US, denies or fails to pay a claim because of insolvency or files a petition in bankruptcy.°308 The maximum aggregate liability for a claim against an insurance guarantor for an oil-spill discharge or a substantial threat of the discharge of oil is equal to the quota share of the insurance guarantee.°309

In April 2010 when the Deepwater Horizon disaster occurred, the financial security requirement for liability under the OPA for an offshore facility located in waters seaward of the boundary of a State (such as the Deepwater Horizon) was $35,000,000 (EUR 31,378,500); it was $10,000,000 (EUR 9,251,000) for an offshore facility located in waters landward of such

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°300 33 USC s 2716
°301 30 CFR s 553.20
°302 Ibid s 553.32
°303 Ibid s 553.21-.31
°304 Ibid s 553.13
°305 Ibid s 553.13
°306 Ibid s 553.3
°307 33 USC s 2716(f)
°308 30 CFR s 553.61
°309 Ibid s 553.61
BP waived the limit of liability after intervention by President Obama. Following *Deepwater Horizon*, Bills were introduced into the US Congress to raise the level of financial security for an offshore facility including a Bill that would raise it from $35,000,000 to as much as $300,000,000 (EUR 277,530,000). The Bills failed to be enacted.

When this report was published a designated applicant (which includes a responsible party under the OPA or a parent company) is required to demonstrate OSFR for a covered offshore facility (COF), which is defined as a facility:

That includes any structure and all its components (including wells completed at the structure and the associated pipelines), equipment, pipeline, or device ... used for exploring for, drilling for, or producing oil or for transporting oil from such facilities. This includes a well drilled from a [MODU] and the associated riser and well control equipment from the moment a drill shaft or other device first touches the seabed for purposes of exploring for, drilling for, or producing oil, but it does not include the MODU.312

The definition also requires the COF to be located seaward of the coastline or in any portion of a bay connected to the sea and depicted on a US Coast Guard map listed in the annex to the regulations, as well as ‘a worst case oil-spill discharge potential of more than 1,000 bbls [barrels] of oil ...’.313

The amounts of financial security are based on worst case oil-spill discharge volume. They range from $35,000,000 for a potential discharge of 1,000 bbls to 35,000 bbls, up to $150,000,000 for more than 105,000 bbls for a COF located wholly or partially on the outer continental shelf, and from $10,000,000 for a potential discharge of 1,000 bbls to 10,000 bbls, up to $150,000,000 for a COF not located on the outer continental shelf.314

5.1.4. **Underground storage tanks**

In 1988, the US EPA introduced detailed regulations under RCRA for technical and financial security requirements for underground storage tanks. In 2015, the US EPA revised the regulations to strengthen requirements concerning the operation and maintenance of spill, overfill and release detection equipment required by the 1988 regulations.315

The financial assurance regulations for underground storage tanks require owners or operators of underground storage tanks that contain ‘regulated substances’ to show that they are financially responsible for corrective action and third-party claims for property damage and bodily injury caused by sudden or nonsudden and accidental releases of petroleum from their tanks.316

The term ‘regulated substances’ is defined as any ‘hazardous substance’ under CERCLA (but

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310 33 USC s 2716(c)(1)(B)
311 Consolidated Land, Energy and Aquatic Resources Bill, H.R.3534, s 703
312 30 CFR s 553.3
313 Ibid s 553.3
314 Ibid s 553.13. A US bbl is about 159 litres
316 42 USC s 6991b(d)
not including hazardous waste), and petroleum.\textsuperscript{317}

The term ‘bodily injury’ is defined according to applicable State law. The definition further states that the term:

\begin{quote}
shall not include those liabilities which, consistent with standard insurance industry practices, are excluded from coverage in liability insurance policies for bodily injury.\textsuperscript{318}
\end{quote}

The term ‘property damage’ is also defined according to applicable State law. The definition further states that the term:

\begin{quote}
shall not include those liabilities which, consistent with standard insurance industry practices, are excluded from coverage in liability insurance policies for property damage. However, such exclusions for property damage shall not include corrective action associated with releases from tanks which are covered by the policy.\textsuperscript{319}
\end{quote}

The amounts of financial security for petroleum underground storage tanks on a per occurrence basis are:

\begin{itemize}
\item $1,000,000 (EUR 925,100) per occurrence for petroleum marketers or tanks that handle an average of over 10,000 gallons of petroleum each month based on an annual throughput for the previous calendar year; and
\item $500,000 (EUR 462,550) for all other owners or operators of underground storage tanks.\textsuperscript{320}
\end{itemize}

The amounts of financial security for petroleum underground storage tanks on an aggregate basis are:

\begin{itemize}
\item $1,000,000 for owners or operators of 1 to 1,000 petroleum underground storage tanks; and
\item $2,000,000 (EUR 1,850,200) owners or operators of 101 or more petroleum underground storage tanks.\textsuperscript{321}
\end{itemize}

The amounts have not changed since the requirements were introduced in 1988.

The requirements may be satisfied by:

\begin{itemize}
\item a financial test of self-insurance;
\item a corporate (parent company) guarantee;
\item a letter of credit;
\item a surety bond;
\item a trust fund;
\item an insurance policy;
\item membership of a risk retention group; or
\item a combination of the above.\textsuperscript{322}
\end{itemize}

\textsuperscript{317} Ibid s 6991(7); see ibid s 9601(14)
\textsuperscript{318} 40 CFR s 280.92
\textsuperscript{319} Ibid s 280.92
\textsuperscript{320} Ibid s 280.93(a)
\textsuperscript{321} Ibid s 280.93(b)
\textsuperscript{322} Ibid ss 280.95 to 280.03; see ibid s 280.94
The detailed regulations include a pro forma for each type of financial security instrument. For example, an endorsement or certificate of insurance for financial security from a qualified insurer or a risk retention group must be in the form set out in the regulations.323

5.1.5. **Agreements on consent to remediate hazardous waste**

The US EPA has issued guidance under RCRA to its regional offices on financial security for AOCs for the remediation of hazardous waste. An AOC for such remediation is an agreement between the US EPA and a person that is required to remediate hazardous waste under which the responsible person agrees to carry out corrective actions that include evaluating and mitigating threats to human health and the environment, determining their nature and extent, and implementing corrective measures selected by the US EPA. Acceptable financial security instruments are:

- a trust fund for the benefit of the US EPA;
- a surety bond that unconditionally guarantees performance of the remediation measures or that guarantees payment at the direction of the US EPA into a standby trust fund that meets the criteria for the above trust fund;
- an irrevocable letter of credit payable at the direction of persons specified by the US EPA into a standby trust fund;
- an insurance policy issued by an authorised insurer that is subject to stringent criteria including providing the US EPA with rights as a beneficiary that are acceptable to it, and is in an amount that is at least equal to the estimated cost of the remediation measures;
- a corporate guarantee (which is subject to specified criteria) executed in favour of the US EPA by a ‘direct or indirect parent company’ or a company that has a ‘substantial business relationship’ with the liable operator;
- meeting the financial test criteria set out in the regulations; or
- a combination of the above.324

The guidance sets out further criteria for the above, procedures for submitting evidence of financial security to the US EPA, and details of how and when the US EPA can access the financial security.325

5.1.6. **Settlement agreements and unilateral administrative orders to clean up hazardous substances**

The US EPA has issued guidance to its regional offices on financial security at sites subject to enforcement actions under CERCLA. The intent of the financial assurance is that if PRPs ‘become unwilling or unable to complete their work obligations [the financial assurance] allows the [US EPA] or other parties to perform such work without using limited Superfund resources’.326

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323 See ibid s 280.97
325 Ibid s XV, 29-37
Acceptable financial security instruments are:

- a trust fund between a PRP (the grantor of the trust) and a trustee in which the trustee holds grantor-provided funds in trust to pay for US EPA-approved clean-up expenses;
- a payment or performance bond issued by a surety;
- a letter of credit issued by an institution to guarantee the payment of the PRP’s (the applicant for the letter of credit) clean-up work obligations up to a specified amount if the PRP fails to perform the works as required;
- an insurance policy between the PRP and an insurer under which the insurer agrees to pay for claims against the PRP or policy in connection with issues related to the site that is being cleaned up;
- financial test; and
- a corporate guarantee.

The guidance states that other financial assurance instruments and mechanisms such as escrow accounts, certificates of deposit, and commitments to secure financial assurance upon asset sales may also be acceptable based on site-specific considerations.\textsuperscript{327}

The guidance sets out further criteria for the above, procedures for establishing the amount of the financial assurance, timing considerations, modifications to financial assurance requirements, termination of the requirements, compliance monitoring and assessment, impact of bankruptcy filings on the financial assurance, and procedures to enforce the financial assurance provisions.

The guidance includes templates for the financial assurance instruments except insurance policies with the notation that there is considerable variation in the policies as well as varying impacts of State law on the structure and interpretation of the policies.\textsuperscript{328}

5.1.7. \textit{Comprehensive Environmental Response, Compensation, and Liability Act}

CERCLA has two mandatory financial security provisions. Offshore facilities and specified vessels must have financial security for environmental damage caused by them. In addition, CERCLA directed the US EPA to phase in financial security requirements for industrial sectors specified by it.

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\textit{Harm from hazardous substances}

Section 9608(a) of CERCLA requires offshore facilities (and vessels over 300 gross tonnes that carry hazardous substances in US waters) to have financial responsibility for liabilities for cleaning up hazardous substances.\textsuperscript{329} Financial security may be established by insurance, a guarantee, a surety bond, qualification as a self insurer, or a combination of them.\textsuperscript{330}

If a claim is made in respect of a facility (see the broad definition in section 4.3 above), the claim may be made directly against a guarantor (that is, the provider of the financial security instrument):

\begin{quote}
if the [liable] person … is in bankruptcy, reorganization, or arrangement pursuant to the Federal Bankruptcy Code, or if, with reasonable diligence, jurisdiction in the Federal courts cannot be obtained over [such a person] who is likely to be solvent at
\end{quote}

\begin{footnotes}
\item 327 Ibid 6-7
\item 328 Ibid. Insurance law in the US is State law
\item 329 42 USC \textsection{} 9608(a)(1)
\item 330 Ibid
\end{footnotes}
the time of judgment. The total liability of a guarantor in such a claim is:

the aggregate amount of the monetary limits of the policy of insurance, guarantee, surety bond, letter of credit, or similar instrument obtained from the guarantor by the [PRP] for the purpose of satisfying the requirement for evidence of financial responsibility.

The guarantor is entitled to invoke all rights and defences that would have been available to the liable person if the action had been brought against them.

- **Hard rock mining and other industrial sectors**

Section 9608(b) of CERCLA directed the US EPA to develop regulations that require classes of facilities to establish and maintain financial responsibility consistent with the environmental risks posed by them. CERCLA did not direct the US EPA to mandate financial security for environmental liabilities across many industrial and commercial sectors at the same time. Rather, CERCLA provides that:

Not later than three years after December 11, 1980, the [US EPA] shall identify those classes for which [mandatory financial security] requirements will be first developed and publish notice of such identification in the Federal Register. Priority in the development of such requirements shall be accorded to those classes of facilities, owners, and operators which the [US EPA] determines present the highest level of risk of injury.

As described below, the US EPA proposed phasing in the financial security requirements for specific industrial sectors.

In 2009, following litigation by NGOs against the US EPA for it to phase in the requirements and a court order requiring the US EPA to do so, the USA EPA announced that it would prioritise financial responsibility requirements for hard rock mining, the first sector selected for the requirements. The reason for this was that the hard rock mining industry generated approximately 80% of all hazardous waste under RCRA by large quantity generators in 2007.

In 2010, the US EPA announced that mandatory financial security would then be phased in for the following industries: the electric power generation, transmission and distribution industry; the chemical manufacturing industry; followed by the petroleum and coal products manufacturing industry. The priorities for the phase in were based on the annual amounts of hazardous waste generated by them.

The US EPA failed to promulgate the rule, however, resulting in the NGOs petitioning the US

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331 Ibid s 9608(c)(2)
332 Ibid s 9608(d)(1)
333 Ibid s 9608(c)(2)
334 Ibid s 9608(b)(1)
335 *Sierra Club v Johnson*, No C 08-01409 (Northern District of California, 25 February 2009)
District Court of Appeals for the District of Columbia to issue a writ of mandamus\(^{338}\) to require the US EPA to do so.

Whilst the petition was pending, the NGOs entered into a settlement with the US EPA under which it agreed to issue a proposed rule for hard rock mining by 1 December 2017. The settlement was approved by the US Court of Appeals for the District of Columbia Circuit on 29 January 2016.\(^{339}\) The court ordered the US EPA to carry out the rulemaking procedure and decide whether to promulgate the rule; it did not require the US EPA to promulgate the rule.\(^{340}\)

On 11 January 2017, the US EPA issued the draft rule for hard rock mining in which it concluded that hard rock mining facilities posed risks associated with the management of hazardous substances at their sites.\(^{341}\) Following comments that opposed the rule (as well as comments that supported it), the US EPA announced on 21 February 2018 that it had decided not to promulgate the rule. Among other things, the US EPA stated that modern mining practices and existing federal and State legislation reduced the risk that it would have to remediate hazardous substances at active mines under the Superfund programme.\(^{342}\)

The withdrawal of the proposed rule was judicially challenged by NGOs.\(^{343}\) On 13 March 2019, the US Court of Appeals for the District of Columbia Circuit denied the petition.\(^{344}\) The court concluded that the US EPA’s interpretation of ‘risk’ was reasonable, CERCLA does not require the US EPA to issue financial responsibility requirements for hard rock mining, and the US EPA has discretion whether to promulgate a rule or not to do so.

Meanwhile, in January 2017, the US EPA had announced that it would promulgate a rule for financial responsibility requirements for facilities in the electric power generation, transmission and distribution industry; the chemical manufacturing industry; and the petroleum and coal products manufacturing industry,\(^{345}\) as it had indicated it would do so in 2010 (see above this section).

In July 2019, the US EPA announced that it proposed not promulgating the rule for the electric power generation, transmission and distribution industry. In December 2019, the US EPA announced that it had concluded that it would not promulgate financial responsibility requirements for the petroleum and coal product manufacturing industry.\(^{346}\) In February

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338 A writ of mandamus is an extraordinary order by a court to a lower court or a governmental authority to carry out its legal obligations.

339 *In re Idaho Conservation League*, 811 F.3d 502 (District of Columbia Circuit, 2016)

340 Ibid 524

341 US Environmental Protection Agency, Financial Responsibility Requirements Under CERCLA s 108(g) for Classes of Facilities in the Hardrock Mining Industry, proposed rule, 82 Fed Reg 3388 (11 January 2017)


346 US Environmental Protection Agency, CERCLA 108(b) Financial Responsibility Requirements for the Petroleum and Coal Product Manufacturing Industry: Proposed Rule (December 2019);
2020, the US EPA proposed not promulgating financial security requirements for the chemical manufacturing industry.\textsuperscript{347}

Whether the financial security rules will eventually be issued was not known when this report was published.

The US EPA’s phase in approach before its withdrawal of the hard rock mining rule and proposals not to proceed with other rules demonstrates, however, that any introduction of mandatory financial security for environmental liabilities should target specified industrial sectors in a phased-in approach. For example, the 123-page proposal for the regulations for the hard rock mining industry demonstrates the industry-specific issues involved.\textsuperscript{348} The same issues would not necessarily have applied to the electric power generation, transmission and distribution industry; the chemical manufacturing industry; or the petroleum and coal products manufacturing industry.

5.2. EU mandatory financial security requirements

The main EU legislation that includes mandatory financial security provisions for environmental responsibilities are the Landfill Directive, the Extractive Waste Directive, the Directive on the geological storage of carbon dioxide, the Shipments of Waste Regulation, the Directive on waste electrical and electronic equipment, and the Basic Safety Standards Directive.

The financial security provisions are briefly described below. The national legislation that implements the Landfill Directive, the Extractive Waste Directive and the Directive on the geological storage of carbon dioxide is described in each Member State report together with details of acceptable financial security instruments and mechanisms in that Member State.

The Member State reports do not describe the national legislation that implements the Shipments of Waste Regulation, the Directive on waste electrical or electronic equipment, or the Basic Safety Standards Directive. This is because the financial security requirements for these differ substantially from financial security requirements that Member States have introduced for ELD liabilities as well as the other financial security requirements described in this report.

5.2.1. Landfill Directive

The Landfill Directive was adopted to prevent or mitigate as far as possible negative effects on the environment from landfilling waste. The Directive does this, among other things, by:

- requiring the disposal of hazardous waste, non-hazardous waste and inert waste in separate landfills;
- specifying types of waste that may not be disposed in landfills;
- banning the landfilling of waste that does not meet specified waste acceptance criteria; and


• requiring landfills to satisfy technical and financial security requirements.

The Landfill Directive requires an operator to have financial security for carrying out closure and post closure obligations under its permit. Article 8(a)(iv) of the Directive directs Member States to take measures so that competent authorities do not issue a permit for a landfill unless they are satisfied, among other things, that:

adequate provisions, by way of a financial security or any other equivalent, on the basis of modalities to be decided by Member States, has been or will be made by the applicant prior to the commencement of disposal operations to ensure that the obligations (including after-care provisions) arising under the permit ... are discharged and that the closure procedures required by [the Directive] are followed. This security or its equivalent shall be kept as long as required by maintenance and after-care operation of the site in accordance with [the Directive].

Article 8(a)(iv) further provides that Member States have the option of not requiring financial security for landfills for inert waste.

5.2.2. Extractive Waste Directive

The purpose of the Extractive Waste Directive (also called the Mining Waste Directive) is, as stated by article 1 of the Directive, to provide for:

measures, procedures and guidance to prevent or reduce as far as possible any adverse effects on the environment, in particular water, air, soil, fauna and flora and landscape, and any resultant risks to human health, brought about as a result of the management of waste from the extractive industries.

Recital 25 states, among other things, that operators of extractive waste facilities must:

lodge a financial guarantee or equivalent in accordance with procedures to be decided by the Member States ensuring that all the obligations flowing from the permit will be fulfilled, including those relating to the closure and after-closure of the waste facility. The financial guarantee should be sufficient to cover the cost of rehabilitation of the land affected by the waste facility, which includes the waste facility itself, as described in the waste management plan prepared ... and required by the ... permit, by a suitably qualified and independent third party.

Recital 25 specifically refers to the ELD by stating that:

it is important to clarify that an operator of a waste facility servicing the extractive industries is subject to appropriate liability in respect of environmental damage caused by its operations or the imminent threat of such damage.

The Directive requires an operator to have financial security for obligations under its permit including post closure measures and the rehabilitation of land affected by the waste facility.

Article 14(1) of the Directive states that before commencing operations that involve the accumulation or deposit of extractive waste in a waste facility, competent authorities shall require a ‘financial guarantee (e.g. in the form of a financial deposit, including industry-sponsored mutual guarantee funds) or equivalent’. The guarantee or equivalent must cover obligations under the permit for the waste facility and the rehabilitation of land affected by it.

Article 14 further states that factors to be considered in calculating the amount of the guarantee or its equivalent are ‘the likely environmental impact of the waste facility, taking into account in particular the category of the waste facility, the characteristics of the waste and the future use of the rehabilitated land’.
Article 14(3) states that the amount of the guarantee shall be adjusted periodically in accordance with rehabilitation work that needs to be carried out.

Article 14(4) states that the competent authority shall provide the operator with a written statement that releases the operator from the obligation to have a financial guarantee when the authority approves the closure of the facility, with the exception of aftercare obligations.

Article 2(3) of the Directive states that Member States have the option of not requiring financial security for waste that is non-hazardous or is not required to be deposited in a ‘Category A’ (that is, a high risk) waste facility.

The Commission has issued technical guidelines on financial security pursuant to the Extractive Waste Directive. The guidelines state that Member States shall base calculation of the financial guarantee for the waste facility on the following:

- its likely impacts on human health and the environment;
- the definition of rehabilitation including its after use;
- applicable environmental standards and objectives, including physical stability of the waste facility, minimum quality standards for the soil and water resources and maximum release rates of contaminants;
- technical measures required to achieve environmental objectives, especially measures aimed at ensuring the stability of the facility and limiting environmental damage;
- measures required to achieve objectives during and after closure, including land rehabilitation, after closure treatment and monitoring if required, and, if relevant, measures to reinstate biodiversity;
- the estimated time scale of impacts and required mitigation measures; and
- an assessment of the costs necessary to ensure land rehabilitation, closure and after closure including possible monitoring or treatment of contaminants.

The technical guidance further states that the assessment in the final bullet point shall be carried out by ‘independent and suitably qualified third parties’ and that it must take into account the possibility of the unplanned or premature closure of the facility.

The Commission held a workshop on financial guarantees in the field of extractive waste management on 26 January 2018.

5.2.3. Directive on the geological storage of carbon dioxide

The Directive on the geological storage of carbon dioxide establishes a legal framework for the environmentally safe geological storage of carbon dioxide to contribute to the fight against climate change. The Directive establishes extensive requirements for selecting sites in which to store carbon dioxide, ensuring that they are monitored and that corrective measures are taken if carbon dioxide in them begins to leak. In addition, the Directive sets out obligations for closure and post closure, as well as the transfer of responsibility from an operator to a Member State.

The Directive imposes three types of liabilities:


• liability for carrying out corrective measures in the event of a leakage of carbon dioxide or serious irregularity in storage;
• liability for climate damage in the form of the surrender of emissions trading allowances for any leaked emissions under Directive 2003/87/EC [the EU Emissions Trading System Directive];351 and
• liability for damage to the local environment under the ELD.

Persons affected by a leakage or other irregularity in storage may also bring claims for bodily injury or property damage under the national law of their Member State.

Article 19(1) of the Directive directs Member States to ensure that a person that applies for a permit for a facility for the storage of carbon dioxide provides proof of ‘financial security or any other equivalent, on the basis of arrangements to be decided by the Member States’ as part of the application for the permit.

The financial security instrument or mechanism, which must be in place before injection of carbon dioxide commences, must cover all obligations that arise under the permit, including closure and post-closure requirements, as well as any obligations that arise from inclusion of the storage site in the EU Emissions Trading System. The Directive does not require financial security for liabilities under the ELD.

Article 19(2) states that the financial security shall be periodically adjusted to take into account changes to the assessed risk resulting from any leakage of carbon dioxide and the estimated costs of all obligations that arise under the permit as well as any obligations that arise from inclusion of the storage site in the EU Emissions Trading System.

Article 19(3) states that the financial security or another equivalent must be maintained until (1) responsibility for the storage site has been transferred to a competent authority following its closure, or (2) the permit for the storage facility has been withdrawn and either a new storage permit has been issued, or if the storage site has been transferred from the operator to the relevant competent authority, financial obligations under the Directive have been satisfied.

The European Commission has issued a guidance document for financial security under the Directive that includes an overview of acceptable financial security instruments together with their advantages and disadvantages.352

5.2.4. Regulation on shipments of waste

The Shipments of Waste Regulation353 implements the Basel Convention354 and the OECD Decision on the control of transboundary movements of waste355 in the EU. The Regulation


354 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal

Improving financial security in the context of the Environmental Liability Directive

lays down procedures for transboundary shipments of waste within the EU and between Member States and third countries including a ban on the export of waste for disposal.

Article 4(5) of the Regulation states, among other things, that a financial guarantee or equivalent insurance must be established and declared in the notification for the shipment of waste. Article 4(5) further provides that the financial guarantee or equivalent insurance shall be submitted as part of the notification document before the start of the shipment.

Article 6 sets out requirements for the financial guarantee or equivalent insurance. It must cover the costs of transport, recovery or disposal including any necessary interim operations, and storage of the waste for 90 days.

Article 6(2) states that the intent of the financial security is to provide for the shipment or recovery of the waste when they cannot be carried out as intended or the shipment, recovery or disposal is illegal. The financial security instrument that is typically used is a bond.

As indicated in section 5.2 above, there are marked differences between financial security provisions under the Regulation, liabilities under the ELD, and other mandatory financial security requirements examined in this report. Accordingly, the Regulation is not discussed further in this report.

5.2.5. Directive on waste electrical and electronic equipment

The EU adopted the first Waste Electrical and Electronic Directive in 2002 to improve the collection, treatment and recycling of waste electrical and electronic equipment (WEEE). The version when this report was published, the Waste Electrical and Electronic Directive (2012/19/EU), as amended by Directive (EU) 2018/849 (WEEE Directive), is accompanied by the Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (2011/65/EU), which was also first adopted in 2002. The purpose of this Directive, commonly called the RoHS Directive, is to require the substitution of metals such as lead, mercury, cadmium, and hexavalent chromium and flame retardants such as polybrominated biphenyls (PBB) or polybrominated diphenyl ethers (PBDE) by safer alternatives.

Article 8(3) of the WEEE Directive directs Member States to ensure that producers or third parties acting on their behalf establish systems to provide for the recovery of WEEE using best available techniques. The systems may be established by producers individually or collectively. Article 12(3) states that the guarantee may be in ‘the form of participation by the producer in appropriate schemes for the financing of the management of WEEE, a recycling insurance or a blocked bank account’.

Recital 23 states that the purpose of the requirement is ‘to prevent costs for the management of WEEE from orphan products from falling on society or the remaining producers’.

Most Member States have established compliance schemes to satisfy the requirement for a financial guarantee. The compliance schemes also enable producers to meet other requirements of the WEEE Directive. As a result, most producers of WEEE have not taken out

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bank guarantees, purchased insurance, or have other financial security instruments as described in this report in order to satisfy the requirement.

As indicated in section 5.2 above, neither the Directive nor its mandatory financial security provisions are discussed further due to the marked differences between them, liabilities under the ELD, and other mandatory financial security requirements examined in this report.

5.2.6. Basic Safety Standards Directive

The Basic Safety Standards Directive (2013/59/Euratom) established uniform basic standards to protect the health of workers and the general public from dangers arising from exposure to ionising radiation. The Directive consolidated and streamlined five Euratom Directives, the first of which was adopted in 1959 and amended six times, as well as a recommendation on radon by the European Commission.

Article 87 of the Directive directs Member States to ensure that, before issuing an authorisation for practices involving a high-activity sealed source (an encapsulated highly radioactive source), among other things:

adequate provision, by way of a financial security or any other equivalent means appropriate to the source in question, has been made for the safe management of sources when they become disused sources, including the case where the holder becomes insolvent or goes out of business.

Article 95 directs Member States to ‘ensure that a financial security system or other equivalent means is established to cover intervention costs relating to the recovery of orphan sources’.

The financial security provision in the Directive requires ‘adequate provision, by way of a financial security or any other equivalent means appropriate’ for the safe management of sources when they become disused sources.

As indicated in section 5.2 above, neither the Directive nor its mandatory financial security provision are discussed further due to the marked differences between them and liabilities under the ELD and other mandatory financial security requirements examined in this report.

5.3. EU legislation that implies or recommends financial security

The Offshore Safety Directive and the Recommendation on hydraulic fracturing are described in this report because the Directive implies that licensees of offshore oil and gas operations should have financial security and the Recommendation recommends it. Both refer specifically to the ELD.

5.3.1. Offshore Safety Directive

The EU adopted the Offshore Safety Directive in 2013, largely as a result of the Deepwater Horizon disaster in April 2010. The major objectives of the Directive are to avoid major accidents, limit the number of accidents, and limit the consequences of any accidents.

Article 2(1) defines a ‘major accident’ in relation to an installation or connected infrastructure.

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as:

(a) an incident involving an explosion, fire, loss of well control, or release of oil, gas or dangerous substances involving, or with a significant potential to cause, fatalities or serious personal injury;

(b) an incident leading to serious damage to the installation or connected infrastructure involving, or with a significant potential to cause, fatalities or serious personal injury;

(c) any other incident leading to fatalities or serious injury to five or more persons who are on the offshore installation where the source of danger occurs or who are engaged in an offshore oil and gas operation in connection with the installation or connected infrastructure; or

(d) any major environmental incident resulting from incidents referred to in points (a), (b) and (c).

A ‘major environmental incident’ is defined as ‘an incident which results, or is likely to result, in significant adverse effects on the environment in accordance with [the ELD]’.

Article 7 of the Offshore Safety Directive provides that:

Without prejudice to the existing scope of liability relating to the prevention and remediation of environmental damage pursuant to [the ELD], Member States shall ensure that the licensee is financially liable for the prevention and remediation of environmental damage as defined in that Directive, caused by offshore oil and gas operations carried out by, or on behalf of, the licensee or the operator.

That is, all licensees, including non-operating licensees, of offshore oil and gas operations in the EU must be ‘financially liable’ for ELD liabilities. The provision, however, does not specifically state that a Member State must require licensees to have financial security for ELD liabilities although it strongly implies that they should do so.

Recital 63 of the Directive recognises that no ‘existing financial security instruments, including risk pooling arrangements [could] accommodate all possible consequences of major accidents’.

The Member State reports indicate the Member States that have – and have not – specified liabilities under the ELD in their financial requirements for offshore oil and gas operations (see Member State reports, section 14). The parts of the Directive that concern offshore oil and gas operations do not, of course, apply to landlocked Member States.

5.3.2. **Recommendation on hydraulic fracturing**

In January 2014, the European Commission issued the Recommendation on minimum principles for the exploration and production of hydrocarbons (such as shale gas) using high volume hydraulic fracturing.

The purpose of the Recommendation is:

- to lay down the minimum principles needed to support Member States who wish to carry out exploration and production of hydrocarbons using high-volume hydraulic fracturing, while ensuring that the public health, climate and environment are safe-guarded, resources are used efficiently, and the public is informed.\(^{360}\)

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Article 12 of the Recommendation provides that:

Member States should apply the provisions on environmental liability to all activities taking place at an installation site including those that currently do not fall under the scope of [the ELD].

Member States should ensure that the operator provides a financial guarantee or equivalent covering the permit provisions and potential liabilities for environmental damage prior to the start of operations involving high-volume hydraulic fracturing.

The Member State reports indicate the Member States that have adopted financial security requirements for fracking (see Member State reports, section 12). The reports also indicate, in this respect, Member States that have prohibited fracking in their territories.

5.4. **Comparison and analysis of EU and US mandatory financial security requirements**

The review of US and EU mandatory financial security requirements shows similarities between them. There are however marked differences.

The comparison and analysis below focuses on the mandatory financial security requirements set out in this section. As indicated above, there are many more requirements in federal and State legislation in the US. A study of these, which would necessarily indicate more similarities and differences is beyond the scope of this report.

5.4.1. **Environmental responsibilities**

Both the EU and the US mandatory financial security requirements apply to environmental responsibilities, generally for obligations under a permit or other authorisation to carry out operations at a facility.

For example, the requirements under RCRA for TSDFs and hazardous waste management units to have financial security for environmental responsibilities are reflected in the mandatory financial security requirements in the Landfill Directive and the Extractive Waste Directive. The various requirements focus on financial security for the closure and post closure and, as applicable, rehabilitation phases of waste facilities in order to ensure that the owners or operators of the facilities set aside funding during the operational phase of the facilities to carry out such measures during these later phases.

The issue of financial security for environmental responsibilities is much less controversial than the issue of financial security for environmental liabilities as illustrated by the opposition to financial security requirements proposed for inclusion in the ELD (see section 2.5 above).

5.4.2. **Environmental liabilities**

The major difference between the EU and US financial security requirements is the absence of requirements for financial security for environmental liabilities in the EU legislation compared to the US legislation.

Financial security requirements for liabilities exist in the Motor Carrier Act, RCRA – in respect of both TSDFs and underground storage tanks – and the OPA.

As described in section 5.1.2 above, during the operational phase of a TSDF, the owner or operator must have financial security for ‘bodily injury and property damage to third parties caused by sudden accidental occurrences arising from operations of the facility or group of facilities’. If the TSDF is land based, financial security is also required for ‘bodily injury and
property damage to third parties caused by nonsudden accidental occurrences arising from operations of the facility or group of facilities’. Liabilities for bodily injury and property damage are State law; they are not liabilities under RCRA. RCRA, therefore, requires financial security for liabilities under State law that are not liabilities under RCRA itself.

There is, of course, no EU legislation on technical and financial security requirements for underground storage tanks. Again, however, the financial security requirements in RCRA specifically require mandatory financial security for property damage and bodily injury caused by sudden and nonsudden and accidental releases of petroleum from them.

Further, the RCRA regulations for underground storage tanks even refer to insurance for such liabilities by stating that the term ‘bodily injury’, which is defined according to applicable State law ‘shall not include those liabilities which, consistent with standard insurance industry practices, are excluded from coverage in liability insurance policies for bodily injury’.

The regulations further state that the term ‘property damage’, which again is defined according to applicable State law:

shall not include those liabilities which, consistent with standard insurance industry practices, are excluded from coverage in liability insurance policies for property damage. However, such exclusions for property damage shall not include corrective action associated with releases from tanks which are covered by the policy.

The RCRA regulations, therefore, take into account that many owners or operators of underground storage tanks will satisfy the financial security requirements by having insurance policies. In this respect, they tailor the requirements to encourage the use of policies that provide cover for claims for bodily injury and property damage.

The ELD does not, of course, include liabilities for bodily injury, property damage or economic loss. In addition, liability for bodily injury, property damage and economic loss is determined by the national law of Member States. As noted above, however, neither RCRA in respect of TSDFs nor in respect of underground storage tanks imposes liability for bodily injury or property damage. Liability for bodily injury and property damage is governed by State law; it is not governed by RCRA. The financial security requirements therefore go beyond any obligations under permits or other authorisations issued under EU legislation such as the Landfill Directive and the Extractive Waste Directive. Both Directives limit financial security to obligations under permits for them.

Whereas severe irregularities in storage facilities for carbon dioxide operated under the Directive on the geological storage of carbon dioxide could foreseeably cause bodily injury or property damage, the Directive does not require financial security for such claims. In this respect, Polish law specifically states that operators of underground storage facilities for carbon dioxide must have financial security for ELD liabilities as well as decommissioning of the related mining facility (Member State report for Poland, section 11.3.3).

The OPA imposes liability for property damage (but not bodily injury) as well as ‘removal costs’. Accordingly, financial security under it for offshore oil and gas facilities (and other facilities and vessels) includes financial security for property damage. Again, this is an example of a US federal law that requires financial security for environmental liabilities.

5.4.3. Minimum levels of financial security

Legislation that imposes mandatory financial security for environmental liabilities must have a minimum level (sometimes referred to as a ceiling) of financial security.
As indicated above, the regulations under RCRA for TSDF facilities, hazardous waste management units, and underground storage tanks have minimum levels. The regulations for underground storage tanks, as well as regulations under the OPA, show how these levels may be varied depending on the size of the businesses regulated under them and other factors such as, in the case of the OPA, the potential for different amounts of oil that could be discharged into the environment as well as the location of the facilities.

The regulations under RCRA also show that, once established, the minimum levels tend not to change. The minimum levels for TSDFs, hazardous waste management units, and underground storage tanks have not changed since they were introduced over 30 years ago.

The regulations under the OPA for offshore oil and gas facilities show the debate that can ensue if a business (BP in respect of Deepwater Horizon in the above example) results in damage that exceeds the level of financial security under the legislation. As briefly described, moves to raise the financial security limits for offshore oil and gas facilities following the Deepwater Horizon disaster resulted in failed Bills to raise them to a level that would have driven out most smaller operators. That is, if an operator in a specific industrial sector must have a high level of financial security, participation in that sector would be limited to only a few companies, with the adverse result of driving other companies from the industrial sector.

Further, the regulations under the OPA provide an illustration of how minimum levels can be established for a worst case discharge/release of pollutants into the environment. As indicated, the OPA has varying minimum levels of financial security depending, in the case of an offshore facility, where the facility is located and the worst case oil-spill discharge potential of the facility.

Another issue indicated by the types of financial security instruments and mechanisms that are acceptable in the US legislation discussed in this chapter is the ability of large companies to provide evidence of financial security by self insurance which is not as secure as third-party instruments as described in section 3.5 above. High minimum levels of mandatory financial security would increase the demand for inclusion of self insurance in a mandatory financial security system.

Such limitations are relevant to financial security for liabilities; they are not relevant to financial security for responsibilities, to which financial security requirements under EU environmental legislation are limited.

5.4.4. Diverse industrial and commercial sectors

The financial security requirements under section 9608(b) of CERCLA show that the US Congress recognised the difficulties in a mandatory financial security system that includes many different industrial sectors unless the requirements are phased in by industry sector.

In this respect, all the financial security requirements described in this chapter are targeted at a specific industry or specific operations. There are no mandatory financial security requirements that apply to a wide range of diverse operations as listed in annex III of the ELD.

5.4.5. Orders and agreements to carry out remediation

Regulations under RCRA and CERCLA both require mandatory financial security for persons that the US EPA orders to carry out corrective actions or response actions, respectively. Such requirements do not exist under the ELD or EU environmental legislation.

Article 8(2) of the ELD only requires financial security for ex post environmental damage if a competent authority carries out remedial measures in respect of which it seeks reimbursement for a responsible operator (see section 6.3 below for a description of the implementation of article 8(2) by Member States).

France, Hungary and Slovenia, however, require an operator to have ex post financial security under the ELD to remediate environmental damage caused by it whether the operator or the competent authority carries out remediation measures (see sections 6.3.10, 6.3.13 and 6.3.25 below). In addition, Ireland requires financial security for the remediation of contamination under its hybrid mandatory financial security system (see section 6.1.2 below).

5.4.6. Types of requirements

Whereas EU legislation does not include details of the types of mandatory financial security instruments or mechanisms that are acceptable to competent authorities, the US legislation specifies these in detail.

The absence of such details in EU legislation is, of course, not surprising due to the different legal systems in the EU and US. The types of instruments and mechanisms and other details such as templates in the US are set out in regulations promulgated by the US EPA under powers delegated to it by the relevant federal environmental legislation (and, in the case of States, powers delegated to similar competent authorities by relevant State legislation). Similarly, as described in section 7.1 below, Member States set out the types of instruments and mechanisms of financial security requirements under their mandatory financial security provisions although only a few have templates or the level of detail as in the US requirements.

The details in the US EPA’s regulations could therefore be considered by Member States in deciding whether to include more details in their requirements.
6. **FINANCIAL SECURITY UNDER THE ELD**

This chapter examines financial security under the ELD. The chapter is structured as follows.

First, it examines mandatory financial security systems for ELD liabilities introduced by Member States.

The chapter then examines mandatory financial security for ELD liabilities imposed by provisions in environmental legislation rather than introducing a mandatory financial security system under the ELD.

This chapter does not compare and analyse the different systems and provisions. The comparison and analysis is instead in chapter 14 in the context of analysing these in the event another Member State wishes to introduce mandatory financial security for ELD liabilities.

The next section in this chapter examines financial security for *ex post* environmental damage in each Member State, followed by a comparison and analysis of differences in the *ex post* financial security requirements.

### 6.1. Mandatory financial security systems for ELD liabilities

The Czech Republic, Ireland, Portugal, Slovakia and Spain have introduced mandatory financial security systems for ELD liabilities.

Greece has enacted legislation to introduce mandatory financial security for ELD liabilities. The Ministerial Decision to bring the requirements into force had not been enacted when this report was published but there was ongoing extensive discussion regarding its potential adoption.

#### 6.1.1. Czech Republic

The Czech Republic introduced mandatory financial security for ELD liabilities in the legislation that transposed the ELD into Czech law in 2008. The methodology for self assessment by operators to determine whether they are subject to the mandatory financial security system came into effect on 1 January 2013 in order to allow time for them and financial security providers to prepare for its introduction.

All operators that carry out activities under legislation listed in the equivalent of annex III of the ELD are subject to self assessment for mandatory financial security requirements with the exception of certain operators under water law, specifically those that treat harmful or hazardous substances, or particularly hazardous substances in total quantities below specified limits.

All ELD liabilities (that is, preventive measures and primary, complementary and compensatory remediation) are subject to mandatory financial security.

Under the self-assessment system, annex III operators must carry out a basic risk assessment. If ‘control points’ in the assessment total less than 50, the cost of remediating environmental damage is deemed to be less than CZK 20,000,000 (EUR 783,800) and they are not required to prepare a detailed risk assessment. Businesses have reportedly tended to assess their ELD liabilities at a low level, resulting in many being excluded from the system.

If the control points total more than 50, that is, if the costs of remediating environmental damage are deemed to cost more than CZK 20,000,000, businesses must either submit financial security to the competent authority or show that they are registered or have begun procedures to be registered under the EU Eco-Management and Audit Scheme (EMAS), or
have an environmental management system certified by International Organisation for Standardisation (ISO) 14001 (UNE-EN ISO 14001:1996; ISO 14001), or show that they have begun procedures for such registration.

Businesses have, again reportedly, tended to use this exception rather than to purchase insurance for ELD liabilities, resulting in a lowering of demand for stand-alone environmental insurance policies.

Acceptable financial security instruments and mechanisms for the mandatory financial security system are a combination of insurance and banking products or a combination of insurance and other products. Stand-alone environmental insurance policies and bank guarantees are thus acceptable financial security instruments. In practice, stand-alone environmental insurance policies are used rather than bank guarantees.

There is no specified amount or limit for financial security for ELD liabilities. The amount depends on the risk assessment carried out by an operator subject to the above amounts.

6.1.2. Ireland

Ireland has introduced a hybrid mandatory financial security system for ELD and other environmental liabilities as well as environmental responsibilities. Under the system, which is implemented by conditions to licences issued by the Irish EPA rather than pursuant to legislative provisions, the Irish EPA requires operators of specified facilities licensed by it to have financial security (called financial provision) for (1) liabilities in the form of preventing and remediating environmental damage from accidents including the prevention and remediation of environmental damage under the ELD, and (2) responsibilities for the costs of closure, restoration and aftercare of licensed facilities.

Before November 2019, the system applied to most holders of licences under legislation in the following categories of annex III of the ELD (item numbers in parentheses):

- Industrial Emissions Directive (item 1);
- Waste Framework Directive (item 2);
- Landfill Directive (item 2);
- Extractive Waste Directive (item 13); and
- Directive on the geological storage of carbon dioxide (item 14).

In November 2019, the Irish EPA published its approach to the system. Whilst it recommended that licensed businesses should continue to have financial security for their operations, it adopted a risk-based approach that requires financial security only for licensable classes of activities considered to be ‘high risk’.

In order to retain the authority to require a facility that is not considered to be high risk to have financial security if there is an incident at it that results in a pollution incident that requires the Irish EPA’s intervention, conditions in the licence enable the Irish EPA to amend the licence to require a Closure Restoration and Aftercare Management Plan (CRAMP) and financial provision for CRAMP liabilities (see directly below in this section).

The eight categories of facilities licensed by the Irish EPA that remain subject to the mandatory financial security system (and other requirements under the hybrid system) are as follows:

- landfills;
- Category A extractive waste facilities;
- upper and lower tier Seveso facilities;
- hazardous waste transfer stations;
• non-hazardous waste transfer stations that accept more than 50,000 tonnes of waste per year;
• incineration and co-incineration waste facilities;
• high risk contaminated land; and
• sites for which there are exceptional circumstances.

The category for high risk contaminated land includes licensed facilities that are considered to pose a significant threat to groundwater bodies under the Water Framework Directive.

The category for sites at which there are exceptional circumstances contains sites that are not included in the other seven categories of sites but which meet one or more of the following criteria:

• existence of a known documented liability;
• the known documented liability is unusual for the sector;
• significant waste stockpiling at a facility, that is, storage of large amounts of waste that would incur significant costs to remove and dispose of if the facility was suddenly closed; and
• groundwater/soil pollution that requires intervention to prevent or limit off-site impacts.

There was no need to continue listing the Directive on the geological storage of carbon dioxide as an annex III category to which the system applied because Ireland exercised its right under article 4 of the Directive not to allow any storage facilities for carbon dioxide in Ireland until further developments in the implementation of the regulatory framework under the Directive.

High risk licensees must have financial security for two types of risks; Environmental Liability Risk Assessment (ELRA) costs for unexpected incidents, and CRAMP costs for foreseen events such as closure, restoration and aftercare. Licensees are required to have financial security for the costs of preventing further damage, remediating environmental damage including pollution from incidents, closure and aftercare and, depending on the type of facility, restoration of land. The scope of financial security requirements for ELRA is similar for all licensees.

The amount of financial security for unexpected incidents under the ELRA is based on a plausible worst case scenario, that is, ‘the plausible event that poses the maximum environmental liability, i.e. consequence, during the period to be covered by the financial provision’. A factor in calculating the amount is the nature of the facility for which financial security for liabilities is required.

Although there is no legislative provision that specifies the ELD liabilities covered by mandatory financial security, all ELD liabilities (that is, preventive measures and primary, complementary and compensatory remediation) are covered by it.

The following types of financial security instruments are, in principle, acceptable to the Irish EPA for ELD and other environmental liabilities and responsibilities:

• secured fund with a first ranking fixed charge in favour of the Irish EPA;
• perpetual and on demand performance bonds with the proviso that the failure, on expiry, to renew or replace the bond with an alternative financial security is a failure by the licensee to meet its obligations;
• parent company guarantees (and guarantees from other affiliated companies) but not for the inevitable costs of closing a landfill or other facility;
• first ranking fixed charge over property in favour of the Irish EPA provided that the charge is used only for a specified percentage of the value of the property; and
• environmental insurance (which is acceptable only for ELRA incidents).

The above list specifically does not include self insurance.

Templates for financial security instruments and details of criteria to which environmental insurance must comply are set out on the Irish EPA’s website. The requirements include ring-fencing cover for ELD and other environmental liabilities so that they cannot be eroded by claims for other losses covered by the policies.

The Irish EPA may agree to accept other forms of financial security provided it is satisfied that they are secure, sufficient and available when required. Its guidance provides examples such as letters of credit, industry-sponsored mutual guarantee funds, and other group funds.

As of June 2019, most financial security provisions were bonds (36%), environmental insurance policies (25%), parent company guarantees (23%), secured funds (4%), letters of credit (3%), and charges on property (2%), with the remaining 8% composed of other financial security instruments. Due to the hybrid mandatory financial security system, these financial security instruments and mechanisms are also used for environmental responsibilities for the costs of closure, restoration and aftercare of licensed facilities so are not an indication of instruments and mechanisms only for ELD liabilities.

There is no specified amount or limit for financial security for ELD liabilities. The amount is based on the ELRA.

6.1.3. Portugal

Portugal introduced mandatory financial security (called financial guarantees) for ELD liabilities, effective on 1 January 2010, the date specified in the legislation that transposed the ELD.

The mandatory financial security system applies to all annex III operators under the ELD. In addition, all ELD liabilities (that is, preventive measures and primary, complementary and compensatory remediation) are subject to the mandatory financial security system.

The system provides for a risk assessment to be carried out by operators subject to it to determine the amount of financial security. The Portuguese Environment Agency (Agência Portuguesa do Ambiente; APA) has suggested a detailed methodology for carrying out the risk assessment whilst stating that an operator may select another methodology if it is more appropriate to the activities carried out by it and the damage that may be caused by those activities to natural resources under the ELD. The risk assessment may be carried out by the operator or persons instructed by it. The methodology suggested by the APA is set out.

The amount of financial security for an operator that is subject to the mandatory financial security system is based on the estimated costs of the measures to prevent or remediate potential environmental damage according to risks posed by the operator’s activities. The amount of required financial security may be reduced if the operator minimises the risks of environmental damage by carrying out measures to reduce them.

There are no exceptions from the mandatory financial security system.

Acceptable financial security instruments and mechanisms are:

- insurance policies;
- bank guarantees;
- environmental funds;
- own dedicated funds; and
- a combination of the above.
All the instruments and/or mechanisms must be ring-fenced against other liabilities or responsibilities including any charges or other instruments that have a higher priority than them.

The environmental funds referred to above may be established by a private initiative and may be national or international provided that the fund is reserved for the sole purpose of liabilities under the mandatory financial security system.

There are two types of ‘own funds’ indicated above, both of which must be reserved for the sole purpose of liabilities under the mandatory financial security system.

