



Review of the implementation of Regulation (EC) No 2037/2000 on substances that deplete the ozone layer

Summary Report

Submitted to
European Commission
DG Environment
Unit C4
B-1049 Brussels
Belgium

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14 December 2007

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This Summary Report has been prepared by the Consortium formed by Milieu Ltd and Ecosphere Lda under contract to the European Commission's DG Environment, (Study Contract N° 07010401/ 2006/454578/MAR/C4). Contributors to this project included Gretta Goldenman (Project Director), Esther Pozo Vera (Team Leader and primary author of the Legal Options Report), Tony Zamparutti (primary author of the Impact Assessment Report), Sophie Vancauwenbergh (legal expert), Owen White (economist), Prof. Andreas Engle (scientific advisor), Christine Haffner-Sifakis, and Teresa Amador, José de Bettencourt and Mário João de Brito Fernandes of Ecosphere .

The opinions expressed herein are those of the consultants alone and do not represent the official positions of the European Commission. Any errors or omissions are unintentional. Corrections will be greatly appreciated.

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1. Introduction and background

This Summary Report presents the primary conclusions and recommendations from the project carried out for the European Commission on “Review of the implementation of Regulation (EC) No 2037/2000 on substances that deplete the ozone layer”¹. The review was carried by a team of experts led by Milieu Ltd in consortium with Ecosphere Lda of Portugal.

Regulation (EC) No 2037/2000 (henceforth the “ODS Regulation”) implements the Montreal Protocol on Substances that Deplete the Ozone Layer within the European Community. The ODS Regulation has been successful in phasing out about 99.5% of the ODS produced in the EC. Consumption has not fallen quite as steeply, since it is also supplied by imports.

The EC has taken a leading role in the global efforts to phase out ODS in order to preserve the ozone layer and this is reflected in the ambition of the EC’s goals with respect to phasing out ODS. The Regulation is broader in scope than the Protocol: in several areas – such as its phase-out schedules for several ODS and its provisions on products and equipment – the Regulation goes beyond the Protocol.

At the same time, the Protocol and subsequent Decisions of its Parties create a global legal structure for the Regulation. Moreover, the Protocol and the Decisions of the Parties constrain the field of action in terms of any revision of the Regulation. They provide minimum requirements, for example, for reporting.

The review of the ODS Regulation seeks to take into account scientific and technical developments since the Regulation entered into force in 2000 and to tackle key remaining uses of ODS. The review assumes that the revised Regulation will take effect in 2010.

The review of the ODS Regulation seeks moreover to ensure a smoother overall functioning, on the basis of past experience in its implementation. In this context, the review of this Regulation is part of the efforts for simplification and clarification under the Communication on “Better Regulation for Growth and Jobs in the European Union”² in the framework of the Lisbon Strategy. The Better Regulation initiative seeks to promote appropriate impact assessment and ensure that the regulatory environment is simple and of high quality, that administrative burdens (on businesses and authorities) are minimised and to make sure that regulation is used only when necessary and that the burdens they impose are proportionate to their aim.³

The Summary Report of the review is based on two more detailed reports: the Regulatory Options Report and the Impact Assessment Report. It first provides an overview of the information gathered from Member States, industry and NGOs concerning their experiences in implementing the current ODS Regulation, including interlinkages between the ODS Regulation and other EC legislation. It then presents the proposed regulatory changes by issue area, and their potential impacts. It concludes with a synopsis of the review’s conclusions and recommendations.

The Regulatory Options Report identifies a number of key problems concerning the implementation of the ODS Regulation. It then presents regulatory (and some non-regulatory) recommendations for addressing each problem proposed by the consultants as well as through other initiatives. The short list of regulatory options was developed following initial screening of a long list by the Commission’s Steering Committee and taking into account comments received from an Advisory Group of

¹ European Commission Contract no. 07010401/2006/454578/MAR/C4

² COM (2005)97 final

³ European Commission Enterprise and Industry Better Regulation resources:
http://ec.europa.eu/enterprise/regulation/better_regulation/index_en.htm (accessed 03-09-07)

stakeholders. After detailed analysis of the regulatory options, including a review of their pros and cons, a preferred option was identified.

The Impact Assessment Report analyses the economic, social and environmental impacts of the options considered, including the no EU action option (“business as usual”). The assessment was carried out in line with the Commission’s Guidelines on Impact Assessment⁴. The assessment identified the nature of the problems, the main options, including the “no EU action” option (providing the “business as usual” baseline) and then carried out a qualitative and quantitative analysis of the most important impacts identified. The information on which the quantitative and qualitative impact assessments are based was gathered through a literature review, three questionnaires focussed on specific stakeholder groups (Member States, Industry and NGOs), follow up interviews (face to face and phone), personal communications by email, as well as a number of meetings with DG Environment and the Advisory Group.

Both of these more detailed reports have been subject to an extensive process of stakeholder review, including presentations to two meetings of a specially convened Advisory Group (10 July 2007 to review the initial set of legal options, and 7 November 2007 to review the revised options and the qualitative assessment of their impacts).

This represents a relatively high level of consultation and stakeholder input. At the same time it should be noted that the final reports seek to draw their own conclusions, based on all available information. They do not and should not echo stakeholders’ concerns, but rather consider these concerns, together with all relevant available information and data, to arrive at a coherent set of recommendations for proposed changes to the ODS Regulation during its pending revision.

2. Review of the implementation of the current ODS Regulation

In the first stage of the project, questionnaires were sent to Member States, industry and NGOs. The responses to these questions, together with follow-up interviews, provided an overview of views on the effectiveness of the Regulation and the areas where revision is needed.

2.1 Member State views on the implementation of the ODS Regulation

In their responses to the questionnaire, Member State respondents indicated that the Regulation has been very effective in reducing the use of ozone depleting substances (ODS) in the EC: they gave an average score of 3.4 on a scale of 1 (“not effective”) to 4 (“very effective”). This was a unanimous view of the respondents: all gave scores of either 3 or 4. Member States also gave a high score to the Regulation’s effectiveness in terms of the control of imports and exports of ODS.

Table 1 Effectiveness of the ODS Regulation: average scores given by Member States

Effectiveness of the ODS Regulation in terms of:	Avg. score
Adequate reduction in the use of ODS	3.4
Control of the recovery, recycling and destruction of ODS	2.6
Control of imports and exports of ODS	3.0
Clear and easy to interpret legal text	2.0
Not imposing high administrative costs for Member State implementation	2.4

⁴ European Commission Impact Assessment Guidelines, June 2005, with March 2006 update. SEC(2005) 791.

The respondents gave lower scores in other areas. Notably, the responses gave a score of only 2.0 for the clarity of the Regulation's text. Many of the responses were quite detailed and identified possible options for a revised Regulation.

Clarification, organisation and simplification of the text. In their written responses, many respondents identified areas for revision. These include removing sections that are no longer necessary, such as phase out schedules that have been completed. Many MS responses called for the clarification of definitions: the responses mentioned several terms used in the Regulation that are not defined (examples include "equipment" and "product containing controlled substances"), though in some cases, the relevant definitions are found in the Decisions of the Parties. Several Member States called for the preparation of guidance to assist their implementation of the Regulation and explain the requirements placed on industry and other stakeholders. Member States also called for greater synergies with other EC legislation, and notably with the F-gas Regulation.

Exemptions for critical and essential uses. Many Member States called for ending exemptions and for greater controls on those that remain. For example, a majority of the responses called for an end to the critical use of methyl bromide.

Quarantine and pre-shipment (QPS). A majority of Member States responses indicated that further rules were needed to govern QPS uses of methyl bromide. Some Member States went further, and called for an end to these uses, as alternatives to methyl bromide exist.

Import and export requirements. On import licenses, Member States are generally satisfied with the system in place and provided a few recommendations to improve it. For export authorisations, several MS called for a notification or a prior informed consent (PIC) procedure.

Enforcement. About half of respondents felt that the EC system overall needed strengthening, though few called for new rules in this area (very few Member States replied that their national system should be strengthened). Instead, several responses called for non-regulatory actions, such as improved training and coordination. On the other hand, a few Member States questioned whether stronger enforcement was needed.

Recovery, recycling, reclamation and destruction of ODS. A large majority of the Member States that responded felt that current EC waste legislation was largely adequate to ensure recovery, recycling and destruction of ODS in end-of-life products and equipment.⁵ In particular, few Member States saw a need for further legislation for products covered by WEEE.

Reporting. Finally, a majority of Member State respondents called for a simplification of reporting requirements.

2.2 Industry views on the implementation of the ODS Regulation

A separate questionnaire was sent to companies producing, importing, exporting or using ODS, and also to trade associations. Despite a larger mailing, only about 20 responses were received, making a small sample. This reflects in part the small set of industry stakeholders. There are only a few EC producers today.