The first type is a security deposit executed for the benefit of the APA in an account indicated by it, with proof of the deposit and details of it submitted to the APA.

The second type is a reserve held in the operator’s accounts. The reserve must result from a decision of a general meeting of the operator’s Board of Directors that is formally documented in the minutes or by a statement attesting the constitution of the reserves, and must also be documented by a statement by the certified accountant or statutory auditor, stating that the company is sufficiently solvent to be able immediately to liquidate the funds in it without any restrictions. If requested by the APA, the certified accountant or the official account reviewer must validate a certification of the accounts and the audit report for all years since the constitution of the reserve.

The APA’s website includes details of each type of financial security instrument and mechanism including specific information to be included in them, limitations and other restrictions. Criteria are set out for acceptable insurance policies.

There is no specified amount or limit for financial security for ELD liabilities. The amount depends on the risk assessment carried out by an operator.

6.1.4. Slovakia

Slovakia introduced a mandatory financial security system for ELD liabilities effective on 1 July 2012.

The system applies to all operators subject to annex III of the ELD.

All ELD liabilities (that is, preventive measures and primary, complementary and compensatory remediation) are subject to the mandatory financial security system.

The amount of financial security covered by an instrument or mechanism must correspond to the estimated costs of remedial measures plus the costs of preparing an analysis of the risks and costs of remedying environmental damage that could be caused by the operator’s activity.

The Ministry of Environment has published a methodological manual for operators and state administrations on a risk assessment system for environmental damage. The methodology includes a determination of the amount of financial security as well as criteria for financial security instruments. A methodological tool, which can be used online as well as offline, is available to calculate the risk. Three annexes to the manual set out examples of an initial environmental risk assessment, selected parts of a detailed environmental risk assessment, and calculations to indicate whether a detailed environmental risk assessment must be carried out.

The first stage is preparation of an initial risk assessment. For each scenario that is assessed, the operator must make a determination whether the ‘EAI index’ for it is greater than 100. If a scenario has an EIA index that exceeds 100, the operator must carry out a detailed risk assessment. If a scenario has an EIA index that is less than or equal to 100, the operator does
not need to carry out a detailed risk assessment. If an operator must prepare a detailed environmental risk assessment, it must instruct appropriate experts to carry it out.

The detailed risk assessment must also include draft precautionary measures in the event of an incident that causes environmental damage. Further, it must include interim corrective measures with the purpose of creating appropriate measures to identify the risks, determine their degree and acceptability, and to estimate the degree of probable environmental damage. After the detailed risk assessment has been prepared, the above factors are used to determine the level of risk and to quantify it.

The next stage is determination of short- and long-term consequences of the risk including the severity of damage to land/soil, water and Natura 2000 sites under the ELD, quantification of such damage, causal links between an operator’s activity and environmental damage, assessment of the damage, and temporary and permanent losses of natural resources. In all cases, the operator must identify the worst case scenario for environmental damage from an incident. The manual notes that an operator can reduce the potential risk by, for example, installing an early warning system.

The final stage is determination of the amount and method of financial security.

There are no exceptions to the mandatory financial security system.

The costs of preventive measures must be at least 10% of the total amount in each case but may be sub-limited above that amount.

Acceptable financial security instruments are an insurance policy and appropriate contractual arrangements such as a bank guarantee or a dedicated account.

There is no specified amount or limit for financial security for ELD liabilities. The amount depends on the risk assessment carried out by an operator.

6.1.5. Spain

Spain led the EU in the introduction of a mandatory financial security system for ELD liabilities. The system was introduced on 23 October 2007 in the legislation that transposed the ELD into Spanish law. The legislation stated that the date of entry into force of mandatory financial security would be determined by ministerial orders that would be approved from 30 April 2010 onwards. In 2008 a Royal Decree set out the requirements for the methodology to determine the amount of mandatory financial security as well as specifications for the form of acceptable financial security instruments.

The mandatory financial security system originally applied to all annex III operators under the ELD.

On 13 March 2015, the Spanish Government reduced the categories to the following (item number of annex III of the ELD in parentheses):

- all activities subject to the Industrial Emissions Directive (item 1);
- the storage of chemicals subject to the Seveso III Directive but not all other activities listed under item 7 (item 7); and
- the management of mining waste but only if the mining waste is classified as category A (item 13).

The mandatory financial security system is being phased in. Higher risk activities (priority 1) were phased in first, followed by priority 2, and finally priority 3.

In 2017, the date for priority 1 activities was established as 31 October 2018, and for those classified as priority 2, 31 October 2019. On 10 October 2019, the Government established
the date for priority 3 activities as 16 October 2021, except for the intensive rearing of poultry or pigs, for which the effective date is 16 October 2022.

The system requires mandatory financial security only for the costs of preventive measures and primary remediation under the ELD. It does not require financial security for complementary or compensatory remediation.

Operators subject to the system must carry out an environmental risk assessment and submit a report based on it to the relevant competent authority. If specified criteria exceed thresholds, the operator must have financial security in an amount not less than the minimal amount specified in the report. The Spanish Government has published a detailed methodology for the risk assessment and has provided online tools for it.

The detailed methodology consists of the following:

1. identification of risk scenarios and their probability;
2. calculation of the cost of primary remediation by estimating an Environmental Damage Index (IDM) for each risk scenario;
3. ranking of the scenario in terms of the IDM and probability of damage;
4. selection of the scenarios with the lowest environmental damage that account for 95% of the total;
5. quantification of the primary remediation costs of the environmental damage associated with the scenarios with the highest IDM; and
6. addition of the costs of preventive measures, which must be at least 10% of the costs of the primary remediation measures.

The figure obtained by the methodology is the amount of the mandatory financial security.

The methodology may be used to monetise the costs of complementary and compensatory remediation measures as well as primary remediation measures.

Exemptions to the system exist for the following operators:

- operators of sites for which the cost of any primary remediation does not exceed EUR 300,000 pursuant to a verified environmental risk assessment that has been carried out according to the guidelines in UNE Standard 150,008 or equivalent rules;
- operators for which a verified environmental risk assessment shows that the cost of any remedial works would be between EUR 300,000 and EUR 2,000,000 and the operator has an EMAS or ISO 14001 certification; and
- operators that use specified plant protection products and biocides for agricultural and forestry purposes.

In addition, the following public bodies are exempt from the mandatory financial security requirements: General State Administration and public bodies linked to or dependent on it; local governments and any public law bodies dependent on them; and regional bodies and any public law bodies dependent on them.

Acceptable financial security instruments are:

- an insurance policy;
- a guarantee from a financial institution (including a bank, savings bank, credit union, or reciprocal guarantee company);
- an ad hoc fund consisting of a technical reserve of financial investments backed by the public sector; and
- a combination of any of the above.
The instruments and mechanisms are subject to specific details, limitations and other restrictions including a requirement that they must be ring-fenced from other risks and not be pledged or mortgaged either in part or in whole.

If the financial security is in the form of a technical reserve, the operator may establish it up to five years after the financial guarantee is required. Until that date, the operator must have financial security by either insurance or a guarantee from a financial institution. The technical reserve must be reflected in the operator’s accounts in a specified account. Money withdrawn from the reserve to remediate environmental damage must be replaced. The competent authority may require the operator to provide documentation that the reserve has been established and its amount. The reserve does not have priority over any other debts of the operator. If the operator was to become insolvent, the reserve becomes part of the insolvency estate and subject to demands by creditors.

A guide published by the Ministry for the Ecological Transition and the Demographic Challenge (Ministerio para la Transición Ecológica y el Reto Demográfico) sets out a model insurance certificate that an insurer may provide to the relevant competent authority to confirm that the policy complies with the mandatory financial security requirements. Annex III also sets out detailed specifications for insurance policies that satisfy the mandatory financial security requirements.

The limit of mandatory financial security is EUR 20,000,000. All claims from the same emission, event or incident are deemed to be one event regardless of the number of persons affected and the time at which the claims are made.

There is no specified amount or limit for financial security for ELD liabilities. The amount depends on the risk assessment carried out by an operator subject to the above amounts.

6.2. Mandatory financial security provisions for ELD liabilities

Italy and Poland have introduced mandatory financial security for ELD liabilities for some activities either directly or indirectly by legislative provisions. Neither Member State has introduced a mandatory financial security system specifically for ELD liabilities.

6.2.1. Italy

Italy indirectly requires financial security for some ELD liabilities.

First, the legislation that implements the ELD states that a person against whom the Ministry of the Environment (Ministero dell’ambiente) has initiated procedures to reclaim and remediate environmental damage at National Interest Priority Sites (historically contaminated sites subject to State control) or has taken related judicial action can make a settlement proposal that includes an indication of appropriate financial guarantees. The intent appears to be that the financial guarantees must include the costs of primary, complementary and compensatory remediation measures under the ELD.

Second, traders of waste and brokers of waste that do not hold the waste themselves must have financial security for expenses directly or indirectly inherent in or connected with the transportation and disposal of waste, safety measures (including their implementation), remediation, restoration of installations and contaminated areas. The legislation (which is not the legislation that implements the ELD) states that the financial guarantees can be used, without prejudice to the overall maximum limit of the guaranteed amount, for the restoration of further damage to the environment pursuant to the legislation that implements the ELD.
6.2.2. Poland

Poland has introduced mandatory financial security for ELD liabilities for the following activities: the operation of a landfill, waste collection and waste processing, and specified integrated permits.

First, Polish legislation requires the operator of a landfill to have financial security for liabilities under the ELD. These requirements are in addition to the requirement in the Landfill Directive to have financial security for obligations under the permit for the landfill.

Second, holders of integrated permits that include authorisation for waste collection and/or waste processing activities must also have financial security for ELD liabilities.

Third, holders of an integrated permit, a permit for gas or dust releases into the ambient air, and/or a permit for generating waste must have financial security for ELD liabilities if the relevant competent authority concludes that there is a particularly important social interest related to environmental protection, in particular the risk of substantial deterioration of the state of the environment.

The financial security instruments acceptable for all three of the above categories of activities are: a bank deposit in a dedicated account, a bank guarantee, an insurance guarantee, and an insurance policy. The bank guarantee, insurance guarantee and insurance policy must be submitted to the competent authority for approval.

Also, as indicated in section 5.2.3 above, Polish law specifically states that an operator of an underground storage facility for carbon dioxide must have financial security for ELD liabilities as well as decommissioning the related mining facility. The operator must also have a civil liability insurance policy (civil liabilities are claims for bodily injury and property damage).

6.3. Mandatory financial security for ex post environmental damage

Article 8(2) of the ELD states that:

the competent authority shall recover, inter alia, via security over property or other appropriate guarantees from the operator who has caused the damage or the imminent threat of damage, the costs it has incurred in relation to the preventive or remedial actions taken under this Directive.

There is an exception from article 8(2) if the costs of doing so are greater than the amount to be recovered or if an operator has a ‘defence’ to liability for preventing or remediating an imminent threat of, or actual, environmental damage because the damage was:

- caused by a third party and occurred despite appropriate safety measures being in place;
- resulted from compliance with a compulsory order or instruction by a public authority except for an order or instruction due to an emission or incident caused by the operator’s own activities;
- the permit defence applies if it has been adopted by the Member State; or
- the state-of-the-art defence applies, again if it has been adopted by the Member State.

Article 8(2) clearly imposes an obligation on competent authorities of Member States to require ‘appropriate guarantees’ from an operator to cover costs incurred by the competent authority in carrying out preventive or remedial measures. 362

It is questionable, however, whether article 8(2) is solely an *ex post* requirement; that is, whether it requires an operator to have the appropriate guarantees before, or only after, environmental damage has occurred.\(^{363}\)

That is, does article 8(2) require an operator to have appropriate guarantees:

- for measures that the operator or the competent authority may carry out in the event of potential environmental damage caused by the operator (in which case the requirement may be for the operator to have the guarantees before or after the environmental damage); or
- for measures that the competent authority carries out after environmental damage (in which case the operator is not required to have the guarantees before the environmental damage and would not be required to have them after it either if the operator, not the competent authority, carries out the measures)?

The research into the transposition of article 8(2) by Member States indicates that the overwhelming majority of Member States do not require an operator to have financial security before potential environmental damage that the operator may cause or in the event that the operator, not the competent authority, remediates the damage.

National legislation, if any, that transposes article 8(2) of the ELD is briefly described below. In addition, this section examines the financial security instruments that are acceptable to Member States to comply with article 8(2) and, as appropriate, further details of the requirements.

All the following descriptions assume that the competent authority requires an operator that has caused an imminent threat of, or actual, environmental damage to provide evidence of financial security for costs that the competent authority has incurred unless noted otherwise. More details are provided in section 8 of the Member State reports.

### 6.3.1. Austria

Austrian law requires an operator that has caused environmental damage under the ELD to provide evidence of financial security for the costs of measures to remediate the damage if a competent authority carries out such measures. Austrian law does not require an operator that has caused environmental damage to provide evidence of financial security to ensure that the measures to remediate it are carried out by the operator.

Financial security instruments that are acceptable in Burgenland, Carinthia, Styria, Tyrol, Upper Austria and Vienna must be in rem, that is, they must relate to real, not personal, property.

In Lower Austria, the instruments may be in rem or in cash or a deposit account that is not subject to transfer restrictions with a financial institution registered in the EU or in a manner that requires the institution to pay the security in the event of default.

Salzburg has the same requirements as Lower Austria but states that the deposit account may be with a financial institution with a registered office or branch in Austria, another Member State, or a contracting State of the European Economic Area Agreement. In addition, the above financial security instruments may be in an institution that undertakes, as a guarantor and payor, to pay the costs. The costs of the remedial measures must be a priority of the security in all the financial security instruments.

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\(^{363}\) Ibid 157
The Federal State simply refers to ‘financial security or other appropriate guarantee’.
The legislation that implements the ELD in Vorarlberg does not mention financial security.

6.3.2. **Belgium**

Only the Federal State in Belgium requires an operator to have financial security for *ex post* environmental damage when an operator carries out remedial measures itself. The reference to Protection and Indemnity Clubs (see directly below) may limit such requirements to marine operations.

The Federal State, the Walloon Region and the Flemish Region are more specific than the Brussels-Capital Region, as indicated below.

**Brussels-Capital Region:** the legislation simply refers to ‘security over property or other appropriate guarantees’.

**Federal State:** acceptable financial security instruments are an appropriate bank guarantee granted by a bank established in Belgium or an appropriate guarantee declared admissible by the authorities and signed by a Protection and Indemnity Club.

**Walloon Region:** acceptable financial security instruments are a guarantee (caution), an irrevocable guarantee provided by a financial institution, a sum deposited with the *Caisse de dépôt et de consignation*, a deposit (cautionnement), or a mortgage.

**Flemish Region:** acceptable financial security instruments are a *contrainte* or *dwangbevel* endorsed by the competent authority and declared enforceable. The *contrainte* is notified to the operator, which may lodge an objection. If the responsible operator does so, the objection has suspensive effect. On the basis of the enforceable *contrainte*, the Flemish Region has the benefit of a general lien or other security over property on the responsible operator’s real estate and may also burden its property (located in the Flemish Region) with a legal mortgage. The Flemish Government may also agree to accept other forms of financial security.

6.3.3. **Bulgaria**

Bulgaria has imposed financial security for *ex post* environmental damage as follows.

An operator that carries out specified items under annex III of the ELD may submit an insurance policy in the amount of BGN 50,000 (EUR 25,555) to the Ministry of Environment and Water (*Министерство на околната среда и водите;* MoEW) within seven days after placement of the policy. The policy must name the MoEW as beneficiary and must provide cover for the risk of creating an imminent threat of, or actual, environmental damage under the ELD.

The requirement applies to the following items in annex III of the ELD (items in parentheses):

- operations subject to the Industrial Emissions Directive (item 1);
- waste operations (item 2);
- discharges into inland waters (items, 3, 4 and 5);
- manufacture, use, storage, processing, filling and release of chemical substances (item 7); and
- management of extractive waste (item 13).

If a responsible operator does not submit such an insurance policy and its activities subsequently cause environmental damage, it must provide financial security to the MoEW in the form of (1) an insurance policy, (2) a bank guarantee, (3) a mortgage or real rights over real estate, or (4) a pledge of receivables, personal property or securities. The financial
security must cover the costs of measures to prevent and/or remediate the environmental damage.

6.3.4. **Croatia**

If an operator does not remediate environmental damage in compliance with an approved Restoration Programme by the deadline specified by the Ministry of Environment and Energy of the Republic of Croatia (*Ministarstvo zaštite okoliša i energetike Republike Hrvatske*), the Ministry shall implement the restoration programme by a third party at the expense and liability of the operator.

In such a case, the Ministry may impose a lien over a responsible operator’s movable and immovable property. The lien is registered in a competent land registry court. Remediation costs are deemed to be costs of the bankruptcy procedure if the liable operator has become bankrupt.

6.3.5. **Cyprus**

The legislation that implements the ELD in Cyprus simply refers to security over property or other appropriate guarantees.

6.3.6. **Czech Republic**

There are no requirements for *ex post* financial security for ELD liabilities in the Czech legislation that implements the ELD. Such requirements are, however, covered by the mandatory financial security system for ELD liabilities provided that the system applies to a responsible operator and further provided that the responsible operator is not exempt from the system (see section 6.1.1 above and the Member State report for the Czech Republic).

6.3.7. **Denmark**

A responsible operator must provide financial security to the Ministry of Environment and Food (*Miljø- og Fødevareministeriet*) to cover its obligations under the legislation that implements the ELD. The amount of the security, which is to be decided by the Ministry, includes the authority’s costs of administering the legislation, carrying out any preventive and remedial measures under it, and carrying out any relevant investigations. The legislation states that the Ministry shall issue rules on the provision of security, including apportionment of the obligation to provide it when several persons are responsible for the environmental damage, the calculation of, and subsequent adjustment of the amount of the security, and its release. The Ministry had not issued the rules when this report was published.

The responsible operator may appeal a notice or decision requiring the provision of financial security. If the responsible operator does so, the notice or decision is suspended unless the Minister for Environment or the appeals body decides otherwise.

If, during proceedings, the responsible operator cannot provide all of the financial security, the case is dealt with under the rules of the legislation under which the decision that an imminent threat of, or actual, environmental damage was made. If, during proceedings, the responsible operator can provide only part of the financial security, the case is dealt with under the rules of the same legislation to the extent that the security cannot be provided.

Acceptable financial security instruments are not specified in the legislation. However comments to the relevant section in the proposed law state that ‘the security must be provided as a sort of security over property or other appropriate guarantees. Insurance will after a concrete assessment be able to be an appropriate instrument for security.’
6.3.8. Estonia

If the Environmental Board (Keskkonnaamet) incurs costs in preventing or remediating environmental damage, it issues a payment notice to the responsible operator that includes a calculation of the costs. The responsible operator must pay the costs by the deadline indicated for payment. If the operator fails to do so, interest for the overdue sum is calculated at the rate of 0.06% per day.

Payment of the costs may be staggered for a period of up to 10 years by consultation and agreement between the Board and the Ministry of Finance. Staggering the payment incurs interest at the rate of 0.03% per calendar day, with interest suspended if the responsible operator declares bankruptcy.

If the Board allows payment to be staggered, it may require the responsible operator to submit evidence of financial security for their repayment. The Board does not do so if the responsible operator is bankrupt and its debt is staggered for the purpose of making a compromise in the bankruptcy proceedings.

Factors considered by the Board in allowing staggering include the responsible operator’s financial situation and economic indicators, prior performance of its obligations to pay costs and environmental charges, and the practicality of staggering the payment.

The Board may refuse to grant an application to stagger payment of costs if, among other things, the responsible operator

fails to provide the required security or the Board does not consider the security provided to be sufficient, trustworthy or easily marketable, or if the formalisation of the security will result in excessive administrative costs.

The Board may also stagger them if

upon consideration of a compromise proposal made by a debtor in bankruptcy proceedings, the Board finds that the financial situation of the debtor does not allow for the performance of the obligations assumed under the compromise either.

Acceptable financial security instruments for payment of staggered costs are: a pledge, with preference given to a mortgage of the first ranking or a registered security over movables; the guarantee of a credit or financial institution or insurer; a security deposit; and a notarial deposit. If a mortgage is established, the owner of the immovable must agree to immediate compulsory enforcement for settlement of the claim secured by the mortgage.

The value of the financial security must be at least 115% of the sum that is payable in instalments. The competent authority may require the financial security to be increased or replaced if it is no longer adequate to ensure repayment. The priority for the payment of costs is late interest, interest beginning with the earliest payment, and finally the costs to be paid.

A regulation of the Minister of the Environment sets out the procedure for submitting, using, increasing, replacing or releasing a security.

6.3.9. Finland

The legislation does not include provisions for charges on land or other types of ex post financial security.

6.3.10. France

The French Environmental Code provides that, regardless of any criminal proceedings, if a person fails to comply with requirements applicable to the Code in respect of the operation
of facilities or structures, the use of objects or devices, or works, operations, activities or facilities, the relevant competent administrative authority may issue a notice to require that person to comply with them within a specified time period. In the event of an emergency, the notice sets out, by the same act or by a separate act, the necessary measures to prevent serious and imminent danger to human health, public safety or the environment.

If, at the end of the specified time, the responsible operator does not carry out the required measures, the competent authority may impose one or more administrative sanctions. One such sanction requires the person to place funds that cover the works or operations that must be carried out with a public accountant before a date determined by the corresponding administrative authority.

6.3.11. Germany

Germany has not enacted legislation for ex post mandatory financial security for remediating environmental damage under the ELD.

6.3.12. Greece

There are no legislative provisions that specifically require ex post mandatory financial security for liabilities under the ELD in Greece.

The legislation that implements the ELD in Greece provides that a competent authority may recover, through insurance coverage or other financial guarantees, costs incurred by the authority in relation to preventive and remediation measures carried out by the authority. The legislation sets out procedures for determining the amount of the costs.

The legislation links the ex post financial security provisions to the ex ante financial security provisions mandated by the legislation that implements the ELD. Greece had not brought these provisions, that is, the provisions to establish a mandatory financial security system for ELD liabilities, into force when this report was published.

The legislation presupposes that an annex III operator will have mandatory financial security in place if the operator causes an imminent threat of, or actual, environmental damage. The legislation further provides that, in such a case, the competent authority will recover any costs incurred by it from the insurance policy or other financial guarantee in place.

6.3.13. Hungary

The legislation that transposed the ELD into Hungarian law sets out detailed provisions for ex post financial security. In essence, the requirements prohibit a responsible operator from disposing of any property on which it has caused environmental damage or agreeing to the placement of any mortgage or other encumbrance on it until the environmental damage has been remediated.

If public funds have been used to pay for remediation measures, the competent authority shall file a lien on the property and prohibit its disposal or any encumbrance on it. If the properties owned by the responsible operator are insufficient to cover the amount spent by the government, the competent authority shall file a lien on the responsible operator’s movable assets. There is a time limit of five years for the responsible operator to repay any public monies from the date of the end of the remediation or identification of the responsible operator, whichever occurs first.
6.3.14. Ireland

There are no \textit{ex post} requirements for an operator who has caused environmental damage under the ELD or other environmental laws to obtain financial security for the costs of remediating that damage. There is no need for such requirements provided, however, that the mandatory financial security system applies to the responsible operator, in which case it will already have financial security for the costs of preventive and remedial measures.

Further, if environmental damage such as polluted land or groundwater has resulted in a potential liability that must be addressed during closure of a licensed site, specific licence conditions concerning remediation, which would include remediation required as a result of the event, and associated financial provision would be triggered. This can act as an incentive to a licensee to prevent or remediate any environmental damage as soon as practicable in order to reduce the cost of financial security for such remediation.

6.3.15. Italy

The legislation that implements the ELD in Italy does not contain any provisions that specifically require an operator that has caused environmental damage under the ELD to have financial security for the costs of preventing or remediating the damage.

Other legislation authorises the Minister for Environment and the Protection of the Territory and the Sea (\textit{Ministro dell'ambiente e della tutela del territorio e del mare}) to recover, among other things ‘security over property or bank guarantees payable on first demand and excluding the benefit of prior enforcement’ from a responsible operator. That is, the Minister can only recover the costs from an operator after (not before) the State has incurred the preventive or remediation costs.

Further legislation authorises the Minister to require a person that has caused environmental damage to pay the financial equivalent of the expected costs of preventive or remedial measures before carrying them out. The provision applies:

- only when the adoption of the remedial measures is wholly or partially omitted, or in any case incomplete or inconsistent with the prescribed terms and conditions. [In such a case] the Minister of the Environment determines the costs of the activities necessary to achieve complete and correct implementation and takes action against the [liable person] to obtain payment of the corresponding amounts.

The legislation that implements the ELD in Italy states that:

- the person, against whom the Ministry of the Environment has initiated the procedures for the reclamation and repair of the environmental damage of National Interest Priority Sites ... or has undertaken the related judicial action, can make a settlement proposal ... the settlement proposal includes an indication of appropriate financial guarantees.

6.3.16. Latvia

The legislation that, among other things, implements the ELD, provides that a competent authority shall recover the costs of its preventive, emergency and remedial measures from an operator whose activities have caused environmental damage in accordance with procedures specified in the Civil Procedure Law.

The legislation does not specifically provide for charges on land or other appropriate guarantees to ensure that the competent authority is reimbursed.
6.3.17. Lithuania

The legislation that implements the ELD in Lithuania does not include any provisions concerning charges on land or other types of financial security for environmental damage.

6.3.18. Luxembourg

The legislation that implements the ELD in Luxembourg states that subject to mandatory and optional defences:

the competent authority shall recover, inter alia, via security over property or other appropriate guarantees from the operator who has caused the damage or the imminent threat of damage, the costs it has incurred in relation to the preventive or remedial actions taken under these regulations.

The above provision is materially the same as article 8(2) of the ELD.

6.3.19. Malta

The legislation that implements the ELD in Malta states that:

the competent authority shall recover, inter alia, via security over property or other appropriate guarantees from the operator who has caused the damage or the imminent threat of damage, the costs it has incurred in relation to the preventive or remedial actions taken under these regulations.

The above provision is largely a copy out of article 8(2) of the ELD.

6.3.20. Netherlands

The legislation that implements the ELD in the Netherlands does not mention charges on land or financial security after environmental damage has occurred.

6.3.21. Poland

The legislation that implements the ELD in Poland provides that a competent authority may carry out preventive or remedial measures when it cannot identify the person that caused the environmental damage or the responsible person does not otherwise carry them out adequately, and it is necessary to carry them out due to the risk of harm to human health or the environment.

The legislation further provides that:

The provisions of Section III of the [Tax Act] shall apply accordingly to receivables arising out of the obligation to pay costs of preventive or remedial actions, however the environmental protection authority shall have the rights of tax authorities.

The Tax Act provides that members of the management board of a limited liability company, a limited liability company in organisation, a joint stock company or a joint stock company in organisation are jointly and severally liable for tax arrears under specified circumstances.

That is, a competent authority may seek reimbursement from a responsible operator of the costs of preventive and remedial measures carried out by it in the same manner as tax obligations.

6.3.22. Portugal

The legislation that implements the ELD in Portugal provides that ‘the competent authority shall require the operator, inter alia via security over property or other appropriate
guarantees, to pay the costs it has incurred for the preventive or remedial measures adopted under this decree-law’. This is materially the same language as in the ELD.

6.3.23. Romania

The legislation that implements the ELD in Romania states that the Environmental Protection Agency (Agentia pentru Protectia Mediului; APM) ‘shall recover, inter alia, via security over property or other appropriate guarantees from the operator (garnishment) who has caused the damage or the imminent threat of damage, the costs it has incurred in relation to the preventive or remedial actions’ set out in it. This is nearly identical language to section 8(2) of the ELD. The legislation further provides that the registration of the security over property shall be noted in the Land Registry Office. The APM may register the garnishment in the Electronic Archive for Security Interests in Movable Property.

That is, the APM may require a responsible operator to provide financial security for costs incurred by the APM in carrying out measures to prevent or remediate environmental damage. The APM may do so by creating a mortgage on real property owned by the operator as well as creating a garnishment on the operator’s bank account.

6.3.24. Slovakia

There are no requirements for ex post financial security for ELD liabilities in Slovakia with the caveat that Slovakia has introduced ex ante mandatory financial security for ELD liabilities. Thus an operator would have financial security for ELD liabilities provided the operator is subject to the mandatory financial security requirements.

6.3.25. Slovenia

The legislation that, among other things, implements the ELD in Slovenia established mandatory financial security on a responsible operator in the form of a lien on the operator’s property as well as a bank guarantee or insurance in favour of (now) the Ministry of the Environment and Spatial Planning (Ministrstvo za okolje in prostor). The operator must have financial security in the form of a bank guarantee or insurance whether or not the operator or the Ministry carries out the remedial works. If the operator carries out the works, the Ministry releases the financial security.

The legislation does not specify whether the lien may be on any property owned by the operator, or whether it must be on the property that is being remediated.

6.3.26. Spain

The legislation that implements the ELD in Spain does not contain any provisions that specifically require a responsible operator to have financial security for the costs of remediating the damage. There is no need for it to do so provided, however, that the mandatory financial security system applies to the operator, in which case a responsible operator would already have financial security for the costs of preventive and remedial measures.

The legislation that implements the ELD sets out procedural rules for the enforcement of environmental liability including providing details of the content of orders to an operator that has caused environmental damage to remediate that damage.

The legislation specifies ‘performance guarantees and any other guarantees that help to ensure the effectiveness and feasibility of the measures’. It refers, however, only to an agreed
settlement during the administrative procedure; it is not a mandatory financial security requirement.

A competent authority can require a responsible operator to provide evidence of financial security for the costs of remediating it if the operator does not already have financial security (that is, if the operator is not subject to the financial security system for ELD liabilities). In addition, a competent authority can require such an operator to provide security over property or another means of financial security to cover the reimbursement of costs incurred by the competent authority in remediating environmental damage.

6.3.27. **Sweden**

Provisions of the Environmental Code, which includes the legislation that implements the ELD, contains provisions concerning supervision for the purpose of overseeing compliance with the requirements set out in the Code and legislation issued under it, as well as the requirements set out in permits. The term ‘supervision’ is broad and covers inspection, enforcement and issuing guidelines.

To supplement the supervision by authorities, operators of environmentally hazardous activities are required to conduct self-monitoring. The operator pays charges and fees for supervision carried out by the supervisory authorities according to provisions in the Environmental Code and related legislation.

General provisions of the Environmental Code state that the validity of a permit, approval or exemption under the Code or rules pursuant to it may be subject to a requirement that a person who intends to carry out an activity that is subject to an appeal must provide financial security for the costs of remediation and any other necessary remediation measures.

An exemption from the requirement exists for the State, municipalities, county councils and associations of municipalities, as well as persons required to pay a fee or lodge a security for specified waste products from nuclear activities.

6.3.28. **United Kingdom**

The regulations that implement the ELD in England authorise a competent authority to serve a notice on a responsible person that owns premises. The costs and interest accrued pursuant to the notice are a charge on the premises. Wales and Northern Ireland have identical regulations to those of England. The regulations do not require an operator that has caused an imminent threat of, or actual, environmental damage to provide mandatory financial security. The charge on the premises is required only if the competent authority has carried out measures to prevent or remediate environmental damage and seeks security for reimbursement of the costs incurred in doing so.

There is no equivalent provision in legislation in Scotland.

6.4. **Comparison and analysis of ex post financial security**

One Member State (Bulgaria) has a hybrid system for *ex post* mandatory financial security that provides an option to operators to have financial security in the event of a potential ELD incident. If the operator does not do so and it causes an imminent threat of, or actual, environmental damage, it must obtain financial security to cover the costs of preventing or remediating it.

Three Member States (France, Hungary and Slovenia) require a responsible operator to have financial security for carrying out measures to remediate environmental damage caused by
the operator regardless whether the operator or the competent authority carries out the measures.

Ireland requires financial security for the remediation of contamination under its hybrid mandatory financial security system.

The requirement to have financial security for remediating environmental damage after it has been caused is not unique. RCRA and CERCLA require businesses that have caused damage from hazardous waste and hazardous substances, respectively, to have financial security to ensure that they have funding to remediate it if ordered to do so (see sections 5.1.5 and 5.1.6 above).

As stated by the US EPA in respect of the requirement under CERCLA:

> Financial assurance requirements in CERCLA enforcement documents protect human health and the environment by ensuring the availability of adequate financial resources to conduct site cleanups. In the event PRPs become unwilling or unable to complete their work obligations, this [financial assurance] allows [the US EPA] or other parties to perform such work without using limited Superfund resources. ... PRPs can meet these [financial assurance] requirements in several different ways. Especially given the multi-year timeline of many Superfund cleanups, [they] provide an invaluable safeguard against the effect of financial distress that PRPs may experience over that time period. In this way, these [financial assurance] requirements ensure that PRPs—and not public funding sources—bear the financial burden of completing Superfund cleanups, and thereby both protect limited Superfund resources and accomplish the ‘polluter pays’ principle underpinning of CERCLA.364

Clean ups under RCRA and CERCLA may be – and frequently are – carried out over many years. This may not necessarily be the case for all ELD incidents but it is certainly the case for some of them.

6.4.1. Requirement to have financial security

The French Environmental Code includes general provisions under which a competent authority may issue a notice that requires a person that fails to comply with requirements applicable to the Code in respect of, among other things, the operation of facilities or structures, to carry them out by a specified date. If the responsible operator does not do so, the authority may, among other things, require the person to place funds that cover the works or operations that must be carried out with a public accountant before a date determined by the corresponding administrative authority.

The legislation that transposed the ELD into Hungarian law sets out detailed provisions for ex post mandatory financial security. In essence, the requirements prohibit a responsible operator from disposing of any property on which it has caused environmental damage or agreeing to the placement of any mortgage or other encumbrance on it until the environmental damage has been remediated.

The Slovenian legislation that, among other things, implements the ELD established mandatory financial security on a responsible operator in the form of a lien on the operator’s property as well as a bank guarantee or insurance in favour of (now) the Ministry of the

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Environment and Spatial Planning. The operator must have financial security in the form of a bank guarantee or insurance whether or not the operator or the Ministry carries out the remedial works, with the financial security requirement released if the operator carries out the works.

6.4.2. Discretion to require financial security

In Bulgaria, an operator that carries out specified items under annex III of the ELD may submit an insurance policy in the amount of BGN 50,000 (EUR 25,555) to the competent authority within seven days after placement of the policy. The policy must name the competent authority as beneficiary and must provide cover for the risk of creating an imminent threat of, or actual, environmental damage under the ELD.

The requirement applies to the following items in annex III of the ELD (items in parentheses):

- operations subject to the Industrial Emissions Directive (item 1);
- waste operations (item 2);
- discharges into inland waters (items 3, 4 and 5);
- manufacture, use, storage, processing, filling and release of chemical substances (item 7); and
- management of extractive waste (item 13).

If a responsible operator does not submit such an insurance policy and its activities subsequently cause environmental damage, it must provide financial security to the competent authority in the form of (1) an insurance policy, (2) a bank guarantee, (3) a mortgage or real rights over real estate, or (4) a pledge of receivables, personal property or securities. The financial security must cover the costs of measures to prevent and/or remediate the environmental damage.

6.4.3. Acceptable financial security instruments and mechanisms

Acceptable financial security instruments and mechanisms in the Member States for ex post financial security are as follows:

- Austria: financial security must relate to real, not personal property except in Lower Austria and Salzburg (includes cash or a deposit account), with the Federal State referring simply to ‘financial security or other appropriate guarantee’;
- Belgium: (depending on the region or the Federal State: bank guarantees, a deposit, a mortgage, general lien or other security over property, with the Brussels-Capital Region simply referring to ‘security over property or other appropriate guarantees’;
- Bulgaria: an insurance policy, a bank guarantee, a mortgage or real rights over real estate, or a pledge of receivables, personal property or securities, if the operator has not already submitted an insurance policy before the damage occurs;
- Croatia: a lien registered in a competent land registry court;
- Cyprus: refers to ‘security over property or other appropriate guarantees’;
- Czech Republic: no instruments specified; has a mandatory financial security system for ELD liabilities;
- Denmark: not specified but the proposed law (that was subsequently enacted) stated that ‘the security must be provided as a sort of security over property or other appropriate guarantees. Insurance will after a concrete assessment be able to be an appropriate instrument for security’;
- Estonia: detailed provisions that specify the following financial security instruments if the competent authority agrees to payment by staggered costs: a pledge, with preference given to a mortgage of the first ranking or a registered security over
movables; the guarantee of a credit or financial institution or insurer; a security deposit; and a notarial deposit;

- Finland: not mentioned;
- France: placing funds with a public accountant;
- Germany: not mentioned;
- Greece: insurance or other financial guarantees with details to be provided in legislation to introduce \textit{ex ante} financial security under the ELD;
- Hungary: a lien on the responsible operator’s real property and, if this is insufficient, a lien on its movable assets;
- Ireland: no instruments specified; has a mandatory financial security system;
- Italy: non-ELD legislation that applies to the legislation implementing the ELD requires security over property or bank guarantees payable on first demand and excluding the benefit of prior enforcement'; with a competent authority to require a responsible operator that has not completed preventive or remedial measures to pay the costs of completing them;
- Latvia: refers to procedures specified in the Civil Procedure Law;
- Lithuania: not mentioned;
- Luxembourg: simply refers to ‘security over property or other appropriate guarantees’;
- Malta: simply refers to ‘security over property or other appropriate guarantees’;
- Netherlands: not mentioned;
- Poland: a competent authority may seek reimbursement from a responsible operator of the costs of preventive and remedial measures carried out by it in the same manner as tax obligations;
- Portugal: simply refers to ‘security over property or other appropriate guarantees’ but has a mandatory financial security system for ELD liabilities;
- Romania: mortgage or garnishment;
- Slovakia: no instruments mentioned; has a mandatory financial security system for ELD liabilities;
- Slovenia: a lien on the operator’s property and a bank guarantee or insurance in favour of the Ministry of the Environment and Spatial Planning;
- Spain: no instruments mentioned; has a mandatory financial security system for ELD liabilities;
- Sweden: the Environmental Code, which includes the legislation that implements the ELD, refers to ‘supervision’ by competent authorities to ensure compliance with requirements in the Code, which term covers inspection, enforcement and issuing guidelines; the operator pays charges and fees for such supervision; and
- United Kingdom: charge on the premises (in England, Wales and Northern Ireland) with the legislation in Scotland not referring to \textit{ex post} mandatory financial security.

The mandatory financial security systems of the Czech Republic, Ireland, Portugal, Slovakia and Spain only require \textit{ex post} financial security if operators that cause an imminent threat of, or actual, environmental damage are subject to the system and are not excluded under it.
7. FINANCIAL SECURITY REQUIREMENTS UNDER EU LEGISLATION

Chapter 7 examines financial security requirements for environmental liabilities and responsibilities under EU legislation in individual Member States.

The chapter is structured as follows.

First, the chapter examines financial security instruments in each Member State that are considered to be acceptable under requirements in EU environmental legislation that mandates them, that is, the Landfill Directive, the Extractive Waste Directive and the Directive on the geological storage of carbon dioxide.

The chapter then compares and analyses the various requirements.

The purpose of examining the above financial security requirements and financial security instruments and mechanisms is because any mandatory financial security system that is introduced for ELD liabilities must take account of the existence of financial security requirements for environmental responsibilities under the Landfill Directive and the Extractive Waste Directive as well as mandatory financial security for environmental liabilities and responsibilities under the Directive on the geological storage of carbon dioxide.

7.1. Financial security for national liabilities and responsibilities

The financial security instruments that are considered to be acceptable to Member States under their legislation that implements the Landfill Directive, the Extractive Waste Directive and the Directive on the geological storage of carbon dioxide are indicated below.

The Member State reports contain much more detailed discussions on the requirements themselves including details of the instruments and mechanisms, limitations on providers (such as location and authorisation to carry out business), the wording of financial security instruments, as well as protection from the insolvency of an operator in respect of some Member States.

Some Member States, such as Finland and Ireland, have published guidance on the types of acceptable financial security instruments and descriptions of them.

7.1.1. Landfill Directive

The following financial security instruments and mechanisms are acceptable for each Member State under the legislation implementing the Landfill Directive.

- **Austria**
  
  Bank guarantees
  
  A declaration of liability (for operators that are local authorities or water or waste associations)

- **Belgium**
  
  Flemish Region: insurance policies, bank guarantees, other personal or business security, or a combination of them
  
  Walloon Region: a deposit at the *Caisse des dépôts et consignements*; bank guarantees, any other form of security that the Government determines, and a cash payment
  
  Brussels-Capital Region: simply refers to financial security or an equivalent
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- **Bulgaria**
  Monthly deposits into a bank account for the funds of the director of the relevant competent authority or into a dedicated bank account, bank guarantees in favour of the above director
  Specific financial security instrument applicable to municipalities that operate landfill sites

- **Croatia**
  Financial security or other equivalent financial instrument issued by a credit institution, an insurance company and the Environmental Protection and Energy Efficiency Fund

- **Cyprus**
  Bank guarantees and insurance policies

- **Czech Republic**
  A financial reserve, the funds in which must be transferred into a dedicated bank account on the last day of each month, with the legislation providing detailed provisions

- **Denmark**
  Bank guarantees, insurance policies and dedicated bank accounts
  A competent authority may also authorise other types of financial security instruments and mechanisms including the deposit of valuables other than cash (such as securities and a mortgage on real property) subject to conditions for its acceptance of them
  A guarantee of the current status of a municipality that is an operator, subject to approval by the competent authority

- **Estonia**
  Insurance policies and a written confirmation from an Estonian or international credit or financial institution confirming the existence of the financial security instrument

- **Finland**
  Bank guarantees, insurance policies, and pledged deposits

- **France**
  The written commitment of a credit institution, a finance company, an insurance company or a mutual bonding company, a consignment in the hands of the *Caisse des dépôts et consignations*, a guarantee fund managed by the Environment and Energy Management Agency (for waste storage facilities), a private guarantee fund, and a written undertaking subject to specifications in the Civil Code and Commercial Code

- **Germany**
  Cash, securities, a pledge of assets, a pledge of officially registered receivables, real estate and registered vessel mortgages, a pledge of mortgages, and an appropriate guarantor, self-insurance, corporate guarantee, and a bank guarantee or bond
  An enterprise or company wholly owned by a public corporation, a consortium of municipalities, or a public institution is not required to have financial security if it meets specified obligations to guarantee payment
- **Greece**
  The Ministry of Environment and Energy has the discretion to determine the nature and manner of financial security.

- **Hungary**
  A reserve

- **Ireland**
  A secured fund, performance bonds, fixed charges over property

- **Italy**
  Bank guarantees and surety bonds

- **Latvia**
  The legislation simply refers to ‘financial or equivalent security’

- **Lithuania**
  Surety bonds and bank guarantees

- **Luxembourg**
  The legislation simply refers to a financial guarantee or other equivalent

- **Malta**
  Bank guarantees

- **Netherlands**
  Detailed rules for acceptable financial security under the Environment and Planning Act (*Omgevingswet*) and underlying decrees which is anticipated to enter into force in January 2022, had not been issued when this report was published

- **Poland**
  Dedicated bank accounts, a reserve or bank guarantees

- **Portugal**
  Bank guarantees

- **Romania**
  The legislation simply states that the acceptable financial security instrument is a financial guarantee, without providing any further details
  In practice, the acceptable instrument is a bank guarantee

- **Slovakia**
  A financial deposit to an account in the State Treasury

- **Slovenia**
  Bank guarantees, insurance policies or dedicated bank accounts
A declaration of financial security that contains an undertaking by the operator that it has a provision in its accounts devoted exclusively to closure and post-closure costs (for operators that are public entities solely owned by a municipality or group of municipality)

The State is not required to provide any financial security

- **Spain**
  - Bonds or other financial guarantees

- **Sweden**
  - There is a general rule on financial security in the Swedish Environmental Code that applies to all permits, approvals or exemptions given under the Code including the Landfill Directive. The permitting authority may make the validity of a permit, approval or exemption subject to the requirement of a financial guarantee

- **United Kingdom**
  - **England and Wales**: renewable bonds, escrow accounts, cash deposits with the relevant competent authority, local authority deed agreements, and trust based investment portfolios. The relevant competent authority will also accept other instruments and mechanisms as long as the funds are sufficient, secure and available when required
  - The Environment Agency in England will not accept provisions in accounts, parent company guarantees for commercial landfills, overdrafts, or annually renewable insurance policies
  - **Scotland**: dedicated funds using a financial security mechanism approved by the competent authority. Trust funds and performance bonds are commonly used.
  - The Scottish Environment Protection Agency (SEPA) will not accept insurance policies, self insurance or credit checks
  - **Northern Ireland**: escrow accounts, bonds, insurance policies, cash, parent company guarantees (according to a recent consultation paper)

A local authority or public body may sign a deed agreement

### 7.1.2. Extractive Waste Directive

The following financial security instruments and mechanisms are acceptable under the legislation implementing the Extractive Waste Directive.

- **Austria**
  - Bank guarantees, insurance policies, land register security and financial security instruments under commercial law provisions, and the like
  - The usual financial security instrument is a bank guarantee followed by a deposit, insurance, a frozen bank account, and a registration in the land register
  - A governmental authority may issue a declaration of liability

- **Belgium**
  - **Flemish Region**: insurance policies, bank guarantees, another personal or business security, or a combination of them
  - **Walloon Region**: a deposit at the *Caisse des dépôts et consignments*, bank guarantees, dedicated bank accounts, or any other form of security that the Government determines
Brussels-Capital Region: dedicated bank accounts, a mutual guarantee fund (that is, an industry-supported guarantee deposit), or an equivalent

- Bulgaria
Bank guarantees, trustee accounts, insurance policies, letters of credit, an equivalent statutory guaranteed co-ordinated with the Minister of Energy, and a combination of them

- Croatia
The same financial security instruments as under the Landfill Directive are acceptable

- Cyprus
A financial deposit, including industry-funded mutual funds, or other equivalent means

- Czech Republic
The only acceptable financial security instrument is a financial reserve

- Denmark
The applicable legislation does not specify any acceptable financial security instruments or mechanisms

- Estonia
The same financial security instruments as under the Landfill Directive are acceptable

- Finland
The same financial security instruments as under the Landfill Directive are acceptable

- France
A written commitment by a credit institution or an insurance enterprise

- Germany
The same financial security instruments as under the Landfill Directive are acceptable

- Greece
The relevant legislation simply refers to a ‘financial guarantee or equivalent instrument’

- Hungary
Bank guarantees, insurance guarantees, liens and/or collateral agreements

- Ireland
The same financial security instruments as under the Landfill Directive are acceptable

- Italy
The same financial security instruments as under the Landfill Directive are acceptable

- Latvia
Bank guarantees and insurance policies
Improving financial security in the context of the Environmental Liability Directive

- **Lithuania**
  Not applicable; Lithuania did not have any Category A facilities for extractive waste when this report was published

- **Luxembourg**
  Bank guarantees or an equivalent instrument

- **Malta**
  Bank guarantees

- **Netherlands**
  The legislation does not list any financial security instruments or mechanisms that are acceptable.

- **Poland**
  Dedicated bank accounts, segregated funds in a dedicated bank account, bank guarantees, insurance guarantees, and insurance policies

- **Portugal**
  The same financial security instrument, a bank guarantee, as under the Landfill Directive is acceptable

- **Romania**
  Dedicated bank accounts

- **Slovakia**
  Dedicated bank accounts

- **Slovenia**
  Not applicable; Slovenia does not have any facilities subject to the Extractive Waste Directive

- **Spain**
  Dedicated bank accounts and bonds

- **Sweden**
  As indicated for the Landfill Directive, there is a general rule on financial security in the Environmental Code that applies to all permits, approvals or exemptions given under the Code including the Extractive Waste Directive that gives the permitting authority the potential to make the validity of a permit, approval or exemption subject to the requirement of a financial guarantee

- **United Kingdom**

  **England, Wales and Northern Ireland:** no acceptable financial security instruments or mechanisms are specified

  **Scotland:** the legislation states that the ‘planning authority shall determine the form of the guarantee, and may accept the provision of a guarantee from an industry-sponsored mutual guarantee fund’
7.1.3. Directive on the geological storage of carbon dioxide

The following financial security instruments and mechanisms are acceptable under the legislation that implements the Directive on the geological storage of carbon dioxide. This section also notes if a Member State prohibits the storage of carbon dioxide on its territory, in which case no financial security instruments or mechanisms are indicated.