Overall, the industry responses agreed with those from Member States in many areas (see Table 2 below): the companies felt that the ODS Regulation had been quite effective in its reduction of the use of these substances, and also saw that the control of imports and exports was strong. Industry

⁵ A recent review of the WEEE Directive reported, however, that only about 27% of waste household refrigerators and freezers in the EU27 were collected as required in 2015. See: United Nations University *et al*, 2008 Review of Directive 2002/96 on Waste Electrical and Electronic Equipment (WEEE), 5 August 2007

respondents were less harsh than Member States in their judgement of the clarity of the Regulation's text. Nonetheless, one mentioned that the requirements are difficult to understand and implement in particular for smaller companies

Table 2 Effectiveness of the ODS Regulation: average scores given by industry

Effectiveness of the ODS Regulation in terms of:	Industry & ODS users (avg. score)
Adequate reduction in use of ozone-depleting substances (ODS)	3.4
Control of the recovery, recycling and destruction of ODS	2.6
Control of imports and exports of ODS	3.4
Clear and easy to interpret legal text	2.7

Import and export controls. Despite the high overall score given in this area, several industry respondents mentioned cases of illegal imports. Several respondents mentioned imports arriving in disposable containers, which are not allowed under the Regulation. One company in an EU12 Member State with an external border said that illegal imports had a significant negative impact on its business. Thus, several industry respondents called for greater customs training and awareness of illegal trade in ODS. Several importers and exporters called for electronic rather than paper import licenses (this is due to issues with the authenticity of electronic signatures, not the Regulation itself).

Recycling. Several industry representatives wrote that EC waste legislation creates a barrier for ODS recovery, because waste ODS is classified as hazardous, and this significantly increases administrative costs for cross-border shipments. Several Member States also raised the issue, which is, however, regulated under EC waste legislation, not the ODS Regulation.

Reporting requirements. A majority of industry respondents replied "No" when asked whether reporting requirements need to be simplified (12 responses were negative). While a few respondents did call for simplification, one ODS producer called to extend reporting to distributors.

2.3 Interlinkages between the ODS Regulation & other EC legislation

Many interactions with other EC legislation were identified in the course of this review. The specific synergies are discussed in the Legal Options Report under the sections dealing with specific problem areas. The other EC legislation analysed included:

- the F-Gas Regulation (EC) No 842/2006, including harmonisation of minimum qualification requirements for maintenance and servicing personnel and possibly requirements for leakage (see below) recovery as well as reporting
- Waste legislation, including the shipment of waste regulation and the Directive on Hazardous Waste (small Member States without ODS recycling and destruction facilities have highlighted the costs of administrative requirements in this legislation) as well as the WEEE Directive and the End-of-Life Motor Vehicles Directive
- The Plant Protection Products Directive (and the draft Regulation to replace it), in particular to address methyl bromide
- REACH requirements for registration and authorisation of substances
- Customs legislation and initiatives for Customs cooperation
- Phytosanitary rules, in particular those related to the International Plant Protection Convention
- Directives 67/548/EEC and 1999/45/EC and future developments to implement the Global Harmonised System of Classification and Labelling of chemicals
- The PIC and POPs Regulations

Annex I to this Summary Report provides a table showing the results of this legal analysis of the interlinkages between the ODS Regulation and other EC legislation, and the respective sections in the Legal Options Report where these interlinkages are discussed. The recommendations below draw on possibilities to enhance synergies with these other EC acts, wherever this results in a simplification of the overall regulatory framework without undermining the ODS Regulation itself.

3. The proposed regulatory changes and their potential impacts

The issues concerning Regulation (EC) No. 2037/2000 range across a series of topics. A single set of cross-cutting options could not be identified. Rather, specific options were considered for each “problem area” identified during the information gathering and legal analysis. The box below provides a summary list of these areas. The Regulatory Options Report and the Impact Assessment Report both follow this structure.

Issues to address in a revised Regulation	
1.	Simplification and clarification of the Regulation
2.	Exemptions for critical and essential uses
3.	Quarantine and pre-shipment
4.	Phase out of the use of HCFCs
5.	Production of ODS for basic domestic needs (BDN)
6.	Import and export requirements
7.	Enforcement
8.	Recovery, recycling and destruction of ODS
9.	New substances
10.	Reporting requirements
11.	Monitoring requirements and information to the public

It should be noted that in considering options for resolving the above issues, it was generally agreed that a clear link had to be kept with the provisions of the Montreal Protocol and related Decisions of the Parties. The fact that one of the prime objectives of the ODS Regulation is to implement the Montreal Protocol was kept in mind throughout the exercise. Another objective was to ensure consistency with other relevant EC law.

Each of these issues is addressed in a separate subsection below. The subsections first review the specific problems identified, then the legal options considered. The recommended measures for a revised Regulation are provided in a summary box, followed by a brief review of the findings of the impact assessment.

3.1 General issues for simplification and clarification of the Regulation

As already noted, many Member States and stakeholders expressed general satisfaction with the current ODS Regulation in their responses to the survey carried out during the data gathering phase of this study. However, many also underlined the need to simplify and clarify the text of the Regulation. Moreover, the revision of this Regulation is included in the European Commission’s “Better Regulation” package.⁶

It is indeed our opinion that:

1. the current Regulation still contains many sections that are no longer necessary.
2. there is a lack of titles for structuring the text and a very confusing subdivision of articles, e.g., one article presents a rule, an exception and exceptions to the exception.
3. the current Regulation is not sufficiently linked to other closely related legislation -- in particular, waste, F-gases and other chemicals legislation.
4. improved definitions are needed for a number of terms, along with clarification on how certain terms are used.

⁶ COM(2006) 689 final and Annex 1 of COM(2006) 690 final.

The objectives behind the recommendations set forth below are to simplify and clarify the text of the Regulation, enhance links with other EC legislation and increase regulatory transparency and legal certainty.

Recommendations for simplification and clarification of the Regulation

- 1. Remove obsolete sections** such as completed phase-out schedules. Annex II of the Regulatory Options Report identifies sections that can be removed in a revised Regulation.
- 2. Improve the structuring of provisions** by, e.g., restructuring the revised Regulation by substance wherever possible, and by improving the use of titles to organise sections.
- 3. Improve regulatory transparency of administrative procedures** by developing an implementing Regulation.
- 4. Reduce ambiguities and enhance synergies with other EC legislation** through better harmonisation of definitions with other EC legislation as well as with the MP. In particular, for the following terms:
 - a. Products and equipment:** add definitions for “products and equipment containing ODS” as well as “products and equipment relying on ODS”, and include an Annex listing examples (current Annex V as a starting point).
 - b. Installations:** the term is only used once in the Regulation. It is not needed and should be deleted.
 - c. Placing on the market:** adopt REACH definition (“making available to third parties”) to cover any subsequent supply of ODS including products and equipment containing or relying on ODS. Exceptions for products and equipment containing or relying on HCFCs (if placed on the market before 2010) and halons could be considered (see section 6 for details on these exceptions).
 - d. Use:** define to harmonise with the REACH definition, but include other elements in the ODS life-cycle that should be controlled under the Regulation.
 - e. Waste management related definitions:** the Montreal Protocol definitions of “recovery”, “recycling”, “reclamation” and “destruction” are compatible with the equivalent terms under EC waste legislation. The revised Regulation should refer to “recovery” and “disposal” as defined under the Waste Framework Directive, but it should also specify these operations so as to only cover those authorised under the Montreal Protocol. These details, including the specific definitions for “destruction”, “reclamation” and “recycling” under the MP, could be included in an Annex or in specific waste management provisions.
 - f. Definitions originating from Decisions of the Parties:** the Regulation should incorporate the definitions of “quarantine”, “pre-shipment”, “critical uses” and “essential uses” adopted by the Parties to the Montreal Protocol.
 - g. Other definitions:** other terms that should be defined or whose definition should be modified in the revised Regulation include:
 - define “import” and “export” according to the PIC Regulation and “transit” as in the Customs Code;
 - define “substance” and “mixture” according to REACH and the Proposal for CPL Regulation;
 - define “personal effects” (following example from CITES Regulation);
 - replace the term “disposable containers” by “non-refillable containers” and define the concept;
 - define “virgin” and “recovered” HCFC;
 - define “operator” according to the F-Gas Regulation
 - define “producer” and “holder” of waste according to waste legislation;

Impact assessment. These proposed changes are expected to bring a number of benefits, at no additional cost. In simplifying and clarifying the legal text, they should strengthen the Regulation's implementation and reduce the administrative costs of compliance for EC companies. Clearer requirements should also improve enforcement of the Regulation, including against illegal exports and imports. These benefits have not been quantified.

3.2 Exemptions for critical uses and essential uses

The Montreal Protocol (and the ODS Regulation) is aimed at progressively phasing out the production and use of those substances believed to be responsible for depletion of the ozone layer. However, the Montreal Protocol and its Decisions of the Parties have allowed some exceptions for critical and essential uses for certain banned ODS. These provisions stress two key criteria for allowing those exemptions: the importance of the use, and the lack of technically and economically feasible alternatives or substitutes⁷. "Essential uses" are those uses linked to health and safety, including laboratory uses, and "critical uses" are those allowed for methyl bromide and halons. The possibility of making use of these exceptions is supposed to be more and more limited, as alternatives appear.

On the basis of this, the ODS Regulation allows for the following use exemptions:

- Essential uses of CFCs for medical devices (metered dose inhalers, or MDIs)
- Critical uses of methyl bromide
- Critical uses of halons
- Essential laboratory and analytical uses

For many of these critical and essential uses, alternatives and substitutes are now available and requests for exemptions have declined to very low levels. Notably, Member States and the Commission have declared in the 19th Meeting of the Parties to the Montreal Protocol that the EC will no longer submit requests for the essential use of CFCs for MDIs by 2010, as alternatives are currently in place.

Member States and the Commission are close to a similar agreement to end the critical uses of methyl bromide, since scientifically and economically feasible alternatives (chemical and non-chemical) are also available. Moreover, critical uses of methyl bromide are pesticidal uses, and the registration of methyl bromide under the Plant Protection Products Directive is under review, with a decision likely in early 2008. (Methyl bromide was not supported under the Biocidal Products Directive, and this means that any critical uses that are biocidal ended in 2006 and it is expected that the decision adopted under the PPPD will be de-registration of MB). The existence of scientifically and economically feasible alternatives for MB would mean that the conditions for allowing critical uses as per Decision IX/6 of the Parties to the MP would no longer be met at EU level. For this reason the most adequate solution is to end this exemption.

Nevertheless, the revised Regulation should contain a clause for the "emergency use" of methyl bromide, in case of unlikely and unexpected events such as pest outbreaks that cannot be addressed by other means. This emergency clause should specify the MP requirements under Decision IX/7 and establish strict and concrete conditions for its use. Only the Commission in its role of implementing the Montreal Protocol can grant authorisations, and thus MB should be excluded from the emergency clauses under the PPPD and BPD (which are granted by Member States).

In addition, there is significant room for further reduction in essential laboratory and analytical uses, since the allotted quota is far higher than the quantities actually used. Although there is a requirement to register, many laboratory reportedly do not so.

⁷ For example, Decision IV/25 on essential uses and Decision IX/6 on critical uses of methyl bromide.

Finally, no recommendations concerning the critical use of halons are made here, since a separate study is underway concerning a possible revision of the current Annex VII on critical uses of halons.

Recommendations for addressing exemptions for critical and essential uses

- 1. Delete provisions exempting essential uses of CFCs for medical devices**
- 2. End the critical use of methyl bromide but include an emergency use clause**
 - (a) *End the critical use of MB* since chemical and non-chemical alternatives exist and the EU can no longer meet the Montreal Protocol conditions for allowing critical uses. This will support de-registration of MB under the Plant Protection Product Directive, as has already happened under the Biocides Directive.
 - (b) *Include an emergency use clause in the Regulation to allow for cases where MB may still be needed to fight against certain pests for which no alternative exists*, but establish clear requirements for MB emergency use based on the MP Decision IX/7, including definition of “emergency”, caps on amounts to be used, and no possibility to grant authorisation if alternatives. In addition, ensure that MB is excluded from the emergency authorisations under the Plant Protection Products and Biocides Directives, since these are granted by Member States.
- 3. Set a lower cap on amounts for essential laboratory and analytical uses** to reflect actual use levels and a mechanism for progressive reduction of the cap, **along with mandatory registration and a multi-year exemption process.**

Impact assessment: The recommendation to delete the essential use exemption for MDIs will not have an impact, as under the “business as usual” scenario this will in any case end by 2010.

Ending the exemption for critical uses of methyl bromide in a revised Regulation is also not expected to have direct economic or environmental impacts for the same reason: no critical uses are expected after 2009. Ending this exemption will reduce emissions of ODS and in addition reduce the administrative costs involved in the processing of applications for the exemptions which are lengthy and time-consuming. In addition, the EU will retain and consolidate its international leading position in MB phase-out and will contribute to the development of alternatives for essential laboratory and analytical uses.

A further exemption concerns halons, which have been used mainly in fire fighting. While the use of halons has been phased out in the EC, Annex VII to Regulation (EC) No. 2037/2000 lists a series of critical uses for which halons are still permitted. Most of these critical uses are for fire fighting in the military, civil aviation and other sectors (including ensuring that spaces containing flammable gas or liquids remain inert). A December 2006 study for the European Commission reviewed the availability of alternatives for the critical uses listed in Annex VII and recommended phase-out dates for them.⁸ The European Commission and the Member States are currently reviewing these phase-out dates. For this reason, the potential impacts of phase-out have not been assessed by this review.

In the last area, the proposed option would cap the quantity of ODS for laboratory and analytical these uses and would also allow the granting of multi-year exemptions (rather than the current annual exemptions). The proposed option would slightly reduce administrative costs as well as emissions.

⁸ ICF International, *Review of Halon Critical Uses Specified in Annex VII of Regulation (EC) No 2037/2000 on Substances that Deplete the Ozone Layer (Final Report)*, December 2006

Table 3. Comparison of the options for critical and essential uses

	Economic impacts (all costs calculated in million €, NPV in 2010 for costs 2010-2019)				Social impacts	Environmental impacts (Total for 2010 – 2019)	
	Direct costs to EC industry	Administrative costs				Emissions in ODP tonnes	GHG emissions in CO ₂ equiv. tonnes/year
		For Industry	For MS	For COM			
No EU action							
Critical use of methyl bromide	0	0*	0*	0*	Health and safety risks**	0	0
Essential laboratory and analytical uses	0	0.11	0.05	0.11	..	1200	4 300 000
Proposed options							
Ending critical use of methyl bromide	0*	0	0	0	*	0	0
Essential lab. and anal. uses: cap + multi-year exemption	0	0.09	0.03	0.07	..	1060	3 810 000

* In the worst-case scenario, there will be costs and benefits for the period 2010-2012: see Part B of this report for details.

** Methyl bromide classified as toxic, with high health and safety risks. Key alternatives are of a lower risk class.

Note: the impacts of alternative options for essential laboratory and analytical uses are provided in the detailed assessment.

3.3 Quarantine and pre-shipment (QPS)

Though Regulation 2037/2000 has phased out the marketing and use of methyl bromide in the EC, it allows quarantine and pre-shipment (QPS) applications of this ODS. QPS applications are mainly for phytosanitary purposes, to prevent the international spread of plant diseases and pests in exports of plants and plant products. Such phytosanitary treatments are governed by the International Plant Protection Convention (IPPC).⁹ However, the IPPC, which is an essential instrument for trade,¹⁰ only refers to quarantine treatment and not to pre-shipment. “Pre-shipment” is a concept unique to the Montreal Protocol targeting non-quarantine pests.

Decisions under the Montreal Protocol (*e.g.*, Decision VI/11) and a 2003 Recommendation under the IPPC¹¹ call for reducing QPS uses of methyl bromide. In a 2004 survey, Parties to the Montreal Protocol reported widespread availability of alternatives.

At global scale, QPS uses of methyl bromide have increased, and thus they are an important issue to be tackled. The aim of any regulatory measure adopted should therefore be to reduce the applications and emissions of methyl bromide in QPS while ensuring that EU companies can export to third-countries that require quarantine treatment for certain imports.

⁹ For a review of QPS definitions, agreements and applications, see: Ozone Convention Secretariat, “Quarantine and pre-shipment: Report by the Secretariat”, Open-ended Working Group of the Parties to the Montreal Protocol (Nairobi, 4-7 June 2007).

¹⁰ The IPPC is recognised by the World Trade Organisation (WTO) Agreement on the Application of Sanitary and Phytosanitary Measures (the SPS Agreement) as the organisation under which international standards for phytosanitary measures are established. The WTO and the IPPC would regard pre-shipment as falling under the Technical Barriers to Trade (TBT) Agreement.

¹¹ Interim Commission on Phytosanitary Measures (ICPM), *Recommendation on the Future of Methyl Bromide for Phytosanitary Purposes* (ICPM-5, Appendix VIII), 2003.

The current use of methyl bromide in the EU for QPS raises several concerns: it is reportedly sometimes used when not required and only a few Member States require containment and recapture of methyl bromide or other measures to reduce emissions of MB in QPS applications. The fact that other Member States do not may create differences in export costs, thus creating a disadvantage for operators using more advanced methods. In addition, many pre-shipment applications are biocidal applications (*e.g.*, shipment of used car tyres), which will be banned in the EU as registration of MB has not been supported under the Biocidal Products Directive.

If methyl bromide is not registered under the Plant Protection Products Directive, the revised Regulation will need to end QPS applications of MB. If it is registered under the PPPD for quarantine applications, clear requirements for such applications will be needed, including for containment and recapture. In addition, the current EC-wide cap on the total amount of methyl bromide used for QPS set in Annex III to the Regulation needs to be adjusted, since it is higher than the effective cap set in current Article 4.2(iii) and the difference is not transparent. Moreover, a mechanism is needed to adjust the cap in the future, in response to developments in international phytosanitary rules or alternatives to MB for QPS.

A majority of Member States responding to the review questionnaire noted a need for further rules for QPS. In addition, several called for the phase-out of the use of methyl bromide for QPS, because of the existence of alternatives. Finally, they also called for more clarity in the definitions of QPS.