- **Austria**

  Not applicable; the storage of carbon dioxide is banned

- **Belgium**

  **Flemish Region**: the legislation simply states that adequate financial guarantee must be made for the restoration of the site of the facility until the operator is released from responsibility and responsibility is transferred

  **Walloon Region**: the type of financial security is decided by the Walloon Government

  **Brussels-Capital Region**: the storage of carbon dioxide is banned

- **Bulgaria**

  An unconditional irrevocable bank guarantee in favour of the Minister of Energy, and an escrow account at a bank designated by the holder of the authorisation and acceptable to the Minister of Energy

- **Croatia**

  The only acceptable financial security instrument or mechanism is a bank guarantee

- **Cyprus**

  The implementing legislation simply refers to a financial guarantee or another equivalent guarantee

- **Czech Republic**

  Insurance policies, dedicated bank accounts, bank guarantees, and financial reinsurance

- **Denmark**

  Parent company guarantee, an insurance policy, a bank guarantee or similar financial security

- **Estonia**

  The legislation does not specify any financial security provisions

- **Finland**

  The storage of carbon dioxide is prohibited geologically in the water column in Finland or in the Finnish exclusive economic zone

- **France**

  The legislation that implements the Directive in France does not specify acceptable financial security instruments or mechanisms
Improving financial security in the context of the Environmental Liability Directive

- **Germany**
  Liability insurance policies, and as specified for the Landfill Directive (see section 7.1.1 above)

- **Greece**
  Bank letters or bank guarantees

- **Hungary**
  Bank guarantees

- **Ireland**
  Ireland does not permit the storage of carbon dioxide; it awaits further developments in the implementation of the regulatory framework for the storage of carbon dioxide

- **Italy**
  The legislation does not indicate acceptable financial security instruments and mechanisms other than stating that they must be for the benefit of the competent authority

- **Latvia**
  The storage of carbon dioxide in geological formations and the water column in the territory of Latvia, its exclusive economic zone and its continental shelf is prohibited

- **Lithuania**
  The legislation does not specify acceptable financial security instruments or mechanisms

- **Luxembourg**
  The implementing legislation simply refers to a financial guarantee or other equivalent provision

- **Malta**
  The implementing legislation simply refers to a financial guarantee or other equivalent provision

- **Netherlands**
  The legislation does not list any acceptable financial security instruments or mechanisms

- **Poland**
  Dedicated accounts in the National Fund for Environmental Protection and Water Management, bank guarantees, insurance guarantees

- **Portugal**
  The legislation simply refers to a financial guarantee or equivalent instrument

- **Romania**
  The legislation simply refers to a financial guarantee or other equivalent measures
Improving financial security in the context of the Environmental Liability Directive

- **Slovakia**
  Dedicated bank deposits to the account of the District Mining Office, bank guarantees, or other equivalent instruments

- **Slovenia**
  Slovenia does not permit the geological storage of carbon dioxide on its territory with the exception of research and development purposes due to its geological conditions

- **Spain**
  The legislation does not specify acceptable financial security instruments and mechanisms

- **Sweden**
  As indicated for the Landfill Directive and the Extractive Waste Directive, there is a general rule on financial security in the Environmental Code that applies to all permits, approvals or exemptions under the Code that provides the permitting authority with the potential to make the validity of a permit, approval or exemption subject to the requirement of a financial guarantee

- **United Kingdom**
  **England, Wales, Scotland and Northern Ireland**: the implementing legislation does not specify any acceptable financial security instruments. It states that regulations may:

    require an applicant, before a licence is granted, to make arrangements (whether by way of trust or otherwise) to provide financial security in respect of the applicant's future obligations relating to the activities under the licence (whether those obligations will or may arise under the licence or otherwise)

7.2. **Comparison and analysis**

The most common financial security instruments and mechanisms in Member States under legislation implementing the Landfill Directive, the Extractive Waste Directive and the Directive on the geological storage of carbon dioxide are bank guarantees followed by dedicated bank accounts.

Other financial security instruments range from reserves in accounts to deposits in State accounts. Some Member States simply refer to a financial guarantee or other equivalent provision without specifying the type of instrument or mechanism.

Some Member States include insurance policies as acceptable financial security instruments. It is unclear how insurance policies could provide financial security for obligations under permits such as requirements for closure and post closure under the Landfill Directive and requirements for closure, post closure and rehabilitation under the Extractive Waste Directive. It may be that the insurance policies are for civil liabilities and remediation liabilities that may arise during the closure and post closure phases. This is unclear however.

A common requirement for bank guarantees is that they must be unconditional and irrevocable as well as being issued by a bank in the EU. A common requirement for bank accounts is that they must be dedicated to the purpose for which they are created.

A common feature of many financial security requirements is a less stringent requirement for the national government, local authorities and other governmental authorities that operate
landfills or extractive waste facilities. This is not uncommon; less stringent requirements also exist in other States such as the US and Australia.

Some Member States, such as France and Germany, have legislation that describes acceptable financial security instruments and mechanisms that are acceptable for a wide range of legislation including legislation that implements the Landfill Directive and the Extractive Waste Directive.

Sweden has a general rule on financial security in its Environmental Code that applies to all permits, approvals or exemptions given under the Code including the Landfill Directive. The permitting authority may make the validity of a permit, approval or exemption subject to the requirement of a financial guarantee.

Due to the focus of the mandatory financial security requirements on environmental responsibilities, that is financial security for complying with obligations under a permit or other authorisation for a landfill, extractive waste facility or a storage facility for carbon dioxide, the requirements do not assist the availability and demand for stand-alone environmental insurance policies. As indicated above, insurance policies do not provide cover for certainties; they provide cover for fortuities.

None of the financial security requirements, however, would appear to conflict with the use of stand-alone environmental insurance policies to provide cover for liabilities under the ELD if a Member State introduced mandatory financial security for such liabilities.
8. **FINANCIAL SECURITY REQUIREMENTS UNDER NATIONAL LAW**

Legislation in many, if not most, Member States requires financial security for activities that are not required to have financial security under EU legislation. This chapter examines mandatory financial security requirements imposed by Member States that are not required by EU legislation, together with financial security instruments acceptable by them.

The chapter is structured as follows.

First, the chapter examines legislation in Member States that have introduced mandatory financial security for liabilities associated with potential environmental damage as well as environmental responsibilities.

Second, the chapter compares and analyses the above requirements, especially in the context of whether other Member States may wish to introduce such requirements and whether there appears to be a trend in introducing them.

This chapter does not describe mandatory financial security systems and provisions introduced by Member States for ELD liabilities. These are described in sections 6.1 and 6.2 above, respectively.

**8.1. Member State legislation**

The requirements for financial security for environmental liabilities and environmental responsibilities in the individual Member States are briefly described below. The Member State reports include more detailed information.

**8.1.1. Austria**

Austria imposes mandatory financial security for liabilities for bodily injury and environmental impairment for operators of gene technology laboratories and facilities.

**8.1.2. Belgium**

All three regions in Belgium (that is, the Flemish Region, the Walloon Region and the Brussels-Capital Region) impose mandatory financial security for environmental liabilities and responsibilities other than those required by EU legislation. The legislation subject to the requirements mainly applies to businesses that carry out operations involving waste and the remediation of soil pollution.

In particular, mandatory financial security is required in the Flemish Region, the Walloon Region and the Brussels-Capital Region for transactions involving land that is subject to the Decree on soil remediation and soil protection, the Decree of 1 April 2004 on the remediation of contaminated soil, or the Ordinance of 13 May 2004 on the management of contaminated soils respectively, and the land that is being transferred is contaminated. In such a case, the transaction must be accompanied by financial security that covers the cost of remediating the land.

**8.1.3. Croatia**

Croatia has introduced mandatory financial security for persons that hold waste management permits, including permits for landfills and extractive waste facilities. The following financial security requirements are in addition to those required under the Landfill Directive and the Extractive Waste Directive. The additional mandatory financial security, which may be in the form of an insurance policy or equivalent financial instrument, is for the costs of complying with obligations in the permit.
Improving financial security in the context of the Environmental Liability Directive

Financial security required by a permit for a landfill includes financial security for remediation and costs of special compensation for environmental pollution. Financial security for extractive waste facilities includes funding for remediating land contaminated by a facility during its operation.

In addition, holders of waste management permits must have an insurance policy that provides cover for bodily injury and property damage resulting from such operations.

Croatia is expected to adopt a Regulation later in 2020 to provide detailed guidance on the content and scope of stand-alone environmental insurance policies to satisfy the above requirements for holders of waste management permits.

8.1.4. Cyprus

Cyprus imposes mandatory financial security in the form of insurance or a guarantee for persons that have a waste management permit or an integrated pollution prevention and control permit. The financial security is for remediating pollution incidents that result from such operations.

Most of the demand for environmental insurance, and to a lesser extent bank guarantees, in Cyprus is from operators that are subject to this requirement.

8.1.5. Czech Republic

The Czech Republic requires the operator of a landfill to have an insurance policy, a dedicated bank account or a bank guarantee to cover damage to human health and the environment and related harm during the operational phase, and damage resulting from closure of the landfill. The requirements are in addition to financial security required by the Landfill Directive.

8.1.6. Denmark

Denmark has introduced mandatory financial security, subject to limited exceptions, for various businesses that handle waste including businesses that extract metals from cables; rinse or clean drums for storing chemicals and chemical waste; dismantle and recycle vehicles such as cars; renovate appliances, machines, motors and other equipment for resale; and reclaim metal waste.

The financial security must cover the competent authority’s cost of transporting and destroying or otherwise handling waste from the businesses. Acceptable financial security instruments, which must be submitted to the competent authority for approval are a bank guarantee, an insurance policy, and a deposit of cash in a dedicated bank account.

A competent authority may agree to accept other types of financial security instruments including the deposit of valuables other than cash, such as securities and a mortgage on real property. If the authority accepts such instruments, it may include conditions for their acceptance.

Denmark also has a mandatory insurance scheme, financed by a levy on companies that sell home oil in Denmark. The scheme provides funding for owners of home oil tanks who are liable for remediating damage from oil stored in their tanks.

In addition, oil companies have an environment fund, established in 1993. The fund, which is not insurance as such, was a voluntary initiative by oil companies that sold oil in Denmark at that time, together with Local Government Denmark, Danish Regions, the City of Copenhagen, Frederiksberg Municipality and the Danish Environmental Protection Agency. Monies from the
fund have been used to inspect over 10,000 closed petrol stations and other sites and to clean up approximately 3,500 of them.

8.1.7. **Estonia**

Estonia has introduced mandatory financial security for liabilities from hazardous waste, including a financial security requirement concerning the storage and/or disposal of waste that entered into force on 1 January 2020. The financial security must cover the costs of organising and handling the waste.

In addition, Estonia requires persons that have a licence to carry out operations involving radiation to provide a financial guarantee for the safety of the radioactive material, equipment containing it, and radioactive waste. The provider of the financial security must be an Estonian or international credit or financial institution.

Further, an undertaking that applies for an operating licence or an operational safety certificate concerning railways must have a liability insurance policy that provides compensation for environmental damage caused by unexpected or unforeseen incidents, including the removal of pollutants, as well as claims for bodily injury and property damage.

8.1.8. **Finland**

Since 1 June 1999, Finland has imposed mandatory insurance for claims for compensation for bodily injury, property damage and economic loss caused by environmental damage.

The Environmental Damage Insurance Act provides that all companies whose activities involve a significant risk of environmental damage, or whose operations generally cause harm to the environment must obtain a statutory EIL policy within three months of commencing operations subject to it. The purpose of the system is the protection of persons who suffer bodily injury, property damage or economic loss when the person that caused the loss cannot be found or is insolvent.

Whilst compensation payable under the mandatory insurance scheme pursuant to the Act theoretically includes some costs for preventing and remediating environmental damage under the ELD, any overlap with the ELD would be rare. This is largely because liability under the Act is imposed for compensation for the costs of such measures and not a requirement to carry out preventive and/or reinstatement measures.

Finland has also imposed mandatory financial security for holders of exploration permits for mining and gold panners for the costs of remediating potential damage and carrying out aftercare measures.

8.1.9. **France**

France imposes mandatory financial security on specified installations classified for environmental protection (*installations classées pour la protection de l’environnement*; ICPE). ICPE facilities include landfills, extractive waste storage facilities, facilities subject to the Industrial Emissions Directive, and facilities subject to the Seveso III Directive. The financial security must cover measures to respond to a pollution incident. It must also cover measures to monitor and maintain the safety of the ICPE facility if there is an exceptional event that is likely to affect the environment.

Acceptable financial security instruments and mechanisms include:

- the written commitment of a credit institution, a finance company, an insurance company or a mutual bonding company;
• a consignment with the Caisse des dépôts et consignations; a guarantee fund managed by the Environment and Energy Management Agency (for waste storage facilities);
• a private guarantee fund, proposed by an industry and whose adequate financial capacity is defined by the Minister responsible for ICPE facilities; and
• a written undertaking in the form of a self-contained guarantee in accordance with requirements of applicable French legislation.

None of the legislative provisions that mandate financial security for the above operations refers to the ELD or the French law that implements it although some of the measures required under the above legislation, such as measures to respond to land/soil or groundwater pollution following an accident or pollution from an ICPE facility, could overlap with liabilities under the ELD.

8.1.10. Germany

Germany has introduced mandatory insurance for companies that transport waste. Such companies must have insurance for environmental liabilities as well as standard motor vehicle insurance cover.

If public funds are used to remediate a contaminated site owned by a person that is not liable under the Federal Soil Protection Act, the owner must pay compensation to the competent authority for the amount by which the funds increase the market value of the site. In such a situation, the compensation is a public burden on the property and is recorded in the Land Register.

8.1.11. Greece

Greece has established mandatory financial security for businesses that have a permit to transport hazardous waste, or to handle, store, dispose of, or recover hazardous waste at their sites. Acceptable financial security instruments are insurance and a bank guarantee that provide cover/funds for liability for third-party civil liability claims and restoration of the environment to its condition before the damage.

The financial security does not include ELD liabilities. Most of the demand for environmental insurance (and to a lesser extent bank guarantees) is from businesses subject to the mandatory financial security requirements.

8.1.12. Hungary

Hungary has enacted provisions to introduce mandatory financial security in respect of protected sites under the Nature Conservation Act but the Government Decree to provide the necessary rules had not been issued when this report was published.

Further, a provision in waste legislation authorises the Hungarian Government to make a Government Decree covering, among other things, ‘the detailed rules on environmental insurance and the detailed rules for the provision of security by manufacturers’. Again, the Government Decree had not been issued when this report was published.

Another provision in waste legislation states that the Hungarian Government would issue a Government Decree to require the following three types of businesses to have an environmental liability insurance policy to provide cover for remediating accidental environmental damage:

1. those whose activities produce specified amounts of waste as defined in regulations;
2. those that carry out activities subject to a waste management permit or registration pursuant to the Waste Act; and
3. those that import, export or transport waste to Hungary under the legislation that implements the Shipment of Waste Regulation.

The above requirements are in addition to those required under EU legislation. On 1 January 2013, the Government Decree was issued for the second category by requiring persons subject to such activities to have an environmental insurance policy for environmental liabilities. The requirement could potentially include liabilities under the legislation that implements the ELD in Hungary but this is not specified.

8.1.13. Italy

Traders and brokers of waste without holding the waste itself must have financial security for expenses directly or indirectly inherent in or connected with any transportation and disposal of waste, safety measures (including their implementation), remediation, restoration of installations and contaminated areas.

Further, businesses that collect and transport waste, carry out trade and brokerage activities in respect of waste generated by third parties, and those that carry out activities to remediate waste must have financial security for the costs of preventing or remediating damage caused by them.

The Italian legislation that implements the Industrial Emissions Directive includes mandatory financial security provisions for the restoration of the site of an installation to a ‘satisfactory state’.

In addition, the legislation that implements the Seveso III Directive includes mandatory insurance to provide cover for the risk of injury to persons, damage to property and damage to the environment.

Further, specified waste operators including waste treatment and disposal facilities in the Veneto Region must have a performance bond to cover the costs of remediating environmental damage during the operation of their facilities, including landfills, as well as insurance in the amount of EUR 3,000,000 for civil liability claims from waste generated by third parties.

8.1.14. Latvia

Latvian law that was introduced in January 2019 requires an applicant for a permit for (1) the transportation or storage of waste, (2) recycling and recovery of waste, or (3) excavating a closed and re-cultivated waste dump and re-grading the waste, to have evidence of financial security in the form of a bank guarantee or an insurance policy. The financial security is to ensure that the operator carries out its obligations under the permit.

The legislation specifies the required amounts of financial security, which are increased annually. The legislation includes specimen formats for the insurance policy and the bank guarantee including provisions to be included in them.

8.1.15. Lithuania

Lithuanian legislation requires operators that manage hazardous waste to have an insurance policy that provides cover for civil liabilities. In addition, persons that manage waste oil must have a bank guarantee or insurance to cover the costs of processing it.

8.1.16. Malta

The legislation that implements the Industrial Emissions Directive in Malta grants discretion to the competent authority to require the holder of an integrated pollution prevention and
control permit to submit financial security to comply with the obligations in the permit as well as liabilities arising from activities subject to the permit. The legislation does not refer specifically to ELD liabilities.

Further, the Environmental Impact Assessment Regulations authorise the Environment and Resources Authority to recommend to the relevant permitting authority that it should require an applicant for development consent to have financial security for the development. Developers rarely purchase environmental insurance policies in respond to the requirement. Instead they prefer to have a bank guarantee due to the lower cost.

8.1.17. Netherlands

The Netherlands has imposed mandatory financial security for the costs of remediating soil contamination when the freehold or leasehold of contaminated land is transferred.

The Netherlands has also withdrawn and then re-established mandatory financial security. The prior legislation, which was introduced on 1 June 2008, authorised competent authorities to require operators of specified waste storage facilities and operators that managed waste to have financial security for the costs of remediating soil damage caused by the waste after termination of their activities. Financial security could be established by an insurance policy, a bank guarantee, a mortgage or lien, a fund specifically established for the legislation, and equivalent financial security acceptable to the competent authority. The Decree set out the minimum amounts of financial security for the various facilities subject to it.

On 9 November 2009, the Dutch Government repealed the Decree because of the burden on industry and also because it considered that the risk of public authorities having to remediate environmental damage was low.

Following the Chemie-Pack disaster at Moerdijk, the Dutch Government carried out a consultation on whether to require operators subject to the Dutch legislation that implements the Seveso III Directive to have financial security.

The new Environment and Planning Act and underlying decrees, which are anticipated to come into force by January 2022, may impose financial security on persons that have an environmental permit for an activity if the activity may have 'significant adverse effects on the physical environment'. Financial security is for the costs of complying with obligations under the permit and liability for damage resulting from adverse effects on the physical environment caused by the activity.

8.1.18. Poland

Polish legislation that imposes mandatory financial security for environmental liabilities and responsibilities is described in section 6.2.2 above for ELD liabilities. That is, all Polish environmental legislation that imposes mandatory financial security imposes it for liabilities under the ELD.

8.1.19. Portugal

The law that established the regime for the use of water resources states that all uses entitled by licence or concession are subject to the provision of a guarantee for environmental recovery. This guarantee may be provided by a cash deposit at the order of the competent authority, or by a bank guarantee. If an operator has provided financial security under the ELD, it may be exempt from submitting financial security under the water regime upon confirmation by the competent water authority.
8.1.20. Slovakia

Slovakia has imposed mandatory financial security for damage from major industrial accidents caused by Seveso III facilities that pose a high risk of environmental damage. The financial security is in the form of insurance policies for civil liabilities and bank guarantees. The amount of financial security corresponds to expected consequences of a major industrial accident taking into account the results of the risk assessment carried out for the facility for such an accident.

8.1.21. Spain

Mandatory financial security in the form of an insurance policy that provides cover for bodily injury, property damage and costs for remediating the environment is required for hazardous waste treatment sites and sites for the management of specific waste. In addition, permits for waste disposal operations may include a requirement for a bond or equivalent financial guarantee.

Some Autonomous Communities extend mandatory financial security requirements for waste producers to include, for example, automobile repair facilities and end-of-use vehicle facilities in respect of waste oil from such operations.

8.1.22. Sweden

As indicated in section 7.1.1 above, the Swedish Environmental Code provides that all permits, approvals and exemptions issued under the Code are subject to a general rule that the permitting authority may make the validity of the permit, approval or exemption subject to the requirement of a financial guarantee. The rule applies to a wide scope of permits, approvals and exemptions including those issued under the Industrial Emissions Directive and the Seveso III Directive although, as a practical matter, financial security is not usually required for permits under these two Directives. When the general rule applies, general considerations for the adequacy of financial security set out in case law apply.

Figure 1. Mandatory financial security for non-ELD liabilities under national legislation

<table>
<thead>
<tr>
<th>Member State</th>
<th>Waste activities</th>
<th>Seveso III Directive</th>
<th>Integrated pollution prevention and control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Belgium</td>
<td>Yes inasmuch as required for the remediation of soil pollution</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

365 Figure 1 is intended to provide a broad brush indication of Member States that have imposed mandatory financial security under national law for waste activities, Seveso III facilities and integrated pollution prevention and control activities (some of which are under the Industrial Emissions Directive). Details of national financial security requirements for environmental responsibilities and non-ELD liabilities under national legislation are set out in the Member State reports in annex I and summarised in the Member State summaries in annex II.
<table>
<thead>
<tr>
<th>Member State</th>
<th>Waste activities</th>
<th>Seveso III Directive</th>
<th>Integrated pollution prevention and control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Croatia</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Cyprus</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Denmark</td>
<td>Yes inasmuch as required for remediation of pollution damage from oil tanks</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Estonia</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Finland</td>
<td>Compensation only</td>
<td>Compensation only</td>
<td>Compensation only</td>
</tr>
<tr>
<td>France</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Germany</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Greece</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
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<tr>
<td>Hungary</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
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<tr>
<td>Ireland</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Italy</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Latvia</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Lithuania</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Member State</td>
<td>Waste activities</td>
<td>Seveso III Directive</td>
<td>Integrated pollution prevention and control</td>
</tr>
<tr>
<td>--------------</td>
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<td>----------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>Malta</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Netherlands</td>
<td>Yes and also remediation of soil pollution</td>
<td>Being introduced</td>
<td>No</td>
</tr>
<tr>
<td>Poland</td>
<td>Yes (ELD extended to these)</td>
<td>No</td>
<td>ELD extended to some permits</td>
</tr>
<tr>
<td>Portugal</td>
<td>No</td>
<td>No</td>
<td>No</td>
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<tr>
<td>Romania</td>
<td>No</td>
<td>No</td>
<td>No</td>
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<td>Slovakia</td>
<td>No</td>
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<td>Spain</td>
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</tr>
<tr>
<td>Sweden</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

8.2. **Comparison and analysis**

There is a definite trend across Member States to introduce mandatory financial security for specified activities, as described below.

The national legislation of five Member States includes mandatory financial security for liabilities under the Seveso III Directive, with the Netherlands in the process of introducing it when this report was published. The national legislation of six Member States includes mandatory financial security for liabilities for integrated pollution prevention and control permits, which include permits under the Industrial Emissions Directive.

Neither of the requirements under the legislation that implements the Seveso III Directive and integrated pollution prevention and control permits have been imposed by a particularly high number of Member States. The Netherlands, however, repealed legislation that required operators of specified waste storage facilities and operators that manage waste to have financial security for the costs of remediating soil damage caused by the waste after termination of their activities in 2009 to re-introduce it following the industrial disaster at Moerdijk (see section 11.6.2 below). The new system may require the holder of an
environmental permit for an activity that may have 'significant adverse effects on the physical environment' to have financial security for liability for damage resulting from adverse effects on the physical environment caused by permitted activities as well as measures to comply with obligations under the environmental permit. That is, the new system may be a hybrid system for environmental responsibilities and environmental liabilities.

In contrast to the relatively low numbers for liabilities under legislation implementing the Seveso III Directive and integrated pollution prevention and control permits, 17 Member States have introduced mandatory security requirements for activities associated with waste. The requirements vary from financial security for a variety of waste operations in many Member States, to financial security for the remediation of waste in others, particularly in Belgium and the Netherlands. Some of the requirements concern civil liabilities from waste (see Figure 2 below); others concern its remediation, removal or other handling.

There also appears to be a trend towards the introduction of mandatory financial security for waste activities. For example, in July 2018, Poland established mandatory financial security for liabilities under the ELD in an integrated permit that includes waste collection and/or waste processing.

In addition, Croatia anticipates that it will issue a regulation to provide detailed guidance on the content and scope of environmental insurance policies to satisfy mandatory financial security for persons that hold waste management permits pursuant to the Act on Sustainable Waste Management and the Regulation on Waste Management later in 2020. The Act requires financial security for claims for bodily injury and property damage resulting from waste management operations. It also requires the operator of an extractive waste facility to have funding for land contaminated by the facility during its operation.

Figure 2 indicates Member States that have introduced mandatory financial security for civil liabilities, that is claims for bodily injury and property damage, and remediation liabilities and responsibilities, that is, requirements to remediate environmental damage pursuant to conditions of permits and/or liabilities to remediate environmental damage from potential accidental incidents. Figure 2 shows that six Member States require businesses involved in various waste activities to have insurance for civil liabilities and 16 Member States require businesses to have financial security for remediation liabilities.

**Figure 2. Mandatory financial security for civil liabilities and remediation requirements**

<table>
<thead>
<tr>
<th>Member State</th>
<th>Civil liabilities</th>
<th>Remediation requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>Yes (gene technology laboratories and facilities)</td>
<td>No</td>
</tr>
<tr>
<td>Belgium</td>
<td>No</td>
<td>Yes (waste and contaminated land)</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Some Member States have introduced mandatory financial security for other activities. As with Figure 2, this figure is intended to provide a broad brush overview only. Details of national financial security requirements for non-ELD liabilities under national legislation are set out in the Member State reports.
<table>
<thead>
<tr>
<th>Member State</th>
<th>Civil liabilities</th>
<th>Remediation requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Croatia</td>
<td>Yes (waste management permits including permits for landfills and extractive waste facilities)</td>
<td>Yes (waste management permits, including permits for landfills and extractive waste facilities)</td>
</tr>
<tr>
<td>Cyprus</td>
<td>No</td>
<td>Yes (waste management permits and integrated pollution prevention and control permits)</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>Yes (landfills)</td>
<td>Yes (landfills)</td>
</tr>
<tr>
<td>Denmark</td>
<td>No</td>
<td>Yes (waste including extraction of metals from cables; rinsing or cleaning drums for storing chemicals and chemical waste; dismantling and recycling vehicles such as cars; renovating appliances, machines, motors and other equipment for resale; and reclaiming metal waste)</td>
</tr>
<tr>
<td>Estonia</td>
<td>Yes (railways for damage caused by accidental pollution)</td>
<td>Yes (organising and handling the storage and disposal of hazardous waste; costs of recovering radioactive substances, equipment containing it, and/or radioactive waste)</td>
</tr>
<tr>
<td>Finland</td>
<td>Yes (scheme requiring companies whose activities involve a significant risk of environmental damage or whose operations generally cause harm to the environment to have financial security for claims for bodily injury, property damage or economic loss when the responsible person cannot be found or is insolvent)</td>
<td>Yes (holders of exploration permits for mining and gold panners for the costs of remediating potential damage and carrying out aftercare measures)</td>
</tr>
<tr>
<td>France</td>
<td>No</td>
<td>Yes (ICPE facilities including landfills, extractive waste storage facilities, facilities subject to the Industrial Emissions Directive, and facilities subject to the Seveso III Directive for cover measures to respond to a pollution incident and to monitor and maintain the safety of ICPE facilities)</td>
</tr>
<tr>
<td>Member State</td>
<td>Civil liabilities</td>
<td>Remediation requirements</td>
</tr>
<tr>
<td>--------------</td>
<td>------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>Germany</td>
<td>No</td>
<td>Yes (transportation of waste)</td>
</tr>
<tr>
<td>Greece</td>
<td>Yes (claims for civil liabilities against holders of permits to transport hazardous waste, or to handle, store, dispose of, or recover hazardous waste at operator’s sites)</td>
<td>Yes (restoration of environmental damage against holders of permits to transport hazardous waste, or to handle, store, dispose of, or recover hazardous waste at operator’s sites)</td>
</tr>
<tr>
<td>Hungary</td>
<td>No</td>
<td>Yes (remediation of environmental damage by holders of waste management permits or registrations pursuant to the Waste Act)</td>
</tr>
<tr>
<td>Ireland</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Italy</td>
<td>Yes (facilities subject to the Seveso III Directive for insurance for claims for bodily injury and property damage; specified waste operators in the Veneto Region, including waste treatment and disposal facilities and landfills, must have insurance in the amount of EUR 3,000,000 for civil liability from claims from waste generated by third parties)</td>
<td>Yes (traders and brokers of waste without holding the waste itself for restoration of installations and contaminated areas; businesses that collect and transport waste, carry out trade and brokerage activities in respect of waste generated by third parties, and those that carry out activities to remediate waste must have financial security for the costs of preventing or remediating damage caused by them; operators subject to the Industrial Emissions Directive must have financial security for the restoration of sites to a ‘satisfactory state’; facilities subject to the Seveso III Directive must have insurance for damage to the environment; and specified waste operators in the Veneto Region, including waste treatment and disposal facilities and landfills, must have a performance bond (with the operator of a landfill being required to have financial security during the operation of the landfill) for damage from waste generated by third parties)</td>
</tr>
<tr>
<td>Member State</td>
<td>Civil liabilities</td>
<td>Remediation requirements</td>
</tr>
<tr>
<td>--------------</td>
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</tr>
<tr>
<td>Latvia</td>
<td>No</td>
<td>Yes (holders of permits for the transportation or storage of waste, recycling and recovery of waste, or digging up a closed and re-cultivated waste dump and re-grading the waste for financial security for obligations under the permits)</td>
</tr>
<tr>
<td>Lithuania</td>
<td>Yes (operators that manage hazardous waste must have insurance for civil liabilities)</td>
<td>Yes (persons that manage waste oil must have financial security for the costs of processing the oil)</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Malta</td>
<td>No</td>
<td>Yes (discretion to the competent authority to require the holder of an integrated pollution prevention and control permit to have financial security to comply with the obligations in the permit and liabilities arising from activities subject to the permit; the Environmental Impact Assessment Regulations authorise the Environment and Resources Authority may recommend to the relevant permitting authority that it should require an applicant for development consent to have financial security for the development)</td>
</tr>
<tr>
<td>Netherlands</td>
<td>No</td>
<td>Yes (costs of remediating soil contamination when the freehold or leasehold of contaminated land is transferred; Environment and Planning Act and underlying decrees may impose financial security on persons that have an environmental permit for an activity if the activity may have 'significant adverse effects on the physical environment'; the financial security is for the costs of complying with obligations under the permit and liability for damage resulting from adverse effects on the physical environment caused</td>
</tr>
<tr>
<td>Member State</td>
<td>Civil liabilities</td>
<td>Remediation requirements</td>
</tr>
<tr>
<td>--------------</td>
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<td>--------------------------</td>
</tr>
<tr>
<td>Poland</td>
<td>Yes (operators of storage sites for carbon dioxide must have financial security for civil liabilities)</td>
<td>Yes (operators of landfills, waste collection and waste processing, and specified integrated permits must have financial security for ELD liabilities)</td>
</tr>
<tr>
<td>Portugal</td>
<td>No</td>
<td>Yes (uses entitled by licence or concession are subject to the provision of a guarantee for environmental recovery)</td>
</tr>
<tr>
<td>Romania</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Slovakia</td>
<td>Perhaps (upper tier facilities under the Seveso III Directive must have financial security for damage from major industrial accidents)</td>
<td>Perhaps (upper tier facilities under the Seveso III Directive must have financial security for damage from major industrial accidents)</td>
</tr>
<tr>
<td>Slovenia</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Spain</td>
<td>Yes (hazardous waste treatment sites and sites for the management of specific waste must have insurance for claims for bodily injury, property damage and costs for measures to remediate the environment)</td>
<td>Yes (hazardous waste treatment sites and sites for the management of specific waste must have insurance for claims for remediating the environment (and claims for bodily injury and property damage); permits for waste disposal operations may include a financial security requirement; some Autonomous Communities extend mandatory financial security requirements for waste producers to include, for example, automobile repair facilities and end-of-use vehicle facilities in respect of waste oil from such operations)</td>
</tr>
</tbody>
</table>
| Sweden       | No                | Yes (permitting authority may make permits, approvals and exemptions under the Environmental Code (including permits under the Industrial Emissions Directive and Seveso III Directives subject to the requirement of a financial guarantee, although, as a practical
Improving financial security in the context of the Environmental Liability Directive

<table>
<thead>
<tr>
<th>Member State</th>
<th>Civil liabilities</th>
<th>Remediation requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>matter, financial security is not usually required for permits under these two Directives)</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>
9. US AND EU ENVIRONMENTAL INSURANCE MARKETS

Chapter 9 describes the status of the US and EU environmental insurance markets.

The chapter is structured as follows.

First, the chapter describes stand-alone environmental insurance policies that were available in the US environmental insurance market by 2008 and reasons for their availability as well as demand for them.

Next, the chapter describes the environmental insurance market in the US in 2008 and its development since that time.

The chapter then describes stand-alone environmental insurance policies that were available in the EU environmental insurance market by 2008 and reasons for their availability as well as demand for them.

Next, the chapter describes the environmental insurance market in the EU in 2008 and its development since that time.

Finally, the chapter compares and analyses similarities and differences between the two markets as well as examining factors that have led to differences in environmental insurance between the US and the EU.

The key purpose of examining both environmental insurance markets is to use the status of the US market as a benchmark for the status of the EU market. Another purpose is to examine and analyse factors that have led to a difference between the two markets and to identify any positive factors from the US that could be replicated in the EU.

9.1. US environmental insurance market

The US environmental insurance market has grown steadily since the first environmental insurance policies were introduced in the late 1970s. This section describes the situation in 2008 and developments since that time.

As a preliminary matter, sections 9.1.1 and 9.1.2 describe the main reasons for the development of different types of stand-alone environmental insurance policies that were available by 2008 and the different types of policies that were available. These factors have not changed radically since that time. The types of policies described in section 9.1.2 were still available when this report was published.

9.1.1. Availability and demand for environmental insurance policies

The major reasons for the availability of, and demand for, stand-alone environmental insurance policies in the US are the environmental liabilities in the US (see sections 4.2 and 4.3 above), the absence of cover for environmental risks in commercial (formerly comprehensive) general liability (CGL) policies and other general liability policies, a demand for environmental insurance policies in commercial transactions, and programmes to redevelop ‘brownfield’ sites.367

As described in section 4.3 above, CERCLA imposes onerous liability for the remediation of contaminated land, not only on persons that caused it but also on persons that own the land

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367 The US EPA defines brownfield sites as ‘abandoned, idled or under-used industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived environmental contamination’. US Environmental Protection Agency, Handbook of Tools for Managing Federal Superfund Liability Risks at Brownfields and Other Sites (EPA 330-B-98-001, November 1998)
when the US EPA orders the land to be cleaned up, as well as on other persons. As also indicated above, States have similar mini-CERCLA laws – also onerous – and programmes to clean up land. As further described in section 4.3.10 above, a person that acquires land has a defence to liability as an ‘innocent purchaser’ if, among other things, it has carried out ‘appropriate inquiries’ when it acquired the land.

The existence of CERCLA, other federal environmental liability laws, State mini-CERCLAs and the innocent purchaser defence led to the introduction of, and rapidly increasing demand for stand-alone environmental insurance policies in the mid 1990s especially during commercial transactions. Increasing awareness of potential liabilities from CERCLA and other federal and State environmental legislation in the US was a major driver in the demand for stand-alone environmental insurance policies.

Insureds did not have the option of purchasing environmental extensions to CGL or property policies even if they had wanted to do so. CGL policies typically bar cover for all pollution whether it is gradual or sudden and accidental. Indeed, as indicated directly above, the withdrawal of cover for gradual pollution from CGL policies was a – if not the – main driver for the creation of an environmental insurance market in the US.

The withdrawal of cover for environmental risks from CGL policies had begun in 1969 as a response to severe pollution incidents including the oil spill from offshore drilling near Santa Barbara, California, and the (correct) perception that the US Congress would enact environmental legislation designed to mitigate the risks to human health and the environment from pollutants.

In 1969, the Insurance Rating Bureau, a predecessor of the Insurance Services Office, drafted an exclusion that bars cover for all pollution except sudden and accidental pollution (generally called a qualified pollution exclusion).

In 1986, after many courts across the US had ruled that CGL policies provide cover for the costs of remediating pollution and many courts had given a broad meaning to the definition of ‘sudden’ to include gradual pollution, the Insurance Services Office drafted a total pollution exclusion which it subsequently tightened subject to very limited exceptions.

Most State regulatory authorities authorised the use of the total exclusion in CGL policies offered in their States resulting in insurers issuing policies that included the total exclusion instead of the qualified pollution exclusion. Section 9.3.1 below briefly describes the structure of insurance regulatory authorities in the US compared with the EU.

9.1.2. Types of environmental insurance policies

By 1986, pollution legal liability (PLL) policies, construction pollution liability (CPL) policies, contractors’ professional liability policies, environmental consultants’ policies, and cost-cap policies were widely available. These policies are briefly described below. As indicated, many of them were designed to provide cover against claims under CERCLA and other claims concerning contamination.

- Pollution legal liability policies

PLL policies, which cover losses arising from CERCLA and other environmental liability laws, provide cover for:

- preventing and remediating contamination at an insured site from sudden and accidental and gradual pollution incidents at the site;
- preventing and remediating pollution that migrates from the insured site;
- claims for bodily injury to persons at the insured site;
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- claims for third party bodily injury and property damage claims;
- first party and third party diminution of value of property due to pollution incidents at the insured site;
- business interruption losses associated with pollution incidents at the insured site;
- the remediation of unknown pre-existing contamination at an insured site (sometimes known as property transfer insurance);
- NRD claims due to incidents at the insured site;
- the transportation of waste from an insured’s site;
- the remediation of pollution from waste generated by an insured and disposed of at an authorised waste disposal site; and
- associated defence costs.

- **Construction pollution liability policies**

  CPL policies provide cover for many types of contractors, including those that remediate pollution, at a job site. They provide cover for the same types of liabilities as a PLL policy at the insured’s job site and sites owned and occupied by the insured. The policies are offered on a blanket basis (that is, for an entire construction project) as well as periods up to 10 years. The CPL policy is often offered in combination with a contractors’ professional liability policy (see directly below).

- **Contractors’ professional liability policies**

  Contractors’ professional liability policies provide cover for negligent acts, errors and omissions by many types of contractors including general contractors, construction managers, design builders and others that are responsible for design and construction. A combined CPL policy and contractors’ professional liability policy provides cover for claims for bodily injury and property damage, remediation measures and related legal expenses as a result of pollution conditions caused by contracting operations carried out by or on behalf of a contractor. The policies may also provide cover for completed operations, thus extending the policy period beyond the date of substantial completion of the construction.

- **Asbestos and lead abatement liability policies**

  Cover for asbestos tended to be – and still tends to be – excluded from many stand-alone environmental insurance and other policies. Environmental insurers therefore developed special policies, called asbestos abatement liability policies, to provide cover for claims for bodily injury and property damage against insureds that carried out asbestos abatement operations.

  Similarly, they developed lead abatement liability policies to fill the gap caused by the exclusion of lead from stand-alone environmental and other insurance policies. A lead abatement liability policy is similar to an asbestos abatement liability policy but for lead rather than asbestos.

- **Environmental consultants professional service policies**

  Another policy associated with liabilities under CERCLA is an environmental consultants’ professional service policy (sometimes called an errors and omissions policy). The demand for these arose because, in order to qualify for the innocent purchaser defence, a person that acquires land must instruct an environmental consultant to assist in carrying out the ‘appropriate inquiries’ (see section 4.3.10 above).

  Environmental consultants’ professional service policies provide cover for errors and
omissions of environmental consultants arising from their advice as well as their actions.

- **Cost cap policies**

Another type of policy that was developed due to liabilities under CERCLA is the cost cap policy (sometimes called a remediation stop loss policy). These policies provide cover for unanticipated cost overruns in remediating a contaminated site. Insurers and the insured and its advisors negotiate the policy, which provides cover for remediating pollutants identified in the plan to remediate the site (remedial action plan) above the estimated costs of remediating them.

The insured amount is the excess of the estimated cost of the remedial works and a buffer (generally 5% to 10% of the cost of the project) above that amount. The policy does not provide cover for remediating pollutants at a site that are independent of works under the remedial action plan.

- **Lender liability policies**

Lender liability policies had become widely available by the mid 1990s. Demand for these had been driven by the threat of liability under CERCLA (see section 4.3.9 above). These policies provide cover to a lender if a borrower defaults on a loan, the collateral for which is land that is subsequently found to be contaminated.

The policy provides cover for the outstanding balance of the loan in the event that land that is collateral for a loan is or becomes contaminated, thus saving the lender from foreclosing on contaminated land and potentially becoming liable for remediating it.

- **Products pollution liability policies**

Other policies that were also widely available in the 1990s included others associated with liabilities under CERCLA. They include products pollution liability policies, which provide cover for remediating pollution caused by an insured’s products such as containers, tanks, pumps, remediation equipment, pollution control equipment, hoses and pumps.

- **Owner controlled environmental insurance programmes**

Owner controlled environmental insurance programmes (OCEIPs) provide wrap around cover to the owner or developer of a site that is being developed or redeveloped. They provide cover during the construction project, together with cover for sub-contractors, including environmental engineers, in the project (as additional insureds), for claims for bodily injury and property damage and measures to remediate contamination resulting from the construction.

OCEIPs are similar to owner controlled insurance programmes (OCIPs) except that their focus is environmental liabilities. They combine PLL policies and contractors’ professional liability policies. Some OCEIPs (like OCIPs) exclude sub-contractors below a specified size or sub-contractors that carry out specified activities that are considered high risk such as demolition. The policies may be extended to provide cover for completed operations, which extends cover for a specified period of time (generally five years) following substantial completion of the construction.

- **Contractor controlled environmental insurance programmes**

Contractor controlled environmental insurance programmes (CCEIPs) provide similar cover to that provided by OCEIPs except that they are issued to the main contractor and not the owner.
Finite risk policies

Finite risk policies provide cover when a business is aware that it must eventually remediate contamination at one of its sites, but does not know when it must do so. The insured business pays a fixed amount and a premium to an insurer for a specified period. If the business is required to remediate the contamination (and in some cases becomes liable for third party claims for bodily injury and property damage from the contamination) during the specified period, the fixed amount and any insured amount up to the limit in the policy are made available to the business. If the business is not required to carry out the remediation until after the specified period, the fixed amount plus a percentage of the interest earned on that amount are repaid to it.

9.1.3. Drivers for the demand for environmental insurance policies

As indicated in section 9.1.1 above, the demand for, and availability of, the above policies was partially driven by programmes to redevelop brownfield sites. By the late 1980s, it had become increasingly obvious that CERCLA and the Superfund programme were deterring investment in these sites. In order to encourage the development of brownfield sites, the US Congress amended CERCLA to add an exception for bona fide prospective purchasers in 2002 (see section 4.3.9 above).

In addition, States introduced programmes for the development of brownfield sites by, among other things, providing financial incentives in the form of grants and favourable tax treatment, flexible levels of clean up and protection from liability under State mini-CERCLAs, which tend to apply to such sites because they are remediated voluntarily under state programmes and not the Superfund programme.

Some States subsidised environmental insurance for brownfield site development in order to encourage the redevelopment of the sites. For example, Massachusetts (still) subsidises 50% of premiums for insurance policies that qualify under its programme up to a maximum of $50,000 (EUR 45,855) for private persons and $150,000 (EUR 137,565) for public entities and non-profit organisations. Since 1999, the programme has resulted in over 350 former brownfield sites in Massachusetts being remediated and redeveloped with the support of over $1.2 billion (EUR 1.005 billion) in insurance provided under the programme.368

Other drivers for stand-alone environmental insurance policies were programmes by the US Department of Defense and the US Department of Energy, especially the Base Realignment and Closure Act (BRAC). Under BRAC, the Departments closed many military installations as part of a move to reduce their operations. As a result of the closures, the former military bases were transferred to the private sector for redevelopment.369 Between 1998 and 2005, the BRAC programme resulted in over 350 military installations, which invariably required extensive remediation, being transferred to the private sector.370 In turn, environmental insurers designed policies especially for the clean ups.

368 Brownfields Insurance, Incentives & Funding Information; http://www.bdccapitalwebsite.com/brownfields-redevelopment/; see Michael O. Hill, ‘State Leadership in Promoting Insurance-Based Solutions to Brownfield Redevelopment Challenges’ (International Risk Management Institute, November 2006), 6


As also indicated above, the introduction of mandatory financial security was another major driver in the US environmental insurance market. Environmental insurers developed policies for interstate road transporters of hazardous materials and hazardous waste for ‘environmental restoration’ under the Motor Carrier Act (see section 5.1.1 above). They also designed spill policies, which provide cover for remediating spills of an insured’s products or waste during transportation plus claims for bodily injury and property damage from the spill.

Further, insurers developed policies for owners or operators of TSDFs to cover liabilities under RCRA, sometimes combining them with financial security instruments and mechanisms for the costs of closure and post closure (see section 5.1.2 above).

Still further, insurers developed storage tank pollution insurance policies to provide cover for remediating spills from underground and above ground storage tanks including claims for bodily injury and property damage under RCRA and State programmes (see section 5.1.4 above).

By 1997, annual premiums for the US environmental insurance market were approximately $900,000,000 (EUR 824,220,000).371

During the following three years, the market grew significantly as a result of various drivers, as indicated above, including the following:

- brownfield clean-up programmes introduced by many States;
- increased public awareness of environmental risks;
- enforcement of disclosure requirements for US companies by the Securities & Exchange Commission and the Financial Accounting Standards Board;
- deregulation of utilities that required them to compete in a changing environment; and
- the BRAC programme.

By 2000, the environmental insurance market was led by about four insurers which, between them, had approximately $1.2 billion (EUR 1.005 billion) of annual premiums.372

9.1.4. Situation in 2008

As described above, by 2008, the environmental insurance market in the US was well developed, with four insurers leading the market and a substantial number of other insurers in it.

For example, in 2008 annual premiums for contractors’ professional liability policies were approximately $300,000,000 (EUR 275,130,000) and were growing by between 15% and 20% per year, with approximately 15 insurers offering the policies.373

9.1.5. Developments since 2008

The insurance market is cyclical. The availability and demand for insurance policies is not static, which results in what is known as hard and soft markets when availability decreases and thus premiums rise and vice versa. Factors that influence the cycle include competition,
losses that can create a shortage of capacity, capital entering or withdrawing from the market, and market confidence.

This phenomenon is equally true for the environmental insurance market and has influenced the availability of, and demand for, environmental insurance policies.

The recession of 2008 and large losses from cost cap policies had a substantial effect on the US market for them. The large losses, which resulted in part from inaccurate estimates of costs and budget overruns, led to an increase in premiums and some insurers leaving the market by 2011.

The majority of environmental claims in the mid-2010s were for mould. These claims were made against stand-alone environmental insurance policies that had been introduced since about 2004, especially to fill the gap caused by exclusions for pollution, fungi and bacteria in property policies.