Recommendations for addressing Quarantine and Pre-shipment issues

- 1. If methyl bromide is deregistered under the PPPD**, in the revised Regulation use of MB for QPS is not allowed. The emergency clause will nevertheless applied (see section 2 above).
- 2. If methyl bromide is registered under the PPPD:**
 - (a) Establish clear requirements for when MB may be used for Quarantine**, *i.e.*, limited to when the importing country only allows imports if fumigated with MB and only if containment and recapture is practiced. An annex could list those countries where MB fumigation is required for Quarantine purposes.
 - (b) End Pre-shipment applications:** pre-shipment is not covered by the IPPC, there are no international standards for its application, and we are aware of no country that requires MB pre-shipment applications as a pre-condition to accept imports.
 - (c) Adjust current Annex III to reflect the effective cap** and establish a procedure under comitology for future revisions of the cap in response to international developments, including the availability of alternatives.
 - (d) Harmonise definitions of “quarantine” and “pre-shipment”** on the basis of agreements reached under the Montreal Protocol and the IPPC.
 - (e) Non legislative initiatives:** Prepare Guidelines to promote best practice & to reduce QPS uses of MB
- 3. Support international negotiations to end requirements for QPS uses of MB**

Impact assessment: These measures should reduce overall costs to EC industry while reducing methyl bromide emissions. Notably, EC exporters will benefit from lower costs from fewer QPS treatments, even though the recapture requirements will increase costs. In this area, the impact assessment reviewed an alternative option: the complete elimination of methyl bromide for QPS. This would

increase costs, but end the related emissions. While alternative methods are currently used, efforts may be needed to ensure that importing countries accept EC goods treated using such methods.

These recommendations will support the EU's leading role in international negotiations to phase out methyl bromide internationally and will contribute to reduction of methyl bromide emissions. The EU should at the same time continue its efforts at international level to persuade third-countries to allow alternatives to the use of methyl bromide for quarantine applications as allowed by ISPM-15.

Table 4. Comparison of options for quarantine and pre-shipment

	Economic impacts (all costs calculated in million €, NPV in 2010 for costs 2010-2019)				Social impacts	Environmental impacts (Total for 2010 – 2019)	
	Direct costs to EC industry	Administrative costs				Emissions in ODP tonnes	GHG emissions in CO ₂ equiv. tonnes/year
		For Industry	For MS	For COM			
No EU action							
Continue current QPS practices	85.7	0.50	0.71	0.08	Health risks from MB use	1810	15 100
Proposed options							
Restrict Q, end PS, recapture methyl bromide	54.5	0.17	0.13	0.12	Health risks from MB use	950	7 900
Alternative option							
End all QPS treatments with MB	61 to 122	0	0	0	No MB use	0	0

3.4 Phase-out of the use and production of HCFCs and other ODS

HCFCs are the last ODS whose use has not yet been phased out under the Regulation. However, the current Regulation prohibits the use of virgin HCFCs for maintenance and servicing of commercial, industrial and other refrigeration and air-conditioning equipment from 1 January 2010, thus ending the last regular use of virgin HCFCs.¹² From 2010, only recycled and reclaimed HCFCs can be used for maintenance and servicing of equipment, and from 1 January 2015, even recycled and reclaimed HCFCs are prohibited for such purposes, thus ending the reliance of products and equipment on any HCFCs.

Several issues arise with respect to these phase-out dates. First is the issue of whether the 2015 date for phase-out of use of recycled and reclaimed HCFCs should be maintained or advanced towards 2010. The current ODS Regulation provides for the Commission to review the technical and economic availability of alternatives to recycled HCFCs by the end of 2008, and a study is under way to look at possible impacts of advancing the 2015 date.

The second issue concerns the period (2010-2014) when only recycled and reclaimed HCFCs will be allowed for maintenance and servicing uses. During this period, demand for recycled and reclaimed HCFCs is expected to grow. The EU12 will need supplies of recycled and reclaimed HCFCs from the

¹² Article 5.1(v). Three derogations are provided in Article 5.2: laboratory uses, feedstock and processing agents.

EU15,¹³ which may require additional reclamation capacity. In addition, there is a risk that stocks and imports of illegal virgin HCFCs may be used rather than recycled and reclaimed HCFCs. Without appropriate control measures, it will be difficult to identify illegal virgin HCFCs.

A third question concerns exemptions. The current Article 5(3) derogation for use of HCFCs to replace halons as fire-fighting agents is little used and since alternatives exist for these exemptions is obsolete. Moreover, the Article 5(7) mechanism to request exemptions for placing on the market and use of HCFCs is rarely used the last request was made in 2005 and involved only 25 kg. A previous request was made in 2002. In general, substances that are not ozone-depleting are now available for fire-fighting systems. Thus this exemption is obsolete.¹⁴ Thus another issue is whether this exemption should remain in the revised Regulation.

Finally, the revised Regulation should take account of Decision XIX/6 adopted at the September 2007 Meeting of the Parties (MoP) to the Montreal Protocol. While the current Regulation foresees the end of production of HCFCs for 2020 (notwithstanding that the EC ban on use of HCFCs enters into force in 2015), the September 2007 MoP agreed to phase out 90% of global HCFC production by 2015.

Recommendations for phase-out of the use and production of HCFCs and other ODS

- 1. Modification of the phase-out schedule for use of recycled & reclaimed HCFCs.**
No recommendation is made pending the outcome of another study on this issue.
- 2. Certification of recycled and reclaimed HCFCs.** No recommendation is made pending the outcome of another study to assess mechanisms for controlling recycled & reclaimed HCFCs, including a possible certification system. However, the revised Regulation should already:
 - (a) specify that operators must ensure the recycled/reclaimed origin of any HCFCs used for maintenance and servicing.
 - (b) Retain the powers granted to the Commission in current Article 6(4) to require a certificate attesting to the nature of the substances used.
- 3. Delete the now obsolete Article 5(3) exemption.** The derogation for use of HCFCs to replace halons as fire-fighting agents is little used and substitutes are available.
- 4. Delete the Article 5(7) mechanism for requesting exemptions** for the marketing and use of HCFCs where “technically and economically feasible alternatives” are not available, since by 2010 such exemptions will no longer be needed, but consider specific exemptions for the two EU-10 where some fire-fighting equipment using HCFCs remains in place.
- 5. Modify the phase-out schedule for HCFCs production.** Advance the schedule for phasing out HCFCs production to 2015 rather than 2020, as agreed by Parties to the MP in Decision XIX/6 of the Parties (which accelerates this phase-out from 2025 to 2020) to harmonise with the EC deadline for phasing out uses of HCFCs.

¹³ ICF International, *Supply and Demand of Recycled Hydrochlorofluorocarbons (HCFCs) in Existing Refrigeration and Air Conditioning Equipment Beyond 2009: Analysis of Regulatory Phaseout Scenarios*, August 2006.

¹⁴ The exemption has also had confusing applications. In one recent case, the Management Committee provided an exemption for a product containing HCFCs (an LNG tanker) despite the general Article 5(4) ban on import and placing on the market of products and equipment containing HCFCs.

Impact assessment: No assessment was made of the impacts of the first two options: (1) a possible acceleration of the schedule for the phase-out of the use of recycled and reclaimed HCFCs from 2015 to a date closer to 2012; and (2) the certification of recycled and reclaimed HCFCs, to distinguish them from “virgin” HCFCs, whose use will no longer be allowed within the EC from 2010. These issues are the subject of separate studies for the European Commission.¹⁵

Concerning the recommendations to delete the Article 5(3) derogation for the use of HCFCs to replace halons as fire-fighting agents as well as the Article 5(7) exemption for the placing on the market and use of HCFCs in cases where “technically and economically feasible” alternatives are not available, the impacts are expected to be minimal, since in both areas, the number of exemptions granted in recent years has been quite low.

The recommendation to bring forward the phase-out of EC production of HCFCs to 2015 from the current phase-out date of 2025 takes account of the recent Decision of the Parties to accelerate phase-out of production to 2020.¹⁶ Accelerated phase-out of HCFC production will impose a direct cost on industry: the size of this impact depends on the projections of HCFC production within the EC from 2015 to 2020. However, it should be noted that EC production of HCFC has decreased significantly in recent years, due in part to strong competition from countries such as China.

On the other hand, the reduction in EC production of HCFCs can be expected to create new economic opportunities, as it may encourage users in third countries to switch to non-ODS alternatives, a market where EC producers have a stronger competitive advantage. This economic benefit has not been quantified.

Table 5. Comparison of the options for HCFCs

	Economic impacts (all costs calculated in million €, NPV in 2010 for costs 2010-2019)				Social impacts	Environmental impacts (Total for 2010 – 2019)	
	Direct costs to EC industry	Administrative costs				Emissions in ODP tonnes	GHG emissions in CO ₂ equiv. tonnes/year
		For Industry	For MS	For COM			
No EU action							
Art. 5(3) derogation and 5(7) exemption	0	0.03	0.04	0.07	..	Low	Low
HCFC production (2015 onwards)	0	0	0	0	..	5146	45 - 175 million
Proposed options							
Removal of Articles 5(3) and 5(7)	0	0	0	0	..	0	0
Advanced phase-out of HCFCs (2015) *	12 - 83	0	0	0	..	0	0

* The direct costs to EC industry will be at least partially offset by increased exports of alternative substances. On the other hand, reduced ODS emissions due to the end of EC production of HCFCs may be partially offset by higher production in third parties.

Note: The assessment considers the costs and benefits from 2015 to 2019.

In the assessment, this decline in EC production is predicted to continue for market-based reasons. Moreover, the assessment looks at two scenarios, one where prices of HCFCs fall: here, the costs of a

¹⁵ See *supra* footnote 13 for the first study. The follow-on study should be available in the first half of 2008.

¹⁶ Between 2020 and 2029, Article 2 Parties could produce 0.5% of the baseline level.

fast-track phase-out would lead to costs of 45 million Euros. In contrast, if the price remains high, then the costs of the earlier phase-out would be higher: 175 million Euros.

3.5 Production of ODS for basic domestic needs (BDN)

The revised Regulation should also take account of international phase-out schedules for production to satisfy basic domestic needs (BDN) of developing countries. Whereas Article 3.6 of the current ODS Regulation allows Member States to authorise production of all ODS (except HCFCs) to satisfy BDN, the Parties to the Montreal Protocol have agreed that, by 2010, production of ODS for BDN should be limited to HCFC, and methyl bromide and 1,1,1-trichloroethane only.

The EU no longer produces methyl bromide. Production of 1,1,1-tetrachloride is very low. Therefore, the provisions on production of ODS for BDN will largely be obsolete by the date of entry into force of the revised Regulation (*i.e.*, 2010).

- **Recommendation: End the possibility of authorising the production of ODS to satisfy basic development needs (BDN).**

Impact assessment. The EU does not produce methyl bromide and – as noted above – does not allow production of HCFCs to satisfy BDN. The impact of this phase-out schedule will therefore fall on producers of 1,1,1-tetrachloride. The direct cost of this option will be low, as current exports of 1,1,1-trichloroethane for basic domestic needs are low and falling. Quantitative projections are not presented due to confidentiality, as less than three companies are involved, but are included in overall estimate of the impacts.

3.6 Import and export requirements

Illegal trade of ODS to date has almost entirely involved CFCs together with some halons. However new challenges arise as other ODS are phased-out. Illegal trade in HCFCs and MB is expected to develop as phase-out dates for those substances get closer for the EU and other developed countries¹⁷, whilst developing countries have delayed phase-out dates/schedules. These risks include the possibility of diversion of ODS produced to satisfy basic domestic needs into the EU market as well as illegal import of these substances as the use bans enter into force in the EU. In addition, the last enlargement has opened potential new routes for illegal traffic.

Another area of concern relates to the transboundary and intra-Community movement of products and equipment containing or relying on ODS. Transboundary movement of products and equipment containing or relying on ODS is in general not allowed by the ODS Regulation. However, there are reportedly exports of second hand products and equipment towards Africa. Intra-Community trade, while strictly speaking is not illegal, may be harmful trade, especially in new Member States, by consolidating demand for phased-out substances for servicing purposes.

Given these problems, it is important to strengthen the current system to control movements of ODS and products and equipment containing or relying on ODS. These measures should be complemented by measures aiming at improving the enforcement mechanisms, as discussed in section 7 below.

¹⁷ Bankobeza, Gilbert M., "Ozone-depleting Substances: Facts and Figures", in *Environmental Crime in Europe, Rules of Sanctions*, Edited by Françoise Compte & Prof. Dr. Ludwig Krämer, The Avoseta Series 5, Europa Law Publishing, 2004.

The aim of the measures analysed and proposed in this section are:

- To reduce illegal and harmful trade, including ensuring respect of quotas by importing countries;
- To solve legal loopholes identified and eliminate uncertainties;
- To eliminate obsolete sections; and
- To implement recommendations included in different Decisions of the Parties to the Montreal Protocol, in particular Decisions IX/9, X/9, XIV/7, XVII/16, XVIII/18 and XIX/12.

Import requirements

Under the ODS Regulation, the release for free circulation in the Community or the inward processing regime of controlled substances is subject to import license. Import licences are issued by the Commission based on quota allocations decided on an annual basis. The current system has worked well, but there is a need to strengthen it. During contacts with Member States and stakeholders the following issues were identified regarding import controls:

- concerns about the Regulation's provisions on inward processing (not to be mistaken with transit);
- uncertainty as to whether certain products (in particular, ships) fell under the import requirements of the Regulation; and
- concerns about imports of products and equipment containing illegal substances, especially refrigerators coming from China.

In addition, import for inward processing regime are still possible for methyl bromide, HBCFs and HCFC, despite the fact that, for example, use and placing on the market of methyl bromide was phased out in 2005. This situation, especially regarding MB, may hamper the credibility of the EU in international negotiations, where the EC has always promoted the complete phase out of MB.

The review identified other issues as well linked to the exemptions granted to importation and placing on the market of products and equipment containing ODS. These problems are the consequence of a legal loophole that may allow the import into the EC for the first time of products and equipments containing or relying on substances long time phased-out in the EU (*e.g.*, CFCs).

Recommendations for imports of ODS and products and equipment containing or relying on ODS

Imports of ODS

1. Retain current system of import license and improve transparency.

- (a) By the date of revision of the Regulation this license will mainly cover: imports of ODS for laboratory and analytical uses and for production (feedstock, process agents); import of MB for Quarantine applications; import HCFCs for IPR
- (b) Include in the Regulation that the import license may be refused if the exporter in the source country is not an authorised exporter.

2. Ending the inward processing regime for MB and HBCF by 2010, and HCFCs by 2015:

Inward processing is a use and should therefore no longer be allowed since the use and placing on the market of methyl bromide was phased out in 2005 except

for critical uses. The same applies for HBCF whose use is no longer allowed. When the use of HCFCs will no longer be allowed, inward processing should also end for this ODS (*i.e.*, 2015)

Imports of products and equipment

1. Clarify that imports of products and equipment containing or relying on ODS into the EU are prohibited. Exceptions allowed and subject to an authorisation or notification procedure:

- Products and equipment containing halons to satisfy critical use needs listed in Annex VII, including:
 - Aircrafts
 - Military land vehicles and naval vessels
 - Cargo ships
 - Hand-held fire extinguishers and fixed extinguishers for engines aircrafts, military and police fire extinguishers for use on persons,
- Military equipment containing HCFCs

This will require changes to current Article 5(4) exception for products and equipment containing HCFCs and ending Article 4(6) exception for products and equipment containing other ODS. Products and equipment currently on the market containing ODS other than HCFC and halons will have to be disposed of or their substances recovered for destruction, thereby reducing demand for illegal trade in substances.

2. Extend the current power under Article 6(4) to require certification attesting the nature of the substance contained in products and equipment imported

Impact assessment: The recommendations for imports would end the inward processing regime for methyl bromide in 2010 and that for HCFCs in 2015. In both cases, the options would impose direct costs on EC industry: however, less than three companies are involved in this trade and data on costs cannot be provided due to confidentiality concerns. These options would not create a direct reduction in global ODS use, as third country suppliers may replace the services provided under IPR. On the other hand, this option is expected to strengthen the EC negotiating position within the Montreal Protocol.

The Regulation's current prohibition on the importation and placing on the market of products and equipment containing or relying on ODS would be more clearly enunciated. An exception would be made for products and equipment containing HCFCs and already on the EU market before 2010, for the period until 2014, as these may be refilled with recycled or reclaimed HCFCs.

This provision is projected to create a net benefit for EC industry, as it would end importation of some used products and equipment, improving sales for new products and equipment that do not contain ODS.

However, products and equipment containing or relying on ODS other than HCFCs and halons could no longer be traded in the Community. This would imply that these products and equipment would need to be disposed of, reconverted or their substances recovered for destruction. This will entail some economic costs for holders of these products and equipment.

Table 6. Comparison of the options for import requirements

	Economic impacts (all costs calculated in million €, NPV in 2010 for costs 2010-2019)				Social impacts	Environmental impacts (Total for 2010 – 2019)	
	Direct costs to EC industry	Administrative costs				Emissions in ODP tonnes	GHG emissions in CO ₂ equiv. tonnes/year
		For Industry	For MS	For COM			
No EU action							
Inward processing for methyl bromide	*	*	*	*	*	*	*
Inward processing for HCFCs	0	0.21	0	0.08	0	Up to 590	Up to 17 million
Art. 5(4) and 4(6): imports of products and equipment	Potential net cost of up to €6.2 million	0	0	0	0	1.5	2 640
Proposed options							
Ending inward processing for methyl bromide	*	*	*	*	*	*	*
Ending inward processing for HCFCs	0.12 - 1.76 (depending on market demand)	0	0	0	0	0**	0**
Amend Articles 5(4) and 4(6) – products and equipment	0	0	0	0	0	0	0

* Data not provided for confidentiality, as less than three companies are involved. Results are included in overall totals.

** Reduced ODS emissions due to the end of inward processing of HCFCs may be partially offset by higher production in third parties.

Export requirements

The European Union remains an important exporter of ODS, in particular to Article 5 countries where their use has not yet been phased out under the Montreal Protocol. But there are concerns about exports of ODS from the EU to developing countries which do not wish to receive ODS. In 2007 the European Commission introduced an informal system of prior informed consent (iPIC) for export shipments to Asia-Pacific countries participating in an existing, voluntary iPIC system. However, this iPIC mechanism is not specified in the ODS Regulation and does not cover all countries receiving exports from the EU.

There is no mechanism to control export of products and equipment. The export of second hand and out-of-date equipment containing or relying on ODS to developing countries which do not have the facilities to capture and dispose of the ODS at the end of their useful life is a particular concern. Moreover, it can be difficult to distinguish used equipment being exported for resale from waste exported for (illegal) disposal. In particular, the practice of extracting ODS from equipment and then separately exporting equipment and ODS has been reported. Many of the exemptions granted under the ODS Regulation have become obsolete.