Despite these claims, there was still massive room for growth in other stand-alone environmental insurance policies. In 2013, Mary Ann Susavage, chief underwriting officer for North American Environmental at (now) AXA XL, commented that environmental insurers had penetrated only 20% to 30% of the US market of potential buyers of environmental insurance. Other commentators noted that demand was growing, especially because of the low premiums for environmental insurance at that time.

By 2015, over 100 different stand-alone environmental insurance policy forms were available in the US. By 2016, over 150 different stand-alone environmental insurance policy forms were available as more insurers continued to enter the market. Demand for the policies in 2016 was, however, lower than their availability.

In February 2016, AIG exited the market for PLL policies, for which it had received over $1 billion (EUR 0.9 billion) in annual premiums, because it was unprofitable. Many policies that were not renewed by AIG, however, were soon renewed by other environmental insurers despite increases in the frequency and severity of claims.

375 David Dybdahl, ‘Insuring Indoor Environmental Risks in Commercial Property’ (International Risk Management Institute, January 2018), 2-3
380 Ibid 3; USI, ‘Growing Trend of Costly Environmental Claims Expected to Continue in 2018’ (International Risk Management Institute, February 2018); https://www.usi.com/content/downloads/Feb_2018_Market_Outlook_Env_v2.pdf
381 USI, ‘Growing Trend of Costly Environmental Claims Expected to Continue in 2018’ (International Risk Management Institute, February 2018); https://www.usi.com/content/downloads/Feb_2018_Market_Outlook_Env_v2.pdf
As Mary Ann Susavidge stated in 2013, the environmental insurance market still had room for development. In 2016, David Dybdahl, President of the American Risk Management Resources Network, stated as follows:

In abundant and continuous supply since 1975, the market penetration of the environmental insurance product line is currently less than 10 percent. The poor market penetration of the environmental insurance product line cannot be attributed to limited product availability or to excessive price. Historically, many environmental insurance policies were being sold at a fraction of their inherent loss costs. The minimum premiums today are at an all-time historical low, making environmental insurance affordable for virtually any commercial insurance buyer.

Mr Dybdahl further stated that:

Although the number of environmental insurance policies sold every year is growing, the capabilities of the insurance distribution system in the coverage line are not growing as fast as the rapidly expanding need for environmental insurance coverage in new classes of business. The main reasons for the poor market penetration of environmental insurance are as follows.

- Insurance brokers are not technically proficient in the unique aspects of environmental risks.
- The effects of pollution exclusions in property and liability insurance policies and the need for environmental insurances are not well understood by insurance practitioners.
- The plethora of complex, nonstandardized environmental insurance policies makes it difficult to match environmental insurance policies to the needs of insurance buyers.382

The limited extent of cover for environmental risks provided by general liability and property policies is still not well understood. As late as 2019, the National Association of Insurance Commissioners (NAIC), a voluntary organisation that consists of State insurance regulators in all 50 States of the US, stated that most insureds and many brokers did not understand the difference between cover for environmental liabilities under a stand-alone environmental insurance policy and cover under general and property policies.

The NAIC stated as follows:

a great number of insureds are often mistakenly under the impression they are covered for pollution releases under their general liability and property policies. However, these policies either restrict or completely exclude such coverage leaving their policyholders exposed to potentially very costly risks.

... Given that many ... brokers also do not fully understand pollution exclusions in general liability policies, the principal constraint in the market for environmental insurance seems to be the product distribution channel. For a long time [brokers] have been instructed with technically inaccurate information regarding pollution exclusions. Thus, if [brokers] do not understand how policy exclusions work, they cannot inform and educate their clients about the need to buy environmental insurance.383

382 David Dybdahl, ‘A Big Picture on Environmental Insurance’ (International Risk Management Institute, July 2016); https://www.irmi.com/articles/expert-commentary/environmental-insurance-overview

383 National Association of Insurance Commissioners, ‘Environmental Insurance’ (7 January 2019);
In the meantime, by 2017, the environmental insurance market had grown but it was still undeveloped.384

In 2018, the environmental insurance market in the US was estimated to be approximately $2 billion (EUR 1.8 billion) in annual premiums, with double-digit growth that outpaced that of general property and casualty policies.385 The growth in the environmental insurance market continued to be accompanied by many claims, particularly claims for mould.

In 2019, environmental casualty policies (which combine general liability and PLL policies) had grown by 5% to 8% since 2018; CPL policies were flat to a 10% decrease; and PLL policies were between a 5% decrease to a 5% increase.386

In 2019, the US environmental insurance market was still estimated to be approximately $2 billion (EUR 1,846,070,000) in annual premiums, but with fewer insurers entering the market.387

In 2020, the NAIC reported that there was ‘a continuing upward trend of environmental claim severity and frequency’, that was causing insurers ‘to retrench in certain areas and ... be more cautious on risk selection’. In this respect, the NAIC’s report stated that ‘There is no getting around it, environmental risks are getting more complicated and complex’.

The reasons given by the NAIC included:

• the potential harm caused by pollutants to human health and the environment was more accurate due to advances in science and technology;
• natural disasters that led to significant spills and releases of pollutants and mould damage were increasing; and
• greater use of social media had created more public awareness of the risks and could influence larger awards by courts.

The NAIC reported that over 50 insurers were in the US environmental insurance market and that it was highly competitive, with capacity of over $600,000,000 (EUR 549,480,000). A larger number of insurers were offering more extensive cover such as cover for claims from bacteria, viruses, first-party diminution in value, defence costs outside the limit of indemnity at either a specified limit or, in some CPL policies, unlimited cover for defence costs. Further, cover for the remediation of pre-existing historical contamination was still available in PLL policies from a few insurers.

The NAIC report further stated that OCEIPs and CCEIPs were being commonly placed for projects that cost less than $100,000,000 (EUR 550,260,000) to construct, generally together with a PLL policy. Environmental casualty policies were very popular, and a version of the cost

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385 See National Association of Insurance Commissioners, ‘Environmental Insurance’ (7 January 2019); https://cc.bingj.com/cache.aspx?q=National+Association+of+Insurance+Commissioners%2c+%e2%80%98Environmen tal+Insurance%e2%80%99&d=4600524307961009&mkt=en-GB&setlang=en-GB&w=ktOsQSHMhz85E6Kj6b5i2vweC8_FxzDY

386 See National Association of Insurance Commissioners, ‘Environmental Insurance’ (7 January 2020), 3; https://content.naic.org/cipr_topics/topic_environmental_insurance.htm

cap policy, which was used extensively in remediating brownfield sites but went out of favour in about 2011 because of large losses, was being sold for clean ups that generally exceeded $10,000,000 (EUR 9,171,000). 388

9.2. EU environmental insurance markets

The availability of, and demand for, financial security for environmental liabilities in the EU has increased since 2008 but both have been relatively slow in a substantial number of Member States.

It was generally recognised from the time at which liability for remediating land/soil damage was introduced in the late 1990s that liabilities for remediating pollution were insurable. This was confirmed in 2000, in a study carried out for the European Commission. 389 Although general liability policies did not, and do not, provide cover for remediating pollution without a specific endorsement, environmental extensions to general liability policies have been available in some Member States since the mid 1990s although their scope was, and still is, limited.

The insurability of damage caused by GMOs was more problematic. Virtually no Member State had imposed liability for GMOs under their national legislation. 390 In the absence of liability, there is no impetus for businesses to buy liability insurance.

The ELD filled the gap in liability for GMOs by imposing it for annex III operators. It is questionable however, whether the ELD imposes liability for GMOs as a practical matter, despite the inclusion of EU legislation on GMOs in annex III of the ELD. Although an ‘organism’ that may be the cause of land damage includes GMOs, 391 it would seem that damage from GMOs would result mainly in damage to non-genetically modified crops. 392 That is, it would result in property damage (which is not covered by the ELD), not land damage under the ELD. Further, it would seem to be difficult to establish a causal link between damage to natural habitats and a non-annex III operator that grew genetically modified crops as well as showing that the operator was negligent.

388 National Association of Insurance Commissioners, ‘Environmental Insurance’ (7 January 2020); https://content.naic.org/cipr_topics/topic_environmental_insurance.htm


390 See European Commission, White Paper on Environmental Liability (COM(2000) 66 final, 9 February 2000), s. 1.3.5, 10 (‘The UK has recently called upon the Commission as a matter of priority to consider the feasibility and possible criteria for a liability regime or regimes to cover the release and marketing of GMOs’); see also ibid s. 4.2.2, 16 (proposing liability for GMOs)

391 See Directive 2001/18/EC on the deliberate release into the environment of genetically modified organisms. [2001] OJ L106/1, art 2(1) (defining genetically modified organism (GMO) as ‘an organism, with the exception of human beings, in which the genetic material has been altered in a way that does not occur naturally by mating and/or natural recombination’); https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32001L0018

9.2.1. Availability and demand for environmental insurance policies

By 2008, the following stand-alone environmental insurance policies were available in the EU:

- PLL policies, which provide similar cover to PLL policies in the US with the difference that, depending on the Member State, they provide cover for ELD liabilities instead of liabilities under CERCLA and other US environmental liability legislation;
- CPL policies, with the same caveat as for PLL policies;
- contractors’ professional liability policies, usually combined with a CPL policy;
- environmental consultants’ professional services policies;
- cost cap policies with the caveat that demand for these has decreased;
- lender liability policies, with the caveat that demand for these was and still is very low;
- OCEIPs from some insurers;
- CCEIPs from some insurers;
- finite risk policies with the caveat that these are no longer generally available; and
- asbestos abatement liability policies from a few insurers.

9.2.2. Situation in 2008

The 2008 report stated that insurance in the form of stand-alone environmental insurance policies or, less generally, endorsements (extensions) to general liability policies, was the most popular financial security instrument for environmental risks at that time followed by bank guarantees, market based instruments (such as a charge linked to an environmental permit to cover environmental liabilities or habitat banking), and insurance pools in some Member States (France, Italy and Spain).

Significantly, the report stated that insurance policies had not been adapted to cover the extended liability introduced by the ELD (preventive measures and complementary and compensatory remediation) and that brokers were not always aware of the ELD. Further, the report noted various barriers to the development of an EU environmental insurance market including a lack of experience by insurers of covering environmental liabilities particularly liabilities for damage to natural resources, and poor communication about the ELD and related financial security products.

The report commented that possible solutions included better guidance for operators and insurers, establishment of a methodology to estimate costs of environmental damage, a better exchange of information, better risk assessment and management, and a better understanding of the ELD.

The 2008 report also briefly discussed the environmental insurance market in the US, reporting that it was much more developed than in the EU, included a wider variety of environmental insurance policies due in part to more mandatory financial security requirements, more stringent and extensive brownfield remediation programmes, and increased public awareness of environmental insurance.

The 2008 report concluded that the environmental insurance market in the EU was a ‘niche market’ and that financial security instruments were not available for all ELD liabilities.

393 2008 Report 10
394 Ibid 81-82; ibid 109-110
395 Ibid 84-92
396 Ibid 71-73
397 2009 Report 12, 39
particularly GMOs and gradual pollution. The report further concluded that the drivers for the growth of the environmental insurance market in the EU were an increase in legislation transposing the ELD, public awareness, corporate policy, and an understanding of the availability of environmental insurance amongst lawyers and consultants.

9.2.3. Developments since 2008

In updating the 2008 report, the 2009 report examined approaches of Member States to financial security and then available financial security solutions. The study analysed the introduction of a gradual approach to mandatory financial security, a ceiling for financial guarantees, and the exclusion of low risk activities. The 2009 report also briefly reviewed developments in environmental insurance policies and the environmental insurance market in the US, noting key differences between US and EU environmental liability legislation. The 2009 report concluded that the overall assessment of the insurance market for ELD liabilities was positive, that it covered most liabilities under the ELD, and that it was growing and competitive. It also noted that there remained limitations in environmental insurance policies, in particular cover for gradual environmental damage, sub-limits or exclusions for compensatory remediation and a further limitation of cover for non-pollution environmental damage.

On a more positive note, the report concluded that alternative financial security instruments such as letters of credit and trust funds existed for financial security obligations in the waste sector, for GMOs, extractive industries, and the use of chemical and other hazardous products in the agricultural sector.

Since 2009, the EU environmental insurance market has changed, with substantial growth in some but not all Member States. For example, the Asociación Española de Gerencia de Riesgos y Seguros (AGERS), the Spanish risk assessment association, noted in 2013 that the scope and number of environmental insurance policies had grown, as had their capacity. This had been accompanied by a decrease in premiums.

Another visible change, as noted in a report published by the large brokers, Marsh, in 2015, was that companies that carried out activities listed in annex III of the ELD had increased their purchase of stand-alone environmental insurance policies at an annual rate of between 8% and 15% by 2015, with the limits of indemnity increasing by nearly 9% per year. Conversely, Marsh reported that the limits of indemnity for stand-alone environmental insurance policies purchased by companies that carried out activities that were not listed in annex III were either stable or had reduced between 2006 and 2014.

A further visible change was an increase in limits together with a reduction in premiums. A

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398 Ibid 9
399 Ibid 108
400 Ibid 31-37
401 Ibid 7-9, 38-51, 89
402 Ibid 9-10, 57-60
403 See Rodrigo Amaral, ‘Agers demands changes to Spain’s environmental liability law’, Commercial Risk Europe (28 February 2013)
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A report published by Marsh in 2016 noted that the ‘steady upward trend that [had] taken place since 2011’ had continued, with an average rise in limits of liability for mid-sized companies from an average of EUR 6,900,000 in 2011 to just under EUR 7,900,000 by 2015. The report also noted that premiums for the policies had tended to decrease rather than increase for multi-year operational risk policies.405

Over 100 notifications of claims in the EU to AIG in 2016, however, did not include a single ELD claim. AIG reported that 30 major industrial groups accounted for the notifications, ‘including transportation, communications, electric, gas and sanitary services (55%); and finance, insurance and real estate. Insureds ranged from large multinational corporations through to [SMEs]’. Further, 45% of notifications were for environmental damage caused by third-party actions such as construction activities.406

In 2013, the manager for environmental risks at ACE Italy, a major environmental insurer, stated that only about 2% of Italian companies had purchased stand-alone environmental insurance policies, with the vast majority considering that they could rely on their general liability policies to provide the requisite cover – which is not provided by them. She also stated that there was a lack of awareness of environmental, especially ELD, liabilities among brokers but that awareness was increasing.407

In the mid 2010s, some major insurers withdrew from sectors of the environmental insurance market, the largest insurer being AIG which withdrew from some policies and some markets408 as in the US (see section 9.2.2 above). In 2017, incidents that resulted in environmental damage across the EU occurred in a wider range of industries than previously, with the highest number of claims occurring in (1) the transportation, communications, electricity, gas and sanitary industry sectors, (2) manufacturing, and (3) construction. In addition, there was an increase in the number of environmental incidents that involved fires, especially due to damage caused by polluted fire fighting water. Further, environmental incidents nearly doubled in the construction sector, especially from inadequate waste management activities.409 Most of the incidents involved on-site environmental damage, which are not covered by environmental extensions to general liability policies.410

As in the US, as environmental liabilities have increased and as the costs or remediating environmental damage have risen in the EU, the scope of cover for environmental liabilities in general liability policies has tended to decrease, thus acting as a driver for an increase in the scope and range of environmental insurance policies across the EU.

The adoption of the ELD itself was a massive driver for environmental insurance policies,

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405 Marsh Environmental Market Update (September 2016); https://www.marsh.com/content/dam/marsh/Documents/PDF/UK-en/EMEA%20Environmental%20Market%20Update.pdf


407 Adrian Ladbury, ‘Brokers must raise environmental liability awareness; Italian expert’, Commercial Risk Europe (28 February 2013)


410 Ibid
leading many insurers to enter the market in some Member States or existing insurers, again in some Member States, to begin offering environmental insurance policies.

In respect of common challenges, a study carried out of members of FERMA across the EU by the Harvard Business School in 2013 noted that, of the 89 companies and other organisations that responded, 52% stated that they had obtained an insurance policy or other financial security against environmental liabilities as a result of the ELD. Many organisations stated, however, that they had had difficulty quantifying the impact of environmental risk on their balance sheets, with 55% stating that they could not do so.

The report also stated that the primary tool for covering the costs of environmental damage was self insurance, with 56% stating that they used this financial security instrument. It should be noted in this respect that many of the respondents were multinational companies; 72% of the respondents employed 1,000 or more people, with 41% employing 5,000 or more people.

As discussed in chapter 10, there is a substantial difference between the availability of stand-alone environmental insurance policies for businesses with sites and/or operations in a single Member State and those with sites and/or operations in more than one Member State. In addition, there can be a substantial difference in cover provided by stand-alone environmental insurance policies in multinational insurance programmes. The master policy may not provide meaningful cover for legal and licensing requirements under the law of some Member States unless they are adapted to them or the master policy is accompanied by a local underlying policy(ies). The lack of some, but not all, multinational policies to cover liabilities under the legal and licensing systems in some Member States is noted in the Member State reports. The wordings of some reflect liabilities for NRD under CERCLA and not liabilities under the ELD.

9.3. Comparison between the US and EU environmental insurance markets

There are similarities between the environmental insurance market in the US and the environmental insurance market in the EU but there are also major differences, especially in the availability and demand for stand-alone environmental insurance policies. Annex III sets out data on the availability of, and demand for, environmental insurance in each Member State.

In order to understand the similarities and differences between the environmental insurance markets in the US and the EU, this section briefly describes the structure of insurance in them and the issuance of policies throughout the US and the EU.

9.3.1. Structure

Insurance law in the US is State law; there is no federal insurance law. This means, for example, that the construction/interpretation of the CGL policy differs according to the State law applied to it even though the words and terms being construed may be identical.

Insurance is regulated primarily by States with some federal regulation that does not affect

412 Ibid
413 Ibid 1
414 Ibid 12
the issues covered by this report.

In order to carry out insurance business in a State, an insurer must be licensed to do so by the State insurance authority. Each line (category/type) of insurance carried out by the insurer in each State in which it is authorised to carry out business must be licensed. Unlicensed insurers can offer policies in a State subject to the excess or surplus lines laws of that State.

Large insurers are invariably authorised to conduct insurance business in all States in the US. Some States, such as New York and California, have larger insurance markets than other States.

Insurance law in the EU is Member State law. That is, words and terms in an insurance policy are construed/interpreted according to the law of individual Member States.

In order to carry out insurance business in a Member State of the EU, an insurer must be authorised by the Member State’s insurance authority. Insurance is regulated by Member States subject to EU legislation that, as with US regulation, does not affect the issues covered by this report.

Reinsurance is subject to far fewer regulations than insurance in both the US and the EU.

Insurers in the European Economic Area (EEA) may engage in passporting. As indicated in section 2.1 above, passporting is a process by which an insurance company that is authorised in one State of the EEA can carry on permitted activities in any other EEA State by either establishing a branch or agents in that State (right of establishment) or providing cross-border services across the EEA (freedom of services). Large insurers in the EU invariably engage in passporting.

Passporting led to the establishment of environmental insurance markets in some major cities in Europe that already had large insurance markets. For example, the insurance markets in the United Kingdom (London) and France (Paris) are significantly larger than those in many other Member States (see Member State reports, section 2.1.1).

9.3.2. Standardisation of policies

Property policies in many States in the US are standardised. The CGL policy is also standardised and has been since it was first drafted by a predecessor of the Insurance Services Office in 1940. The insurance authority of a State must approve its use and any revisions to it before it can be offered in that State but most States have done this for many years. The same general liability policy wording therefore tends to apply to risks covered by it throughout the US, with revisions made to it throughout the US when it is revised by the Insurance Services Office. States can, of course, adapt the standardised wording. The pollution exclusions in the various versions, however, have tended to be the same in most, if not all, States.

Property policies and general liability policies across the EU are not standardised, with the exception of Austria and Germany, in which national insurance associations draft model terms and conditions for use by their members (if their members choose to use and/or adapt them). The model terms and conditions include extensions to general liability policies specifically designed to cover liabilities under the ELD (see the Member State reports for Austria and

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417 See also Insurance Europe Members; https://www.insuranceeurope.eu/member-list (by clicking on each member)
Germany for details). The national insurance associations in other Member States do not draft model terms and conditions, at least for environmental insurance.

9.3.3. Pollution exclusions

As indicated in section 9.1.1 above, the CGL policy has a total pollution exclusion. The reason for this exclusion, and the qualified pollution exclusion before it, was due to massive losses suffered by insurers (and their reinsurers) following claims by insureds against which the US EPA had enforced CERCLA and, to a lesser extent, RCRA.

As a result of the losses, insurers that offer CGL policies (and other general liability policies) invariably exclude all cover for pollution from their policies subject to narrow write backs in the total pollution exclusion or other pollution exclusions.

Insurers in the London insurance market (and their reinsurers across the EU) also suffered massive losses due to the enforcement of CERCLA and, to a lesser extent RCRA, in the US. A substantial amount of insurance underwritten by the Lloyd’s and the London company market is in the US. For example, Lloyd’s is an approved surplus lines insurer – the largest surplus lines insurer – in all States in the US, with 40% of its global premiums currently paid by US insureds.418

Between 2009 and 2019, re/insurers paid over $3.4 billion (EUR 3.1 billion) in environmental losses in the US. A.M. Best Company, a credit rating agency that reports, among other things, on US insurance losses, stated that the estimates by the end of 2018 for the US property/casualty market were unchanged at $46 billion (EUR 42 billion). Cumulative incurred losses were $42 billion (EUR 38.5 billion).

A.M. Best further reported in October 2019 that the potential for larger environmental settlements remained a risk for the following reasons:

- original sites that were revisited were ‘found to be more toxic than previously thought’;
- environmental litigation continued to evolve;
- clean-up standards had been revised to more stringent levels; and
- the US EPA was being ‘more aggressive in targeting cleanups’.419

Due to the massive losses in the US, insurers in the London market and other insurance markets in Europe (and reinsurers in Europe) are understandably reticent to provide cover for preventing or remediating pollution in the US. This does not, however, prevent them from doing so in the EU, where legislation as onerous as CERCLA does not exist and where courts tend not to construe provisions in general liability policies as broadly as they construed the CGL and other general liability policies in the US.

Although many if not most insurers in Europe, therefore, have pollution exclusions in their general liability and property policies, the exclusions are nearly always qualified in that they exclude cover from pollution and then write back cover for claims for bodily injury and property damage from sudden and accidental pollution.

418 Lloyd’s, ‘About Lloyd’s of London in the US’; https://www.lloyds.com/lloyds-around-the-world/americas/us-homepage/about-us Lloyd’s is not an insurance company. Re/insurance is underwritten by members of syndicates that are, in turn, members of Lloyd’s

General liability policies in the EU therefore include some cover for pollution whereas the CGL and other liability policies in the US tend not to do so.

9.3.4. **Environmental extensions**

Insurers in the US may offer extensions/endorsements to CGL and other general liability policies that write back cover for some pollution that is otherwise excluded by the total pollution exclusion and other pollution exclusions. Cover in most if not all of these, however, is written back only for claims for bodily injury or property damage caused by a sudden and accidental incident at an insured’s site. The extensions, if any, do not write back cover for preventing and remediating pollution or other environmental damage.

The situation is different in the EU. Insurers in most Member States are willing to offer environmental extensions to general liability and, to a lesser extent, property policies. As discussed in chapter 10 below, however, nearly all environmental extensions do not provide cover for ELD liabilities, only two or three offered by a single insurer provide cover for complementary and compensatory remediation, and most are subject to low sub-limits of liability.

In addition, extensions to general liability policies nearly always provide cover only for remediating off-site pollution of land/soil from a sudden and accidental incident at an insured’s site.

Insureds that wish to purchase policies to provide cover for environmental liabilities in the US, therefore, must purchase stand-alone environmental insurance policies. Insureds that wish to purchase cover for environmental liabilities in the EU may choose to have environmental extensions to their general liability (or to a much lesser extent property) policies instead of purchasing a stand-alone environmental insurance policy.

Many insureds in the US and the EU, however, do not fully understand the cover provided by property and general liability policies for environmental liabilities. They tend to consider that it is more extensive than it actually is, with insureds in the EU also tending to consider that environmental extensions to general liability and property policies provide more cover than they actually provide.

9.3.5. **Establishment of environmental insurance markets**

The qualified exclusions of cover for pollution in general liability policies, which began to appear in policies in the EU in the early 1990s, led some large insurers in the US to begin offering stand-alone environmental insurance policies through their branches in the EU. The obvious base for this was London due to its large insurance market, most large US insurers already having branches there, and English being the common language.

When the EU adopted the ELD, other insurers based in, or with branches in, London also entered the environmental insurance market. In addition to insurers from continental Europe, they included insurers in other States such as Australia.

As a result, the London environmental insurance market is established as a global environmental insurance market that passports stand-alone environmental insurance policies throughout the EU – at least during the transition period. As indicated in some Member State reports such as those for Cyprus and Greece, insureds and their brokers tend to look to the London market for stand-alone environmental insurance policies.

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420 Many large re/insurance groups have restructured to facilitate them continuing to carry out re/insurance business on an EU-wide as well as a global basis.
The establishment of large global insurers in London contrasts with the insurance markets of some Member States. Insurers with branches in, or based in, some Member States may offer stand-alone environmental insurance policies to businesses that have sites and/or operations only in that Member State; others do not do so.

Multinational insurers tend not to offer stand-alone environmental insurance policies by passporting to businesses that have sites and/or operations in a single Member State. Passporting tends to be used by multinational insurers for businesses with sites and/or operations in more than one Member State.

The above differs from the US where the large US environmental insurers offer policies to businesses with sites and/or operations in a single State and/or many States.

9.3.6. Governmental programmes to develop brownfield sites

A major driver for the demand for stand-alone environmental insurance policies in the US has been State programmes to redevelop brownfield sites, many with financial incentives to do so. Whilst CERCLA was amended to facilitate these programmes by providing exemptions related to their redevelopment (see sections 4.3.9 and 9.1.3 above), developers still tended to purchase the policies to protect them from potential liabilities under CERCLA.

Whilst some Member States have brownfield redevelopment programmes, they are not carried out against the backdrop of environmental liabilities that are as onerous as those of CERCLA or, to a lesser extent, RCRA.

9.3.7. Nature and enforcement of underlying legislation

As referred to above, the most significant factor in the difference in the availability of, and demand for, stand-alone environmental insurance policies between the US and the EU is the underlying legislation. As discussed in sections 4.2 and 4.3 above, environmental liability legislation, especially CERCLA and State mini-CERCLAs, is much more onerous than the ELD and Member State environmental liability legislation. There is therefore a much greater impetus for businesses in the US to purchase stand-alone environmental insurance policies to protect them than in the EU, especially in Member States that have few or no ELD incidents.

9.3.8. Commercial transactions

A similarity in both the US and the EU is a demand for stand-alone environmental insurance policies in commercial transactions, although this is much lower in the EU where there is not an equivalent of CERCLA. Indeed, it is noticeable in the legal sector, at least in London, that there is a higher demand for stand-alone environmental insurance policies in a commercial transaction if one or more parties to it is American.

9.3.9. Mandatory financial security

The existence of financial security requirements for environmental liabilities in mandatory financial security systems in EU legislation also differs from the existence of such liabilities in the US. As indicated in section 5.4 above, mandatory financial security provisions in US environmental legislation include financial security for environmental liabilities as well as responsibilities. No EU environmental legislation mandates financial security for environmental liabilities.

When a Member State has introduced mandatory financial security for liabilities under the ELD or other environmental liabilities, this tends to increase demand for stand-alone environmental insurance policies. For example, Greek legislation requires operators that have
a permit to transport hazardous waste, or a permit to handle, store, dispose of, or recover hazardous waste at their sites to have mandatory financial security for their operations. Most of the demand for stand-alone environmental insurance policies (and to a lesser extent bank guarantees) in Greece is from these operators.

In addition, the environmental insurance market is developed in some Member States that have adopted a mandatory financial security system for ELD liabilities such as Ireland, Portugal and Spain.

9.3.10. Implementation of regulatory requirements

As indicated in section 4.2 above, States in the US enforce regulatory legislation such as RCRA and the CWA in accordance with co-operative federalism. The US EPA may step in and enforce the legislation if a State does not do so. Further, the penalties for breaching environmental legislation in the US can be, and frequently are, particularly high including imprisonment in a substantial number of cases.

The legislation therefore tends to be aggressively enforced which in turn tends to lead to greater compliance by businesses with environmental regulatory legislation.

As illustrated by the industrial disaster at Kolontár, the Industrial Emissions Directive, the Extractive Waste Directive and other EU legislation may not always be stringently enforced by competent authorities in some Member States. In addition, some Member States especially those in the Eastern EU have historic pollution from Soviet era occupation. Insurers, and their reinsurers, are much less likely to offer stand-alone environmental insurance policies in such Member States or, if they do so, they tend to limit their scope. This obviously has a massive effect on the availability of such policies compared to the US.

9.3.11. Re/insurance pools

In 1981, shortly after the environmental insurance market had begun in the US, a re/insurance pool called the Pollution Liability Insurance Association (PLIA) was formed by several insurers to reinsure environmental insurance policies underwritten by its members. In 1981, PLIA had 41 members. By 1985, the number of members peaked at 49 with total premiums of $10,000,000 (EUR 8,065,000). Since that time, the US environmental insurance market has consisted predominantly of commercial insurers. No re/insurance pools for environmental risks, certainly no large pools, existed in the US when this report was published.

In contrast, there are long-established re/insurance pools in France, Italy and Spain that continue to play a large part in the environmental insurance markets in those Member States although a re/insurance pool in the Netherlands ceased to exist on 31 December 2019 (see the Member State reports).

The absence of a large re/insurance pool for environmental risks in the US, however, does not appear to have a detrimental effect on the availability of stand-alone environmental insurance policies there due to the large environmental insurance market.

9.3.12. Awareness

Finally, businesses in the US tend to be more aware of their environmental risks than those in the EU. The lower awareness in the EU, particularly by small and medium sized businesses, was commented on by many ELD stakeholders during the research for this report. This lower lack of awareness of the ELD and other liabilities in the EU has an obvious effect on the demand for stand-alone environmental insurance policies.
10. ENVIRONMENTAL INSURANCE MARKETS IN MEMBER STATES

Chapter 10 examines the availability of, and demand for, insurance for ELD and other environmental liabilities across the EU.

The chapter is structured as follows.

First, the chapter examines the availability of, and demand for, environmental insurance in each Member State. It does so by examining the following environmental insurance products:

- stand-alone environmental insurance policies;
- environmental extensions to general liability policies; and
- environmental extensions to property policies.

The chapter then compares and analyses differences in the availability of, and demand for, insurance for environmental liabilities, especially ELD liabilities, in the various Member States, and reasons for the differences.

More information is set out in the Member State reports in annex I and is summarised in the Member State summaries in annex II.

Figure 3 below summarises the availability of, and demand, for the three types of insurance in Member States in respect of liabilities only for the ELD. Annex III sets out data on the availability of, and demand for, the three types of insurance in Member States more generally including cover provided by them for ELD and other environmental liabilities.

This chapter does not describe the availability of, and demand for, environmental insurance offered by multinational insurers to businesses that have sites and/or operations in more than one Member State. As indicated elsewhere in this report, the availability of, and demand for, these products does not reflect their availability and demand to business with sites and/or operations in a single Member State.

10.1. Availability and demand for environmental insurance in Member States

The following descriptions of environmental insurance in each Member State and the availability of, and demand for, them are drawn from the Member State summaries.

10.1.1. Austria

Financial security for ELD liabilities is widely available in Austria.

The most prevalent form of insurance for ELD liabilities is an environmental extension to a general liability policy that has model terms and conditions drafted by the Austrian Insurance Association (Versicherungsverband Österreich; VVO). The extension is drafted specifically to provide cover for ELD liabilities, with a sub-limit of liability for compensatory remediation of 50% of the total of primary and complementary remediation. Whilst it is not mandatory to include the extension in a general liability policy, virtually all insurers that offer general liability policies in Austria include them and the vast majority of insureds purchase them as part of their general liability policies, with some insurers adapting the wording of the extension. As a result, Austria has a very high coverage of operators, second only to Germany.

Whilst the model terms and conditions provide cover for all liabilities under the ELD, they do not provide cover for the following:

- environmental damage that is caused gradually, with the proviso that incidents such as the leakage of a pipeline due to corrosion is considered to be sudden even if the leakage starts from a tiny hole and the corrosion process is gradual;
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• the remediation of environmental damage on an insured’s own site unless a competent authority requires the operator to carry out measures at the site to prevent contaminants migrating to an area within the Natura 2000 network or a similarly protected area, or to prevent an adverse effect on a water body, and the operator did not cause the damage intentionally or with gross negligence;
• preventive measures with the proviso that costs to prevent loss that would have occurred immediately but for such measures are covered if the environmental damage also results in a claim under article 6 of the model terms and conditions which provides cover for civil law claims from environmental impairment; and
• environmental damage that is caused other than by a disruption of operations (deviation from normal operations) and that involves emissions.

All the above gaps in cover could be filled if an insured purchases a stand-alone environmental insurance policy. Most businesses with sites and/or operations only in Austria, however, do not do so due to the near universal use of the model terms and conditions. Stand-alone environmental insurance policies in Austria tend to be purchased mainly as part of global insurance programmes.

Environmental extensions to property policies are not available.

10.1.2. Belgium

Financial security for ELD liabilities is widely available in Belgium.

Stand-alone environmental insurance policies that provide cover for all ELD liabilities including environmental damage in addition to pollution and gradual environmental damage are widely available. Demand is good.

Environmental extensions to general liability policies are also widely available. They provide cover for the remediation of off-site land/soil pollution from a sudden and accidental incident at an insured’s site. At least three of the main extensions specifically provide cover for liabilities under the ELD but only if the environmental damage is off-site land/soil pollution and is from a sudden and accidental incident on the insured’s site. The three extensions include the additional limitation that a pollution incident must begin and end within a continuous 24-hour period in order for cover to be provided. Most extensions have very low sub-limits. Demand for the extensions is good.

Environmental extensions to property policies are available but only to a very limited extent. They do not provide cover for ELD liabilities.

10.1.3. Bulgaria

Financial security for ELD liabilities is available in Bulgaria but not widely available.

Stand-alone environmental insurance policies are offered by three insurers based in, or with branches in, Bulgaria. They provide cover for preventing and remediating gradual as well as sudden and accidental pollution but not environmental damage other than pollution. Further, they do not provide cover for complementary or compensatory remediation under the ELD. Demand for the policies is low.

Extensions to general liability policies that provide cover for remediating off-site land/soil pollution from a sudden and accidental incident at an insured’s site are more widely available. They do not provide cover for preventing such pollution, for remediating gradual pollution or for complementary or compensatory remediation. Further, they have a sub-limit of liability. Demand for the extensions is higher than for stand-alone environmental insurance policies but is still low.
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Environmental extensions to property policies are not available.

10.1.4. Croatia

Financial security for ELD liabilities is not generally available in Croatia.

Stand-alone environmental insurance policies that provide cover to businesses with sites and/or operations only in Croatia are not available.

Environmental extensions to general liability policies are widely available. They provide cover only for remediating off-site land/soil pollution from a sudden and accidental incident at an insured’s site. They do not provide cover for ELD liabilities, environmental damage other than pollution, or gradual pollution. Demand is low.

Extensions to property policies that provide cover for remediating sudden and accidental on-site pollution are available on demand. They do not provide cover for remediating gradual pollution or environmental damage other than pollution. They do not provide cover for ELD liabilities. Demand is low.

10.1.5. Cyprus

Financial security for ELD liabilities is available in Cyprus only to a very limited extent.

Stand-alone environmental insurance policies are available only as follows. They are available from a small number of insurers based in, or with branches in, Cyprus by means of fronting. That is, a local insurer in Cyprus issues a stand-alone environmental insurance policy on behalf of another insurer that has capacity for the risk – usually a London environmental market insurer. The local insurer may transfer some, or all, of the risk to the other insurer and agrees to pay losses covered by the policy and then seek reimbursement from the other insurer through a reinsurance agreement.

The other means of obtaining stand-alone environmental insurance policies for businesses that have sites and/or operations only in Cyprus is to purchase stand-alone environmental insurance policies by either directly contacting insurers in the London environmental insurance market or by operating through national brokers which propose London market environmental insurance policies.

The availability of stand-alone environmental insurance policies is thus very low as is demand for them.

Extensions to general liability policies that provide cover for preventing or remediating environmental damage are not available.

Extensions to property policies that provide cover for remediating environmental damage are not generally available.

10.1.6. Czech Republic

Financial security for ELD liabilities is available in the Czech Republic but the scope of cover that is provided is limited.

Whilst stand-alone environmental insurance policies that provide cover for ELD liabilities are widely available, only three insurers provide cover for gradual as well as sudden and accidental environmental damage. Demand is low but growing.

Environmental extensions to general liability policies are also widely available but most provide cover only for claims for bodily injury and property damage and the cost of remediating off-site land/soil pollution from a sudden and accidental incident at an insured’s
site. Some provide cover only if the pollution is caused by an incident that begins and ends within 72 hours. Others limit cover to pollution caused by an incident involving a protective or containment device. They do not generally provide cover for ELD liabilities. Demand is higher than demand for stand-alone environmental insurance policies but is still low.

Environmental extensions to property policies are not available.

10.1.7. Denmark

Financial security for ELD liabilities is widely available in Denmark.

Stand-alone environmental insurance policies that provide cover for ELD liabilities from a limited number of insurers including multinational insurers are widely available. Demand is low.

Environmental extensions to general liability policies are also widely available from a limited number of insurers including multinational insurers. The extensions do not provide cover for complementary or compensatory remediation. Some do not provide cover for any ELD liabilities. Demand is low.

Environmental extensions to property policies from a limited number of insurers including multinational insurers are also available. Cover under them is primarily limited to remediating land/soil pollution from a sudden and accidental incident at an insured’s site. Demand is low.

10.1.8. Estonia

Financial security for ELD liabilities is not generally available in Estonia.

Stand-alone environmental insurance policies that provide cover for businesses with sites and/or operations in Estonia are not generally available. The rare times that businesses request such policies, they are generally provided by multinational insurers via passporting.

Extensions to general liability policies that provide cover for remediating off-site pollution from a sudden and accidental incident at an insured’s site are widely available. They tend to be limited to the remediation of land/soil damage. They do not provide cover for ELD liabilities unless the remediation overlaps with land/soil damage under the ELD. Cover is generally subject to a sub-limit of liability. Demand is low.

Environmental extensions to property policies provide limited cover for the remediation of land/soil pollution at an insured’s site. Demand for them is lower than for environmental extensions to general liability policies.

10.1.9. Finland

Financial security for ELD liabilities is available in Finland.

Stand-alone environmental insurance policies that provide cover for ELD liabilities are available from a limited number of insurers. Demand by small to medium sized businesses is low but steadily growing. Demand by large businesses is higher but is still low although it is also steadily growing.

Environmental extensions to general liability policies are widely available. Demand for them is low but is higher than demand for stand-alone environmental insurance policies. The extensions provide cover for remediating off-site land/soil pollution from a sudden and accidental incident at an insured’s site. They do not provide cover for gradual pollution or for environmental damage other than pollution. They do not provide cover for ELD liabilities. In addition, they tend to require an insured to notify the insurer of the pollution within a specified period of time.
Some insurers offer extensions to property policies, often called Decontamination and Cleanup Expense Extensions. The extensions provide cover for the costs of preventing and remediating environmental damage at an insured’s own site and thus may also provide cover for the costs of preventing the migration of pollution from the site. They tend to be purchased by operators to prevent damage to insured property in the form of industrial buildings or warehouses. They provide cover for damage only from sudden and accidental pollution incidents in connection with property damage. They typically provide cover for the remediation of soil or water (including its disposal) that has been contaminated during emergency measures to mitigate environmental damage. They are thus somewhat similar to enhanced cover for debris removal. They do not provide cover for complementary or compensatory remediation. Demand for these is also low but is higher than demand for stand-alone environmental insurance policies.

10.1.10. France

Financial security for ELD liabilities is widely available in France.

Stand-alone environmental insurance policies that provide cover for liabilities under the ELD and other environmental legislation are widely available. They are underwritten by individual, including multinational, insurers independently as well as through Assurpol, the French co-reinsurance environmental pool. Demand for the policies is good.

Extensions to general liability policies that provide cover for remediating off-site pollution from a sudden and accidental incident at an insured’s site are also widely available. As with stand-alone environmental insurance policies, they are underwritten by individual, including multinational, insurers independently as well as through Assurpol. Most extensions do not provide cover for ELD liabilities although a few extensions that specifically provide cover for them are available subject to cover being limited to sudden and accident pollution. They have very low sub-limits. Demand for the environmental extensions is good.

Environmental extensions to property policies are not generally available. There may be exceptions for some large accounts, in which case there is a sub-limit of liability for remediation costs.

10.1.11. Germany

Financial security for ELD liabilities is widely available in Germany, which has the highest level of cover in the EU.

The most prevalent form of insurance for ELD liabilities is an environmental extension to a general liability policy that has model terms and conditions drafted by the German Insurance Association (Gesamtverband der Deutschen Versicherungswirtschaft; GDV). The extension is drafted specifically to provide cover for ELD liabilities, with a sub-limit of liability for compensatory remediation. Whilst it is not mandatory to include the extension in a general liability policy and whilst they may be adapted, virtually all insurers that offer general liability policies in Germany include them and the vast majority of insureds purchase them as part of their general liability policies. Their purchase is considered to be best practice.

There are two alternatives of the extension. One version, the Basic Cover, is for low environmental risks. The other version, the Comprehensive Cover which has two optional modules, is for industrial installations.

The model terms and conditions do not provide cover for the following:

- environmental damage that is caused gradually with the caveat that gradual pollution from a disruption of operations is covered;
• environmental damage that exists at a covered site prior to the inception date of the policy especially if the operator that caused the damage has divested the site;
• the costs of remediating groundwater unless the operator has purchased Comprehensive Cover and optional module 1 to the Comprehensive Cover;
• preventive measures under the ELD with the exception of measures to avoid or minimise environmental damage that would otherwise inevitably occur; and
• environmental damage caused other than by a disruption of operations, a limitation that effectively narrows their scope to ELD incidents that involve pollution.

Further, they do not provide cover for remediating on-site pollution and other environmental damage due to being extensions to general liability policies.

Revisions to the model terms and conditions in October 2019 combined them with the model terms and conditions for civil law environmental liability and integrated both into the GDV’s non-binding model terms and conditions for public and products liability insurance as standard cover under a separate section.

All the gaps in cover for ELD liabilities indicated above may be filled if an insured purchases a stand-alone environmental insurance policy. Most operators with sites and/or operations only in Germany, however, do not do so due to the near universal use of the model terms and conditions. Stand-alone environmental insurance policies tend to be purchased mainly as part of global insurance programmes by large operators that have sites and/or operations in other States as well as Germany.

Environmental extensions to property policies are not available.

10.1.12. Greece

Financial security for ELD liabilities is available in Greece only to a very limited extent. Approximately three insurers based in, or with branches in, Greece offer stand-alone environmental insurance policies that provide cover to businesses with sites and/or operations only in Greece. Cover under the policies is limited to preventing and remediating pollution (not other types of environmental damage) under the ELD. Demand for the policies is very low.

Due to the lack of demand from businesses, cover for ELD and other environmental liabilities is generally excluded from annual reinsurance treaties with very few potential exceptions. As common practice, an insurer can request a reinsurance broker to obtain facultative cover to meet the demands of a specific insured.

Extensions to general liability policies that provide cover for remediating off-site pollution under the ELD and other environmental legislation from a sudden and accidental incident at an insured’s site are available on a limited basis. Most extensions do not provide cover for gradual pollution or other environmental damage. They do not provide cover for complementary or compensatory remediation under the ELD. Demand for the extensions is very low.

Extensions to property policies that provide cover for remediating on-site sudden and accidental pollution under the ELD and other environmental liabilities are available on a limited basis. They do not provide cover for complementary or compensatory remediation. Demand for them is very low.

10.1.13. Hungary

Financial security for ELD liabilities is available in Hungary.
Stand-alone environmental insurance policies that provide cover for liabilities under the ELD are available from at least four insurers based in, or with branches in, Hungary. Some insurers limit cover to pollution from sudden and accidental pollution incidents rather than including gradual pollution and environmental damage other than pollution. Demand for the policies is low.

Environmental extensions to general liability policies are available. They do not provide cover for ELD liabilities. Some extensions provide cover for measures to remediate off-site pollution from a sudden and accidental incident at an insured’s site. Other extensions are limited to cover for third-party claims for bodily injury and property damage from sudden and accidental pollution that migrates from an insured’s site. Demand for extensions is greater than demand for stand-alone environmental insurance policies but is still low.

Environmental extensions to property policies are not available.


Financial security for ELD liabilities is widely available in Ireland.

Stand-alone environmental insurance policies that specifically provide cover for ELD liabilities from gradual as well as sudden and accidental environmental damage including pollution are widely available. Demand is good.

Some insurers offer a version of their stand-alone environmental insurance policies specifically to meet the requirements for mandatory financial security.

Environmental extensions to general liability policies that provide cover for the remediation of off-site pollution from a sudden and accidental incident at an insured’s site are also available. The extensions tend to be limited to pollution rather than including other types of environmental damage. They do not generally provide cover for ELD liabilities. Demand for them is much lower than the demand for stand-alone environmental insurance policies.

Environmental extensions to property policies are not available.

10.1.15. Italy

Financial security for ELD liabilities is widely available in Italy.

Stand-alone environmental insurance policies are widely available. The policies are underwritten by individual, mainly multinational, insurers and insurers associated with the Environmental Pool (Pool Ambiente). Most policies provide cover only for pollution. A few policies provide broader cover for all types of environmental damage under the ELD. Demand for the policies is low.

Extensions to general liability policies that provide insurance for remediating off-site pollution from a sudden and accidental incident at an insured’s site are also widely available. The extensions are subject to limitations and low sub-limits. The extensions do not provide cover for complementary or compensatory remediation. The Environmental Pool does not reinsure such extensions due to the lack of specialised environmental underwriting for them. Demand is low.

Environmental extensions to property policies are not available.

10.1.16. Latvia

Financial security for ELD liabilities is available in Latvia but only to a very limited extent.
Stand-alone environmental insurance policies are not generally available. One insurer may consider possibly underwriting such a policy in individual cases. If the insurer agrees to do so, the policy would provide cover only for remediating sudden and accidental pollution. It would also be subject to a low limit of liability. Demand is low to non-existent.

Environmental extensions to general liability policies are available but cover provided by them is limited to measures to remediate off-site land/soil pollution from a sudden and accidental incident at an insured’s site. Cover is not provided for complementary or compensatory remediation under the ELD, gradual pollution, or environmental damage other than pollution. One insurer offers an extension that provides cover for remediating off-site environmental damage under the ELD (not complementary or compensation remediation) from a sudden and accidental incident at an insured’s site. Demand for the extensions is low.

Cover provided by at least one extension is limited to direct losses caused by a sudden and accidental incident provided that the insured becomes aware of the incident within 72 hours after it has commenced and reports the incident to insurers within seven days after its commencement. The losses covered by the extension are required and reasonably practicable measures to control and contain pollutants, and measures to prevent or reduce further damage to human health and the environment including deterioration in the functions of natural resources. The body of the general liability policy specifically excludes cover for losses from gradual pollution, with the notation that cover is not provided if it is not possible to determine the time and the location of the leakage, emission, dispersal or spreading of pollutants.

Environmental extensions to property policies are not generally available with the exception of one extension issued by one insurer that provides cover for the costs of emergency and remedial measures to remove pollution from oil and other chemicals up to a sub-limit. The extension does not provide cover for ELD liabilities. Demand for the extension is rare.

10.1.17. Lithuania
Financial security for ELD liabilities is not available in Lithuania except for environmental extensions to general liability policies as indicated below.

Stand-alone environmental insurance policies are not available in Lithuania. Not only are they not offered by any insurers based in, or with branches in, Lithuania, multinational insurers do not offer them to operators with sites and/or operations only in Lithuania. Demand is low to non-existent.