Several Member States called for greater controls on exports in the survey for this review. Three alternative options were considered: (1) incorporating ODS into the prior notification system of the PIC Regulation, (2) introducing a notified ex-ante export licensing procedure for exports to countries

not in the iPIC system, and (3) formalising and expanding the iPIC system. The recommendation, after a comparative analysis (see below), is to formalise and expand the iPIC system.

Recommendations for exports of ODS and products and equipment containing or relying on ODS

Exports of ODS

1. **Extend the current iPIC procedure to all substances and countries.** An exception for exports for the maritime servicing sector could be foreseen if costs are disproportionate. If the exception is granted should only be possible until 2015 (phase-out date for HCFCs used). The number of exports affected will be limited, mainly HCFCs other than maritime servicing.
2. **Increase links with EDEXIM to facilitate customs control**
3. **Establish a notification procedure for transit**

Exports of Products and Equipment

1. **Delete Article 5(5) which will be obsolete by the time of revision of the Regulation;**
2. **Clarify that the current general ban regarding products and equipments containing or relying on ODS, including used products and equipment are prohibited under Article 11. Exceptions allowed and subject to authorisation (see below 3 for authorisation regime):**
 - Products and equipment containing halons to satisfy critical use needs listed in Annex VII
 - Military equipment containing HCFCs
3. **Improve controls over exports of products and equipment containing or relying on ODS subject to exception by extending the current authorisation system for product and equipment containing halons to all products and equipment subject to an import exception.** The system should take account of declarations under Decision X/9 of the MP.

Impact assessment. Under the current iPIC system, importing countries have on occasion not granted permission to shipments; this could continue and expand under this option. Extending the iPIC system to cover all exports of ODS to all countries could play an important role in reducing undesired global trade in ODS and therefore potential illegal trade. This system – as with the other options – would entail administrative costs, which might be somewhat higher or lower than the current system.

One of the key advantages of extending the iPIC procedure to all exports of ODS is that it will enable importing countries to signal when they have reached their annual import quotas, at which time the Commission could suspend granting of export licenses until the following year. This would support Annex 5 countries in their own efforts to comply with their Montreal Protocol commitments.

Seeking consent for each shipment will be more burdensome for companies exporting HCFCs several times a year to the same country or for companies exporting to several countries. The main sector affected is the maritime servicing sector carrying out refilling operations in EU ports of non-EU flagged ships, which may require “export” of small quantities of HCFCs many times in a calendar year. For this reason it is recommended that this sector be exempted from the individual authorisations under the iPIC procedure and instead continue with the current yearly authorisation system.

Table 7. Comparison of the options for export requirements

	Economic impacts (all costs calculated in million €, NPV in 2010 for costs 2010-2019)				Social impacts	Environmental impacts (Total for 2010 – 2019)	
	Direct costs to EC industry	Administrative costs				Emissions in ODP tonnes	GHG emissions in CO ₂ equiv. tonnes/year
		For Industry	For MS	For COM			
No EU action							
Exports of ODS	0	0.64	0.01	0.19	0	0	0
Proposed option							
Expansion of current iPIC procedure	Costs when importing country rejects shipment	0.78	0.01	0.22	Improved enforcement	Possible decrease	Possible decrease
Alternative options							
Export notification under PIC Regulation	Possible impact on SME operations	0.21	0.01	0.19	Improved enforcement	Possible decrease	Possible decrease
Notified ex-ante export licensing	Possible impact on SME operations	0.78	0.01	0.22	Improved enforcement	Possible decrease	Possible decrease

3.7 Enforcement

Risks of illegal trade and use are still present in and outside of the European Union. With the additional EU phase-outs, new challenges are likely to emerge in the efforts to control HCFCs, methyl bromide and second hand products and equipment containing ODS.

One of the problems identified regarding enforcement is the difficulty for customs officials to identify ODS. Member States indicated that it was particularly difficult to distinguish products and equipment containing ODS from those that do not, especially when the substances are used in blends. A new challenge of increasing importance will appear after 2010 when only recycled and reclaimed HCFCs may be used, since it is difficult to distinguish recycled/reclaimed from “virgin” HCFCs. Another problem identified was the lack of close cooperation between environmental and customs authorities, which Member States considered an important element of enforcement.

Finally, while most Member States have set sanctions as required under the current Article 21, there is still variation in what types of acts are considered breaches of the ODS Regulation and therefore should be prosecuted and punished, if the case can be made.

The new challenges in enforcement call for additional attention to matters of enforcement. The current provisions in the ODS Regulation are limited, and rely on Member State initiatives for ODS-related control measures. The review recommends that Article 20 be amended to specify details regarding Member State obligations for carrying out inspections, including record-keeping requirements for producers, importers, exporters, users and distributors as well as exchanges of information between customs & inspectors and annual reporting by Member States. Article 21 could also be improved by an explicit listing of infringements of the Regulation. Non legal initiatives are also recommended to improve enforcement.



Proposed options for enhancing enforcement

1. Improving provisions on inspection and penalties by

- (a) **Specifying requirements for inspection under Article 20:** the Regulation should specify specific practicalities such as where to carry out checks, frequency and so on. For example, the Regulation could specify the obligation to carry out inspections in undertakings with a licence to export, import or use ODS or products and equipment that may contain ODS, market surveillance and checking exports based on risk analysis, and enhanced inspections coordination;

Improve current provisions to exchange information. Different opportunities to improve inspections were identified especially after examination of REACH, where a specific forum on enforcement of chemicals legislation (continuation of CLEEN) has been created. The Regulation should make the forum responsible to exchange information on enforcement of the ODS Regulation. Waste inspectors should also be involved in efforts to improve enforcement

Record keeping on users (including laboratories), producers, importers and exporters, as well as distributors (including second-hand dealers).

- (b) **Specifying breaches that should be punished under Article 21** on penalties by either defining “illegal trade” or by adopting a detailed list of “offences”

2. Improving identification of ODS and products and equipment containing ODS by labelling provisions

- (a) **Linking the ODS Regulation to requirements for labelling and packaging of ODS under classification, packaging and labelling (CPL) legislation;** and

- (b) **Including labelling requirements for products and equipments containing ODS.** This provision will especially affect products and equipment already on the market and made available on second-hand markets within the Community, and those benefiting from an import exception. The aim is also to ensure consumers and professional users’ informed choices (especially regarding their obligations under waste legislation) and promote disposal of products and equipment containing or relying on ODS thereby reducing demand for illegal ODS for maintenance purposes. Synergies with other labelling requirements under waste legislation (notably WEEE and the Waste Shipment Regulation) should be ensured to reduce costs.

For fixed equipment, subject to refilling operations, the Regulation should include an obligation on the operator carrying out refilling operations to affix a label or stamp on the product or equipment indicating the identity of the operator, date of maintenance and verifying that recycled and reclaimed HCFC have been used.

3. Other recommendations to enhance enforcement:

- Training and exchange of information: create an rapid alert system similar to RAPEX or TWIX
- Facilitate customs risk based analysis check by creating a customs manual and including ODS into red and orange shipments
- Creation of an enforcement group similar to CITES enforcement group
- Carry out analysis of ODS enforcement and issue a *recommendation on ODS enforcement similar to the recommendation issued under CITES* which includes concrete measures to facilitate coordination, exchange of information, inspections and so on.

Impact assessment. In the area of enforcement, the recommendations will strengthen the Regulation's requirements for inspections. It will also establish labelling requirements for products and equipment containing ODS. The costs of labelling products and equipment will primarily fall on distributors of products and equipment currently not subject to the obligation to label, especially second-hand products dealers, as well as on operators in the servicing sector.

These options will increase administrative costs, in particular for business, but will reduce emissions.

Table 8. Comparison of the options for enforcement

	Economic impacts (all costs calculated in million €, NPV in 2010 for costs 2010-2019)				Social impacts	Environmental impacts (Total for 2010 – 2019)	
	Direct costs to EC industry	Administrative costs				Emissions in ODP tonnes	GHG emissions in CO ₂ equiv. tonnes/year
		For Industry	For MS	For COM			
No EU action							
Current inspections	0	0	0.35	0	0
Proposed options							
Strengthen Art. 20 on inspections	0	0	0.35 – 1.73	0		Decrease expected	Decrease expected
Labelling requirements	0	2.44	0.26	0.02		Decrease expected	Decrease expected

Impact assessment. While some companies may have to devote additional effort to organise and maintain these records, the larger burden would be expected to fall on Member State environmental inspectorates and customs officials if they were required to step up their inspection and enforcement activities as a result. However, these measures should contribute to *reducing crime*, notably illegal trade in ODS but also other types of infractions as well.

The addition of requirements to label products and equipment containing or relying on ODS will help customs officials and inspectors to identify products and equipment containing ODS. Moreover, purchasers and users will have information on how to manage products and equipment at the end of their useful life, e.g., any need to recover and destroy ODS. The costs for industry fall in particular on servicing personnel and on the distributors and retailers of used products and equipment containing ODS.

However, these costs should decline over time, as few new products and equipment containing ODS are placed on the EC market and as use of all HCFCs are phased out. After 2015, the Regulation will no longer allow the refilling of most products and equipment with ODS (this is due in particular to the requirement for the servicing and maintenance of refrigeration and air conditioning containing HCFCs), nor their second-hand sale.

The European Commission will mainly face one-time costs to support implementation of the labelling requirements in the Member States.

3.8 Recovery, recycling and destruction of ODS

While the Montreal Protocol and EC legislation have almost ended the use and related emissions of ODS in the Community, a large amount of ODS are still found in existing products and equipment. A

recent IPCC/TEAP study indicated that these “banks” of ODS have significant ozone-depletion and global warming potentials. These banks include ODS found as refrigerants, as well as ODS still contained in foams they were used to blow (see box below and Annex III of the Regulatory Options Report).

ODS banks

While the production and use of ODS, and particularly CFCs, is dramatically reduced, a substantial fraction of CFCs and other ODS have not yet been released to the atmosphere, but are still enclosed in products and equipment, including foams and refrigerator coils. These reservoirs of ODS are referred to as banks. The banks of ODS in the EU 27 are estimated at roughly 700,000 ODP tonnes. The ODS banks in the EU represent about a third of the global banks, which -- in addition to their high total ODP -- are estimated to be equivalent to one year's total emissions of CO₂. Foams and in particular building foams are the largest bank. Over half of these are estimated to be CFCs and thus on the same order of magnitude as the amount of CFCs produced per year in the EU-25 during the time of peak production.

As more phase out dates kick in, more substances will require recycling and disposal. The quantities of products and equipment containing or potentially containing ODS that will be subject to waste management operations will be especially significant.

Moreover, Member States and some industry representatives have reported a poor quality of many recovery operations that extract ODS from a product and equipment for re-use or destruction¹⁸. This leads to unwanted emissions and to the circulation of products and equipment that have not been properly decontaminated.

Finally, a problem not yet tackled is that of foams used in construction of buildings, perhaps the largest share of existing ODS banks. It will be a particular challenge to separate these foams from structures and to reclaim their ODS for destruction.

These problems underline the importance of strengthening the provisions of the ODS Regulation on recovery, recycling and destruction. It will be important that the revised Regulation ensures regulatory transparency and coherence with other more specific pieces of EC law dealing with waste. The provisions under the WEEE and ELV Directives cover most of the products and equipment containing ODS. Improving synergies between these and other pieces of legislation could therefore facilitate compliance with the ODS Regulation requirements regarding recovery and authorised methods for destruction.

Several Member States and industry respondents proposed linking ODS recovery to greenhouse gas mechanisms. However, international agreements and EC legislation on climate change currently exclude ODS, as these use a separate and prior regulatory approach¹⁹.

¹⁸ As an example the news published in ENDS Europe Daily on 18/09/2007. According to the information published, only five per cent of ozone-depleting substances were recovered from waste electrical appliances in Portugal last year. This led to releases of around 475 tonnes of CFCs and HCFCs into the atmosphere in 2006. (EED 11/03/03).

¹⁹ The Emission Trading Scheme for Green House Gases Directive is under revision. Communication between the different Commission services and stakeholder could analyse the complexity of this approach which seems outside the scope of this study.

Proposed options for recovery, recycling and destruction of ODS

1. **Clearly allocate responsibilities for waste management and links to other EC acts:** the revised Regulation should clearly specify that producers or holders of waste are responsible for recovery and disposal. A specific provision on operators, similar to the provision included in the F-gas Regulation, should also be included.
2. **Ensure regulatory transparency for destruction by:**
 - (a) **Specifying authorised methods for destruction:** the current legal framework should be improved by listing the approved technologies for destruction in an Annex to the Regulation.
 - (b) **Specifying other environmentally acceptable destruction technology:** if the possibility to use other environmentally acceptable destruction technologies is retained in the revised Regulation some guidance should be included in an Annex. More information should be obtained regarding potential alternative methods and whether BATs and BEPs could be developed.
 - (c) **Establishing a preference for destruction of ODS contained in products and equipment:** this solution would only be a clarification since the substances reclaimed can only be destroyed because recycled or reclaimed ODS (other than HCFCs) cannot be used and their export is not possible (with the exception of halons). However for HCFCs, this obligation should only apply from 2015 since between 2010 and 2015 recycled and reclaimed HCFCs are the only types that can be used, only for maintenance purposes.
3. **Adopt standards for recovery with minimum % for recovery:** The revised Regulation should refer to standards for good practice in recovery for certain equipment. Member States should ensure recovery according to certain standards, which will be established in an Annex. These standards should allow flexibility to Member States: it could be national standards or internationally recognised standards for ODS recovery ensuring a minimum percentage of ODS recovered. If needed, the standards or percentage to recovery should be established by type of equipment and differentiated in the Annex. Certification of operators carrying out servicing as in the F-gas Regulation should also be included.
4. **Address the issue of ODS banks in building foams:**
 - (a) **the Regulation should require Member States to ensure recovery of ODS in building foams when economically and technically feasible, either by establishing compulsory requirements for recovery of ODS in building foams or via voluntary mechanisms.** The provision could specifically mention the possibility to integrate ODS recovery from building foams in waste management plans developed by Member States (or its regional entities) dealing with construction and demolition waste.
 - (b) As a complement, the Regulation could also require Member States to **prepare inventories of ODS banks in building foams** (to be developed within two years of the entry into force of the Regulation) and take adequate action as described above (ensure recovery by establishing compulsory requirements for recovery or via voluntary agreements).
 - (c) **These measures should in any case be notified to the Commission.**
 - (d) **Finally, the Regulation should authorise the Commission to study the issue several years after the introduction of the revised Regulation.** This would allow sufficient time to assess the results of actions taken by both the voluntary carbon market and any national legislation, where this has been implemented.

Impact assessment. New products and equipment do not contain ODS (except for essential and critical uses). Moreover, the amount of ODS found in banks in refrigerators and air conditioners is decreasing steadily due to leakages and end of product life. Immediate action to improve rates of recovery of ODS during the servicing of equipment and from end-of-life products could greatly increase the amount of ODS recovered. For building foams there is more time, as product lives are longer and emissions relatively slow.

Two of the recommendations provide clarification for the legal text: one proposes to allocate responsibilities for waste management more clearly and to establish links with other relevant EC acts, such as the WEEE Directive; the other would specify the authorised methods for destruction. Their impacts have not been quantified, since the main aim is legal clarity.

The other recommendations call for:

- specifying a preference for destruction over recycling and reclamation in the revised Regulation
- adopting standards for recovery
- ensuring action to address ODS banks in building foams, including development of inventories of banks

These recommendations could potentially lead to large direct costs to EC industry. However, they could also result in important benefits in terms of reduced ODS emissions.

Table 9. Comparison of options for recovery and destruction of ODS

	Economic impacts (all costs calculated in million €, NPV in 2010 for costs 2010-2019)				Social impacts	Environmental impacts (Total for 2010 – 2019)	
	Direct costs to EC industry	Administrative costs				Emissions in ODP tonnes	GHG emissions in CO ₂ equiv. tonnes/year
		For Industry	For MS	For COM			
No EU action							
No preference for destruction *	0	0	0	0	0	0	0
Standards for recovery **	5.29 ***	0.43	0.19	0		- 170 (ODP t destroyed)	- 2 015 000
Building foams	Depends on extent of MS and private action	0	0	0	0	Action not certain	Action not certain
No guidance document	0	> 0.17	> 0.02	0.04	..	1200	4 300 000
Proposed options							
Preference for destruction *	47.7 – 79.5	0	0	0	0	- 2100 (destroyed)	Up to - 42 300 000
Standards for recovery **	8.05 ***	0.63	0.33	0.02		-260 (destroyed)	- 3 160 000 (destroyed)
Building foams: encourage MS and voluntary action	Increased with stronger MS and vol. action	0	0	0	0	Increased levels of ODS destruction	Increased levels of ODS destruction
Guidance document	0	0.04	0.01	0.03	..	Higher rates of ODS recovery and destruction	

* The costs and benefits presented here are incremental ones: they do not include the ODS sent for destruction without any revision of the Regulation.

*** Costs only for ODS, not for other refrigerants

** Costs for recovery and destruction of ODS in household refrigerators and freezers.

The lion's share of ODS recovered today are destroyed rather than recovered or reclaimed, according to data reported by the Member States to the European Commission. Moreover, as ODS consumption is declining in the EC, this share is expected to fall even further for all ODS except HCFCs. As noted, recycled and reclaimed HCFCs can be used from 2010 to 2014, but not "virgin" HCFCs: this should increase demand for the recycled and reclaimed ones.

The recommendation that the revised Regulation should give preference to destruction could mean that the declining share of recovered ODS would go to destruction after 2010. For HCFCs, this requirement would only take force in 2015. This emphasis on destruction will complement the phase-out of ODS production and consumption already specified in the Regulation.

The ODS Regulation already requires the recovery of ODS from certain products and equipment, including all refrigeration and air conditioning equipment (Article 16(1) and 16(2)). The recommendation to establish standards for the recovery (and destruction) of ODS contained in used products and equipment would focus on the recovery of ODS contained in refrigerators and freezers. It is aimed at increasing the rates of recovery of ODS (our calculations show that some 12.8 million refrigerators and freezers entering the EU waste stream each year do not arrive at recycling plants, which represents a loss to the atmosphere of at least 3600 metric tonnes of CFCs annually).