Environmental extensions to general liability policies that provide cover for third-party claims for bodily injury and property damage from a sudden and accidental pollution incident are available. Cover is generally subject to a sub-limit. Demand for the extensions is increasing from low to moderate. In addition, the following two types of extensions may be agreed with an insurer.

First, cover may be provided for remediating off-site pollution caused by a sudden and accidental incident at an insured’s site. The extension does not include cover for: remediating environmental damage other than pollution; any ELD liabilities except for the remediation of land/soil when such remediation overlaps with liability for remediating pollution under other environmental legislation; or complementary or compensatory remediation.

Second, cover may be provided for compensation for environmental damage. The amount of compensation is calculated by applying specified methodology for calculating environmental damage under Lithuanian law. The purpose of the methodology is to assess damage to the environment that may occur in the future. The methodology applies to all legal and natural
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persons who have caused environmental damage in the territory of Lithuania, its territorial waters and its exclusive economic zone. The methodology does not include third-party claims for bodily injury or property damage. Accordingly, whereas environmental extensions provide cover for compensation calculated by the methodology, they do not provide cover for third-party claims unless an extension otherwise provides cover for them.

Environmental extensions to property policies are not available.

10.1.18. Luxembourg
Financial security for ELD liabilities is widely available in Luxembourg. 
Approximately five insurers based in, or with branches in, Luxembourg offer stand-alone environmental insurance policies that provide cover for all ELD liabilities including environmental damage in addition to pollution. Cover is provided for gradual as well as sudden and accidental environmental damage. The policies are widely available. Demand is very low to rare.

Environmental extensions to general liability policies are also widely available in Luxembourg. At least three of the main extensions specifically provide cover for liabilities under the ELD but limit it to the remediation of off-site land/soil pollution from a sudden and accidental incident at an insured’s site. Cover is not provided for complementary or compensatory remediation. The extensions also include the additional limitation that a pollution incident must begin and end within a continuous 24-hour period in order for cover to be provided. Demand is very low to rare.

Environmental extensions to property policies are not available.

10.1.19. Malta
Financial security for ELD liabilities is not available in Malta.
Stand-alone environmental insurance policies are not available from insurers that are based in, or have branches in, Malta. Demand is non-existent.

Environmental extensions to general liability policies are available to a limited extent. They provide cover only for third-party claims from a sudden and accidental pollution incident. They do not provide cover for remediating pollution or other types of environmental damage under the ELD or other environmental legislation. Demand is low.

Environmental extensions to property policies are not available.

10.1.20. Netherlands
Financial security for ELD liabilities is widely available in the Netherlands.
At least 11 insurers, including five insurers based in or with branches in, the Netherlands offer stand-alone environmental insurance policies that provide cover for all ELD liabilities including environmental damage in addition to pollution and gradual as well as sudden and accidental environmental damage. The policies are widely available. Demand is low to moderate but slowly growing.

There are three types of stand-alone environmental insurance policies in the Netherlands: policies drafted by multinational insurers; the Environmental Damage Insurance policy (Milieuschadeverzekering; MSV); and the Environmental Liability Insurance policy (Milieuwaansprakelijkheidsverzekering; MAV). The first type provides cover for all ELD liabilities depending on the insurer. The MSV, which is first party insurance only, does not provide cover
for ELD liabilities. The MAV, which is first party cover plus cover for third party liabilities, provides cover for ELD liabilities.

Environmental extensions to general liability policies are also widely available. At least three of the main extensions specifically provide cover for liabilities under the ELD but limit it to the remediation of off-site pollution from a sudden and accidental incident at an insured’s site. The extensions also include the additional limitation that a pollution incident must begin and end within a continuous 24-hour period in order for cover to be provided. Demand for them is good.

Environmental extensions to property policies are not available.

10.1.21. Poland

Financial security for ELD liabilities is available in Poland.

Stand-alone environmental insurance policies are offered by one national insurer and two branches of foreign insurers. The policies provide cover for ELD liabilities. Their availability and demand for them are moderate but increasing.

Environmental extensions to general liability policies are more widely available. The extensions do not provide cover for ELD liabilities. Some extensions provide cover for measures to prevent or remediate off-site pollution from a sudden and accidental incident at an insured’s site. Other extensions are limited to cover for third-party claims for bodily injury and property damage from sudden and accidental pollution that migrates from an insured’s site. Demand for the extensions is greater than demand for stand-alone environmental insurance policies.

Environmental extensions to property policies are not available.

10.1.22. Portugal

Financial security for ELD liabilities is widely available in Portugal.

A wide range of stand-alone environmental insurance policies are available. Many policies are underwritten with basic cover plus optional insuring agreements. Depending on the insurer, the basic cover is for ELD liabilities, both for remediating off-site and on-site environmental damage, third-party claims for bodily injury, property damage and economic loss, and related defence costs. The optional insuring agreements provide cover for claims for bodily injury and property damage, harm to employees for occupational accidents involving pollution, transportation, etc. Other policies have a menu-type format. Demand is good.

Environmental extensions to general liability policies are not generally available. They were available in the past but their use has largely disappeared.

Environmental extensions to property policies are not available.

10.1.23. Romania

Financial security for ELD liabilities is not generally available in Romania.

Stand-alone environmental insurance policies that provide cover for sites and/or operations in Romania are not generally available. Demand for them is extremely low.

Environmental extensions to general liability policies are not generally available. Demand for them is very low.

Environmental extensions to property policies are not available.
10.1.24. Slovakia
Financial security for ELD liabilities is available in Slovakia.
Stand-alone environmental insurance policies that provide cover for ELD and other environmental liabilities to businesses with sites and/or operations only in Slovakia are available from seven insurers based in, or with branches in, Slovakia. The policies provide cover for all liabilities under the ELD. Demand is moderate but growing slowly.
Environmental extensions to general liability policies are widely available. Some extensions provide cover only for remediating off-site pollution from a sudden and accidental incident at an insured’s site; other extensions also provide cover for gradual pollution. The extensions are limited to pollution. They do not provide cover for liabilities under the ELD. They also tend to have low sub-limits of liability. Demand is moderate.
Environmental extensions to property policies are not available.

10.1.25. Slovenia
Financial security for ELD liabilities in Slovenia is almost non-existent.
No insurers based in, or with branches in, Slovenia offer stand-alone environmental insurance policies except on demand and by agreement with reinsurers.
Stand-alone environmental insurance policies offered by multinational insurers provide cover only for sudden and accidental (not gradual) pollution to businesses with sites and/or operations only in Slovenia.
In 2018 and 2019, a large Slovenian insurer carried out an assessment to determine whether to develop a stand-alone environmental insurance policy. The insurer decided to postpone its development until demand increased.
Some insurers offer extensions to general liability policies that provide cover for preventing and remediating off-site pollution from a sudden and accidental incident at an insured’s site. The extensions are subject to low sub-limits. They do not provide cover for ELD liabilities. Demand is low.
Environmental extensions to property policies are not available.

10.1.26. Spain
Financial security for ELD liabilities is widely available in Spain.
Stand-alone environmental insurance policies are widely available. They provide cover for all ELD liabilities. They are underwritten by individual, mainly multinational, insurers and insurers associated with the Environmental Risks Pool (Pool Español de Riesgos Medioambientales). Demand is moderate but growing, having been assisted by the preparations for, and the introduction of, mandatory financial security, both of which have raised awareness of liabilities under the ELD.
Extensions to general liability policies that provide cover for environmental liabilities are available only on a limited basis. Demand is moderate.
Environmental extensions to property policies are not available.

10.1.27. Sweden
Financial security for ELD liabilities is available in Sweden.
Stand-alone environmental insurance policies that provide cover for all liabilities under the ELD including environmental damage other than, as well as, pollution and including gradual as well as sudden and accidental environmental damage are available in Sweden. Demand for the policies is moderate.

Environmental extensions that provide cover for the remediation of off-site pollution from a sudden and accidental incident at an insured’s site are also available. The extensions tend to be limited to pollution and do not generally provide cover for liabilities under the ELD. Many simply refer to liabilities under the Swedish Environmental Code. Demand for the extensions is moderate.

Environmental extensions to property policies are not available.

10.1.28. United Kingdom

Financial security for ELD liabilities is widely available in the United Kingdom.

Stand-alone environmental insurance policies for businesses with sites and/or operations only in the United Kingdom are widely available. Demand for them is good and increasing as more insurers continue to enter the market.

Environmental extensions to general liability policies range from extensions for small to medium sized businesses to standardised ‘add ins’ for general liability policies issued to large businesses. Due to the ‘add ins’, a much larger volume of environmental extensions to general liability policies exists compared to stand-alone environmental insurance policies. The extensions do not necessarily provide cover for ELD liabilities; many provide only limited cover for remediating pollution under environmental legislation other than the ELD. Some require a claim for bodily injury or property damage under the general liability policy before cover under the extension is triggered. Others limit cover to the remediation of off-site pollution from a sudden and accidental incident at an insured’s site. Demand for the extensions is good, especially due to their standardisation in general liability policies for large operators.

Environmental extensions to property policies are not generally available.

Figure 3. Status of general availability of environmental insurance for ELD liabilities

<table>
<thead>
<tr>
<th>Member State</th>
<th>Stand-alone environmental insurance policies</th>
<th>Environmental extensions to general liability policies</th>
<th>Environmental extensions to property policies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>Available</td>
<td>Ubiquitous; specifically designed for ELD liabilities with some limitations</td>
<td>Not available</td>
</tr>
<tr>
<td>Belgium</td>
<td>Available</td>
<td>Yes but strictly</td>
<td>Not available</td>
</tr>
</tbody>
</table>

Environmental extensions to general liability policies are available in most Member States. They do not, however, generally provide cover for any ELD liabilities other than some off-site remediation of land/soil pollution when other environmental laws require it. This table indicates environmental extensions that provide cover for ELD liabilities only if they provide greater cover than such remediation. The lists in annex III indicate environmental extensions that provide cover for ELD liabilities and liabilities under other environmental legislation.

No environmental extensions to property policies provide cover for preventing or remediating environmental damage under the ELD with the possible exception of the remediation of land/soil that overlaps with remediation required by other environmental legislation.
<table>
<thead>
<tr>
<th>Member State</th>
<th>Stand-alone environmental insurance policies</th>
<th>Environmental extensions to general liability policies (^{421})</th>
<th>Environmental extensions to property policies (^{422})</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulgaria</td>
<td>Limited availability; no cover for environmental damage other than pollution; no cover for complementary or compensatory remediation</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td>Croatia</td>
<td>Not available</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td>Cyprus</td>
<td>Not available</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>High availability but most provide cover only for sudden and accidental environmental damage</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td>Denmark</td>
<td>High availability but some provide cover only for sudden and accidental pollution</td>
<td>Not available</td>
<td>Limited but may not provide cover for ELD liabilities</td>
</tr>
<tr>
<td>Estonia</td>
<td>Not generally available</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td>Finland</td>
<td>Moderately available</td>
<td>Not available</td>
<td>May provide cover for the remediation of on-site land/soil</td>
</tr>
<tr>
<td>France</td>
<td>Widely available</td>
<td>Not generally but a few extensions specifically provide cover for ELD liabilities from sudden and accidental pollution, with very low sub-limits</td>
<td>No except for some large accounts with a sub-limit of liability</td>
</tr>
<tr>
<td>Germany</td>
<td>Available</td>
<td>Ubiquitous; specifically designed for ELD liabilities with some limitations</td>
<td>Not available</td>
</tr>
<tr>
<td>Greece</td>
<td>Limited availability; cover for remediating pollution only</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td>Member State</td>
<td>Stand-alone environmental insurance policies</td>
<td>Environmental extensions to general liability policies</td>
<td>Environmental extensions to property policies</td>
</tr>
<tr>
<td>--------------</td>
<td>---------------------------------------------</td>
<td>------------------------------------------------------</td>
<td>----------------------------------------------</td>
</tr>
<tr>
<td>Hungary</td>
<td>Limited availability; cover for remediating sudden and accidental pollution only</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td>Ireland</td>
<td>Widely available</td>
<td>Available</td>
<td>Not available</td>
</tr>
<tr>
<td>Italy</td>
<td>Widely available</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td>Latvia</td>
<td>Possibly available from a single insurer but only for sudden and accidental pollution</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td>Lithuania</td>
<td>Not available</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>Widely available</td>
<td>Some extensions provide cover for the remediation of off-site land/soil pollution under the ELD from an incident on an insured’s site that begin and ends within a continuous 24-hour period</td>
<td>Not available</td>
</tr>
<tr>
<td>Malta</td>
<td>Not available</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td>Netherlands</td>
<td>Widely available</td>
<td>Some extensions provide cover for the remediation of off-site land/soil pollution under the ELD from an incident on an insured’s site that begin and ends within a continuous 24-hour period</td>
<td>Not available</td>
</tr>
<tr>
<td>Poland</td>
<td>Low but increasing availability</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td>Portugal</td>
<td>Widely available</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td>Romania</td>
<td>Not generally available</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td>Slovakia</td>
<td>Widely available</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td>Slovenia</td>
<td>Not available</td>
<td>Not available</td>
<td>Not available</td>
</tr>
</tbody>
</table>
10.2. Comparison and analysis

Figure 3 indicates the availability of insurance for ELD liabilities in individual Member States. The figure is limited to insurance for ELD liabilities; it does not indicate whether insurance is available for preventing or remediating environmental damage under legislation other than the ELD.

The figure is further limited because it indicates whether insurance for ELD liabilities is available to businesses that have sites and/or operations in a single Member State. It does not indicate whether insurance for ELD liabilities is available to businesses that have sites and/or operations in more than one Member State. As indicated in section 10 above and elsewhere in this report, such insurance is provided by multinational insurers, usually in global programmes. The availability of, and demand for, such insurance therefore does not reflect the status of environmental insurance in individual Member States.

Figure 4 indicates the demand for insurance for ELD liabilities.

The lists of Member States in annex III of this report indicate the availability of, and demand for, stand-alone environmental insurance policies, environmental extensions to general liability policies, and environmental extensions to property policies. Annex III is not limited to insurance that provides cover only for ELD liabilities.

10.2.1. Environmental extensions to general liability policies

The research for this report revealed very few environmental extensions to general liability policies that provide cover for any ELD liabilities. Most of the environmental extensions provide cover only for remediating off-site pollution from a sudden and accidental incident on an insured’s site. In addition, most do not provide cover for the following:

- gradual pollution;
- environmental damage other than pollution;
- complementary or compensatory remediation under the ELD;
- remediation of land/soil under the ELD unless it overlaps with the remediation of pollution under other environmental legislation;
- remediation/restoration of damage to species and natural habitats protected under the Birds Directive and the Habitats Directive; or
- remediation of surface, ground, transitional or coastal waters.

In addition, most environmental extensions to general liability policies have a low or very low sub-limit of liability.

Further, general liability policies are non-marine policies. That is, they are designed for businesses that carry out operations on land. They are not designed for businesses that carry out operations on water such as offshore oil and gas exploration and production, dredging, and transportation by vessels. They do not therefore provide cover for preventing or
remediating marine pollution or other environmental damage under marine waters covered by the Marine Strategy Framework Directive.

In summary, the vast majority of environmental extensions to general liability policies provide little if any cover for ELD liabilities. Even if they do so, they do not provide cover for complementary or compensatory remediation except for two or three extensions from a single insurer in France and the United Kingdom. There is little or no demand for these extensions. None of the extensions provides cover for preventing or remediating on-site environmental damage.

10.2.2. Environmental extensions to property policies

The research also revealed that there are very few environmental extensions to property policies. Indeed, the extensions are only really available in Denmark and Finland, with extensions being available in France only on demand and, perhaps, only by one insurer. The extensions are not, therefore, generally available.

Further, the extensions in Denmark and Finland do not appear to provide cover for ELD liabilities except, perhaps, for the remediation of land/soil at an insured’s site if it overlaps with remediation carried out under other environmental legislation.

In most Member States, therefore, insurance is not available for ELD liabilities, with the possible exception of cover for remediation of land/soil that overlaps with remediation carried out under legislation other than the ELD unless an insured purchases a stand-alone environmental insurance policy.

In summary, environmental extensions to property policies do not appear to provide any cover for preventing or remediating environmental damage under the ELD. They do not provide cover for complementary or compensatory remediation. None of the few extensions that are offered provide cover for remediating off-site environmental damage or third party claims.

10.2.3. Stand-alone environmental insurance policies

The research revealed that in order to have meaningful insurance for liabilities under the ELD, an insurer must offer – and an insured must purchase – a stand-alone environmental insurance policy.

As indicated in Figure 4 below, stand-alone environmental insurance policies are available, widely available, available on a limited basis only, or not available in the following Member States.

- Widely available: France, Ireland, Italy (but some are restrictive), Luxembourg, the Netherlands, Portugal, Slovakia, Spain, the United Kingdom
- Available: Austria, Belgium, Denmark, Germany, Poland, Sweden
- Limited or very limited availability: Bulgaria (subject to restrictions), Cyprus, the Czech Republic (some subject to restrictions), Estonia, Finland, Greece (subject to restrictions), Hungary (subject to restrictions), Latvia, Romania, Slovenia
- Not available: Croatia, Lithuania, Malta

Annex III to this report sets out more detailed information.

Stand-alone environmental insurance policies that provide cover for all ELD liabilities are, therefore, available or widely available in only 15 Member States. In all other Member States, their availability is either limited, very limited, or non-existent.

The research also revealed that even when stand-alone environmental insurance policies are available or widely available, demand for them is low in Denmark, Italy, Luxembourg, and the
Netherlands, with only moderate demand in Poland, Slovakia, Spain and Sweden. It should be noted in this regard that a mandatory financial security system for ELD liabilities exists in Slovakia and Spain.

The above figures do not include Austria and Germany. The reason for the low demand for stand-alone environmental insurance policies in these Member States is the near ubiquitous use of the VVO’s and GDV’s model terms and conditions, respectively. Indeed, the converse of the argument that is often made that mandatory financial security should not be introduced because it would impede the development of stand-alone environmental insurance policies appears to be true. That is, the use of the model terms and conditions appears to have impeded the development – or at least the availability – of stand-alone environmental insurance policies in Austria and Germany.

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**Figure 4. Demand for environmental insurance**

<table>
<thead>
<tr>
<th>Member State</th>
<th>Stand-alone environmental insurance policies</th>
<th>Environmental extensions to general liability policies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>Low</td>
<td>Very high; part of virtually all general liability policies</td>
</tr>
<tr>
<td>Belgium</td>
<td>Good</td>
<td>Good</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>Croatia</td>
<td>Not applicable; not available</td>
<td>Low</td>
</tr>
<tr>
<td>Cyprus</td>
<td>Low</td>
<td>Not available</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>Low but growing</td>
<td>Low but higher than demand for stand-alone environmental insurance policies</td>
</tr>
<tr>
<td>Denmark</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>Estonia</td>
<td>Not applicable; not generally available</td>
<td>Low</td>
</tr>
<tr>
<td>Finland</td>
<td>Low but growing</td>
<td>Low but higher than demand for stand-alone environmental insurance policies</td>
</tr>
<tr>
<td>France</td>
<td>Good</td>
<td>Good</td>
</tr>
<tr>
<td>Germany</td>
<td>Low</td>
<td>Very high; part of virtually all general liability policies</td>
</tr>
<tr>
<td>Greece</td>
<td>Very low</td>
<td>Very low</td>
</tr>
<tr>
<td>Hungary</td>
<td>Low</td>
<td>Low but higher than demand for stand-alone environmental insurance policies</td>
</tr>
</tbody>
</table>

---

423 This figure does not provide information on the demand for environmental extensions to property policies due to their very limited availability or non-availability in most Member States.

424 This figure does not differentiate between environmental extensions to general liability policies that provide cover for ELD liabilities and those that do not do so.
<table>
<thead>
<tr>
<th>Member State</th>
<th>Stand-alone environmental insurance policies</th>
<th>Environmental extensions to general liability policies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ireland</td>
<td>Good</td>
<td>Good but much lower than demand for stand-alone environmental insurance policies</td>
</tr>
<tr>
<td>Italy</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>Latvia</td>
<td>Not applicable; not generally available</td>
<td>Low</td>
</tr>
<tr>
<td>Lithuania</td>
<td>Not applicable; not available</td>
<td>Low to moderate</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>Low to rare</td>
<td>Low to rare</td>
</tr>
<tr>
<td>Malta</td>
<td>Not applicable; not available</td>
<td>Low</td>
</tr>
<tr>
<td>Netherlands</td>
<td>Low to moderate but slowly growing</td>
<td>Good</td>
</tr>
<tr>
<td>Poland</td>
<td>Moderate but increasing</td>
<td>Higher than demand for stand-alone environmental insurance policies</td>
</tr>
<tr>
<td>Portugal</td>
<td>Good</td>
<td>Very low</td>
</tr>
<tr>
<td>Romania</td>
<td>Extremely low</td>
<td>Very low</td>
</tr>
<tr>
<td>Slovakia</td>
<td>Moderate but growing slowly</td>
<td>Moderate</td>
</tr>
<tr>
<td>Slovenia</td>
<td>Not generally available</td>
<td>Low</td>
</tr>
<tr>
<td>Spain</td>
<td>Moderate but growing</td>
<td>Moderate</td>
</tr>
<tr>
<td>Sweden</td>
<td>Moderate</td>
<td>Moderate</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>Good</td>
<td>Higher than stand-alone environmental insurance policies</td>
</tr>
</tbody>
</table>
11. **PUBLIC FUNDING FOR PREVENTING AND REMEDIATING ENVIRONMENTAL DAMAGE IN MEMBER STATES**

The research into the state of financial security for ELD liabilities across the EU indicated that some Member States have encountered problems when operators that have caused environmental damage (referred to as responsible operators) have been unable to remediate it or to prevent further damage because they were insolvent or otherwise did not have sufficient funding to carry out preventive or remediation measures. A corollary issue is the inability of voluntary or mandatory financial security to provide cover for all the costs of remediating environmental damage and paying other losses from large-scale industrial incidents such as those at Kolontár in Hungary, and Moerdijk in the Netherlands. An issue that arises from this inability is the potential creation of a fund or risk-sharing facility at EU level to provide funding for such incidents.

This chapter examines and analyses the above issues. It is structured as follows.

First, the chapter briefly describes various types of funds and risk-sharing facilities that provide funding for the remediation of environmental damage.

Next, the chapter summarises the conclusions of the report that was carried out for the European Commission on a potential fund for industrial accidents (2013 study).[^425]

This is followed by a summary of the views of EU trade organisations of operators and insurers to the creation of such a fund.

The chapter then describes the provisions of the European Parliament’s Resolution[^426] that set out its concerns about the inadequacies of available financial security and its call for a fund for ELD liabilities.

Next, the chapter examines problems incurred by various Member States concerning environmental damage caused by operators that lack the necessary funding to remediate it either because they enter into insolvency or otherwise are not sufficiently financial viable.

The chapter then describes the industrial disasters at Kolontár and Moerdijk and their implications for financial security for ELD liabilities.

This is followed by a very brief summary of two cases in other States (Australia and the US) concerning the remediation of environmental damage.

Finally, the chapter describes funds established by Member States to pay for the remediation of environmental damage and the prevention of further damage under the ELD.

The purpose of this chapter is primarily to review funding for ELD incidents in the context of a potential EU fund or risk-sharing agreement. Its purpose is not to review such incidents to determine the clashes between insolvency/bankruptcy law and environmental law, with the acknowledgement that these clashes exist in many Member States.

Accordingly, this report does not examine environmental issues that arise in insolvencies/bankruptcies in any detail other than to note that some Member States have

[^425]: Bio Intelligence Service, ‘Study to Explore the Feasibility of creating a fund to cover environmental liability and losses occurring from industrial accidents’ (with IVM Institute for Environmental Studies and NAIDER, 17 April 2013); [http://ec.europa.eu/environment/legal/liability/](http://ec.europa.eu/environment/legal/liability/)

adopted provisions to safeguard the costs of remediating environmental damage from other creditors of an insolvency/bankruptcy estate. These provisions are briefly described in Member State reports as applicable.

11.1. Funds and risk-sharing facilities

There are many varieties of funds and risk-sharing facilities, as described in the 2013 study. The following is a brief description of the most common ones.

11.1.1. Tiered fund

The fund suggested by the European Parliament (section 11.4 below) would be a two-tier fund in that there would be a threshold above which it would apply. The first tier would consist of a mandatory financial security system for ELD liabilities, that is, the source of funding would be provided by operators subject to the system. The second tier would be the fund itself; the source of funding for which would be a levy on businesses that could access the fund.

An example of a tiered fund is the fund for claims for bodily injury and property damage caused by a nuclear incident under the Paris Convention and the Brussels Supplementary Convention. The first tier is funded by operators of nuclear installations. The second tier is funded by the Member State in which a nuclear incident occurs, followed by a third tier funded by contracting parties to the Brussels Supplementary Convention.

Another example of a tiered fund is the fund for pollution damage under the International Maritime Organisation’s 1992 Fund Convention. The first tier is funded by the owner of the vessel that caused the pollution damage (or its Protection and Indemnity Club (P&I Club) insurer) that is subject to the 1992 Fund Convention and the 1992 Liability Convention. The second tier is the 1992 Fund established under the 1992 Fund Convention. The third tier is the Supplementary Fund Protocol to the 1992 Fund Convention.

Parties to the Supplementary Fund Protocol, which can access funding under the Protocol, must have ratified the 1992 Fund Convention and the 1992 Liability Convention as well as the Supplementary Fund Protocol to access such funding.

11.1.2. Revolving fund

Another type of fund is a revolving fund. These funds are typically established by a government to provide funding, in the case of environmental liabilities, to a competent authority to investigate environmental damage, carry out emergency measures to prevent or remediate it, and then to carry out long-term measures if the responsible operator(s) does not or cannot do so, as well as implementing and enforcing the regime. Responsible operators, if found, must reimburse the government for funding measures for which they are liable.

An example of such a fund is the US Hazardous Substance Response Trust Fund, also known as the Superfund, which provides money to the US EPA to administer and enforce the Superfund programme to remediate seriously contaminated sites in the US. The Superfund was initially funded by four taxes that were either revised or established by SARA: an excise tax on barrels of crude oil; a chemical feedstocks excise tax; a chemical derivatives tax; and an

427 Paris Convention of 29 July 1960 on Third Party Liability in the Field of Nuclear Energy, as amended
428 Brussels Convention of 31 January 1963
429 International Convention of 27 November 1992 on the Establishment of an International Fund for Compensation for Oil Pollution Damage
430 International Convention of 27 November 1992 on Civil Liability for Oil Pollution Damage
environmental corporate income tax. The US Congress’ intention was that the industries whose products were subsequently cleaned up at NPL sites should provide funding for cleaning them up.

The Superfund has not been re-authorised by the US Congress since 1996. Since that time, it has been funded by annual appropriations by the US Congress. That is, it is now funded by general taxpayers rather than specified businesses pursuant to the previous tax system.

In limited circumstances, the Superfund pays to remediate ‘orphan’ sites, that is, contaminated sites for which no PRPs exist or cannot be found.

Early experience with the Superfund resulted in the US EPA recovering only about 5% of the costs of measures carried out by it to remediate contaminated sites. As a result, the US EPA changed to an ‘enforcement first’ policy in 1986. Under this policy, the US EPA requires PRPs to fund clean ups whenever possible instead of funding them from the Superfund and then seeking reimbursement.

11.1.3. Fund specifically for disasters

Yet another type of fund provides funding specifically for natural disasters. The EU Solidarity Fund is an example of such a fund. Its purpose is for the EU to ‘show its solidarity with the population of the regions concerned by providing financial assistance to contribute to a rapid return to normal living conditions in the disaster-stricken regions’.431

The fund provides grants to a Member State upon an application from that Member State for help following a major natural disaster. The fund does not provide grants to a Member State in lieu of the Member State providing funding. Instead the Fund aims to complement the Member State’s efforts by providing a share of funding necessary to carry out specified ‘essential emergency operations’.

The polluter pays principle applies to the EU Solidarity Fund. Recital 7 of the Regulation that established it states that:

Community action should not relieve third parties of their responsibility who, under the polluter-pays principle, are liable in the first instance for the damage caused by them, or discourage preventive measures at both Member State and Community level.

The EU Solidarity Fund only applies to natural disasters; it does not apply to industrial disasters. The only successful application for funding from it for a non-natural disaster was for the Prestige marine oil spill in 2002. An application to the fund from Hungary following the Kolontár disaster (see section 11.6.1 below) failed.

In March 2020, the EU amended the Council Regulation that established the Solidarity Fund to extend its remit to provide financial assistance arising from serious effects of a major public health emergency.432


11.1.4. Funds and risk-sharing facilities

There are similarities and differences between funds and risk-sharing facilities as well as overlaps. A major difference is that a risk-sharing facility has members whereas a fund does not do so. Risk-sharing facilities for environmental liabilities can therefore limit their membership to specified persons that are, in the view of the secretariat of the facility and its members, unlikely to cause environmental damage.

Risk-sharing facilities, often in the form ofmutuals, play an important role in providing financial security for unforeseen environmental damage. They range from those with large companies as members to those with small companies as members.

Mutuals – and other risk-sharing facilities – are established by an agreement between the members. A primary purpose is to share the risk of funding for specified incidents or events between the members instead of a single member bearing the risk. A mutual may cede risks to a reinsurer or it may make an additional call on its members if claims exceed the funding reserve(s) in the mutual.

Examples of mutuals whose membership tends to be limited to large companies are the P&I Clubs for liabilities from pollution damage caused by spills from tankers and other vessels as well as other liabilities. The members of a mutual, such as a P&I Club, each have a direct interest in avoiding any claims against a member of the group caused by their operations. At the other end of the scale, mutuals were established in the US to provide financial security for claims for bodily injury and property damage and the cost of remediating contamination from underground storage tanks (see section 5.1.4 above). Mutual funds are also acceptable for specified environmental liabilities in, among other jurisdictions, Victoria in Australia.

11.2. Study on a potential fund or risk-sharing facility

In 2012, following the disaster at Kolontár (see section 11.6.1 below), the European Commission commissioned the 2013 study, that is, a study into a potential EU wide fund or risk-sharing facility for industrial accidents, at the request of the Hungarian Government.

The aim of the 2013 study was to examine a proposed industry fund or risk-sharing facility that integrated three main functions;

1. a pre-financing tool for immediate access to funding and relief;
2. a second tier of financial security above private insurance; and
3. funds that were not spent to be invested in safety and prevention.

The proposed fund or risk-sharing facility would be funded by annual contributions from targeted industries and companies. Its main purpose was to respond quickly if a major industrial accident occurred in order to relieve the suffering of persons harmed by the accident, to remediate environmental damage, and to prevent further damage. The facility would provide funding as a second tier of financial security above insurance policies if claims

434 See Advisory letter on recovering the costs of environmental damage: financial indemnity to be provided by high-risk companies from Henry M. Meijdamm and Ron Hillebrand, Raad voor de leefomgeving en infrastructuur to State Secretary for Infrastructure and the Environment, dated 2 June 2014;
for bodily injury and property damage and the costs of remediating environmental damage and preventing further environmental damage appeared likely to exceed EUR 100 million.

A secondary purpose of the fund or facility was the limitation of financial exposure of each member of a targeted industrial sector to EUR 100 million. The intent of the proposal in this respect was not only to benefit the operator that caused the accident but also to benefit employees who might otherwise lose their jobs if the operator became insolvent due to its inability to pay losses from the accident. It was contended that Member States would also benefit because they would not be called on to bear costs that the operator could not pay due to insolvency.

Monies from the fund or facility would be in the form of grants and loans that would be required to be repaid up to the threshold level if a court established that a particular operator had caused the disaster. It was further proposed that any residual money in the fund or facility at the end of each calendar year would be used to pay for safety and environmental protection measures carried out by operators, especially small and medium sized operators.

The 2013 study concluded that several issues would need to be considered in more detail. The main issues were:

- links between the fund/facility and EU laws such as the Regulation establishing the EU Solidarity Fund, the Seveso III Directive, the Extractive Waste Directive, and the Industrial Emissions Directive;
- similar national funds such as the fund in Finland and pooling mechanisms such as those in Spain, France and Italy;
- various initiatives for mandatory financial security requirements at Member State level; and
- the design, management and implementation of the fund or risk-sharing facility.

11.3. Views on an EU fund for ELD liabilities

The potential introduction of a fund or risk-sharing facility met with strong opposition. As indicated by the REFIT Evaluation, although some benefits could be identified such as the provision of funding for immediate measures to respond to an environmental disaster and thus the total costs of remediation measures, industry and insurance stakeholders strongly opposed either the creation of a fund or a risk-pooling scheme for industrial accidents that involved pollution, with the main concern being the polluter pays principle.

Additional negative reactions to a potential fund from stakeholders included the following, as set out in the annex to the REFIT Evaluation:

- the fund would not include risk assessments;
- its creation could hinder the development of the environmental insurance market that was increasing in size;
- there would be implications in the interaction between existing national funds and a new EU fund;
- the fund would be contrary to the polluter pays principle because operators that do not engage in any wrongdoing would have to pay part of the costs of more careless operators;
- operators would know that their environmental liability was capped; and
- there would be difficulties in the fund operating in widely differing economies, industries, legal liability systems, histories of environmental claims, and different approaches to risks.
There were also concerns about the purpose and the design elements of a fund or risk-sharing facility including the following:

- clarification of the purpose of the fund and whether it was, for example, to compensate victims of a major accident, to remediate environmental damage, to provide emergency funding as a pre-financing tool, or to fund the remediation of orphan sites;
- the size, threshold and tiers of compensation;
- calculation of the amount of the fund and its interaction with other financial security instruments;
- the methods of collecting funding and managing the fund;
- its scope; and
- sectors of operators to be covered by it.436

The negative reactions were particularly strong in a workshop held in November 2012 during the project on the 2013 study.

A presentation at the workshop by a representative of FERMA stated as follows:

FERMA is not in favour of the establishment of a fund and we are strictly opposed to any mandatory coverage either through a fund, a pool or any other insurance scheme. As far as we can see it by now, the insurance sector is able to provide adequate coverage both for claims for traditional damage as well as for costs of remediating pollution and other environmental damage.

In our point of view solutions provided by the insurance industry are always preferable to any fund scheme. Fund schemes tend to become very expensive, e.g. when it comes to the transaction costs and do not take into account the prevention efforts made by the insured.

FERMA understand however that special solutions may be needed for SMEs or particular types of operations (offshore, nuclear...).437

A presentation by a representative of Insurance Europe at the same workshop stated as follows:

[A] Fund could deter operators from seeking out newly developed insurance solutions ...

An improperly designed fund can interfere with the operation of strong environmental insurance pools ...

A fund can affect insurance pricing, as less reliance on insurance may mean less capital gained by insurers for the cover of potentially severe environmental risks.438

http://ec.europa.eu/environment/legal/liability/index.htm


438 Carmen Bell, 'The environmental liability insurance market and the feasibility of a fund or risk-pooling scheme for industrial liabilities' (7 November 2012); http://ec.europa.eu/environment/archives/liability/eld/eldfund/pdf/Insurance%20Europe_7%20Nov%202012
The views of FERMA and Insurance Europe had not changed since November 2012 to the time that this report was published. In 2013, for example, Pierre Sonigo, the then Secretary General of FERMA, stated that an EU-wide fund to cover environmental liability and losses resulting from industrial accidents is ‘really another tax which could be imposed on the industry that would make it less competitive’.439

In 2017, a Position Paper from FERMA stated:

FERMA is concerned about imposing a mandatory financial security or an industry fund at EU level, which would not solve the problems of environmental incidents or reduce their frequency.440

11.4. European Parliament Resolution

On 26 October 2017, the European Parliament issued a Resolution on the implementation of the ELD.441 The Resolution indicated the European Parliament’s concern about the low level of financial security for ELD instruments, and the inability of some liable operators to pay to prevent and remediate environmental damage due to insolvency and otherwise being unable to pay remediation costs.

Paragraph 14 of the Resolution noted that the implementation of financial security was lacking in that operators did not always meet their financial obligations when they were liable for environmental damage. The European Parliament was concerned at cases in which operators had not been in a position to bear the costs of remediating environmental damage.

Paragraph 15 emphasised that problems persisted regarding application of the ELD to large-scale incidents, especially when it was impossible to identify the liable operator and/or the operator became insolvent or bankrupt.

Paragraph 16 noted that the cost of environmental damage for responsible operators could be reduced by the use of financial security instruments such as bank guarantees, bonds, funds or securities. The Parliament believed that demand for these instruments was low within the financial security market for ELD liabilities due to factors such as the low number of ELD cases in many Member States, the lack of clarity concerning some concepts in the ELD and the fact that insurance policies were generally being slow to emerge in some Member States depending on the level of maturity for such instruments.

Paragraph 17 noted that the opportunity to improve the availability of financial security instruments was hampered by ‘the scarcity and contradictory nature of the data on ELD cases in the EU’s possession’.

Paragraph 18 encouraged Member States to take measures to accelerate the development of financial security instruments and markets by appropriate economic and financial operators, including financial mechanisms in the event of insolvency, with the aim of enabling operators to use financial security instruments to cover their responsibilities.

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Paragraph 19 drew attention to the 2013 study and emphasised the need to carry out ‘further analysis and a more in-depth feasibility study on the key legal and financial issues’.

Paragraph 29 called on the Commission:

to introduce mandatory financial security, e.g. a mandatory environmental liability insurance for operators and to develop a harmonised EU methodology for calculating the maximum liability thresholds, taking account of the characteristics of each activity and its surrounding area; [and] to consider the possibility of establishing a European fund for the protection of the environment from damage caused by industrial activity governed by the ELD, without undermining the polluter-pays principle, for insolvency risks and only in cases where financial security markets fail.

Paragraph 32 called for the adoption of a regime for secondary liability for successors of liable operators.

Section 15.1 below analyses the efficacy and feasibility of a fund (or risk-sharing facility) for ELD liabilities, as called for by the European Parliament.

11.5. **Problems encountered by Member States**

The research for this report revealed problems of operators being unable to pay to prevent further damage caused by them or to remediate it. There have been a substantial number of cases in Member States of such responsible operators entering into insolvency/bankruptcy or otherwise being financially unable to remediate environmental damage or to prevent further damage caused by them. In turn, this has resulted in taxpayers in some Member States paying to remediate the damage and/or to prevent further damage.

The following are examples, with the caveat that the research for this report did not locate any registers or other data in Member States that categorise reasons why companies enter into insolvency that include the category of liabilities arising from a requirement to remediate pollution. There is thus no way of accurately determining whether a requirement to remediate or prevent further environmental damage is a large – or small – problem in insolvencies. Even if any such registers or other data exist in some Member States, a company that has caused environmental damage may enter into insolvency due to unrelated reasons. In such a case, a register would not necessarily include pollution liabilities as a reason for the insolvency.

11.5.1. **Bulgaria**

Three ELD incidents involving the inability of operators to pay to prevent environmental damage in Bulgaria were reported during the research for this project.

The first incident, in 2009, concerned an imminent threat of environmental damage to water and land/soil under the ELD. The competent authority incurred BGN 109,942.80 (EUR 56,192) in carrying out preventive measures but was unable to recover its costs due to the insolvency of the responsible operator.

The second incident, in 2012, also concerned an imminent threat of environmental damage to water and land/soil under the ELD. The competent authority incurred BGN 47,599.44 (EUR 442

Some States use the word ‘insolvency’ whilst other States use the word ‘bankruptcy’, or both. For example, in the United Kingdom, the term insolvency is used for companies (legal persons) whereas the term bankruptcy is used for individuals (natural persons). In France and the US, insolvency is the state that a company is in that prompts it to file for bankruptcy. This report uses the term generally used in a Member State in respect of the incidents that are described without differentiating between the two terms.
24,329) in carrying out preventive measures but was again unable to recover its costs due to the insolvency of the responsible operator.

The third incident, in 2013, also concerned an imminent threat of environmental damage to water and land/soil under the ELD. The competent authority incurred BGN 1,465,608 (EUR 749,365) in carrying out preventive measures. Again, the authority was unable to recover its costs due to the insolvency of the responsible operator. Implementation of the measures was still continuing when this report was published, with over BGN 14,401,728 (EUR 7,363,599) having already been spent.

11.5.2. Croatia

There has been at least one case in which a petrochemical company subject to the Seveso III Directive entered into bankruptcy in Croatia and could not pay to prevent environmental damage by removing dangerous chemicals from the site. The criminal case involving the responsible operator was ongoing when this report was published.

11.5.3. Finland

The most notorious case in Finland of an operator with environmental liabilities becoming insolvent involved the Talvivaara nickel and zinc mine in Sotkamo in the Kainuu Region in Eastern Finland, which began operations in 2008. In March 2012, following various environmental problems, three incidents of environmental damage caused by leakages of pollutants occurred. These were followed in November 2012 by a fourth severe leakage from the gypsum waste pond at the facility. The fourth leakage was determined to have caused water damage under the ELD.

At the time of the leakages, Solidium Oy, a holding company of the State of Finland, owned approximately 8.9% of the stock of the operator, the Talvivaara Mining Company Plc. In spring 2013, after the operator had encountered financial difficulties, Solidium Oy increased its stock to 16.7%.

Following attempts to restructure the company to reduce its debt, and its creditors subsequently refusing to accept the restructuring plan, the company entered into bankruptcy in 2015. The operator eventually came to be owned by Terrafame Oy, a state-owned company. When this report was published, the mine was still in operation.

The Finnish Government paid for measures costing EUR 100 million to prevent damage to nearby lakes. The amount of financial security provided by the operator’s insurance policies, which only provided cover for sudden and accidental environmental damage, has not been reported.

A further case after 2015 involved an insolvent mining company in Nivala that caused an imminent threat of environmental damage to groundwater and a river. The Finnish Government paid for measures costing EUR 21,000,000 to prevent the damage.

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445 See Milieu Consulting, Implementation of the Environmental Liability Directive; Finland – Country fiche 2019
11.5.4. France

A key reason for the growth of mandatory financial security in France in 2012 (see section 13.1.2 above) was a large fire in a waste storage facility in Limeil-Brévannes in 2011. The waste at the facility was nearly 25 metres high and stretched for over 200 metres near an eco-neighbourhood that was under construction. The French Government subsequently took measures to recover costs arising from the fire from companies that had arranged for the deposit of waste at the site.446

11.5.5. Greece

On 6 October 2010, 25 tonnes of chemical waste stored at an abandoned plant in Athens leaked into the soil. The operator, which manufactured sealing and insulating materials, had become insolvent. The Municipality of Athens paid for remedial measures in the form of the collection and removal of the materials and contaminated soil by a licensed operator.447

11.5.6. Italy

In the early 2010s, surveys were carried out to investigate whether a facility operated by Miteni in the Veneto Region had caused pollution by perfluoroalkylated substances (PFAS). In January 2017, Miteni began carrying out measures to remediate the pollution.448

On 31 October 2018, the facility was closed. In November 2018, an Italian court declared Miteni bankrupt.449

11.5.7. Slovakia

One case was reported in Slovakia in which an operator could not pay for measures to prevent or remediate environmental damage because it was insolvent. The prevention and remediation of environmental damage including monitoring, geological exploration and related technical measures were in progress when this report was published. The successor of the previous operator did not have financial security for the prevention or remediation of environmental damage.

11.5.8. Sweden

There have been four bankruptcies in the mining sector in Sweden since 2012. They are Dannemora Magnetit AB (Dannemora mine), Northland Resources AB (Tapuli mine at

446 See Val-de-Marne: NKM lance les travaux d'évacuation de la montagne de déchets (5 September 2011); http://www.leparisien.fr/val-de-marne-94/val-de-marne-nkm-lance-les-travaux-d-evacuation-de-la-montagne-de-dechets-05-09-2011-1593339.php (in French)
448 See Andrea Staccione, ‘Financial Instruments for Environmental Risks and Damage’ (Thesis in Master Degree programme in Environmental Sciences, Ca’ Foscari University of Venice, 2016), 3; http://dspace.unive.it/bitstream/handle/10579/9640/835047-1197450.pdf?sequence=2
Kaunisvaara), Lapland Goldminers AB (Fäboliden mine) and Lappland Goldminers Sorsele AB (Blaiken and Svärträsk mines).

A report on mining risks, published in 2018, described the bankruptcies, among other things, and recommended several legislative amendments including specific requirements on how a financial security instrument for mining operations should be calculated and which remediation measures and other restoration measures should be covered by it.

11.5.9. United Kingdom

In 2013, Scottish Coal Company Ltd went into liquidation. The bond provision has been reported to be insufficient to cover the costs of discharging the planning conditions. The sites were subsequently transferred to the Scottish Mines Restoration Trust, which facilitates the process of restoring open-cast coal sites across Scotland.

There have also been a growing number of cases in which the operators of waste facilities in the United Kingdom have become insolvent. In January 2018, this led the Department for Environment, Food and Rural Affairs and the Welsh Government to hold a consultation on, among other things, proposals to tackle poor performance in the waste sector. One of the proposals in the consultation document was to require an applicant for an environmental permit for a waste facility to have financial security. The requirements had not been introduced when this report was published.

Meanwhile, SEPA needs to be confident, when granting an application for an authorisation that the person applying for it is able, among other things, to make day-to-day operational and financial decisions to secure compliance with any conditions.

11.6. Industrial disasters

There have been a substantial number of industrial and other man-made disasters in the EU. Indeed, a major reason for the introduction of the ELD, as noted in the proposal for the Directive that became the ELD, was the following incidents:

- the **Torrey Canyon** oil spill in 1967;
- the accident at Seveso, Italy, in July 1976, which led to the Seveso Directive;
- the **Amoco Cadiz** oil spill in 1978;
- the Sandoz disaster in 1986 which caused pollution of the River Rhine;
- the collapse of a dam at the Aznacóllar mining facility in Spain in 1998;
- the **Erika** oil spill in 1999; and
- the Baia Mare incident in Romania in 2000, which led to the Extractive Waste Directive.

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450 Statens gruvliga risker (Betänkande av Gruvavfallsfinansieringsutredningen) (1 June 2018); [https://www.regeringen.se/49f4ae/contentassets/c5f50bbd9d434583913657640d5c697a/statens-gruvliga-risker-sou-201859](https://www.regeringen.se/49f4ae/contentassets/c5f50bbd9d434583913657640d5c697a/statens-gruvliga-risker-sou-201859) (in Swedish)


Following the EU’s adoption of the ELD and before its transposition into Member State law, further industrial disasters occurred. These include the Buncefield disaster in the United Kingdom in December 2005. Petrol that overflowed from a large fuel storage tank at a Seveso facility resulted in the formation of a vapour cloud. The vapour cloud ignited, resulting in a huge explosion and fire that eventually involved 20 large fuel storage tanks. The first was not extinguished for five days despite the work of 1,000 fire fighters. A report into the disaster found failings by the facility in implementing the Seveso Directive.454

A further massive disaster was Deepwater Horizon in the US on 20 April 2010, which led the EU to adopt the Offshore Safety Directive in 2013.

This section describes two industrial disasters that were subject to the ELD; Kolontár in Hungary,455 and Moerdijk in the Netherlands.

11.6.1. Kolontár

On 4 October 2010 a dike retaining a sludge reservoir at an alumina processing facility owned and operated by Ajkai Timföldgyár (MAL) near the town of Ajka in Hungary ruptured, releasing between 600,000 and 700,000 cubic metres of liquid mining waste (red mud). MAL had been established in 1995 after privatisation of the Hungarian aluminium industry. The company employed approximately 6,000 people in the Kolontár area,456 1,100 of whom were employed at the alumina facility which had been in operation since 1942.457 The facility operated under an integrated pollution prevention and control permit issued in 2006; the permit was valid until 28 February 2011.

The rupture of the dam resulted in a 2.5 metres high wave of the highly alkaline red mud flooding Torna Creek and inundating the villages of Kolontár and Devecser before reaching Somlóvásárhely and eventually flowing into the Danube. Ten people were killed, and hundreds injured. Over 1,000 hectares were affected by the red mud, 47 of which were Natura 2000 sites, and 44 of which were nature protection areas.458

There were many failings in the Kolontár incident. MAL had a damage prevention plan in place, but it was inadequate for the spill, having been designed for a much smaller-scale accident such as leakage or overflow of the reservoir. Other contributing factors were the wrongful re-classification of the waste in the tailings dam as non-hazardous when it had a pH of 13 and

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454 Health & Safety Executive, Environment Agency, Scottish Environment Protection Agency, ‘COMAH Control of Major Accident Hazardous; Buncefield: Why did it happen; The underlying causes of the explosion and fire at the Buncefield oil storage depot, Hemel Hempstead, Hertfordshire on 11 December 2005’ (February 2011); https://www.hse.gov.uk/comah/buncefield/buncefield-report.pdf


456 See Ned Stafford, ‘One year on from Hungary’s red mud disaster’ (5 October 2011); http://www.rsc.org/chemistryworld/News/2011/October/05101102.asp


the failure of the Hungarian authorities to determine that the Extractive Waste Directive applied to the facility.\textsuperscript{459} The classification of the waste as non-hazardous meant that the authorities did not require the company to provide financial security in its permitting procedure, and allowed it to self-insure at a low level.

A report into the disaster commented that the reclassification of the red mud as non-hazardous waste:

\begin{quote}
 happened following the recognition of the fact that the environmental protection authority ever shrinking in its staff and financial instruments, did not have sufficient capacity for the inspection activity. Thus the inspection of the red mud reservoir basins was not of proper scale either, since the authority (would have) had to perform random re-inspection of countless other, air pollution, air burdening, water quality data provision.\textsuperscript{460}
\end{quote}

The report further commented under the heading 'Deficiencies in monitoring environmental damage control', that:

\begin{quote}
 the privatisation contracts contained an obligation to provide for environmental damage-limitation, but the monitoring of how this was implemented was deficient. No detailed documentation is available, except for written records to the effect that invoices were presented as evidence for compliance without technical inspection having taken place.\textsuperscript{461}
\end{quote}

MAL had a general liability insurance policy but its limits of liability were grossly inadequate to provide cover for the disaster.\textsuperscript{462} The limit of liability of the policy, which provided cover for claims for bodily injury and property damage was reportedly HUF 10,000,000 (EUR 40,000).\textsuperscript{463} The policy did not provide cover for the costs of remediating environmental damage.

Within a week of the incident, the Hungarian Government used its Parliamentary majority to pass an extraordinary amendment to the Law on National Defence and the Army, Act CV of 2004 (2004. évi CV. törvény a honvédelemről és a Magyar Honvédésgről),\textsuperscript{464} allowing the Hungarian Government to freeze MAL’s assets and temporarily take over its management. The temporary management continued until 13 June 2011.

After the disaster, MAL changed its process for storing waste sludge from reservoirs to a more expensive system in which the sludge is dried to a powder.\textsuperscript{465}


\textsuperscript{461} Ibid 46

\textsuperscript{462} See Justice and Environment, ‘The Kolontár Mud Case,’ Environmental Liability 2011 case study, 19


\textsuperscript{464} Superseded; see http://www.legal-tools.org/doc/a33b5f/ See Political Capital, ‘The political consequences of the red sludge catastrophe in Hungary,’ (3 October 2010); www.instagram.com/politicalcapital_hu/

\textsuperscript{465} See Ned Stafford, ‘One year on from Hungary's red mud disaster’ (5 October 2011);
On 16 September 2011, MAL was fined 135 billion HUF (EUR 419,631,300), the maximum allowable fine. MAL appealed the fine, which was four times the estimated EUR 115,000,000 that had been spent by that time on clean-up costs, construction of new houses and related costs. Those costs had been mainly funded by the Hungarian Government as well as charitable donations.466

The magnitude of the liability faced by MAL finally led it to declare bankruptcy in 2013. The Hungarian Government renationalised the company and became the ultimate guarantor of the environmental liabilities. Various figures have been given about the total amount of damages caused by the disaster. Benedek Jávor, former deputy chairman of the European Parliament’s Environment Committee, stated that ‘reconstruction after the disaster had cost the central budget 40 billion forints [EUR 128 million] of Hungarian taxpayers’ money’.467

In February 2015, the Hungarian Government established a compensation fund for victims.468

In January 2016, a Hungarian court found the former director of the MAL factory and 14 employees not guilty of negligence, waste management breaches and environmental damage, concluding that the dam had burst due to ‘loss of stability in the undersoil’.469 MAL had previously said the cause was ‘planning and building deficiency of the red mud reservoir during the management of the predecessor state-owned enterprise’.470

The Hungarian Government submitted an application to the European Commission for assistance from the EU Solidarity Fund under the ‘extraordinary regional disaster’ criteria, claiming that the total damages attributable to the disaster amounted to EUR 174,320,000. Hungary’s application was rejected on grounds, among other things, that the occurrence was insurable.471

The Kolontár incident was primarily a case in which the authorities had ineffectively implemented and enforced the law relating to extractive industries and waste management, which undermined the successful application of the ELD.

11.6.2. Moerdijk

On 5 January 2011, a large fire at Chemie-Pack Nederland B.V., a company in Moerdijk in the Province of North Brabant in the Netherlands that stored, processed and packaged chemicals, caused significant environmental damage, in particular soil pollution,472 as well as injuries to two employees and property damage. Large quantities of chemicals were involved in the fire,
which resulted in the fire-fighting water being heavily polluted. In order to prevent the spread of chemicals together with the polluted fire-fighting water, the authorities carried out a series of measures including the embankment of ditches, the abstraction of contaminated water on the company’s premises, and the storage of contaminated water in ships. The measures were insufficient, however, to prevent approximately eight hectares of land and water from being contaminated, including two ports at the Hollandsch Diep.

The Province of North Brabant incurred significant costs in remediating the soil pollution caused by the fire. Other governments and private parties also incurred significant costs due to the disaster. Extensive research was subsequently carried out by various agencies into the causes and consequences of the fire and lessons to be learned from it.473

Administrative, civil and criminal proceedings took place on the legal aspects of the fire. Because Chemie-Pack, which was the operator as well as the holder of the authorisation for the facility, did not have sufficient financial resources to cover the costs of all necessary measures, it was decided to impose the charges under administrative coercion on the director of the company and the owner of the land. In addition, property belonging to one of the companies concerned was seized. This approach resulted in a large number of trials. Chemie-Pack challenged almost all charges imposed by the governmental authorities under administrative coercion and all related cost-recovery decisions. The procedures dealt, among other things, with the issue of whether the fire brigade had acted carelessly by using too much fire-fighting water and hence which of the parties concerned could be classified as liable and therefore had to pay the costs.

In the administrative procedures, the court dealt with the administrative coercion applied by the water authority, Brabantse Delta, and the recovery of associated costs.474 In the civil proceedings the court dealt among other things with costs associated with the storage of contaminated fire-fighting water475 and the sale of seized shares. Chemie-Pack’s insurer had refused to pay the claim on the grounds that Chemie-Pack had breached applicable laws and regulations.476 The criminal proceedings focused on the director, manager and security coordinator of Chemie-Pack, who were charged with criminal culpability with respect to the unauthorised storage of dangerous substances in the internal courtyard of the company, which greatly increased the severity and extent of the fire.

The multitude of legal proceedings illustrates the complexity of major environmental disasters whilst also illustrating the potential for governmental authorities to remediate environmental pollution and to (try to) recover the related costs.


475 Rechtbank Breda (6 April 2011); Gerechtshof ’s-Hertogenbosch (2 August 2011); Supreme Court (12 October 2012); http://deeplink.rechtspraak.nl/uitspraak?id=ECLI:NL:HR:2012:BW7505 (in Dutch); Gerechtshof Arnhem-Leeuwarden (14 January 2014)

476 Chemie-Pack schikt voor 4,2 miljoen na brand Moerdijk (10 oktober 2014); http://www.nrc.nl/nieuws/2014/10/10/chemie-pack-betaalt-42-miljoen-voor-schade-b-moerdijk (in Dutch)
The total damage was estimated at around EUR 70,000,000.477 Because Chemie-Pack went bankrupt and its insurance policies did not provide adequate coverage, only a fraction of the costs were eventually recovered from it.

In 2014, the joint authorities (the municipality of Moerdijk, the province of North Brabant, Brabantse Delta, Rijkswaterstaat (the executive agency of the Ministry of Infrastructure and Water Management) and the Port Authority Moerdijk) reached a settlement with Chemie-Pack for EUR 4,200,000. In doing so, the authorities indicated that they were convinced that the settlement would give maximum implementation of the polluter pays principle in recovering the costs. Although the amount of the settlement was low in relation to the total cost, the settlement was entered into because it became clear that litigation would only cost more time and money and would never lead to a higher recovery of the costs.

Various lessons can be learned from the Chemie-Pack case. It appears that there were multiple smaller or larger omissions by various parties that eventually ended in severe environmental damage. The process of issuing the permit appeared to show an overly accommodating attitude, there was insufficient compliance and enforcement, and there was insufficient safety management by Chemie-Pack. Further, the case shows the need for unannounced on-site inspection visits and integrated (safety) inspection for Seveso facilities.478

The Chemie-Pack case also raises the need for financial security. The issue is whether and, if so, to what extent a requirement for financial security would have provided a solution. In so far as a financial security scheme would allow insurance as a financial security instrument, the issue is whether insurers would be allowed to exclude accidents that cause significant environmental pollution from cover under a policy because the insured was in breach of applicable laws and regulations. If that issue is answered in the affirmative, insurance in the Chemie-Pack case was probably irrelevant. If the financial security scheme required a different form of financial security which did not depend on restrictive coverage conditions (such as e.g. a bank guarantee), that issue could probably have been addressed. However, it should be borne in mind that a bank guarantee would probably cover only a fraction of the total costs.

11.7. Problems in other States

The research for this report revealed data involving bankruptcies connected with pollution in other States. The following are very brief overviews of key aspects of two cases to illustrate the large amounts that can be involved.

In 2009, the US Department of Justice, the US EPA, the US Department of the Interior, and the US Department of Agriculture announced that they had recovered $1.79 billion (EUR 1.65 billion) from the American Smelting and Refining Company LLC (ASARCO) to pay to fund clean ups at over 80 Superfund sites owned and/or operated by ASARCO in 19 States. ASARCO, a copper mining, smelting and refining company, had filed for protection under the Bankruptcy Code in 2005.479

In 2017, the Supreme Court of Queensland, Australia, ruled that the environmental obligations of Linc Energy continued despite its liquidators disclaiming land contaminated by the company as well as disclaiming its environmental licences. Linc Energy had operated an underground

477 Ibid

478 See N. Bouman, Ministry of Infrastructure and the Environment, ‘Fire at Chemie-Pack’ (presentation, 26 November 2012)

coal gasification demonstration facility at Chinchilla, Queensland. Coal gasification involves igniting coal and converting gas from the ignited coal into liquid fuel.\textsuperscript{480}

In April 2018, the Brisbane District Court convicted Linc Energy Ltd (in Liquidation) of causing serious environmental damage. In May 2018, the court ruled that Linc Energy Limited must pay a fine of A$4,500,000 (EUR 2,586,150) for five offences of causing serious environmental damage.

The Queensland Government is managing the coal gasification facility through the Department of Environment and Science. The measures to manage the facility are largely funded by financial security that the Department secured from the liquidators of Linc in late 2016\textsuperscript{481} (see also section 12.1 below).

11.8. Member State funds and funding mechanisms

The research for this report revealed that only two Member States have established specific funds for preventing and remediating environmental damage under the ELD.

One Member State, Spain, has established a fund for ELD liabilities. Another Member State, Portugal, extended an existing fund to provide funding for ELD liabilities. The Czech Republic and Romania have arranged funding mechanisms for ELD liabilities but have not established specific funds.

Other Member States provide funding for measures to prevent and remEDIATE environmental damage under the ELD from the central/national fund. In this respect, Poland provides funding for such measures from the national fund, the National Fund for Environmental Protection and Water Management, as well as from the State budget or a local budget.

Some Member States, such as Slovenia, considered whether to establish a fund but decided not to do so.

This section describes the above funds and mechanisms used by Member States to provide funding for ELD liabilities. The section then briefly examines funds established by Member States for other measures.

11.8.1. Funds for ELD liabilities

The funds for ELD liabilities established by Spain and Portugal are described below. More detailed descriptions are in the Member State reports (section 16).

- Spain

The legislation that implements the ELD in Spain established two funds; the Compensation Fund for Environmental Damage, and the State Fund.

\textsuperscript{480} See Johnson Winter & Slattery, ‘Linc Energy Limited (In Liquidation): Liquidators obliged to give State environmental laws priority despite disclaimer’ (19 April 2017); \texttt{https://www.lexology.com/library/detail.aspx?g=b84e2be4-7b64-4dea-a2f9-28f1e5e3ff2d}; Corrs Chambers Westgarth, ‘Linc Energy convicted of causing serious environmental harm but avoids liability under Environmental Protection Order’ (13 April 2018); \texttt{https://www.lexology.com/library/detail.aspx?g=81cc07cf-f99c-425c-bc50-971807ee9187}

Improving financial security in the context of the Environmental Liability Directive

- **Compensation Fund for Environmental Damage**

  The purpose of the Compensation Fund for Environmental Damage is to extend cover by insurance policies used to provide evidence of financial security for ELD liabilities beyond the policy period when environmental damage or a claim for remediating such damage occurs after the policy period. Funding is limited to the remediation of environmental damage under the provisions of a financial security instrument that is required under the mandatory financial security system and is also subject to the amount of money in the fund when the claim for funding is made.

  Payments by the fund are subject to exclusions for, among other things, activities covered by an insurance policy that ceased before the activity was discontinued, and damage generated after an activity ceased due to abandonment of the facilities that had the potential to pollute if mandatory measures to avoid the risk are not carried out.

  The deadline for the fund to cover a claim is a period equal to the number of years during which the relevant insurance policy was in force, beginning three years after the expiration date of the policy, with a long-stop deadline of 27 years in order to cover the maximum period in which liability exists under the ELD and the Spanish legislation that implements it.

  The source of funding for the Compensation Fund is contributions from a surcharge on the premiums of insurance policies used to provide evidence of financial security.

- **State fund**

  The State Fund provides funding to pay the costs of preventing or remediating environmental damage at State-owned property when the operator is required to carry out preventive or remedial measures and the operator proves that it followed the compulsory order of a public authority, or the state-of-the-art defence applies.

  As with the Compensation Fund, funding is limited to the remediation of environmental damage under the provisions of a financial security instrument that is required under the mandatory financial security system. The State Fund is funded by the General State Budget.

  The Fund is managed by the Ministry for the Ecological Transition and the Demographic Challenge. The Autonomous Communities may participate in the funding and management of the State fund, in which case its scope is extended.

- **Portugal**

  On 1 January 2017, Portugal extended the Environmental Fund to provide funding to public authorities for the costs of measures to prevent and remediate environmental damage under the ELD for ‘orphan’ sites, that is, sites at which no liable operators exist that can provide funding for prevention and remediation measures. Before the legislation that transposed the ELD into Portuguese law was introduced, a previous fund called the Environmental Intervention Fund, included a similar purpose, namely to provide funding for emergency measures and the timely remediation of environmental damage when funding was not available from other private or public sources. Funding was provided for man-made environmental damage as well as natural disasters.

  Other purposes of the Environmental Fund are support for environmental policies to achieve sustainable development goals by contributing to the achievement of national and international objectives and commitments, particularly in respect of climate change, water resources, waste and nature conservation and biodiversity.

  Funding for public intervention for the costs of measures to prevent and remediate environmental damage for the Environmental Fund is to be obtained by a levy on financial
security instruments for ELD liabilities of up to 1% of the value of the instrument to be paid into the fund by insurers, banks and other financial entities. The ordinance that will specify the amount of the fee and other details concerning it had not been issued when this report was published.

11.8.2. **Funding mechanisms**

The Czech Republic has not established a fund for the costs of preventing or remediating environmental damage. The Water Act,\(^{482}\) however, specifically provides funding for such costs by providing that the region in which a serious threat of pollution of surface or ground water has occurred may establish a special account to be supplemented annually up to CZK 10,000,000 (EUR 391,800) within the budget of the region. The special account may be used to cover reimbursement of the costs of measures to remedy environmental damage under the ELD. If reimbursement is required, the region transmits the funds to the competent authority at its request.

In a somewhat similar manner, Romania provides funding for measures to prevent and remediate environmental damage from a governmental emergency fund that was specifically established to finance such costs.

11.8.3. **Funding from the State budget**

Member States may provide funding from the State budget without specifying a particular source of funding.

Poland provides funding for measures to prevent and remediate environmental damage under the ELD from a national fund, the National Fund for Environmental Protection and Water Management, as well as from the State budget or a local budget.

11.8.4. **Funds for remediating historic contamination and other measures**

Some Member States have established funds to remediate environmental damage. Such funds tend to focus on the remediation of historic contamination as well as enhancing environmental protection. They do not provide funding for liabilities under the ELD.

For example, Slovakia’s environmental fund is used to remediate historic contamination as well as to enhance energy efficiency, environmental protection, projects aimed at reducing greenhouse gas emissions, the reconstruction and modernisation of renewable energy sources, and flood control measures.

Malta also has an environmental fund that is used to remediate contamination as well as to finance projects, programmes and schemes related to the aims and objectives of the Environmental Protection Act. The competent authority that administers the fund may charge for any such services.

Belgium (Walloon Region) has a fund, one of the missions of which is to fund compensation for lost natural resources and rehabilitation measures.

Denmark has a voluntary fund, the Oil Companies’ Environment Fund, that provides funding for remediating pollution at closed petrol stations and other places that sold retail petrol and

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11.8.5. Revolving funds

Finland established a fund, the Oil Pollution Compensation Fund, which provides funding for the costs of remediating soil and groundwater contaminated by oil spills, marine oil spills, and oil spill response when the person that caused the damage is unknown, cannot be located, or is unable to reimburse costs incurred by the Ministry of the Environment.

The fund is a revolving fund in that the persons that cause damage or are otherwise liable for the damage must reimburse the Ministry. The fund is funded by levies on oil that is imported to, or transported through, Finland, with the levy being doubled if the vessel transporting the oil is not completely double-skinned. In practice, this means that it is funded by three companies. The fund is also funded by transfers from the national budget.

11.8.6. Risk-sharing facilities

The research into this report did not locate a single risk-sharing scheme established by a Member State for liabilities under the ELD or other environmental legislation.

The mandatory financial security system for ELD liabilities in Portugal accepts membership of a national or international environmental fund that may be established by a private initiative with the aim of funding measures to prevent or remediate an imminent threat of, or actual, environmental damage. The September 2019 report to the Portuguese Environment Agency (Agência Portuguesa do Ambiente), based on reports from 250 operators, did not mention membership of such a fund as evidence of financial security by any of them (see Member State report for Portugal, section 7).

Risk-sharing facilities have been established for environmental responsibilities. For example, the Mineral Products Association in the United Kingdom has a restoration guarantee fund that guarantees restoration of a quarry if a member of the association defaults on its obligations under planning law to restore it due to insolvency. There is a single claims limit of £500,000 (EUR 570,000) and an overall limit of £1,000,000 (EUR 1,140,000). The fund has never been called on to pay.483 As indicated, however, the facility is for the costs of restoring a quarry; it is not for environmental liabilities.

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12. CORPORATE LAW FINANCIAL SECURITY MECHANISMS

Some States, in particular Australia and Canada, have adopted innovative mechanisms to ensure that the public purse does not pay the costs of remediating or preventing further environmental damage when the operator that caused the damage becomes insolvent or otherwise cannot pay the costs.

The mechanisms could be considered by Member States in respect of implementing the ELD, particularly those Member States that have encountered problems with operators becoming insolvent or otherwise not having the ability to pay to remEDIATE environmental damage caused by them.

This chapter is structured as follows.

First, the chapter describes the introduction of provisions into corporate law in Queensland, Australia, that extend liability to persons related to an operator/company if the operator cannot pay to remEDIATE environmental damage caused by it.

Second, it describes provisions in corporate law in Ontario, Canada, that extend liability to directors and officers if an operator/company fails to pay to remEDIATE environmental damage caused by it due to insolvency.

Finally, the chapter briefly notes corporate law financial security provisions in Austria and France.

12.1. Australia

In 2016, the Queensland Government introduced legislation that authorised the Department of Environment and Heritage Protection (now the Department of Environment and Science) to issue an order to remEDIATE the environment to persons related to the operator of a facility if the operator that caused the damage cannot pay the costs of remediating it.

The impetus for the legislation was governmental concern at risks posed by mining sites that had encountered financial difficulties as well as its concern that the public purse would be called on to pay the costs of preventing and remediating the damage. The mining sites included the Texas Silver Mine, Collingwood Tin Mine, the Mine and Mount Chalmers Gold Mine, and especially the voluntary administration of the Yabulu Nickel Refinery, located next to the Great Barrier Reef World Heritage Area.484

The purpose of the legislation was ‘to capture “artificial corporate structures and profit-shifting enterprises” that actively avoid their environmental obligations’.485

The Queensland Environmental Protection (Chain of Responsibility) Amendment Act 2016 amended the Environmental Protection Act 1994 (EPA 1994)486 to authorise the Department of Environment and Science to serve an environmental protection order (EPO) on a ‘related person’ of the operator of a high risk facility to require the person to carry out specified measures such as remediating the land or providing financial security for such remediation. The EPO:

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485 Ibid

may require the related person to—

(a) take action to prevent or minimise the risk of unlawful serious or material environmental harm—
   (i) from a relevant activity; or
   (ii) from contaminants on land on which the high risk company carries out, or has carried out, a relevant activity (whether or not the contaminants are the result of a relevant activity); or

(b) take action to rehabilitate or restore land because of environmental harm—
   (i) from a relevant activity; or
   (ii) from contaminants on land on which the high risk company carries out, or has carried out, a relevant activity (whether or not the contaminants are the result of a relevant activity); or

(c) give the administering authority a bank guarantee or other security for the related person’s compliance with the order.

The legislation entered into effect on 27 April 2016.

Section 363AB of the EPA 1994 sets out four categories of ‘related persons’:

- holding companies;
- owners of land on which the operator carried out a ‘relevant activity’ that is not a ‘resource activity’;
- associated individuals and companies that own land on which the operator carried out a resource activity; and
- other individuals or companies that the Department considers have a ‘relevant connection’ with the operator.

Section 363AA defines a ‘relevant activity’ as:

an environmentally relevant activity

(a) that was, or is being, carried out by the company under an environmental authority; or

(b) that was, or is being, carried out by the company and has caused, or is causing or likely to cause, environmental harm.

An ‘environmentally relevant activity’ includes activities in which a contaminant will or may be released into the environment when the activity is carried out; the release of the contaminant will or may cause environmental harm; or the activity will or may otherwise adversely affect an environmental value of the marine environment.

Section 107 of the EPA 1994 defines a ‘resource activity’ as an activity that involves a geothermal, greenhouse gas storage, mining, or petroleum activity.

Section 363AB(2) provides that an individual or company may be considered to have a ‘relevant connection’ with a company if:

the person is capable of significantly benefiting financially, or has significantly benefitted financially, from the carrying out of a relevant activity by the company; or

the person is, or has been at any time during the previous 2 years, in a position to influence the company’s conduct in relation to the way in which, or extent to which, the company complies with its obligations under [the EPA 1994].
The EPA 1994 sets out various factors that the Department may take into account in determining if there is a relevant connection. The factors include the following:

- the extent of the individual’s or company’s control of the company;
- whether the person is an executive officer of the company, a holding company, or another company that has a financial interest in the company; and
- the extent of the individual’s or company’s financial interest in the company.

Section 363ABA sets out criteria to assist the Department in deciding whether ‘the related person took all reasonable steps, having regard to the extent to which the person was in a position to influence the company’s conduct, to ensure that the company’ complied with its obligations under the EPA 1994, and ‘made adequate provision to fund the rehabilitation and restoration of the land because of environmental harm from a relevant activity carried out by the company’.

On 27 January 2017, a guideline authorised by section 548A of the EPA 1994 and prepared by a working group of key stakeholders including public consultation was issued. The guideline clarifies the extent of the Act and provides, among other things, examples of persons who would – or would not – be relevant persons. The guideline states that a financial institution that provides banking products and services to a company for a fee including issuing bank guarantees, would not be considered to have received significant financial benefits; neither would a bank that loans money to a company on an arms’ length basis.

The guideline provides, among other things, that financial security will not be required under an EPO if financial security already provided under it is sufficient to cover the costs of complying with the EPO. If existing financial security is inadequate, the EPO may require the operator to have additional security.

The review of the Environmental Chain of Responsibility Laws provides the following details of EPOs that have been issued under the EPA 1994 Act and the reasons why they were issued.

The first case involves Peter Bond, chief executive officer and major shareholder in Linc Energy Ltd who had received significant remuneration from the company, which carried out an underground coal gasification project. The Department concluded that Linc Energy was a high risk company under section 363AD of the EPA 1994.

After Linc Energy was placed in voluntary administration on 15 April 2016 and wound up by creditors on 23 May 2016, the Department had issued an EPO on Mr Bond to carry out measures to rehabilitate dams and remediate soil pollution at the site. In addition, the EPO had ordered him to post a bank guarantee in the amount of A$5,500,000 (EUR 3,185,600) to secure his compliance with the EPO.

The second case involved Antonio DiCarlo, who was the chief executive officer of, and who had a financial interest in, Grindle Services Pty Ltd and Tyremil Group Pty Ltd, both of which carried out tyre storage and processing activities. Grindle Services was in external administration.

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488 Ibid 9-10

The Department concluded that Grindle Services and Tyremil Group were high risk companies under section 363AD of the EPA 1994, the latter on the basis that Mojo Investments (Aus) Pty Ltd controlled both companies. On 6 December 2016, the Department had issued two EPOs to Mr DiCarlo to require him to carry out actions to prevent or minimise the risk of unlawful environmental damage from the storage of large volumes of tyres at two locations.

The third case involved Mojo Investments (Aus) Pty Ltd, indicated directly above. The Department concluded that the company was a related person of Grindle Services, which it considered to be a high risk company because it was in external administration. On 6 December 2016, the Department had issued an EPO to Mojo Investments to require it to carry out the same actions as the two EPOs issued to Mr DiCarlo.490

The review of the Environmental Chain of Responsibility Laws commented that there was no financial assurance for two of the above sites and that the financial assurance for the third site was considered to be inadequate to fund its rehabilitation and restoration.491

In addition, the review stated that the laws did not conflict with the Mineral and Energy Resources (Financial Provisioning) Bill 2018 because the Department could issue an EPO to require a person to take immediate action to address or prevent environmental damage rather than an administering authority making a claim for funds and then carrying out the work itself.492 The Mineral and Energy Resources (Financial Provisioning) Act requires holders of authorities to pay a contribution to a fund or to provide a cash surety to be held with a financial institution. The purpose of the fund and cash sureties is to provide a source of funds to rehabilitate and remediate the site of an abandoned mine.493

Finally, the review stated that, whilst it was difficult to quantify the extent to which the Environmental Chain of Responsibility Laws had changed behaviour, the Department:

has witnessed signs that entities, including holders of environmental authorities, are taking more positive steps in respect to environmental responsibility. They now have greater incentives to have systems in place to demonstrate the reasonable steps they have taken to ensure compliance with their environmental obligations. There are also indications that entities are improving the way they conduct due diligence and risk assessments in their dealings with companies that have obligations under the EP Act. Furthermore, the legislation has generated greater awareness of the extent of the existing executive officer liability obligations in the EP Act.494

12.2. Canada

Ontario, Canada, imposes liability on directors and officers if their company cannot or does not pay to remediate the pollution. That is, officers and directors of a company may be liable under the law of Ontario for remediating environmental damage caused by the company if it becomes bankrupt or does not otherwise have funding to pay for it. This was illustrated in the following case.

490 Ibid 4-5
491 Ibid 5
492 Ibid 6
Northstar Aerospace (Canada) Inc. and its predecessors owned and operated a helicopter and aircraft parts manufacturing facility in Cambridge, Ontario, between 1981 and 2010. In 2004, Northstar had discovered that groundwater that was migrating from the facility into a nearby residential area was polluted with trichloroethylene and hexavalent chromium. Northstar notified the Ontario Ministry of Environment of the pollution. Northstar then voluntarily carried out investigatory, mitigation and remedial measures, including monitoring air in the residences. In addition, Northstar created an accounting reserve for the measures in the amount of C$22,800,000 (EUR 15,179,442).

In 2012, the Ministry became concerned that Northstar would not have sufficient funds to continue remediating and monitoring the pollution. The Ministry therefore issued an order that required Northstar and its parent company, Northstar Aerospace Inc., to continue carrying out the measures and to provide C$10,000,000 (EUR 6,661,150) in financial security to the Ministry to ensure funding of future measures.

On 14 June 2012, Northstar and two affiliated companies applied for and were granted orders that stayed proceedings against them and their directors and officers under the Companies’ Creditors Arrangement Act (CAAA). Following various court proceedings, Northstar was declared bankrupt and ceased remediating and monitoring the pollution. The Ministry continued to carry out the measures at its cost.

On 14 November 2012, soon after the stay of proceedings against Northstar and its affiliates expired, the Ministry issued a further order against Northstar’s 12 former directors and officers that required them to carry out measures that the Ministry had previously required Northstar to carry out at an estimated annual cost of C$1,400,000 (EUR 933,312). The Ministry also claimed against the directors and officers for about C$15,000,000 (EUR 10,000,000) for its past and future remedial costs, stating that the directors and officers knew about the pollution and had managed and controlled the site between 2003 and 2012.

The directors and officers appealed to the Environmental Review Tribunal to stay the order on the grounds that they did not cause the pollution or have the requisite control of Northstar’s activities and property because none of them were directors or officers at the time the pollution was caused. The Tribunal refused, concluding that they had not established that paying remedial costs would result in irreparable harm to them. The directors and officers failed in subsequent appeals of that decision.

The Ministry and the directors and officers eventually settled the dispute in 2013 for C$4,750,000 (EUR 3,165,282), substantially less than the amount sought by the Ministry. In 2017, remedial works were still continuing at the site. Research showed that they would be long-term in order to remedy the groundwater pollution and to stop trichloroethylene

495 The account of this case is taken from Blanca Mamutse and Valerie Fogleman, “Environmental Claims and Insolvent Companies: The Contrastings Approaches of the United Kingdom and the United States” (2013) British Journal of American Legal Studies, 579


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vaporising in the air inside the nearby homes affected by the groundwater pollution.498

The Ministry has continued to oversee out the long-term remedial and monitoring measures including the extraction of vapours from nearby residences.499

12.3. Corporate law financial security mechanisms in Member States

The research for this report did not include research into whether any Member States have introduced legislation similar to the above legislation in Australia and Canada, with the caveat that no Member State appears to have introduced legislation with the breadth of the Queensland and Ontario legislation.

The research did however locate the following provisions.

Article 8(5) in the Environmental Liability Act, which transposed the ELD into the law of Lower Austria, provides that if the competent authority cannot recover its costs from a company/operator, the following persons are liable:

a person who is distinct from the operator and who, on the basis of laws, articles of association or contractual arrangements, is assigned a certain influence on the occupational activity of the operator and … who holds a significant participating interest in [the] company at the time of the event triggering the threat or the damage, if he or she has breached the duties of care incumbent upon him or her as shareholder, especially if the operator at the time of the occurrence of the threat or damage does not possess the capital deemed necessary according to economic principles for the occupational activity concerned.

Similar provisions are included in the legislation that transposed the ELD in the federal law of Austria and the other Bundesländer (see Member State report for Austria, section 15.2).

Following the liquidation of a company that operated a Seveso II facility that had become highly polluted, French authorities demanded that its parent company contribute to the remediation of its subsidiary’s facility. After the parent company refused to do so, France introduced provisions, called the Grenelle 2 law, into its Environmental Code and Commercial Code to provide that, in specified cases in which there is a characterised fault of the parent company, the parent company of an insolvent subsidiary may be liable for complying with obligations under environmental legislation such as remediating pollution (see Member State report for France, section 15.2).

Somewhat similar liability exists in Spain. Article 13(2) of the Environmental Liability Act, which implements the ELD in Spain, provides that legal and de facto managers of companies whose conduct is the determining factor of the company’s liability, are secondarily liable for preventing or remediating environmental damage caused by the company (see Member State report for Spain, section 15.2).


13. MEASURES BY MEMBER STATES TO IMPROVE FINANCIAL SECURITY FOR ELD LIABILITIES

Article 14(1) of the ELD directs Member States to take measures to encourage the development of financial security instruments and markets by the appropriate economic and financial operators, including financial mechanisms in case of insolvency, with the aim of enabling operators to use financial guarantees to cover their responsibilities under this Directive.

This chapter provides an overview of measures taken by Member States to improve financial security for ELD liabilities and to develop environmental insurance markets. The chapter also describes, as applicable, decisions by Member States not to adopt various measures (see Member State reports, section 10).

The purpose of the chapter is to provide information for Member States on measures taken by other Member States that they may wish to carry out to improve financial security for ELD liabilities and to develop, or further develop, environmental insurance markets in their territories.

13.1. Measures taken by Member States

Measures taken by Member States to improve financial security for ELD liabilities and to develop environmental insurance markets are described below.

This chapter focuses solely on measures taken – or not taken – by Member States. It does not describe measures taken by insurers, brokers, national insurance associations and others to provide financial security instruments and mechanisms for ELD liabilities and/or to develop environmental insurance markets. The success of these measures necessarily affects measures taken by Member States themselves.

13.1.1. Austria

Austria has been active in raising awareness of the ELD although not specifically financial security for ELD liabilities. The submission of Austria to the European Commission pursuant to then article 18(1) of the ELD in 2013 noted the availability of the model terms and conditions called Insurance for costs of remediation of environmental damage (Umweltsanierungskostenversicherung; USKV) for ELD liabilities as well as stand-alone environmental insurance policies.500

The USKV are described in section 10.1.1 above as well as in the Member State report for Austria (section 3.7). The USKV were, of course, drafted by the VVO and not the Austrian Government.

13.1.2. Belgium

No information was provided concerning any measures taken by Belgium to improve financial security for ELD liabilities or to develop an environmental insurance market.

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500 See Letter from Cósima Hufler, Attaché, Permanent Representation of Austria to the EU to Mr Codescu, DG ENV; Reference: BRÜSSEL-ÖV/BMLFUW/0237/2013, dated 2 April 2013, entitled Reporting requirement pursuant to Article 18(1) of the Environmental Liability Directive 2004/35/EC; http://ec.europa.eu/environment/legal/liability/pdf/eld_ms_reports/AT.pdf
13.1.3. Bulgaria
Bulgaria introduced an option for specified operators under its equivalent of the ELD to submit evidence of an environmental insurance policy to the competent authority. If the operator does so, it need not provide proof of financial security to the competent authority if its activities cause environmental damage.

13.1.4. Croatia
Croatia is introducing mandatory financial security for waste management activities. As part of the introduction, stand-alone environmental insurance policies specifically for waste management will become available in Croatia to satisfy the mandatory financial security requirement.

13.1.5. Cyprus
Cyprus organised a seminar on the creation of appropriate insurance instruments for operators before 2013. Following consultations and efforts to promote environmental insurance, however, the government concluded that the insurance market in Cyprus was too small for environmental insurance products especially because there was a significant proportion of small and medium sized businesses.

Cyprus therefore halted measures to promote the issue further. In doing so the government recognised that insurers needed information on the ELD and also that ‘resources for assisting operators and insurance providers in assessing remediation projects and costs [were] restricted’. The government suggested that it would be useful to exchange experiences with Member States that had ‘succeeded in advancing and promoting insurance products’.  

13.1.6. Czech Republic
The Czech Republic has introduced mandatory financial security for ELD liabilities, albeit with substantial exceptions.

The introduction of the mandatory financial security system for ELD liabilities has increased awareness of ELD liabilities especially among small and medium sized enterprises, which were previously less aware than large operators.

13.1.7. Denmark
When the ELD was implemented, the Danish Government attempted a dialogue with Insurance & Pension Denmark about an insurance plan, as some Member States had made insurance mandatory for operators that carried out potentially environmentally harmful activities. This model was abandoned, however, due to little interest in its development.

The Danish Government has not taken new measures to develop an environmental insurance market since that time.

13.1.8. Estonia
No information was provided concerning any measures taken by Estonia to improve financial security for ELD liabilities or to develop an environmental insurance market.

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13.1.9. Finland

The Finnish Government has not taken any measures to develop financial security markets because it has not observed the need for administrative guidance to assist in their functioning. It is anticipated that the Government will develop and possibly restructure the environmental liability system, including the statutory environmental liability insurance scheme, in 2020.

13.1.10. France

In 2012, the then Ministry of Ecology, Sustainable Development and the Environment (now the Ministry for the Ecological and Inclusive Transition), published a guide on the application of equivalence methods for assessing the costs of remedial measures under the ELD. At the same time, the Ministry held meetings with trade organisations for operators, scientific experts, NGOs and others, including individual insurers and Assurpol, to promote the guide and to explain its content.

In its 2013 report to the Commission under then article 18(1) of the ELD, France stated that large operators were well-informed about environmental liabilities through their risk management strategy, including the use of specific insurance policies. The report also stated that insurance for environmental liabilities continued to develop in France, especially through Assurpol and the ‘environmental liability insurance framework’, and that since 2005, new companies offered environmental insurance policies. The report further stated that, accordingly, combined with efforts by the Ministry and the French Insurance Association, environmental insurance policies would be available to small and medium sized enterprises.

No information was provided that the French Government has taken any further measures to develop an environmental insurance market but the introduction of liability for ecological damage in the Civil Code (see Member State report for France, section 3.6.3) has helped to increase the demand for environmental insurance.

13.1.11. Germany

The German Government has not been proactive in developing a financial security market for ELD liabilities, with the caveat that such financial security is widely available in Germany.

The Government proposed introducing mandatory financial security for ELD liabilities but withdrew the proposal from the legislation that transposed the ELD into German law after concluding that it could complicate the development of insurance for environmental liabilities.

The GDV has been proactive especially in introducing model terms and conditions that provide cover for ELD liabilities in general liability policies (see Member State report for Germany, section 3.7).

13.1.12. Greece

The Greek Government has taken various measures to develop financial security markets for environmental liabilities under the ELD. The measures include work on the Joint Ministerial Decision on financial security, and the Ministry of Environment and Energy, Coordination Office for the Implementation of Environmental Liability having taken measures to introduce mandatory financial security.

13.1.13. Hungary

In 2013, the Hungarian Government reported to the European Commission under then article 18(1) of the ELD that it had held negotiations and was preparing legislation to comply with a requirement in its general environmental protection legislation to encourage ‘users of the
environment’ to have financial security for their activities in order to ensure that they could remediate accidental environmental damage caused by them.

The negotiations also included whether users of the environment should be obliged to have environmental insurance to provide cover for remediation measures. In this respect, the Hungarian Government reported that a ‘source of major difficulty is that, for risk-taking and profit calculation reasons, the financial (banking and insurance) sector refrains from introducing such new types of solution’. The Hungarian Government also stated that ‘[a]nother problem is that due to the EU rules on neutrality in market competition in force the possibilities for establishing financial (banking and insurance) methods and institutional instruments are very limited’.

Also in its report to the European Commission, the Hungarian Government referred to measures that had been taken pursuant to the Waste Act, which entered into force on 1 January 2013. The measures relate to reserves that serve as security for waste treatment facilities and environmental insurance for the generation of waste; the transportation, storage and treatment of waste; and responsibilities under the Waste Shipment Regulation.

No further measures by the Hungarian Government were reported.


The Irish EPA has been very active in raising public awareness, and providing the public with details, of mandatory financial security requirements, instruments and mechanisms for environmental, including ELD, liabilities and responsibilities. Publication of the guidance on ELRA and financial provision for environmental liabilities, as well as the existence of mandatory financial security requirements, have significantly aided in developing the financial security market in Ireland.

Examples of the Irish EPA’s activities include:

- presentations by XL Insurance on the ELD, environmental insurance and public liability and property insurance policies at an internal Irish EPA workshop on 2 October 2008;
- a presentation on financial provision in an EPA Workshop for Waste Licensees on 24 October 2013;\(^\text{502}\)
- a presentation on financial provision requirements for EPA licensed facilities on 30 November 2016;\(^\text{503}\)
- a presentation on financial provisions at the Ibec workshop on financial provisions entitled ‘Where do we stand?’ on 24 May 2017;
- other presentations referred to throughout the Member State report for Ireland; and
- an article on financial provision for environmental liabilities, published in the journal, Environmental Law & Management.

The Irish EPA also co-led the three-year IMPEL project on Financial Provision for Environmental Liabilities with SEPA. The main aim of the project, which included the publication of three reports, is ‘the development of pan-European guidance on the practicalities of providing financial security; both for accidents and for bankruptcies’.


13.1.15. Italy

No information was provided to indicate that the Italian Government has taken any measures to develop the environmental insurance, or other financial security, market.

13.1.16. Latvia

The Environmental Protection Law enacted by the Latvian Government states that ‘[o]perators may use types of financial guarantee, also insurance, funds and bank guarantees, in order to insure the performance of preventive, immediate or remedial measures specified by this Law’.

The law does not however provide details to encourage operators to use financial security.

No other details of measures taken by the Latvian Government to develop environmental insurance or other financial security markets for liabilities under the ELD were provided.

13.1.17. Lithuania

No information was provided to indicate that the Lithuanian Government had taken any measures to develop an environmental insurance market.

13.1.18. Luxembourg

No information was provided on any measures taken by Luxembourg to develop financial security markets including an environmental insurance market.

13.1.19. Malta

No information was provided on any measures taken by Malta to develop financial security markets including an environmental insurance market.

13.1.20. Netherlands

The Netherlands is considering re-introducing financial security for a broader category of persons than imposed by the requirements for waste operations that it withdrew in 2009.

The Environment and Planning Act includes provisions that introduce mandatory financial security for activities indicated by decree that have an environmental permit for an activity that may have 'significant adverse effects on the physical environment' for the costs of complying with obligations under the environmental permit and liability for damage resulting from adverse effects on the physical environment caused by the activity.

Depending on the nature and scope of the decree, it could encourage the continued development of the environmental insurance market in the Netherlands.

13.1.21. Poland

The Polish Government has encouraged the development of financial security markets by phasing in requirements for mandatory financial security for ELD liabilities (see section 6.2.2 above).

13.1.22. Portugal

The Portuguese Government has taken many measures to develop financial security markets that facilitated the introduction and evolution of the mandatory financial security system, especially through the APA.
In 2010, the APA carried out a project with the Portuguese Association of Petroleum Companies to support the application of the ELD to oil storage and distribution facilities and service stations. The association had commented in a position paper of December 2009 that its members were unable to comply with the mandatory financial security requirements due to the lack of technical guidance and standardised methodologies to quantify environmental damage, confusion as to whether financial security was required for civil liabilities as well as preventive and remediation measures, and duplication of the requirement for mandatory financial security for water damage.

In this context, the Sectoral Guide for Environmental Responsibility for the Storage of Petroleum Products was developed and published on the association’s website in July 2011. It describes an environmental risk assessment methodology that should be used to calculate the amount of the financial security for this sector. The Sectoral Guide for Environmental Responsibility for the Distribution of Petroleum Products and the Sectoral Guide for Environmental Responsibility for the Marketing of Petroleum Products, both dated October 2012, were also published.

On 9 August 2010, the Consultative Council for Environmental Liability was established with the aim of (1) monitoring the technical and economic aspects of the provision of financial security under the legislation that implements the ELD, and (2) monitoring the development of the conditions and evolution of the financial security market. The Council is composed of representatives from the insurance and banking sectors; industrial, agricultural and business associations; associations of municipalities, environmental NGOs; as well as representatives of the ministries of environment, land use planning, health, economy, transportation and agriculture; and representatives of the Madeira and Azores Regional Governments.

Through the same Order, the Permanent Monitoring Commission for Environmental Liability was also created to monitor environmental responsibility. The Commission provides technical support to the APA in determining preventive and remedial measures for environmental damage and their evaluation.

In October 2011, the APA published the ‘Guide to the evaluation of imminent threat and environmental damage; Environmental responsibility’. The guide includes a brief discussion of the mandatory financial security system. An unofficial English translation is also available.

In August 2016, the APA published the Legal Regime of Liability for Environmental Damage; Prevention and Remediation of Environmental Damage; Operator Support Manual, which includes sections on the mandatory financial security system.

In addition, the APA published the FAQ on issues concerning the law that implements the ELD in Portugal including the mandatory financial security system established by it on its website.504

Operators subject to the financial security system upload their financial security instrument or mechanism on a platform for communication of environmental damage and imminent threats of such damage, available on the APA’s website.505

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505 ‘Environmental liability; Communication form; Notifier accreditation’; https://ra.apambiente.pt/form# (in Portuguese and English)
The above documents and measures are in addition to other documentation including guidance, and measures published by the APA concerning issues other than mandatory financial security under the legislation that implements the ELD in Portugal.

13.1.23. Romania

Romania’s 2013 report to the European Commission under then article 18(1) of the ELD states as follows:

[the] Ministry of Environment and Climate Change [now the Ministry of Environment, Waters and Forests] has started proceedings for awarding a public procurement contract for a study on the financial instruments needed in Romania that will enable operators to cover their responsibilities under ELD (in 2009 and 2011). Unfortunately, no one participated in the auction.

The report further provided in respect of financial security that:

the operators working the mining field are obliged to have a financial guarantee according to the Mining Law no. 85/2003.

The most difficult problem, for the time being, is the calculation of the financial guarantee and the development of the financial security instruments and markets, as required by ELD. The same requirement exists within the national legislation in force as a result of the transposition of the [Extractive Waste Directive].

We encounter difficulties due to the lack of expertise in financial, economical and liability matters.

The Ministry of Environment, Waters and Forests is resuming the public procurement procedure for a study on the financial instruments needed to cover insurance for environmental damage. The most difficult problem identified by Romania is establishing the amount for the financial security instruments and the development of them and markets for them.

13.1.24. Slovakia

Slovakia has taken many measures to develop financial security markets.

The Ministry of Environment has held many seminars and workshops on the mandatory financial security system and the risk assessment system for environmental damage for operators, environmental risk assessors, insurers, environmental consultancies, lawyers and competent authorities (including seminars specifically for operators, insurers and state administration) both prior to 2012 when the mandatory financial security provisions entered into force, and after that date.

Further, a working group was established to improve communication and co-operation between representatives of the Ministry of Environment (water protection, nature and landscape protection, and environmental risk assessment and management), the Slovak Environmental Inspectorate, the Slovak Environment Agency, the State Nature and Landscape Conservancy and the Slovak Insurance Association.

The Ministry of Environment has also issued guidance on risk assessments and other information related to mandatory financial security including a calculation tool that can be used online and offline.
The introduction of the mandatory financial security system for ELD liabilities has increased awareness of ELD liabilities especially among small and medium sized enterprises, which were previously less aware than large operators.

13.1.25. Slovenia

A study carried out by the (now) Ministry of the Environment and Spatial Planning on the feasibility of introducing mandatory financial security in 2010 recommended that the insurance industry should be encouraged to develop an ‘ELD product’ and to raise awareness of the need for such insurance policies. The report also stated that the acquisition of EMAS and ISO 14001 by operators should be promoted and that persons responsible for preventing and remediating environmental damage should be informed about the issue.

The EcoLex Life project, which was carried out to raise awareness of the ELD in Slovenia with financial contribution from the LIFE programme of the EU between 15 July 2017 and 31 December 2019, raised awareness of the ELD, including financial security for liabilities under it, in Slovenia, especially among small and medium sized enterprises.

Insurers considered developing an insurance policy to provide cover for ELD and other environmental liabilities, but postponed its development due to the lack of demand for it.

13.1.26. Spain

Spain has been the most active of all the Member States in introducing mandatory financial security for ELD liabilities. The 2013 report from Spain to the European Commission under then article 18(1) of the ELD describes in detail the measures taken by Spain at that time in doing this.

A representative of the General Directorate of Environmental Quality and Assessment, Ministry for the Ecological Transition and the Demographic Challenge, has also made several presentations on the financial security system to the ELD Government Experts Group and ELD Stakeholders Workshops.

Spain has carried out many other measures to introduce mandatory financial security since 2013 including the further development of methodologies and online tools for risk assessments for the financial security requirements. The Member State report for Spain describes these in detail. Due to their length, they are not repeated in this chapter.

13.1.27. Sweden

The Swedish Government stated in the Act that revoked the Environmental Damage Insurance programme that it was important that operators should bear the costs of remediating environmental damage. The programme required holders of environmental permits, with a few exceptions, to purchase insurance to provide compensation to individuals and small businesses that suffered bodily injury and/or property damage caused by environmental damage. The insurance was triggered only if the person that caused the damage or injury could not be found, was insolvent or was not liable due to the expiration of the limitations period. An additional type of insurance, called remediation insurance, was subsequently introduced to provide cover for the costs of measures to remediate land/soil and water.

The programme was initially managed by a consortium that included all Swedish insurers that participated in the programme. Due to issues concerning competition law, the insurance was subsequently provided by a single insurer selected by a public procurement procedure.
In 2007, a public investigation report concluded that the compensation system was not cost-effective and that the policy terms were narrowly framed, a view that was not universally shared. The scheme was discontinued in 2010.

13.1.28. United Kingdom

The Department for Environment, Food and Rural Affairs held meetings between insurers and other persons involved in the environmental insurance market after the ELD was transposed into English law in March 2009. The Department also published brief information on ELD incidents across the United Kingdom on its website until 2014.

SEPA was a co-leader (with the Irish EPA) of the IMPEL reports on Protecting the Environment and the Public Purse. A representative of SEPA has given many presentations on the reports to the ELD Government Experts Group and ELD Stakeholders Workshops as well as commercial conferences.
14. APPROACHES TO IMPROVE FINANCIAL SECURITY FOR ELD LIABILITIES

Chapter 14 examines various approaches to improving financial security for ELD liabilities. This chapter is structured as follows.

First, the chapter examines and analyses the three approaches for harmonisation of financial security instruments or mechanisms set out by the Commission in the REFIT Evaluation. The three approaches are:

- obligation for competent authorities to assess the sufficiency of financial capacity of operators;
- obligation for operators to carry out risk assessments; and
- gradual phasing in of mandatory financial security at EU level for the most risky activities.

The Commission proposed the above approaches based on a survey by Insurance Europe in 2014 that stated that ‘[i]n most markets, cover is available for all ELD risks (primary, complementary and compensatory remediation measures)’. The survey also stated that such cover was available ‘either as part of general liability policies or stand-alone environmental liability products that are provided by individual insurers or environmental liability pools’.

The research for this report revealed, however, that although insurance for ELD liabilities is available in stand-alone environmental insurance policies offered by multinational insurers to large businesses with sites and/or operations in multiple Member States, it is not widely available – or even generally available – in a substantial number of Member States to businesses with sites and/or operations in only one Member State. The research further revealed that insurance for ELD liabilities is virtually never available as part of general liability policies (see chapter 10 above).

This report, therefore, examines the above three approaches from a Member State perspective as well as an EU-wide perspective. That is, this chapter examines their application to individual Member States as well as across the EU as a whole.

The following section of this report compares and analyses the mandatory financial security systems for ELD liabilities introduced by the Czech Republic, Ireland, Portugal, Slovakia and Spain (see section 6.1 above) for ELD liabilities and the financial security provisions for ELD liabilities introduced directly or indirectly by Poland and Italy (see section 6.2 above). This section is limited to mandatory financial security for ELD liabilities. It does not compare and analyse mandatory financial security for other environmental liabilities, with the caveat that such financial security requirements in some Member States are more extensive than those in Italy and Poland for ELD liabilities.

The purpose of the comparison and analysis is to indicate best practices not only at an EU level but also at an individual Member State level for Member States that have proposed introducing a mandatory financial security system (such as Greece) and those that may decide to do so in the future.

506 REFIT Evaluation 48-49

507 Insurance Europe, ‘Briefing note; Survey of environmental liability insurance developments’ (27 June 2014); https://www.insuranceeurope.eu/sites/default/files/attachments/Survey%20of%20environmental%20liability%20insurance%20developments.pdf; see REFIT Evaluation 47
14.1. Financial viability of operators

It is common in some types of legislation that requires a person to have a permit, licence or other authorisation to direct the competent authority to assess their financial viability (capacity) to comply with its conditions before granting or renewing it.

14.1.1. Financial viability requirements

Financial viability requirements are standard, for example, in licensing oil and gas operations, as illustrated by the Offshore Safety Directive.

Article 4(1) of the Offshore Safety Directive states that:

> Member States shall ensure that decisions on granting or transferring licences to carry out offshore oil and gas operations take into account the capability of an applicant for such a licence to meet the requirements for operations within the framework of the licence as required by the relevant provisions of Union law, in particular this Directive.

Article 4(3) states that:

> Member States shall ensure that the licensing authority does not grant a licence unless it is satisfied with evidence from the applicant that the applicant has made or will make adequate provision, on the basis of arrangements to be decided by Member States, to cover liabilities potentially deriving from the applicant’s offshore oil and gas operations. Such provision shall be valid and effective from the start of offshore oil and gas operations. Member States shall require applicants to provide, in an appropriate manner, evidence of technical and financial capacity and any other relevant information relating to the area covered by the licence and the particular stage of offshore oil and gas operations ....

The above provisions for financial viability in the Offshore Safety Directive follow the direction in article 5(1) of the Prospection, Exploration and Production of Hydrocarbon Directive that:

> Member States shall take the necessary measures to ensure that ... authorizations are granted on the basis of criteria concerning, in all cases ... the technical and financial capability of the entities; and ... the way in which they propose to prospect, to explore and/or to bring into production the geographical area in question.508

Obligations to demonstrate financial viability apply to onshore, as well as offshore, oil and gas operations. In most, if not all, Member States, applicants for licences for the exploration and production of oil and gas must show that they have the financial capacity/viability to carry out the obligations of the licence. Financial viability can be shown by, for example, bank statements, accounts, certified statements of the finances of a business by an accountant, or otherwise proving the financial good standing of an applicant for a licence.

A key reason for the requirement for financial viability for the holder of a licence to carry out oil and gas operations is that a licence, other authorisation, or concession agreement grants its holder exclusivity to explore for, and/or produce, oil or gas within a specified geographical area for a specified period of time. If the licence holder does not have the necessary financial capacity to explore or produce oil and gas in the specified area during that period, the exploration or production would not be carried out in that area during the pendency of the licence.

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14.1.2. **Offshore oil and gas operations**

There does not appear to be any reason why a requirement for financial viability under the ELD could not apply to licensees of offshore oil and gas operations.

Offshore oil and gas operations are subject to the ELD as follows:

- item 7 of annex III of the ELD includes ‘[m]anufacture ... of ... dangerous substances as defined in Article 2(2) of Council Directive 67/548/EEC ...’ (now the Classification, Labelling and Packaging Regulation);\(^{509}\)
- hydrocarbons and crude oil are dangerous substances; and
- article 2(14) of the Classification, Labelling and Packaging Regulation defines ‘manufacturing’ to include ‘production or extraction of substances in the natural state’.

Although offshore oil and gas operations are not listed in annex III of the ELD, article 7 of the Offshore Safety Directive provides that:

> Without prejudice to the existing scope of liability relating to the prevention and remediation of environmental damage pursuant to [the ELD], Member States shall ensure that the licensee is financially liable for the prevention and remediation of environmental damage as defined in that Directive, caused by offshore oil and gas operations carried out by, or on behalf of, the licensee or the operator.

As indicated in section 14.1.1 above, the licensee or operator of offshore oil and gas operations must provide evidence of its financial viability when it applies for the licence. Whilst financial viability for ELD liabilities is not required by the Offshore Safety Directive, the Directive strongly implies that financial security is required.

The research for this report indicated that most Member States had not incorporated financial security for ELD liabilities into licensing legislation for offshore oil and gas operations (see Member State reports, section 14).

An exception is Portugal. Article 12 of Decree-Law No 13/2016, of 26 July (Decreto-Lei No 13/2016, de 26 de julho),\(^{510}\) which transposed the Offshore Safety Directive into Portuguese law, states that the assessment of an applicant’s technical and financial capability shall take into account, among other things, its obligation to provide financial guarantees capable of covering liabilities that may result from economic and environmental damage from its operations.

14.1.3. **Requirements in environmental legislation**

The question then arises whether a requirement for evidence of financial viability should be required for applicants for environmental permits.

A reason not to require it is that the above situation concerning oil and gas licences does not exist in environmental permits. The presence of a landfill or an extractive waste facility in a specified geographic area does not necessarily preclude other persons establishing another

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\(^{510}\) Decreto-Lei No 13/2016, de 26 de julho (consolidated version); https://dre.pt/web/guest/legislacao-consolidada/-/lc/75027564/view?p_p_state=maximized (in Portuguese)
landfill or facility within the same area. Further, environmental permits are not granted for specified time periods.

Neither the Landfill Directive, nor the Extractive Waste Directive, nor the Directive on the geological storage of hydrocarbons include any financial viability provisions despite having mandatory financial security provisions in them; see section 7.1 above). Member States may include financial viability provisions in their transposing legislation but they are not required by EU law.

Further, other Directives discussed in this report, especially the Industrial Emissions Directive and the Seveso III Directive, do not include financial viability provisions.

Still further, the Recommendation on hydraulic fracturing does not include any financial viability provisions. In their responses to the Commission on implementation of the recommendation, some Member States referred to financial viability provisions instead of, or as well as, financial security provisions. For example, in response to the question ‘Are measures in place to ensure that the provisions on environmental liability are applied to all activities taking place at an installation site including those that currently do not fall under the scope of [the ELD]’, the response from Denmark in 2015 referred to the requirement for licensees to ‘present required insurance and financial capacity’.511 This is not surprising. Hydraulic fracturing is authorised by oil and gas legislation. An applicant for a licence, therefore, must necessarily submit evidence of its financial viability to the relevant competent authority under that legislation.

14.1.4. Environmental responsibility requirements

There is precedent for a Member State to include financial viability requirements in its legislation mandating financial security for environmental liabilities.

As indicated in section 6.1.2 above, the Irish EPA requires holders of environmental licences subject to its hybrid mandatory financial security system to have financial security for two types of risks; ELRA costs for unexpected incidents such as an ELD incident, and CRAMP costs for foreseen events such as closure, restoration and aftercare of landfills and other waste facilities.

Acceptable financial security instruments and mechanisms differ for the two types of risks. A secured fund, a performance bond, a guarantee from a parent company or other affiliate, a charge over property (up to a specified percentage of the value of the property), and environmental insurance are acceptable for ELRA costs. Insurance is not acceptable for CRAMP costs. Parent company and affiliate guarantees are not acceptable for the costs of closing a landfill or other facility.

Financial security for environmental responsibilities could be described as a form of quasi financial viability. If an operator provides evidence of financial security for, say, closing a landfill at the end of its operational phase, it would seem duplicative to require the operator also to provide evidence of its financial viability to do so during the application procedure for the permit for the landfill. The scope of both obviously differs. That is, a business can show evidence of financial security by third-party instruments such as bank guarantees, etc. as well as (in some jurisdictions) its net worth, reserves in its accounts, etc. Evidence of financial viability is shown only by the financial standing of the applicant for a licence or other

511 2015 questionnaire on the application of Commission Recommendation 2013/70/EU on minimum principles for the exploration and production of hydrocarbons using high-volume hydraulic fracturing (such as shale gas), point 12.1; see link at https://ec.europa.eu/environment/integration/energy/unconventional_en.htm5
authorisation; it is not as a general rule shown by third-party instruments.

14.1.5. Environmental liability requirements

The question then arises whether financial viability as well as financial security should apply to environmental liabilities.

Again, there is precedent for financial viability for environmental liabilities, this time from Canada in the context of oil and gas operations.

Section 26.1 of the Canada Oil and Gas Operations Act (COGOA) requires a company that applies for an authorisation to drill for, develop or produce oil and gas to provide proof to the Canada Energy Regulator (CER) that ‘it has the financial resources necessary to pay’ an amount determined by the new CER or relevant provincial board before carrying out operations covered by the authorisation.

Article 27(1) of the COGOA provides that the applicant ‘shall provide proof of financial responsibility in the form of a letter of credit, guarantee or indemnity bond or in any other form satisfactory to the [CER]’. The amount of financial responsibility is C$100 million (EUR 64,440,000) for ‘drilling for or development or production of oil or gas in [specified] areas’.

Article 27(1.01) states that, alternatively, an applicant may ‘provide proof that it participates in a pooled fund that is established by the oil and gas industry, that is maintained at a minimum of $250 million (EUR 161,100,000) and that meets any other requirements that are established by regulation’.

In February 2016, the CER’s predecessor, the National Energy Board,\(^\text{512}\) issued guidelines that divided financial security/viability into two categories: ‘financial responsibility’ and ‘financial resources’.

As indicated above, ‘financial responsibility’ may be in the form of a bank letter of guarantee, an indemnity bond, proof of participation in a pooled fund, and/or any other form considered to be acceptable. These instruments and mechanisms provide proof that the holder of an authorisation has the ability to pay all losses or damages, including carrying out remedial measures, immediately an incident occurs.

In contrast, ‘financial resources’ may be in the form of the company’s most recent audited financial statements and credit rating, a promissory note, an insurance policy or certificate of insurance, an escrow agreement, a letter of credit, a line of credit, a guarantee agreement, or a security bond or pledge agreement or an indemnity bond or suretyship agreement.\(^\text{513}\)

‘Financial resources’ refers to proof that the holder of an authorisation has financial resources necessary to pay the absolute liability limit (C$1 billion (EUR 644,400,000)) under the COGOA applicable to its operations\(^\text{514}\) if it causes environmental damage (see section 15.2 below).

The limits for financial resources and financial responsibility differ depending on the type of operation that is being carried out.\(^\text{515}\) The guidance sets out specifications and templates for each type as well as acceptable instruments and mechanisms.\(^\text{516}\)

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\(^\text{513}\) Ibid s 3(c), 7-8

\(^\text{514}\) Ibid appendix 1

\(^\text{515}\) Ibid

\(^\text{516}\) Ibid ss 4, 5
It is questionable, however, whether all annex III operators in a Member State that has introduced mandatory financial security for ELD liabilities, or is considering introducing mandatory financial security for them, should also be required to provide evidence of financial viability for such liabilities. Much would depend on the nature and size of the operations, and thus the costs involved in carrying them out.

14.1.6. Reviews by competent authorities

If financial viability requirements for environmental liabilities were adopted on an EU wide or Member State level, they would only be effective if competent authorities that did not have sophisticated procedures for reviewing environmental permits introduced such procedures.

The review of an operator’s financial viability when a permit is granted only gives a picture (snapshot) of the operator’s financial resources at that specific time. When financial viability is required throughout the pendency of a permit, licence or other approval, it is good practice for a competent authority to carry out regular checks at specified points in time to ensure that the evidence of financial viability has not deteriorated as well as requiring the operator regularly to submit such evidence to the authority. In this respect, evidence of financial viability may be complex and require expertise in, among other things, corporate law, which may necessitate the competent authority out sourcing the review to an independent expert.

The regular reviews should already be carried out by competent authorities in Member States that accept self insurance or guarantees by parent companies or other affiliates for financial security for environmental responsibilities and environmental liabilities, or reserves for them. They should also be carried out by competent authorities to ensure that evidence of any type of financial security instrument or mechanism satisfies the relevant mandatory financial security requirements and that it continues to do so throughout the period required for it. As indicated above, this may require expertise in fully understanding the nature and scope of the financial security instrument that is submitted, which may be complex.

As noted in section 14.1.3 above, it would seem duplicative to require an operator to submit evidence of its financial viability as well as financial security for environmental responsibilities.

14.2. Obligations to carry out risk assessments

The REFIT Evaluation suggested that the approach for evidence of financial viability for ELD liabilities, discussed in section 14.1 above, could be:

complemented or even replaced by a self-executing obligation for operators to carry out better risk analysis or risk assessments following certain elementary requirements or performance standards. Further stepping up risk analysis on the basis of a set of agreed/compulsory basic elements could contribute to a more level playing field and reduce environmental damage. Operators should in this case work closely with the financial security providers on the one hand and with the competent authorities on the other hand.517

Risk analysis (or risk assessment) is an essential tool in determining whether and, if so how, many different types of business activities should be carried out. There is a wide range of risk assessments for environmental liabilities from those carried out voluntarily to mandatory assessments. Indeed, the ELD is itself based on risk assessment, with strict liability for land, water and biodiversity damage applying to operators listed in annex III of the ELD, with the inclusion of operators in that annex being based on the higher risk of environmental damage

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from their activities compared to non-annex III operators, which are liable under a fault-based system and only if their activities cause biodiversity damage.

The two main types of risk assessments for ELD liabilities that were carried out when this report was published were those carried out by underwriters of stand-alone environmental insurance policies, and those required under the mandatory financial security systems for ELD liabilities introduced by the Czech Republic, Ireland, Portugal, Slovakia and Spain. Other types also exist, as briefly discussed in section 14.2.3 below.

14.2.1. Stand-alone environmental insurance policies

Virtually all insurers that offer stand-alone environmental insurance policies have an underwriter, or a team of underwriters, who have expertise in the environmental risks covered by their policies. Many of these underwriters are former environmental consultants or have a similar scientific or technical background.

In order to calculate the premium for an insurance policy, an underwriter determines a ‘risk premium’. The risk premium is based on the probability that an event covered by the policy will occur and the likely amount of the loss for a claim by an insured for that event. Underwriters then adjust the risk premium to cover their expenses and to provide a profit to which they add a safety margin. The calculations are revised depending on their claims experience. This is done by calculating a combined ratio, that is, the ratio of expenses and losses from claims to premiums. If the combined ratio is less than 100%, there is an underwriting profit. If the combined ratio is more than 100%, there is an underwriting loss.

Premiums are affected, among other things, by the cyclical nature of the insurance market. In a ‘soft’ market, premiums tend to be reduced; in a ‘hard’ market, they tend to be increased. Factors that affect whether the insurance market is hard or soft are demand and supply, an increase or reduction in capacity, the stringency of underwriting criteria, losses, and competition between insurers. Other factors that affect the amount of premiums include an insurer that is entering a specific line of business (such as environmental insurance) reducing its premiums until it has successfully entered the market.

As part of the underwriting process for stand-alone environmental insurance policies, underwriters require a prospective insured to answer questions in a proposal form tailored for the type of policy to be taken out. Underwriters also request a prospective insured to provide additional documentation. This typically takes the form of a recent environmental assessment or audit of sites to be insured if they have already been carried out by the prospective insured. If the prospective insured does not have environmental information about a site for which it seeks insurance, the premium is likely to be higher because the underwriter cannot properly assess the environmental risks posed by it.

An insured cannot choose not to provide prejudicial environmental assessments or other such relevant documentation in its possession to an insurer. In most if not all Member States, the insurer would be entitled to refuse to pay a claim based on the insured’s non-disclosure, or misrepresentation, of material information when the policy incepted or was renewed.

The documentation and other information provided by an insured (usually through its broker) to the underwriter helps determine the amount of the premium. There is thus a strong motivation for a prospective insured to carry out an assessment of environmental risks at its site(s) and, on the basis of the assessment, to reduce those risks in order to pay a lower premium.

In summary, if an operator purchases a stand-alone environmental insurance policy, the underwriter carries out a risk assessment of the insured’s site(s). The risk assessment benefits
the insured as well as the insurer because it identifies environmental conditions and issues that could be corrected as well as environmental measures that could be improved.

If an insured takes out an environmental extension to a general liability or a property policy, the insurer generally does not carry out an environmental risk assessment. The absence of the risk assessment by the underwriter is a major reason for the limitations on cover provided by the extensions and their low sub-limits of liability. The absence of the risk assessment may have other effects. For example, the Italian re/insurance pool, *Pool Ambiente*, does not reinsure environmental extensions to general liability policies due to the lack of environmental underwriting for them.

### 14.2.2. Mandatory financial security systems

The Czech Republic, Ireland, Portugal, Slovakia and Spain all adopted a risk assessment approach in their mandatory financial security systems for ELD liabilities (see figure 5 below). That is, the scope of operators subject to each mandatory financial security system is based on whether their operations have a higher or lower risk of causing environmental damage. Ireland and Spain specifically reduced the types of activities (and thus the number of operators) to which their systems apply pursuant to their risk management approaches.

Further, Spain is phasing in its mandatory financial security system based on risk assessment so that the system applies to operators with a higher risk of causing environmental damage before it applies to lower risk activities.

The following sections briefly describe risk assessments for annex III operators in the mandatory financial security systems for the Czech Republic, Ireland, Portugal, Slovakia and Spain. Detailed descriptions of each mandatory financial security system are included in the Member State reports and are summarised in the Member State summaries.

#### Czech Republic

All operators that carry out activities in the Czech equivalent of annex III of the ELD (annex 1 of the Czech implementing legislation) are required to have financial security for ELD liabilities with the exception of specified operators subject to the Water Law. The extent of financial security for measures to prevent and remediate environmental damage corresponds to the likelihood that environmental damage will occur from an operator’s activities and its severity if it occurs. In order to determine the extent of financial security, the operator must carry out a risk assessment and must revise it if there are significant changes in its activities.

The methodology for risk assessments and the criteria for assessing sufficient financial security are determined by a government regulation that requires an annex 1 operator (subject to narrow exceptions) to carry out a risk assessment for each of its activities.

There are two tiers of risk assessments; a basic risk assessment, and a detailed risk assessment.

An operator that is subject to the mandatory financial security system must carry out a basic assessment of the risks of environmental damage from its activities. Control points are applied to rank the risks. If the total number of control points is less than 50, the costs of remediating environmental damage are deemed to be less than CZK 20,000,000 (EUR 783,800), in which case the operator is not required to carry out the detailed risk assessment. If the total number of control points from the basic risk assessment exceeds 50, in which case the costs of remediating environmental damage are deemed to exceed CZK 20,000,000, the operator must carry out a detailed risk assessment.
The Ministry of the Environment has published two sets of methodological guidance for assessing the risks of environmental damage; guidance for the basic assessment, and guidance for the detailed assessment.

The above requirements are subject to an exception for operators that have registered under, or have begun procedures to be registered under, EMAS or ISO 14001. If an operator satisfies any of these criteria, it need only carry out a basic risk assessment.

**Ireland**

Operators that carry out activities considered by the Irish EPA to be ‘high risk’ are subject to the hybrid mandatory financial security system for ELD environmental liabilities and specified environmental responsibilities.

An operator that is subject to the mandatory financial security system for ELD liabilities in Ireland must prepare an ELRA to assess the costs of unexpected incidents. (A separate evaluation called CRAMP applies to operators that must have financial security for events such as the closure of a landfill or an extractive waste facility that will inevitably occur.)

The purpose of an ELRA is to identify and cost environmental risks including the environmental aspects of an accident such as remediating the damage and preventing further damage. The amount of financial security for such risks is calculated according to a risk assessment procedure that includes identifying plausible environmental risks in respect of the sensitivity of the receptor (people, water, sensitive ecosystems, etc.), evaluating the risks, establishing a process to mitigate them and identifying, quantifying and costing a plausible worst case scenario for the financial provision.

The Irish EPA has published guidance on its approach and methodology for preparing an ELRA, together with a worked example to assist businesses in preparing them.

**Portugal**

All operators that carry out the equivalent of annex III of the ELD in Portugal are required to have financial security for ELD liabilities. The legislation that sets out the requirements does not specify a particular risk analysis methodology. Instead, an operator may carry out the methodology most appropriate to its activities and the damage that may be caused by them to land, water, and protected species and natural habitats.

The APA has suggested a methodology for determining the amount of financial security.

The methodology includes:

- the characterisation of activities carried out by an operator that can cause environmental damage to its facility and the surrounding environment;
- an analysis of the state of the environment including natural resources when the analysis is carried out;
- identification and analysis of potential scenarios that could cause environmental damage; an evaluation of the severity of damage associated with predictable risk scenarios including an estimate of natural resources and services that may be affected;
- a determination of the preventive and remediation measures that would need to be carried out; and
- an estimation of their costs in respect of the scenario that would have the most serious consequences for affected natural resources.

The amount of financial security is based on the estimated costs of the measures to prevent or remediate potential environmental damage according to risks posed by the activity.
The operator may carry out the risk analysis itself or instruct a third party to carry it out. If the operator carries out measures to minimise the risk of environmental damage, the amount of financial security may be reduced.

- **Slovakia**

All operators that carry out activities under the equivalent of annex III of the ELD are required to have financial security for ELD liabilities.

The Ministry of the Environment has published a methodological manual for operators and state administrations on a risk assessment system for assessing environmental damage. The manual is designed for small and medium sized businesses, large businesses, and competent authorities. A methodological tool, which can be used online as well as offline, can be used to calculate the risk by a series of tables. Three annexes to the manual set out examples of an initial environmental risk assessment, selected parts of a detailed environmental risk assessment, and calculations to indicate whether a detailed environmental risk assessment needs to be carried out.

The procedures for an initial risk assessment include inputting information specified in the methodological tool and assessing the risks posed by them. For each scenario that is assessed, the operator must make a determination whether the ‘EAI index’ for it is greater than 100. If a scenario has an EIA index that exceeds 100, the operator must carry out a detailed risk assessment.

The detailed risk assessment includes:

- a description of the area surrounding the operator’s facility;
- an overview and description of the main activities carried out by the operator and their environmental effects;
- selected scenarios of potential environmental damage from the activities;
- dangerous substances stored at and near the facility;
- a description of the drainage system and outlets and its potential closure;
- the location of hospitals, schools and other structures near the activities;
- consideration of the effects of environmental damage on protected species and natural habitats; and
- emergency measures.

The detailed risk assessment must also include draft precautionary measures and interim measures in case of an incident that causes environmental damage. It must also include measures to identify the risks, to determine their degree and acceptability, and to estimate the degree of probable environmental damage. The above factors are used to determine the level of risk and to quantify it.

Short and long term consequences of the risks are then assessed and quantified. This stage of the detailed risk assessment also includes determinations of the monetary value of natural resources and a calculation of their initial and temporary loss that could be caused to them. The worst case scenario for environmental damage from an incident must be identified.

Finally, the amount of financial security is calculated.

An operator may reduce the potential risk by, for example, installing an early warning system.

- **Spain**

Operators of activities listed in the following items in annex III of the Environmental Liability Act, Law 26/2007, of 23 October (Ley 26/2007, de 23 de octubre, de Responsabilidad...
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Medioambiental; ELA),\(^{518}\) which equates to annex III of the ELD, are subject to mandatory financial security requirements for ELD liabilities:

- all activities subject to the Industrial Emissions Directive (item 1 of annex III);
- the storage of chemicals subject to the Seveso III Directive but not all other activities listed under item 7 of annex III; and
- the management of mining waste provided that the mining waste is classified as category A (item 13 of annex III).

The financial security requirements also apply to subcontractors and professionals who collaborate with the above operators in activities subject to mandatory financial security.

The mandatory financial security system covers primary remediation under the ELD but not complementary or compensatory remediation.

The requirements for the methodology to determine the amount of mandatory financial security are established by legislation. The Directorate General of Environmental Quality and Assessment, acting as Secretary of the Technical Commission for the Prevention and Remediation of Environmental Damage, prepared detailed standard environmental risk models and methodology guidelines for carrying out risk assessments, with the methodology also including criteria to calculate the amount of the required financial security.

Operators subject to mandatory financial security requirements must carry out an environmental risk assessment and submit a report based on it to the relevant competent authority. If specified criteria exceed thresholds, the operator must have financial security in an amount not less than the minimal amount specified in the report. The Ministry for the Ecological Transition and the Demographic Challenge has also developed an environmental risk analysis guide for an individual facility to help operators to develop their own analyses.

The methodology includes the following:

- identification of risk scenarios and their probability;
- calculation of the cost of primary remediation of environmental damage for each risk scenario by estimating the Environmental Damage Index (IDM);
- ranking each scenario in terms of IDM and the probability of such damage;
- selecting the scenarios with the lowest environmental damage that account for 95% of the total;
- quantifying the primary remediation costs of the environmental damage associated with the scenario with the highest IDM of the scenarios selected in the above step;
- monetising its cost by a methodology in the form of a software tool called an Environmental Liability Supply; and
- adding the costs of preventive measures, which must be at least 10% of the primary remediation costs.

The above methodology is used to calculate the amount of the mandatory financial security. It can also be used to monetise the costs of complementary and compensatory remediation.

An operator is not required to validate the risk assessment but must submit a ‘responsible declaration’ to the competent authority that can subsequently revise the risk assessment. Use of the methodology is free of charge and is available in both Spanish and English.

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\(^{518}\) Ley 26/2007, de 23 de octubre, de Responsabilidad Medioambiental (consolidated text); https://www.miteco.gob.es/fr/calidad-y-evaluacion-ambiental/temas/responsabilidad-medioambiental ley26_2007_consolidado_tcm36-435555.pdf (in Spanish)
The Technical Commission has carried out various measures to assist operators in carrying out sectoral environmental risk analyses:

- publication of a document entitled 'Structure and general content of the sectoral instruments used for environmental risk assessment';
- technical assistance for activities and/or professional sectors listed in annex III of ELA on the design of sectoral tools for environmental risk assessment;
- creation of three pilot schemes for the design of a standardised environmental risk report, a scale chart and two methodological guides; and
- funding and development of eight sectoral environmental risk analysis.

The Ministry for the Ecological Transition and the Demographic Challenge has developed an environmental risk analysis guide for an individual facility to help operators to develop their own analyses.

Operators may also use instruments that have been developed for sectoral risk analysis if the instruments have been approved by the Technical Commission for the prevention and remediation of environmental damage. Further, operators can prepare their environmental risk assessments, taking the sectoral environmental risk tools as a starting point.

If a verified environmental risk assessment that has been carried out pursuant to the guidelines in UNE Standard 150,008 or equivalent rules indicates that the cost of any primary remediation measures will not exceed EUR 300,000, the operator is exempt from mandatory financial security requirements.

If an operator has a verified environmental risk assessment carried out pursuant to the guidelines in UNE Standard 150,008 or equivalent rules, the operator is exempt if the risk assessment indicates that the cost of any remedial works would be between EUR 300,000 and EUR 2,000,000 and the operator has an EMAS certificate or an ISO 14001 certification.

Further, if an operator uses specified plant protection products and biocides for agricultural and forestry purposes, it is also exempt.

14.2.3. Mandatory financial security provisions

Italy and Poland also adopted a risk assessment approach in directly or indirectly introducing mandatory financial security provisions for ELD liabilities.

➢ **Italy**

Italian law sets out financial security provisions in respect of National Interest Priority Sites, that is, high risk contaminated sites.

In addition, Italian law other than the law that implements the ELD mandates financial security for ELD liabilities for traders of waste and brokers of waste that do not hold the waste themselves.

As discussed in chapter 10, many Member States have introduced mandatory financial security for high risk operations such as waste operations.

➢ **Poland**

Poland has introduced mandatory financial security for ELD liabilities for the operation of a landfill and waste collection and waste processing.

Again, many Member States have introduced mandatory financial security for high risk operations such as waste operations (see chapter 10).
Whilst holders of integrated permits, permits for gas or dust releases into the ambient air, and permits for generating waste may potentially be lower risk activities, Poland has adopted a risk assessment approach in that if the relevant competent authority concludes that there is a particularly important social interest related to environmental protection, in particular the risk of substantial deterioration of the state of the environment, it may require the permit holder to have financial security.

14.2.4. Other risk assessments

Other risk assessments include EMAS and ISO 14001.

Registration under EMAS or ISO 14001 shows that an operator has and complies with an environmental management system; registration under EMAS shows that an operator has also evaluated, reported and should have improved its environmental performance.

Both risk assessment tools are thus valuable in helping to reduce the number of ELD and other incidents that cause environmental damage and reinforce the preventive context of the ELD. Registration for them may also reduce the premium for environmental insurance with the caveat that the costs of implementing EMAS and ISO 14001 may well be more than the reduction in premium.

The Association of Italian Insurers and the General Confederation of Italian Industry signed an agreement in 2004 that reduced premiums for stand-alone environmental insurance policies by 20% for businesses that are registered under EMAS and ISO 14001.

14.3. Gradual phasing in of mandatory financial security for ELD liabilities

Spain is phasing in mandatory financial security for ELD liabilities. Poland may be doing so indirectly.

Spain has categorised sites subject to its mandatory financial security system into three priority categories and has introduced the system for the highest risk activities first, followed by the other two categories (see section 6.1.5 above).

Priority 1 sites in Spain include facilities under the Seveso III Directive and specified activities under the Industrial Emissions Directive including the disposal and recovery of hazardous waste above a threshold amount. Priority 2 includes additional activities under the Industrial Emissions Directive. Priority 3 includes the operation of Category A facilities containing extractive/mining waste.

The research for this report showed that Member States that have introduced mandatory financial security for environmental liabilities and environmental responsibilities through national laws have tended to do so primarily for waste activities, Seveso III facilities, and Industrial Emission Directive facilities (see figure 5 below).

Thus both Spain and other Member States that have introduced mandatory financial security for specified activities have focused on the same types of activities.

Poland is not patently prioritising activities for which it is requiring mandatory financial security for ELD liabilities or patently introducing mandatory financial security for them on a gradual basis. It has, however, gradually introduced mandatory financial security for an increasing number of activities (see section 6.2.2 above). Again, the primary focus is on waste.

If, therefore, a Member State, or the European Commission, was to phase in mandatory financial security for ELD liabilities, it may wish to adopt the same or similar priorities, that is, waste activities, Seveso III facilities, and activities subject to the Industrial Emissions Directive.
Further, article 29(2) of the Seveso III Directive states that:

In the context of relevant Union legislation, the Commission may examine the need to address the issue of financial responsibilities of the operator in relation to major accidents, including issues related to insurance.

Recital 13 of the Seveso III Directive states that the ‘[ELD] is normally relevant for environmental damage caused by a major accident’.

Still further, a representative of the Irish EPA commented at a workshop on 26 January 2018, that the highest risk sites in Ireland were waste and Seveso sites. The fact that both industrial disasters, Moerdijk in the Netherlands and Kolontár in Hungary (see section 11.6 above) occurred at Seveso III facilities, would reinforce the above prioritisation.

Obviously, however, each Member State may have activities that are high risk in that Member State but not in other Member States or the EU as a whole.

14.4. Factors to consider in introducing mandatory financial security for ELD liabilities

This section analyses various aspects of the mandatory financial security systems for the Czech Republic, Ireland, Portugal, Slovakia and Spain to indicate different aspects of the systems (other than those for risk assessments discussed in section 14.2 above) that a Member State may wish to consider if it decides to introduce a mandatory financial security system for ELD liabilities. Finally, it overviews factors to consider in selecting financial security instruments and mechanisms.

There are two basic types of mandatory financial security systems for ELD liabilities: a system that focuses exclusively on liabilities under the ELD and is based on annex III operators as in the Czech Republic, Portugal, Slovakia and Spain; and a hybrid system that is based on licensed facilities, as in Ireland.

There are substantial similarities and differences between the mandatory financial security systems of the five Member States that have introduced them. Figure 5 below sets out key similarities and differences.

**Figure 5. Mandatory financial security for ELD liabilities**

<table>
<thead>
<tr>
<th>Member State</th>
<th>Application to annex III operators</th>
<th>Exception for EMAS and/or ISO 14001</th>
<th>Other exceptions</th>
<th>All ELD liabilities covered</th>
<th>Risk assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Czech Republic</td>
<td>Nearly all operators</td>
<td>Yes if remediation costs more than EUR 783,800</td>
<td>Environmental damage deemed less than EUR 783,800</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Ireland</td>
<td>Specified operators</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Portugal</td>
<td>All operators</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Slovakia</td>
<td>All operators</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
14.4.1. Application to annex III operators

A competent authority must be able to identify operators that are subject to financial security requirements for ELD liabilities in order to require them to submit evidence of financial security and to sanction them if they fail to do so.

All Member States that have introduced a mandatory financial security system for ELD liabilities except Ireland have imposed it only on annex III operators.

It is not, of course, possible to impose mandatory financial responsibility on a non-annex III operator that does not have a permit, licence or approval under other environmental legislation unless there is some other means of identifying the operator. If a non-annex III operator does not have such a permit, licence or other approval for its operations, it would be difficult if not impossible in some cases for a competent authority to require them to have financial security for ELD liabilities.

For example, a competent authority could not require a farmer (whose activities could potentially result in substantial environmental damage under the ELD) to provide evidence of financial security if the farmer is not required to have any permits, licences or other approvals to carry them out. Unless there is some other means to identify farmers (or other persons) who carry out such activities, it is not possible for a competent authority to check whether they have the requisite financial security.

This does not necessarily mean that mandatory financial security for ELD liabilities should be imposed on all annex III operators. For example, a requirement for financial security could be difficult to apply across the board to annex III operators in Hungary and Poland.

In Hungary, an operator under the ELD is referred to as a ‘user of the environment’, that is, a person that uses the environment by carrying out an activity that involves the utilisation or loading (pollution) of the environment or a component of the environment. In order for the financial viability requirement to apply, there would need to be a more limited definition of an operator, which could be counter to application of the ELD in Hungary.

There could also be similar problems in Poland due to there being three types of operators under the ELD:

- an entrepreneur as defined by the Act on Freedom of Business Activity Act of 2 July 2004, as amended, as a business entity and natural persons who are involved in a business activity aimed at agricultural production, animal husbandry and breeding,
gardening, vegetable growing, forestry and inland fishing and doctors in their own or specialist practices;

- an organisational entity that is not a business entity under the Act of 2 July 2004 (that is, educational entities and health care entities); and
- a natural person who is not an entity, as described in the first bullet point above but who uses the environmental in the scope in which a licence is required.

Whereas the third category requires the existence of a licence, all persons in the first two categories may not necessarily do so.

Poland has introduced mandatory financial security requirements for ELD liabilities for some operators but the requirements apply to operators of landfills and holders of integrated permits, both of which can be identified easily by the relevant competent authorities (see section 6.2.2 above).

Spain originally applied its mandatory financial security systems to all annex III operators. In March 2015, however, the Spanish Government reduced the categories substantially to annex III operators that carry out activities subject to the Industrial Emissions Directive, the storage of chemicals subject to the Seveso III Directive, and the management of Category A mining/extractive waste facilities. Before the amendment, approximately 300,000 operators would have been required to comply with the mandatory financial security requirements.

The need to identify a person that is subject to mandatory financial security for ELD liabilities does not necessarily mean that mandatory financial security should be limited to annex III operators.

Ireland has, for example, based its mandatory financial security system on licensed facilities whilst extending it to include two types of high risk activities (recognising of course that licences may well exist for the high risk activities): high risk contaminated land, in particular facilities that are considered to pose a significant threat to groundwater bodies under the Water Framework Directive; and sites at which there are exceptional circumstances such as the storage of large amounts of waste that would incur significant costs to remove and dispose of if the facility was suddenly closed.

The Irish EPA can readily identify the above sites because it has issued a letter to holders of licences in the first category to advise them that such facilities are designated as significant groundwater pressure sites. In addition, the Irish EPA stated that it will contact holders of licences in the second category to confirm that they are subject to an assessment and mandatory financial security.

The financial security instruments for the above two types of high risk sites are stand-alone environmental insurance policies that provide cover for any new incidents of environmental damage (but not pre-existing contamination) and other financial security instruments, mostly performance bonds and secured funds, for known liabilities.

14.4.2. ELD liabilities covered by financial security

All Member States that have a mandatory financial security system for ELD liabilities, except Spain, require financial security instruments and mechanisms to provide cover for the prevention and remediation of all types of environmental damage (land/soil, water and biodiversity) as well as preventive measures, and primary, complementary and compensatory remediation measures. Spain does not require financial security for complementary and compensatory remediation measures.
The advantages and disadvantages of this limitation in Spain were not known when this report was published. Stand-alone environmental insurance policies in Spain are widely available, in particular, policies that provide cover for complementary and compensatory remediation as well as other liabilities under the ELD. It is not unforeseeable, however, that stand-alone environmental insurance policies that do not include cover for complementary and compensatory damage could become the norm if this results in a significantly lower premium for them. Whilst operators in Spain are still liable under the ELD for complementary and compensatory remediation, the number of reported ELD incidents in Spain (as in many other Member States) is low.

14.4.3. Exceptions for EMAS and ISO 14001

The mandatory financial security system for ELD liabilities in the Czech Republic includes an exception if operators subject to the system are registered or have begun procedures to be registered under EMAS or ISO 14001. This exception applies when an operator that is subject to the system carries out a basic risk assessment and the ‘control points’ in the assessment total more than 50, with the result that the cost of remediating environmental damage is deemed to be more than EUR 783,800.

The exception has reportedly resulted in a significant number of operators registering for EMAS or ISO 14001 in lieu of having stand-alone environmental insurance policies or bank guarantees (the two types of acceptable financial security instruments in the Czech Republic). The precise number of such persons was not known when this report was published.

The numbers of businesses in the Czech Republic that are registered for EMAS or ISO 14001 is moderately high in relation to other Member States but is not particularly high. In April 2019, the Czech Republic had 46 EMAS sites, the 12th highest number in the EU. The Czech Republic also had 20 EMAS certified organisations, the 13th highest number in the EU. The ISO survey of 2018 (the latest survey when this report was published) showed that the Czech Republic had 4,624 sites and 4,266 ISO 14001 certifications in 2018, the 11th highest number of sites in Europe and the 7th highest number of certifications in Europe.

Another factor in the Czech Republic on the number of businesses that are required to have financial security for ELD liabilities is the influence of reported low self-assessments.

The mandatory financial security system in Spain has an exception for operators for which a risk assessment indicates that the costs of primary remediation for a potential ELD incident are between EUR 300,000 and EUR 2,000,000. As in the Czech Republic, the exception may have resulted in some, or many, operators registering for EMAS or ISO 140001 instead of purchasing a stand-alone environmental insurance policy or having another financial security instrument or mechanism. The number of operators that register for EMAS or ISO 14001 in Spain is higher than in the Czech Republic but there may be other reasons for this.

In September/October 2019, Spain had 996 EMAS sites, the fifth highest number in the EU

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after Italy, Germany, Greece and Austria. Spain also had 834 EMAS certified organisations, the third highest number in the EU after Germany and Italy. The number of new registrations in Spain between October 2018 and April 2019 was the second highest for organisations (after Italy) and the third highest for sites (after Italy and Germany) in the EU.\(^5\) The ISO survey of 2018 (the latest survey when this report was published) showed that Spain had 28,020 sites and 12,198 ISO 14001 certifications in 2018,\(^5\) the highest number of sites in Europe and the second highest number of certifications in Europe (after Italy).\(^5\)

An analysis of the number of operators subject to the mandatory financial security systems in the Czech Republic and Spain that chose to be registered under EMAS or ISO 14001 was outside the remit of this project. It may well be that there is no correlation between the systems and registrations under EMAS or ISO 14001. It would, however, be useful to the future implementation of the ELD if the Czech Republic and Spain could publish any data they have gathered on any such correlation.

Whilst both EMAS and ISO 14001 are useful in helping to prevent environmental damage from occurring, they do not ensure that an operator that causes environmental damage despite the preventive measures is financially able to remediate it. As noted in the Commission’s report, ‘other factors may play a more significant role in determining the operator’s actual environmental risks, such as the nature of the activity and its location’.\(^5\)

### 14.4.4. Other exceptions

The Czech Republic and Spain have exceptions for low risk activities in addition to the exceptions for registration under EMAS and ISO 14001.

In respect of the Czech Republic, there is an exception for environmental damage that is deemed to cost less than EUR 783,800 to remediate.

In respect of Spain, the exception is for primary remediation that costs less than EUR 300,000 to remediate as well as for operators that use specified plant protection products and biocides for agricultural and forestry purposes. In effect, the latter Spanish exception removes most of the requirement for mandatory financial security for the use of such products from item 7 of annex III whilst leaving the processing of them subject to the mandatory financial security system. Such an exception is not unique. CERCLA does not apply to clean-up costs or NRD that results from the application of a registered pesticide.\(^5\)

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\(^5\) European Commission, Environment; Eco-Management and Audit Scheme; Statistics & graphs; https://ec.europa.eu/environment/emas/emas_registrations/statistics_graphs_en.htm


\(^5\) See ISO, ISO 14001 – data per country and sector – 1999 to 2017; https://isotc.iso.org/livelink/livelink?func=ll&objId=18808772&objAction=browse&viewType=1

\(^5\) European Commission, Report from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions Under Article 14(2) of Directive 2004/35/CE on the environmental liability with regard to the prevention and remedying of environmental damage, 9; https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52010DC0581&from=EN

\(^5\) 42 USC s 9607(i)
As noted by the Commission in its 2010 report pursuant to the former article 18(2) of the ELD, however, low risk ‘activities could still in reality cause significant environmental damage’. 526

14.4.5. Minimum level of financial security
The minimum level of financial security for environmental responsibilities is typically calculated by reference to the estimated costs of closure, post closure, rehabilitation and other measures that must be carried out. Requirements to establish, monitor and revise these levels are included in the Landfill Directive, the Extractive Waste Directive and the Directive on the geological storage of carbon dioxide and, consequently by the national legislation of Member States in implementing the Directives.

It is more difficult to determine the minimum level for environmental liabilities such as those imposed by the ELD. This is because it is not possible precisely to estimate the costs to remediate environmental damage from an incident that may or may not occur. In addition, operators may naturally wish the amount to be as low as possible to reduce the amount they must pay or set aside in mandatory financial security instruments or mechanisms.

If a Member State decides to introduce mandatory financial security for ELD liabilities, it must establish a minimum level. This can be done by using the levels in operators’ individual risk assessments, as in the mandatory financial security systems for ELD liabilities in the Czech Republic, Portugal and Spain (see section 6.1 above). It can also be done by basing the level on a plausible worst case analysis, as in the mandatory financial security system in Ireland (see section 6.1.2 above; see also the OPA, section 5.1.3 above), or by using the levels in operators’ individual risk assessments with a requirement to identify the worst case scenario, as in the mandatory financial security system in Slovakia (see section 6.1.4 above).

It is not known whether operators purchase stand-alone environmental insurance policies based on these levels. It is highly likely, however, that the amounts of other financial security instruments such as bank guarantees are identical to them.

If minimum levels are established by operators’ individual risk assessments, it is essential that the competent authorities review the assessments for accuracy and also require the operators to report any changes in their operations that necessitate the preparation of new risk assessments. If minimum levels are established by reference to a worst case scenario, there should also be detailed criteria for carrying these out.

An alternative is the establishment of a minimum level as those in the US for liabilities under RCRA (see sections 5.12 and 5.1.4 above) and the OPA (see section 5.1.3 above). As noted, however, the levels under RCRA have not changed in over 30 years. The levels under the OPA have increased.

14.4.6. Maximum level of financial security
Spain has a maximum level of mandatory financial security for ELD liabilities covered by its mandatory financial security system of EUR 20,000,000, with all claims from the same emission, event or incident being deemed to be one event regardless of the number of persons affected and the time at which the claims are made.

This maximum level is unusual. If an operator wishes to have a stand-alone environmental

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insurance policy with a limit of indemnity above EUR 20,000,000, it should not be prevented from doing so, with the caveat that this limit would apply only to the mandatory part of the policy.

14.4.7. Types of financial security instruments

The types of financial security instruments vary between the Member States with mandatory financial security systems for ELD liabilities as follows:

- Czech Republic: environmental insurance policies and bank guarantees;
- Ireland: secured fund; performance bonds; parent company and affiliated company guarantees; first ranking fixed charge over property; and environmental insurance policies;
- Portugal: environmental insurance policies; bank guarantees; environmental funds; own dedicated funds; and a combination of the above;
- Slovakia: environmental insurance policies and appropriate contractual arrangements such as bank guarantees or dedicated accounts; and
- Spain: environmental insurance policies; guarantees from banks and other financial institutions; an ad hoc fund consisting of a technical reserve of financial investments backed by the public sector; and a combination of any of the above.

All the above Member States include environmental insurance policies and bank guarantees as acceptable financial security instruments, with some Member States going beyond this. The advantages and disadvantages of the various financial security instruments and mechanisms are discussed in section 3.5 above.

14.4.8. Other factors

In designing, or improving, a system of mandatory financial security, four factors are of ‘paramount importance’ as described by the Dutch Council for Environment and Infrastructure in a report that responded to a request by the State Secretary for ‘some form of financial indemnity against the costs of remedying environmental damage which occurs or comes to light upon the termination of their business activities’.527

The Council stated that the system must:

- reduce the total amount of unrecoverable costs which must then be paid by the public purse;
- avoid any erosion of existing incentives for risk management and prevention; instead the system should reinforce prevention measures and the desire to restrict the consequences of any incident;
- take into account the national and international competitive position of companies or sectors; and
- ensure that the costs to the government of implementing and enforcing the system are proportionate.528

Other factors include ensuring that there is no overlap between financial security requirements. The mandatory financial security system for ELD liabilities established by Spain is an example of good practice in this regard by specifying that financial security requirements

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527 Advisory letter on recovering the costs of environmental damage: financial indemnity to be provided by high-risk companies from Henry M. Meijdamm and Ron Hillebrand, Raad voor de leefomgeving en infrastructuur to State Secretary for Infrastructure and the Environment (2 June 2014)

528 Ibid
for ELD liabilities should not overlap with requirements under other legislation such as water legislation and waste operations. Spanish law further provides that a single financial security instrument may satisfy both financial security requirements (see Member State report for Spain, section 11.2.3).

Further, the hybrid mandatory financial security system introduced by Ireland shows good practice in combining financial security for environmental liabilities and environmental responsibilities to prevent overlaps and gaps.
15. MEASURES TO IMPROVE FUNDING IN THE ABSENCE OF ADEQUATE FUNDING BY OPERATORS

Chapter 15 analyses the issues described in chapter 11 above to consider whether an EU wide fund, or risk-sharing facility, for environmental damage under the ELD is feasible and whether it could – or would – solve the problem of insolvency risks and responsible operators being otherwise unable to pay to remediate environmental damage caused by them, and the failure of financial security markets, as stated in the European Parliament’s Resolution.

This chapter is structured as follows.

First, it examines the types of funds and funding mechanisms for ELD liabilities established by Member States to analyse whether they could be models for an EU wide fund and whether such a fund would comply with the polluter pays principle.

Second, it examines the potential for establishing a risk-sharing facility as part of a system of mandatory financial security for ELD liabilities rather than being a second tier above that system.

15.1. EU wide fund for ELD liabilities

The research for this report indicated that it is not feasible at this time to establish the type of fund indicated in the European Parliament’s Resolution, that is, an EU-wide fund that is only for insolvency risks, that applies when financial security markets fail, and that complies with the polluter pays principle.

This section does not repeat the analysis set out in the 2013 study into the feasibility – or not – of a fund or risk-sharing facility. Instead, it only examines the feasibility of a fund as suggested in the European Parliament’s Resolution.

15.1.1. Funds and funding mechanisms for ELD liabilities established by Member States

The research for this report, as described in chapter 6 above, found that no Member State has established a fund that applies only to insolvency risks and/or when financial security markets fail.

Only two Member States have established funds for ELD liabilities. These funds, that were established or extended by Spain and Portugal respectively, have very different purposes.

Funding provided by the two Spanish funds is limited to the remediation of environmental damage under the provisions of a financial security instrument required by the Spanish system of mandatory financial security for ELD liabilities. Such funding cannot exceed the limit of liability of the environmental insurance policy at issue. A provision that would have authorised funding from the Compensation Fund for Environmental Damage if the insurer (not the insured operator) was declared bankrupt, was dissolved or was declared insolvent, was repealed.

Funding from the Portuguese fund, which provides funding if it is not available from other private or public sources to remediate environmental damage caused by a responsible operator is also linked to the Portuguese mandatory financial security system for ELD liabilities in that, as with the Spanish Compensation Fund for Environmental Damage, levies from financial security instruments provided under the system will finance the fund.

As described in this report, only five Member States have established mandatory financial security systems for ELD liabilities. As also described in this report, environmental insurance for ELD liabilities is widely available in only relatively few Member States. Thus any EU wide
fund that provides funding above a threshold, the first tier of which is funded by mandatory financial security, is not feasible at this time.

A corollary issue illustrated by the disasters at Kolontár and Moerdijk is whether claims against the insurance policies held by the operators in those disasters, which had very low limits for environmental liabilities, would be denied by insurers pursuant to exclusions in the policies such as the insured operator’s non-compliance with environmental requirements.

Further, whereas the Portuguese fund will provide funding if a responsible operator becomes insolvent, the funding for doing so will be from a levy on providers of financial security instruments under the mandatory financial security system for ELD liabilities. As indicated above, only five Member States have introduced mandatory financial security systems for ELD liabilities.

Member States that have established funds based on public – taxpayer based – funding have tended to do so only for remediating historic contamination, in particular contamination that was caused before eastern European Member States acceded to the EU.

For example, in Estonia, the Environmental Investments Centre\(^{529}\) is a state-owned institution that provides funding to improve and preserve the environment in Estonia. The fund has provided funding for the remediation of polluted soil and dangerous infrastructure in respect of which legal owners ceased to exist due to the collapse of the Soviet Union. The fund does not provide funding to businesses for measures to prevent or remediate environmental damage under the ELD.

Funds such as the Estonian fund have purposes in addition to remediating historic pollution. For example, whereas Slovakia’s environmental fund is used to remediate historic contamination, it also provides funding to enhance energy efficiency, environmental protection, projects aimed at reducing greenhouse gas emissions, the reconstruction and modernisation of renewable energy sources, and flood control measures.

Other Member States have funds to improve the environment in their territories that may also fund the remediation of contamination. For example, Malta has an environmental fund that is used to remediate contamination as well as to finance projects, programmes and schemes related to the aims and objectives of the Environmental Protection Act. Belgium (Walloon Region) has a fund that funds compensation for lost natural resources and rehabilitation measures.

Another big difference between environmental funds established by Member States and a fund that applies only to insolvency risks or when financial security markets fail, is that none of the Member State environmental funds, including funds that are dedicated to the remediation of pollution, are funded by multiple commercial and industrial sectors. Such funding would be necessary for an EU wide fund or risk-sharing facility for preventing and remediating environmental damage under the ELD unless there was more than one fund based on industrial and/or commercial sectors.

That is, it is not possible to have a single EU-wide comprehensive risk-sharing facility that includes all operators that carry out activities listed in all items in annex III. For example, item 11 of annex III of the ELD concerns persons who release and place GMOs into the market; item 12 concerns persons that ship waste, and item 14 concerns the operation of storage sites under the Directive on the geological storage of carbon dioxide. These sectors are particularly diverse. The Commission’s examination of financial security to satisfy article 19 of the

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\(^{529}\) Keskkonnainvesteeringute Keskus; https://kik.ee/et (available in Estonian and English)
Directive on the geological storage of carbon dioxide discussed, for example, the long length of time for which financial security is required. In contrast, the time period for financial security for activities under other items in annex III is much more limited.

Member States that have established funds for the costs of remediating environmental damage have limited them to a specific industrial sector. For example, the Finnish Oil Pollution Compensation Fund provides funding for the costs of remediating soil and groundwater contaminated by oil spills, marine oil spills, and oil spill response when the person that caused the damage is unknown, cannot be located, or is unable to reimburse the costs to the Ministry of the Environment. The fund, which is a revolving fund in that the persons that cause damage or are otherwise liable for the damage must reimburse the Ministry, is funded by levies on oil that is imported to, or transported through, Finland, with the levy being doubled if the vessel transporting the oil is not completely double-skinned. In practice, this means that it is funded by three companies. The fund is also funded by transfers from the national budget.

Another issue that arises from the research into this report is that industrial disasters, as opposed to the failure of responsible operators to pay to remediate environmental damage caused by them in non-disaster situations, typically cause death, other bodily injuries or property damage. Such liabilities are not subject to the ELD, thus raising the issue of the design of any EU wide fund or risk-sharing facility that includes the remediation of environmental damage under the ELD as well as claims for bodily injury and property damage. This issue is not unsurmountable. It is of course possible to establish hierarchies in compensation systems. It appears, however, to be premature to address this issue at this time due to the other issues indicated above.

15.1.2. Compliance with the polluter pays principle

As indicated in section 2.2 above, the ELD is based on the polluter pays principle. The principle is crucial because not only does article 1 of the ELD specifically state that the purpose of the ELD ‘is to establish a framework of environmental liability based on the “polluter-pays” principle, to prevent and remedy environmental damage’, but any fund that may be established for ELD liabilities would have to comply with the principle.

It is difficult to envisage how an EU fund or risk-sharing facility for ELD liabilities would comply with the polluter pays principle if it was funded to any extent by public funding. As noted in the 2013 study, the fund or facility would breach the polluter pays principle if it subsidised responsible operators in preventing or remediying environmental damage or in paying claims for bodily injury or property damage caused by their activities.

There is also a substantial potential for a fund with the elements in the European Parliament’s Resolution to require at least some public funding, either from EU funds or a Member State’s general fund. Funding by either of these could potentially breach the polluter pays principle.

Further, a public sector fund could also breach the preventive principle. If an operator knows that a fund will pay costs to remediate environmental damage caused by it, there is less, or no, inducement for the operator to adopt measures or to develop practices to minimise the risks of environmental damage, which is a fundamental principle of the ELD.

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15.2. Risk-sharing facility as a financial security mechanism

A risk-sharing facility need not be established only as a second tier of financial security above an operator’s financial security. It could also be part of a mandatory financial security system. An example of legislation that provides for such a risk-sharing facility is the COGOA, as amended by the Energy Safety and Security Act, in Canada.\(^{531}\) Among other things, the amendments greatly increased the limit of liability for remediating environmental damage caused by offshore oil and gas operations from C$30 million (EUR 19,332,000) (C$40 million (EUR 25,776,000) in the Arctic) to C$1 billion (EUR 644,400,000). In addition the amendments revised the then existing financial security requirements to state that:

> An applicant [for a licence] may, rather than provide proof of financial responsibility in the amount referred to in that paragraph, provide proof that it participates in a pooled fund that is established by the oil and gas industry, that is maintained at a minimum of $250 million [EUR 161,100,000] and that meets any other requirements that are established by regulation.

Regulations under the Act set out details of the fund including the reimbursement into the fund of monies paid out by it within seven days of making a payment.\(^ {532}\) Guidelines for the pooled fund set out its design including protecting funds in it from creditors, having a third party as administrator, and a requirement for its location in Canada.\(^ {533}\)

Participation in the pooled fund would reduce the costs of financial security for the members in it.\(^ {534}\) It appears, however, that the pooled fund under COGOA had not been created when this report was published.

Another example of a pooled fund is the Offshore Pollution Liability Association Ltd (OPOL), which is a financial security provider for pollution from offshore oil and gas operations in marine areas off North West Europe.\(^ {535}\) Under OPOL, companies that carry out such offshore oil and gas operations companies agree to accept liability for pollution damage and the cost of remedial measures, subject to exceptions, up to a maximum of $250 million per incident. Parties to OPOL establish financial security to meet claims arising under OPOL by evidence of insurance from insurers with specified financial credit strength rating, a guarantee from a company with financial or credit strength rating (corporate guarantee), or meeting specified criteria to qualify as a self insurer. They also jointly agree that if a party to OPOL defaults, each party will contribute proportionally to meet the claims against the defaulting party.

Portugal also includes a national or international environmental fund established by a private initiative in acceptable mechanisms for its mandatory financial security system for ELD liabilities (see Member State report for Portugal, section 6.2).

If a risk-sharing facility was to be established for ELD liabilities as a financial mechanism under

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\(^{531}\) Canada Oil and Gas Operations Act; [https://laws-lois.justice.gc.ca/eng/acts/O-7/](https://laws-lois.justice.gc.ca/eng/acts/O-7/)


\(^{533}\) National Energy Board, Guidelines Respecting Financial Requirements, s 4.5; [https://www.neb-one.gc.ca/bts/ctrp/gnthr/cndlgsptrpntct/2016fnncrlqrmtngd/index-eng.html#s4_5](https://www.neb-one.gc.ca/bts/ctrp/gnthr/cndlgsptrpntct/2016fnncrlqrmtngd/index-eng.html#s4_5) (the National Energy Board has been superseded by the Canadian Energy Regulator)


\(^{535}\) See The Offshore Pollution Liability Association Ltd, ‘About OPOL’; [http://www.opol.org.uk/about.htm](http://www.opol.org.uk/about.htm)
a mandatory financial security system, control over membership would be essential because other members of the facility would be responsible for paying claims if one of the members of the facility causes environmental damage. Risk-sharing facilities such as mutuals would not function without strict membership criteria.
16. RECOMMENDATIONS FOR THE IMPROVEMENT OF FINANCIAL SECURITY AT MEMBER STATE AND EU LEVEL

Chapter 16 sets out recommendations for the improvement of financial security for ELD liabilities at EU and Member State level. In order to present the recommendations in context, the chapter also indicates measures that it does not recommend at this point in time.

The chapter is structured as follows.

First, the chapter sets out conclusions and recommendations at an EU level.

Next, it sets out recommendations at a Member State level.

Finally, the chapter sets out recommendations for specific Member States.

16.1. Recommendations at an EU level

This report does not make any recommendations at an EU level in respect of harmonised mandatory financial security or an EU fund for industrial disasters, as indicated below. It does, however, make a recommendation in respect of corporate risk management.

16.1.1. Harmonised mandatory financial security

The research into the status of mandatory financial security for environmental liabilities in the Member States revealed that many of them have introduced financial security for liabilities that arise from waste activities as well as liabilities under the Seveso III Directive and to a lesser extent the Industrial Emissions Directive. Some have introduced mandatory financial security for other environmental liabilities (see chapter 8 above).

The research also revealed that some Member States, such as Poland, have authorised competent authorities to consider whether to require some operators to have mandatory financial security for ELD liabilities for specified activities based on the environmental risks posed by those activities. Other Member States, such as Malta and Sweden, have general provisions that authorise competent authorities to require specified operators to have financial security.

Further, the research revealed that even though the Netherlands and Sweden withdrew mandatory financial security for environmental liabilities in 2009 and 2010, respectively, the Netherlands was considering introducing more extensive requirements when this report was published.

In summary, the research revealed a clear trend towards the increased introduction of mandatory financial security for environmental liabilities that shows no signs of abating.

Whereas this trend would appear to indicate that it is timely for the European Commission to consider whether to propose an amendment to the ELD to introduce harmonised mandatory financial security for liabilities under the ELD, the research also revealed that insurance for such liabilities is either severely limited or unavailable in some Member States (see Figure 4 above).

Thus, if the Commission was to propose harmonised mandatory financial security for ELD liabilities even for a limited number of annex III activities such as waste operations, it would be difficult if not impossible for operators in some Member States to obtain insurance, or perhaps any other financial security instrument, to comply with the requirements.

Accordingly, this report concludes that it is premature for the European Commission to consider proposing an amendment to the ELD to introduce harmonised mandatory financial security for ELD liabilities at this time even on the basis of phasing it in gradually or limiting it
Improving financial security in the context of the Environmental Liability Directive

to specified items of annex III of the ELD such as waste management operations (item 2 of annex III).

16.1.2. EU fund for industrial disasters

The research also revealed that only two Member States (Portugal and Spain) had established funds to provide funding for remediating and preventing further environmental damage under the ELD, both of which were linked to their mandatory financial security systems for ELD liabilities.

The research further revealed that a fund would necessitate operators subject to the ELD having environmental insurance or other financial security instruments to form an underlying tier below the threshold of the fund. As indicated above, insurance for liabilities under the ELD is not widely available – or available at all – in many Member States.

The research also revealed that only five Member States (the Czech Republic, Ireland, Portugal, Slovakia and Spain) had introduced mandatory financial security systems for ELD liabilities. Mandatory financial security would need to be introduced in more States in order to form the underlying tier below the threshold of the fund. If financial security was not mandatory, an operator may not have financial security to meet the underlying tier of the fund and thus be eligible for funding from it.

This report therefore concludes that it is premature for the European Commission to consider establishing an EU fund for the protection of the environment from damage caused by industrial activity governed by the ELD and from insolvency risks in cases where financial security markets fail.

In order to rectify the unavailability of environmental insurance policies in many Member States, this report recommends that the European Commission considers carrying out the studies recommended in chapter 17 of this report. Carrying out the studies should increase the enforcement of the ELD, increase awareness of it, and in turn establish a demand for environmental insurance for ELD liabilities that will increase its general availability.

16.1.3. Corporate risk management

As indicated in section 9.2.3 above, many if not most operators, and many brokers, consider that environmental extensions to general liability policies provide the necessary cover for such liabilities. The research into this report has revealed that this perception is incorrect except for Austria and Germany.

This false perception also indicates a lack of awareness amongst many operators and brokers of liabilities under the ELD and other environmental legislation and how the liabilities affect operators.

This report therefore recommends that the European Commission considers introducing an EU wide training programme, especially for small and medium sized operators and brokers, loss adjusters and other ELD stakeholders to raise the level of awareness and knowledge about liabilities under the ELD and other environmental legislation, corporate risk management and environmental risk management.

In developing the programme, the Commission could seek the advice of European trade organisations such as FERMA, the European Federation of Insurance Intermediaries (BIPAR), Insurance Europe, the IUA, and the European Federation of Loss Adjusting Experts (FUEDI), as well as their members in specific Member States.
By increasing the level of awareness and knowledge, operators would be able to understand environmental risks to their businesses, when and how environmental insurance is required, and the cover available in different insurance products. In turn, this would promote the demand for stand-alone environmental insurance policies and their availability.

This report also recommends that the European Commission begins a dialogue with FERMA and other relevant private and public ELD stakeholders about a potential dedicated exchange with Member States to share best practices in terms of corporate risk management to encourage operators, particularly small and medium sized businesses, that have not done so to adopt measures to prevent environmental damage.

16.2. Recommendations at Member State level

The following are recommendations that Member States may wish to consider adopting to improve financial security for ELD and other environmental liabilities in their territories.

There are two main approaches to ensuring that an operator internalises the costs of preventing or remediating environmental damage under the ELD caused by it; the introduction and/or extension of mandatory financial security, and the imposition of liability of persons related to an operator that has become insolvent or otherwise cannot pay to remEDIATE the environmental damage.

16.2.1. Mandatory financial security

This report recommends that individual Member States that have not introduced mandatory financial security for ELD liabilities should consider introducing it for specified activities such as waste activities, with the potential to phase in the requirements for further activities in due course. In this respect, although, as noted in section 16.1 above, the research for this report revealed that environmental insurance for ELD liabilities is not widely available – or available – in many Member States, it is widely available in other Member States not all of which have introduced mandatory financial security for ELD liabilities.

As indicated, the research revealed that some Member States that have not introduced mandatory financial security for ELD liabilities have introduced it for civil liabilities and/or the remediation of damage caused by waste activities, Seveso III facilities, and to a lesser extent activities subject to the Industrial Emissions Directive.

Such mandatory financial security requirements could be extended to include requirements to remediate and prevent further environmental damage under the ELD. The requirements could be phased in gradually and/or, as in Poland, at the discretion of competent authorities based on risk assessment of individual activities.

This report further recommends that Member States that have introduced, or are considering introducing, mandatory financial security for ELD and other environmental liabilities consider adopting best practices established by competent authorities in some Member States as indicated in section 14.1 above.

16.2.2. Member State funds for industrial disasters

The research for this report also revealed situations in which the absence of financial security for environmental liabilities has resulted in the public purse paying to prevent or remediate environmental damage (see sections 11.5 and 11.6 above).

Member States may, of course, establish funds for the protection of the environment from damage caused by industrial activity governed by the ELD and from insolvency risks in cases where financial security markets fail.
This report does not make any specific recommendation that they do so for the reasons stated in section 16.1.2 above.

16.2.3.  *Imposition of liability on related persons*

The ELD channels liability to an operator that carries out activities subject to the ELD. Such an operator is the only person that may be primarily liable for preventing or remediating environmental damage under the ELD; any other person may at most be secondarily liable. The ELD specifically provides, however, that Member States may impose more stringent provisions than those in the Directive itself, including ‘the identification of additional responsible parties’.

Member States have not extended secondary liability under the ELD in their territories with the sole exception of the following. Legislation in Austria, Hungary and Poland imposes secondary liability under the ELD on landowners (see section 4.1.3 above). Legislation in Spain provides that legal and de facto managers of companies whose conduct is the determining factor of the company’s liability, are secondarily liable for preventing or remediating environmental damage caused by the company (see section 12.3 above).

This report recommends that Member States may wish to consider introducing legislation such as that in Spain for the following reasons.

A group of companies that carries out polluting operations may intentionally structure the group so that a single subsidiary carries out the polluting operations. The group may also ensure that the polluting subsidiary has a low level of assets. If the subsidiary’s operations cause pollution or other environmental damage, the subsidiary can then dissolve or enter into insolvency without affecting the assets of its parent company or any other affiliated company in the group.

There is nothing unlawful about this process. It simply reflects a basic principle of corporate law that a company has a separate legal identity/personality from other legal persons such as its shareholders as well as from natural persons such as its directors, officers and/or employees. Only if a court concludes that the subsidiary company is a sham (that is, a façade to escape its legal obligations), which is extremely rare, does the court ‘pierce the corporate veil’ to rule that its shareholders and other persons are liable for its acts and omissions.

At least one commentator has suggested that companies could structure themselves to shield themselves from liabilities under the ELD.

The commentator stated that:

> There are also structural solutions that help to reduce ELD liability exposure. Notably, companies can use the corporate form (ie a limited liability entity) to operate activities and, thus, shield the parent company from liability. If companies choose to do so, however, they should manage the entities of the group in a way that reduces the risk of shareholder liability or ‘piercing the corporate veil’. In general, this requires respect for corporate formalities, the avoidance of domination by the parent company, and

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536 Case C-534/13 Ministero dell’Ambiente e della Tutela del Territorio e del Mare v Fipa Group Srl ECLI: EU:C:2015:140, paras 48-53

537 ELD 16(1). Article 193 of the TFEU also authorises Member States to adopt more stringent provisions. It provides 'The protective measures adopted pursuant to Article 192 shall not prevent any Member State from maintaining or introducing more stringent protective measures. Such measures must be compatible with the Treaties. They shall be notified to the Commission'. Consolidated version of the Treaty on the Functioning of the European Union (2012) OJ C326/47 art 193
appointing different individuals as officers and directors of the entities concerned. The extent to which this strategy can effectively be employed also depends on whether financial security will be required, and, if so, what form of financial security.\footnote{Lucas Bergkamp and Barbara J. Goldsmith, ‘Practice to Date and Path Forward’, in The EU Environmental Liability Directive; A Commentary, 333, 336-337 (Oxford University Press, 2013, eds Lucas Bergkamp and Barbara J. Goldsmith)}

As indicated above, Member States may wish to consider revisions to their corporate law so that the above situation does not occur. Examples include legislation enacted by some Member States such as Austria, France and Spain, and to a more stringent level, that of Queensland, Australia and Ontario, Canada (see chapter 12 above).

16.3. **Specific recommendations**

The following are specific recommendations for some Member States to improve financial security for ELD liabilities.

The specific recommendations are not intended to target Member States that have not done as much as other Member States to develop environmental insurance markets and otherwise increase the effectiveness of the ELD; rather the reverse tends to be true. That is, the following includes Member States that have taken many measures to increase the effectiveness of the ELD but for which there is a single aspect they may wish to consider changing.

16.3.1. **Austria**

This report recommends that the Austrian Government consults with the VVO to ascertain whether limitations in the model terms and conditions drafted by the VVO have an effect on the ability of operators to pay to remediate environmental damage under the ELD caused by them, in particular, gradual environmental damage; the effect of any sub-limit of liability for compensatory remediation; and the effect of the lack of cover for on-site remediation which is necessarily not covered by a general liability policy.

16.3.2. **Bulgaria**

This report recommends that the Bulgarian Government directs the Ministry of Environment and Water to review the insurance policies that have been submitted to it for ex post financial security under the ELD. As indicated in this report, between 2011 and 2019, operators submitted 83 insurance policies underwritten by 11 insurance companies including eight Bulgarian insurers that provided cover for ELD liabilities to the Ministry.

It was not clear, however, whether the submitted policies were stand-alone environmental insurance policies or environmental extensions to general liability policies. Even if the policies were stand-alone environmental insurance policies, if they were issued to businesses with sites and/or operations only in Bulgaria, they may not provide cover for environmental damage other than pollution, and/or not provide cover for complementary or compensatory remediation under the ELD.

16.3.3. **Czech Republic**

This report recommends that the Czech Government directs the Ministry of the Environment to review basic risk assessments submitted under the mandatory financial security system for ELD liabilities to determine whether operators have tended to assess the ELD liabilities at a lower level than they should have assessed them.
This report also recommends that the Czech Government directs the Ministry of the Environment to review whether the effect of the exception for operators from the mandatory financial security systems for ELD liabilities to show that they have registered or have begun procedures to register under EMAS or ISO 140001 has had a negative effect that may undermine the mandatory financial security system for ELD liabilities.

Finland

This report recommends that the Finnish Government reviews whether to carry out measures to raise awareness of the ELD to encourage more operators to have insurance policies for liabilities under the ELD during any review of environmental liability schemes.

16.3.4. Germany

This report recommends that the German Government consults with the GDV to ascertain whether limitations in the model terms and conditions drafted by the GDV have an effect on the ability of operators to pay to remediate environmental damage caused by them under the ELD, in particular groundwater, as well as on-site environmental damage which is necessarily not covered by a general liability policy.

16.3.5. Hungary

This report recommends that the Hungarian Government considers whether it will introduce ‘rules of environmental protection insurance’ under article 6(6) of Act XXIX of 2007 on amendments to different environmental protection acts in respect of environmental liability. This report also recommends that the Hungarian Government considers whether it will issue Government Decrees:

- to bring into force provisions to introduce mandatory financial security in respect of protected sites under the Nature Conservation Act;
- pursuant to section 88(19) of the Waste Act to cover ‘detailed rules on environmental insurance and the detailed rules for the provision of security by manufacturers’ and
- pursuant to section 71 of the Waste Act for businesses whose activities produce specified amounts of waste.

When it does so, this report recommends that the Hungarian Government includes financial security for liabilities under the ELD in any requirements.

16.3.6. Italy

This report recommends that the Italian Government considers whether to apply the mandatory financial security system for waste activities in the Veneto Region to the whole of Italy and to extend the requirements to include liabilities under the ELD.

16.3.7. Netherlands

This report recommends that the Dutch Government considers introducing financial security for liabilities under the ELD during its consideration of the introduction of financial security for damage to the environment under the Environment and Planning Act (Omgevingswet).

16.3.8. Spain

This report recommends that the Spanish Government carries out a survey to determine whether the absence of mandatory financial security for complementary and compensatory remediation under the ELD has an adverse effect on the ability of operators to pay for such remediation.
When this report was published stand-alone environmental insurance policies that provide cover for complementary and compensatory remediation were widely available in Spain. Demand for them, however, was moderate. This report recommends that if Spain carries out the above recommended survey, the survey should include whether the absence of financial security for complementary and compensatory remediation has resulted in a limitation of cover provided by stand-alone environmental insurance policies to primary remediation under the ELD and also whether the absence has affected the availability of, and demand for, stand-alone environmental insurance policies in Spain.
17. **RECOMMENDATIONS FOR FURTHER WORK**

This chapter sets out recommendations for further work to assist the Commission in improving the effectiveness and efficiency of the ELD.

There are three recommendations:

- facilitate enforcement of the ELD by competent authorities;
- encourage operators to comply with the ELD and attain financial security for environmental risks; and
- protect the environment and the public purse from the externalisation of liabilities for environmental damage under the ELD.

17.1. **Facilitate enforcement of the ELD by competent authorities**

The research into this report revealed that environmental insurance, the only viable form of voluntary financial security for ELD liabilities, is not available in many Member States. The research also revealed a lack of demand for such insurance in many, if not most, Member States.

A, if not the, main reason for the lack of availability and demand for insurance for ELD liabilities is the low number – or absence – of ELD incidents in many Member States. Insurers will not spend time and money to develop and market stand-alone environmental insurance policies if there is little or no demand for them. If there is a large demand for any type of insurance, insurers virtually always develop products to satisfy that demand. Thus, the lack of ELD incidents in many Member States is depressing the availability of, and demand for, insurance that provides cover for ELD liabilities.

The purpose of a possible follow up study would be to increase demand for financial security, and thus its availability, by increasing the enforcement of the ELD by competent authorities in Member States.

As the Commission noted in the REFIT Evaluation, competent authorities are not enforcing the ELD sufficiently in some Member States, with some having a preference for pre-existing national legislation to prevent and remediate damage to land, water and biodiversity. There are gaps and overlaps between the ELD and this pre-existing legislation. A key reason for the continued enforcement of national legislation instead of the ELD is the lack of knowledge as to when it should be enforced instead of national legislation.

The follow-up study could compare and analyse similarities, differences, overlaps and gaps between pre-existing legislation and the legislation implementing the ELD in each Member State. More precisely, the study could describe for each individual Member State how the ELD complements pre-existing legislation and when it must be enforced in lieu of, and/or together with, pre-existing legislation. Each Member State report would include user-friendly checklists and other tools for that particular Member State.

The tools could include:

- checklists that show differences between pre-existing legislation that is less stringent than the ELD in order to show how the ELD complements pre-existing legislation and when it must be enforced in lieu of, or together with, it (for example, environmental damage that occurred before 30 April 2007);

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539 REFIT Evaluation 60
• information on differences in the thresholds for environmental damage under the ELD and thresholds under pre-existing legislation for remediating damage to land/soil, water and biodiversity;
• information on preventive measures, which do not depend on the threshold for environmental damage under the ELD and to which the permit and state-of-the-art defences do not apply;
• examples of best practices used by competent authorities across the EU; and
• other aids that would assist competent authorities in their implementation and enforcement of the ELD.

17.2. Encourage operators to comply with the ELD and attain financial security for environmental risks

Many small and medium sized operators do not have environmental risk managers. The research into the state of financial security for liabilities under the ELD revealed that many if not most of these operators do not recognise that their activities may cause environmental damage. They tend, therefore, not to adopt environmental management systems, to train employees in preventing environmental damage, or to purchase insurance to protect them from liabilities under the ELD and other environmental legislation. Further, they do not understand the cover provided by environmental extensions to general liability policies, with most considering that it is much more extensive than it actually is.

The research for this report also revealed that some Member States (the Czech Republic and Spain) have encouraged specified operators to have EMAS or ISO 14000 certification in order to be exempt from mandatory financial security requirements. It further revealed that trade organisations for insurers and industry in other Member States (such as Italy) have entered into agreements to reduce premiums for insurance policies that provide cover for remediating environmental damage if the insured has EMAS or ISO 14001 certification.

The follow-up study would review measures taken by Member States and organisations in them to encourage operators to carry out risk assessments for environmental damage. For example, in 2019, the Italian Environmental Pool, Pool Ambiente, began preparation of a standard to set minimum technical requirements for production/storage sites to prevent environmental damage and to lower potential environmental effects from them. The standard has subsequently been incorporated by Ente Nazionale Italiano di Unificazione (UNI), the Italian member of ISO, as a public technical document (Prassi di Riferimento; PdR). The PdR, which will be published in January 2021 in Italian and English, will provide an incentive to companies to manage their environmental risks by, among other things, making regular environmental checks and maintaining equipment, including tanks and pollution control equipment, at their sites, as well as having adequate insurance cover for the environmental risks.

The follow-up study would also examine established risk management frameworks and standards such as the enterprise risk management integrated framework of the Committee of Sponsoring Organisations of the Treadway Commission (COSO), the International Standards Organisation (ISO), and other national and international standards.

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540 A PdR is similar to a public technical document published by the European Committee for Standardisation (CEN) called a CEN Workshop Agreement. Other organisations involved in the PdR include Bocconi University, Milan Politecnico University, Associazione Nazionale dei Risk Manager e Responsabili Assicurazioni Aziendali (ANRA), Associazione Italiana Brokers di Assicurazioni e Riassicurazioni (AIBA), and the World Wildlife Fund (WWF).
Improving financial security in the context of the Environmental Liability Directive

Organisation for Standardisation (ISO) 31000 Risk Management (ISO 31000), the EU Eco-
Management and Audit Scheme (EMAS), and ISO 14001.

The purpose in doing so would be to provide all sizes of operators, particularly small to
medium sized operators, with the necessary tools to assist them in understanding their
exposure to environmental liabilities, establishing appropriate measures to prevent and
protect them from environmental damage, and to understand how to transfer part of the
residual risk to insurers.

The report would form part of the basis for carrying out the recommendation to the
Commission concerning corporate risk assessment (section 16.1.3 above).

17.3. Protecting the environment and the public purse

The research into this report revealed large differences between Member States in ensuring
that operators have the financial ability to prevent and remediate environmental damage
caused by them. In some Member States, operators can avoid liability for the costs of
preventive and remediation measures by, among other things, entering into insolvency,
including liquidation, proceedings. Some Member States have legislation to prevent this
avoidance of liability in such proceedings from occurring. Even if an insolvency estate has
sufficient assets to pay to remediate environmental damage (which is often not the case),
creditors of an insolvent operator in many Member States have priority over competent
authorities that seek to require the assets to be used to remediate environmental damage
caused by the insolvent company. Payments to these creditors often exhausts the insolvency
estate, leaving no money to remediate environmental damage.

A related issue is whether a Member State breaches EU law if, as occurs in many Member
States, the assets of an insolvent operator are distributed to creditors instead of being used
to remediate environmental damage caused by an operator.541

A further related issue is the adequacy of financial security instruments used to satisfy
mandatory financial security requirements in the Member States that have introduced
mandatory financial security for ELD liabilities. A further issue is the procedures that
competent authorities should take to ensure that financial security instruments and
mechanisms submitted to them under mandatory financial security systems are secure,
sufficient and available when required. The research revealed that some are unlikely to satisfy
these criteria.

This study would examine the above issues. It would also build on chapter 12 above on
innovative methods by non-EU States, such as Australia and Canada, to suggest potential
protections to avoid taxpayers being required to pay to remediate environmental damage.

541 See Case C-104/15 Commission v Romania [2016] ECLI:EU:C:2016:581, paras 99-100 (liquidation could not
relieve operator of failing to comply with the duty to prevent or reduce adverse effects on the environment
caused by extractive waste)
GLOSSARY

Bank guarantee
A bank guarantee is an unconditional written agreement issued by a bank in favour of a competent authority under which the bank agrees to pay a specified amount of money on demand by the authority. The money, or other assets, is deposited in the bank by the operator that enters into the agreement. If the operator fails to comply with obligations to the competent authority, as specified in the agreement, the bank transfers the funds, subject to the limit of the guarantee, to meet those obligations.

The bank is generally not required to notify the operator when it transfers the money to the competent authority; the transfer is unconditional. If the money that is transferred is less than the specified amount of the guarantee, the operator must replace that amount of money.

Bank guarantees are perpetual in that they remain in effect until the competent authority notifies the bank that they are no longer required, all monies have been paid to the competent authority, or the operator provides the competent authority with another type of financial security acceptable to it.

Bond
Four main types of bonds are acceptable and used as financial security for environmental liabilities and responsibilities. They are collateral bonds, payment bonds, performance bonds and self bonds. All four types may be issued as a perpetual bond or for a fixed period of time, with the latter being subject to renewal.

Collateral bond
A collateral bond is an indemnity agreement for a specified amount. In contrast to payment bonds and performance bonds, a collateral bond is not issued by a surety, but is supported by cash or cash equivalent that is directly deposited with the competent authority and is payable on demand to the authority. A competent authority may also accept some of the required amount by a deed to land.

Payment bond
A payment bond is an indemnity agreement for a specified amount with the difference from a performance bond being that the approved surety agrees to pay monies demanded by the competent authority up to the amount of the bond instead of paying the costs incurred by the authority in carrying out the measures that the operator failed to carry out.

Performance bond
A performance bond is an indemnity agreement for a specified amount issued by an approved surety (a bank or other financial institution, or a bonding company). The surety agrees to pay the competent authority up to the amount of the bond if the operator defaults on its obligations under environmental law or its environmental permit, as specified in the bond.

Self bond
A self bond is also an indemnity agreement for a specified amount payable to a competent authority if the operator defaults on its obligations under environmental law or an environmental permit, as specified in the bond. The agreement is executed by the operator, or by the operator and a corporate guarantor such as a parent company. The bond is thus based on the financial net worth of the parent company.
Claims made policy
A claims made policy (or a claims made and reported policy) is an insurance policy that requires a claim against the insured to be made during the policy period specified in the policy. The policy may have an automatic extended reporting period (which is relatively short) and an optional extended reporting period (which is longer and requires payment of an additional premium). If the policy has an extended reporting period(s), the insured can report a claim against it to the insurer during the relevant period. The claim against the insured must, however, still be made against the insured during the policy period.

Combined insurance policy
A combined insurance policy provides cover for several types of risks in a single policy. Typical types of insurance included in a combined policy are motor insurance, property insurance, general liability insurance, and employers’ liability insurance. The policy may have, for example, general definitions and exclusions, as well as definitions and exclusions applicable to specified sections of the policy.

Corporate guarantee
A corporate guarantee is a legally-binding commitment by the operator’s parent company or another affiliate to satisfy the operator’s obligations under environmental law or an environmental permit if the operator fails to do so. Acceptance of a corporate guarantee by a competent authority is based on the same criteria as that which applies to the operator under the corporate financial test plus (depending on the jurisdiction) evidence of ownership of a specified level of the operator’s shares. As with the corporate financial test, the information must generally be updated regularly.

Deductible (or excess)
A deductible or excess is the amount of money that the insurer will pay on behalf of the insured to respond to a loss under the policy. The insurer will then seek to recover that amount from the insured.

Endorsement
An endorsement deletes, revises or adds terms to the policy wording or schedule. An endorsement may, for example, add additional insureds to the schedule, or delete, revise or add clauses to the policy wording. Endorsements may be added during the policy period as well as the time at which the policy incepts. Endorsements include the name of the policy onto which they are endorsed and the date on which they are added to the policy.

Excess policy
An excess policy sits above a primary policy. The excess policy responds to a claim after the limit of liability of the primary policy is exceeded, subject to the terms and conditions of the policy.

For example, an excess policy may provide EUR 2,000,000 in cover excess to a primary policy that has a limit of indemnity of, say, EUR 3,000,000. In this example, the insured would have EUR 5,000,000 in cover.

Escrow account
An escrow account (also called a secured fund) is a sum of money provided by an operator to an approved third party (usually a bank or other financial institution) to be held in a dedicated
account by that institution to satisfy the obligations owed by the operator to a competent authority.

The bank or other third party agrees to pay the assets (escrow) to the competent authority or the operator according to the terms of the agreement that established the account. In order to ensure that the account is secure, the agreement generally restricts the operator’s access to it in the absence of the agreement of the competent authority. Depending on the purpose of the escrow account, it may allow the operator to build up the cash or other assets in it over a period of time rather than to deposit the entire amount when the account is established.

Financial security

In the context of this report, financial security (also called financial guarantee, financial provision, or financial assurance) is the establishment of a secured source of funding to satisfy environmental responsibilities or environmental liabilities.

There are two main types of financial security. The first type is for a known responsibility such as closing a landfill or reclaiming damaged land following surface mining. The amount of financial security is the estimated cost of carrying out the required closure or reclamation works. The amount of the financial security generally varies as the amount of proposed or actual remedial works increases or decreases. Competent authorities may allow an operator to accumulate the specified amount over a period of time during the operational phase of the landfill or other operation.

The second type of financial security is for an unknown and unforeseen liability such as a pollution incident. The amount of financial security is generally established by law or the permit, with different amounts for different operators depending on the nature of the operation, the potential for environmental damage in the location of the operation, the size of the operations, the existence of an environmental management system, etc.

In the context of the ELD, the financial security is for liabilities under the ELD from a potential incident caused by the operator that results in the operator being required to remediate the environmental damage or to prevent further environmental damage.

Some financial provision instruments such as insurance are not generally provided to satisfy the requirements of the first type (for environmental responsibilities) because they are issued for fortuities not certainties.

Fronting

Fronting is a procedure by which an insurer (usually a local insurer) issues a policy and then passes some or all of the risks covered by the policy to another insurer by means of a reinsurance agreement in exchange for a commission. The local insurer agrees to pay losses covered by the policy and then seek reimbursement from the other insurer through the reinsurance agreement.

General liability policy

A general liability policy is an insurance policy that provides cover for claims made by third parties against the insured. It typically provides cover for damages/compensation for bodily injury and property damage and other specified losses.

Insurance

An insurance policy is a contract between an (approved) insurer and an insured (policyholder) under which the insurer agrees to pay the amount of indemnity specified in the policy to the
insured on the occurrence of events specified in the policy.

There are two main providers of insurance policies: commercial insurers, and captives.

**Commercial insurer**

A commercial insurer is an insurer that conducts insurance business on a commercial basis. The insurer must be authorised to conduct insurance business by the relevant insurance regulators in that jurisdiction.

**Captive**

A captive is an insurance company that is established by an operator as an alternative to purchasing insurance from a commercial insurer. The sole function of a captive is to insure (or finance risk) for its parent company (the operator) and other affiliates and sometimes related companies. The captive may, but does not necessarily, purchase reinsurance from commercial reinsurers.

A major advantage of captives is that they are generally established in jurisdictions that enable favourable tax treatment.

Captives are sometimes managed by specialist teams of brokers.

Joint captives that cover risks of more than one company, generally risks for which it is difficult to obtain cover on the commercial insurance market, also exist.

**Letter of credit**

A letter of credit is an agreement by an approved financial institution to pay the amount specified in the agreement to a competent authority if the authority demands its partial or full payment, for example, for closure and/or aftercare costs of a landfill. If the authority draws down on a letter of credit, it must use the monies for the purposes specified in the agreement. The institution will notify the operator of any draw down, following which the operator is generally expected to reimburse the institution immediately upon notification of the draw down.

In order to be issued a letter of credit, the institution requires the operator to provide collateral (such as cash, securities, bonds or other monetary instruments) for its full face value and also charges the operator for providing the letter of credit. The ability to have a letter of credit depends on the creditworthiness of the operator to which it is issued. The letter of credit for an environmental financial security requirement must generally be irrevocable.

A major difference between a letter of credit and bank guarantee is that the letter of credit may be conditional whereas the bank guarantee is unconditional.

**Mutual or pool**

A mutual or pool is a mechanism by which a group of operators may satisfy financial security requirements by membership in an approved mutual or an approved pool. Acceptance into the mutual or pool requires the members to provide evidence of a specified amount of financial provision, or to pay a specified amount into the mutual or pool itself each year. Members must agree to pay up to a specified (or unspecified) amount if an individual operator fails to do so. If the amount of such payment exceeds the monies held by the mutual or pool, an additional drawing is made on its members. Alternatively, risks covered by the mutual or pool may be reinsured.
Occurrence based policy

An occurrence based policy is an insurance policy that is ‘triggered’ when the bodily injury, property damage or other harm covered by it occurs rather than the time at which a claim is made against the insured.

In contrast to a claims made policy, therefore, an occurrence based policy may have a ‘long tail’ of liability in that it may not be triggered until years after it has been issued by an insured, especially if the claim against the insured is for negligently exposing an employee (or other individual) to a pollutant, such as asbestos, that has a long latency period between exposure and the diagnosis of symptoms caused by it.

Passporting

Insurers in the EEA may underwrite EU-wide policies through a legal mechanism known as ‘passporting’. That is, an insurer that is authorised in one European Economic Area (EEA) State can carry on permitted activities in any other EEA State by either establishing a branch or agents in that EEA State (right of establishment) or providing cross-border services across the EEA (freedom of services).

Passporting means that an insurer that is based in, say France or Germany, can issue environmental insurance policies that provide cover for preventing or remediating environmental damage in any Member State of the EU as well as Iceland, Liechtenstein, and Norway.

Primary policy

A primary policy is the first insurance policy that responds to a claim, subject to its terms and conditions. If an insured has purchased an excess policy, that policy would respond to the claim after the limit of liability of the primary policy has been exceeded.

Reserve

A reserve is a provision in the accounts of a company pursuant to a promise/commitment by the company to pay the monies in the reserve to a competent authority. The provision must be dedicated to the purposes required by the competent authority.

Schedule

The schedule is the part of an insurance policy that is specific to an individual insured. It includes the insured’s name and address, the names of any additional insureds, the sections of the policy covered by the particular policy if the policy has several/multiple coverage clauses, the policy period (that is the length of time covered by the policy with the time and date on which the period begins and ends), the deductible (excess) or self insured retention, the limit(s) of liability, any sub-limits of liability, the amount of the premium, the name of the broker (if any), and the names of endorsements attached to the policy.

Self insurance

Self insurance (also called corporate financial test) is a promise/commitment by an operator to pay the amount of the financial security based on evidence provided to the competent authority that the operator has sufficient net worth or net working capital to do so. The evidence generally includes a minimum rating for the operator’s bonds by a specified ratings agency, a minimum level of tangible net worth or net working capital, the location of a substantial portion of the operator’s assets in the jurisdiction of the competent authority, a minimum level for the ratio of the operator’s current assets to its current liabilities or the ratio
of its net income to liabilities, and a minimum ratio of tangible net worth to the estimated costs of complying with the required works.

The operator must generally update the above information on an annual or other regular basis.

Self insurance is distinct from a requirement for the operator to provide evidence that it has the requisite financial strength (viability or capacity) to carry out the obligations specified in an environmental or other permit; this is a separate requirement.

**Self-insured retention**

A self-insured retention is the amount of money that must be paid by the insured before the insurance policy will respond to a loss.

**Trust fund**

A trust fund for environmental liabilities is a fund that is established by an operator for the benefit of specified beneficiaries, which generally include or is limited to the relevant competent authority. The operator pays money or other assets into the trust; the trustee then administers those assets and pays them out subject to the trust deed.

The trustee owes a fiduciary duty to the competent authority, as beneficiary of the trust, to pay out the assets of the trust according to the deed that created it. The requisite statutory provision may specify that the trust fund is irrevocable; thus preventing the trustee from terminating it on the instructions of the regulated company/operator.

**Wording**

A wording sets out the terms and conditions of an insurance policy. The wording is the body of an insurance policy. It includes the coverage clauses (also called insuring agreements or clauses) under which the insurer agrees to indemnify the insured for losses covered by the policy, definitions of words and terms used in the wording, exclusions to the coverage clauses, and other terms and conditions including notification clauses, claims co-operation clauses, applicable law, applicable jurisdiction and venue, subrogation, etc.

The wordings of an individual insurer for a specific class (line) of business such as general liability policies, property policies, directors’ and officers’ policies, products liability policies, or employers’ liability policies, tend to be standardised. A standardised policy wording is sometimes referred to as a specimen wording and may be available on an insurer’s website.
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ANNEX I
MEMBER STATE REPORTS

The Member State reports have been prepared in separate documents.
ANNEX II
MEMBER STATE SUMMARIES

The Member State summaries have been prepared in a separate document.
ANNEX III
ENVIRONMENTAL INSURANCE: AVAILABILITY AND DEMAND

The overview of availability of, and demand for, environmental insurance has been prepared in a separate document.