The introduction of standards for recovery would increase costs for recovery. It would also increase the amounts of ODS destroyed instead of released to the atmosphere. The most important impacts would be felt in the EU12, where many of these Member States reportedly have lower recovery levels than in the EU15. Moreover, the EU15 phased out the use of ODS, such as CFCs in refrigerators, already in 1992. As a result, most EU15 refrigerators sent to the waste stream from 2010 on will not contain ODS, but replacement products such as HFCs and HCs.

Another recommendation is aimed at addressing the issue of building foams, the largest single bank of ODS. Though the current Regulation calls for recovery of these ODS "if practicable", no Member State at this point carries out systematic recovery of these ODS (Norway plans to address this issue under new building waste legislation). The impact assessment shows that the cost of requiring recovery of even a portion of building foams across the EC is quite high. As a result, any requirement would be at best partially implemented, in particular without a new financing mechanism and without EC legislation to address building waste. Since an EU-wide requirement does not appear to be appropriate this time, the recommendation is to call on Member States to address this issue. Moreover, a new actor, the voluntary carbon market, may be interested in providing the necessary finance. Finally, this issue is not an immediate concern, as building foams containing ODS will enter the waste stream slowly in coming years.

3.9 New substances

When the Montreal Protocol was drafted, it was considered that the most important substances with significant ODP (based not only on intrinsic properties but also on their market life, *e.g.*, production, use and demand) had been identified and were covered by the Protocol. However, with the development of scientific knowledge, new challenges have emerged. While it is unlikely that substances with high intrinsic ODPs will be produced or placed on the market, substances with low ODPs remain a concern. In 2006, the Scientific Assessment reported to the Montreal Protocol that:

"The role of very short-lived halogenated substances in stratospheric ozone depletion is now believed to be of greater importance than previously assessed. This suggests that

significant anthropogenic production of such substances could enhance ozone depletion.”²⁰

If the concerns raised by the Scientific Assessment Panel are correct, substances already on the market should be better monitored, and new substances should not be placed on the market before a proper assessment of their ODP has been carried out. However the current EU regulatory framework does not seem adequate for this purpose.

The ODS Regulation forbids any substances that could be identified in the future by the Scientific Assessment Panel as having a significant ODP. ODP or “significant ODP” are not defined, but does not establish a mechanism for considering alternatives.

A general statement in the current Article 5(1)(v) fourth subparagraph requires that alternatives to HCFCs for consideration should have a “significantly less harmful effect on the environment than HCFCs”. However, there is no process for evaluating such alternatives nor a programme similar to the “Significant New Alternatives Policy Program” (SNAP) set up in the US.

Other EC chemicals legislation may not always have taken into account a substance’s ODP and this may have allowed substances with an ODP to be placed on the market without sufficient evaluation. However, the recently approved Regulation concerning the Registration, Evaluation and Authorisation of Chemicals²¹ (REACH) covers ODS. Therefore, ODS are subject to, *inter alia*, the registration and information requirements included in REACH. These requirements apply to both ODS currently covered by the Regulation and other substances that could be identified as having ODP or covered in the future by the ODS Regulation. However, REACH makes little reference to ODP when evaluating a substance. Appropriate links thus seem needed and thus appropriate links seem needed.

The recommendations set forth below aim to ensure that the EU can quickly respond to the challenge of identifying substances that may have an impact on the ozone layer and subject them to surveillance. They take into account the challenges identified and the opportunities created by REACH, notably the provisions of REACH for the notification and registration of chemicals, as some may be new ODS.

The recommendation is to provide a mechanism to identify new ODS (preventive approach), and in particular ODS that have not yet been included in the Montreal Protocol. The division of Annex II into two parts would allow the flexibility to introduce initial controls (or simply reporting requirements) where these are deemed valuable. It would be a transparent mechanism allowing producers of ODS to improve certainty regarding the legal situation of substances and plan their market behaviour accordingly. Risks related to a future inclusion in Part A could lead to increased research on alternatives.

It is recommended to list three, short-lived substances with low ozone depleting potentials in the new Annex IIB under the Regulation: EC companies would be required to report on the level of production or import of substances in this Annex. The goal is to provide clear information to avoid unpredictable policy actions in the future, should overall production and use of these low-ODP substances reach levels that in the aggregate could be of concern. A fourth substance, halon 1202, which is not used in the EC, should be listed in Annex I to the Regulation and thus banned.

²⁰ 2006 Scientific Assessment, p. xxxvii.

²¹ Regulation (EC) 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/251/EC, OJ L 396, 30 December 2006, p. 1.

Proposed option for the revision of the Regulation to take account of new substances

1. **Re-establish Annex II, with two parts, Part A and B:** Part A would be similar to current Annex II. Part B will include substances that have been identified as having an ODP to be included in a surveillance mechanism (including reporting requirements); Development of criteria to identify and include substances into Part B would be useful and will ensure regulatory transparency.

The Community should have the power to regulate substances even if at international level, due to differences in the negotiating positions of Parties to the Protocol, no agreement can be reached regarding the inclusion of a substance under the Montreal Protocol. This power should remain within the ODS Regulation.

Substances listed in one Annex could move to a different Annex or even be de-listed if there are no concerns based on new scientific knowledge or new data.

2. **Include four new ODS:** N-propyl bromide, ethyl bromide and (CF₃I) are proposed for inclusion in Annex IIB and Halon 1202 in Annex I; and
3. **Establish links with REACH in order to:**

- (e) **Identify substances with ODP to be included in a surveillance mechanism (Annex IIB):** the Commission to coordinate with ECHA to obtain information on those substances already registered (or that have applied for registration) identified as having ODP;

Alternatively, manufacturers or importers could report directly to the Management committee. The development of criteria on ODP will also facilitate identification of the substances and will clarify manufacturers'/importers' obligations to notify

- (f) **Ensure consistency between REACH authorisation revisions and new substances potentially banned or restricted under the ODS Regulation:** if a substance is banned under the ODS Regulation, the authorisation granted under REACH should be withdrawn. Synergies therefore are needed to avoid an incoherent approach for the same substance under two different pieces of legislation. If criteria to determine ODP potential are established, a revised Regulation could also provide that these criteria are taken into account in the evaluation and authorisation schemes under REACH
- (g) In addition, **data requirements under REACH** could be improved to take account of a substance ODP. Amendments to Annex I (point 0.10) or data requirements under Annex VIII (point 8.8), IX or X could be foreseen.

In addition, a definition of a threshold for Ozone Depleting Potential that could serve as a criterion to make a substance fall under the surveillance mechanism could be considered.

Impact assessment. The recommendations would entail mainly administrative costs for the reporting requirements for the new substances to be listed in Annex IIB. Under this analysis, while the listing may create a substitution effect if production and import levels are high, this is not expected to be the case in the period 2010 to 2019.

It should be noted, however, that an industry representative stated any listing would limit market potentials for new substances. While this is not considered to be the likely effect, the impact assessment ran a separate scenario following this assumption (see Part B). In any case, costs related to

visibility of the product due to inclusion in Annex IIB would be integrated into the logic and aim of registration under REACH which will in any case require the substance to be listed and its properties clearly indicated in the REACH Registry, available to the public.

Both administrative costs and any direct impacts would fall upon companies producing or importing substances listed in Annex IIB. These would not, however, be deadweight losses: rather, any share of key markets, such as refrigerants, lost by these companies would go to companies producing alternative substances.

Table 9. Comparison of options for new substances

	Economic impacts (all costs calculated in million €, NPV in 2010 for costs 2010-2019)				Social impacts	Environmental impacts (Total for 2010 – 2019)	
	Direct costs to EC industry	Administrative costs				Emissions in ODP tonnes	GHG emissions in CO ₂ equiv. tonnes/year
		For Industry	For MS	For COM			
No EU action							
No requirements for new ODS	Risk of future caps on production	0	0	0		Depend on market potentials *	Estimates of CO ₂ equiv. not avail.
Proposed options							
Creation of Annex IIB. With reporting requirement	Lower risk of market disruption **	0.05	0	0.03		Small reduction	Estimates of CO ₂ equiv. not avail.

* The ODP of the new substances is still under research

** In contrast, industry representatives state that the option could lead to a loss of market potential

3.10 Reporting requirements

The ODS Regulation includes a range of reporting requirements for Member States as well as for producers, importers, exporters and users of ODS. The Commission uses the information gathered to monitor the progress made in phasing out ODS, to identify problems for Member States or companies in implementing the Regulation, as well as new challenges, and to comply with the reporting requirements of the Montreal Protocol.

A large share of the administrative costs for Member States and companies created through the ODS Regulation appear to find their origin in the reporting requirements, an issue raised by the majority of Member State respondents to the survey.

One element complicating the reporting requirements is that Article 19 on reporting only covers the obligations for companies, whereas the obligations for Member States are currently scattered through the Regulation. Member States need to submit five reports to the Commission based on the ODS Regulation. In turn, the Commission reports to UNEP on imports and exports, identifying virgin and used substances, and critical and essential uses, including QPS. Additionally, Member States provide UNEP directly with a report on the annual production of ODS, indicating the amounts for critical uses and essential uses in a disaggregated way. Some of these reporting requirements are to be carried out annually, such as the reporting on reclamation facilities and their capacities.²² Others concern one-time or random reporting, such as reporting on the national or regional strategy for the management of halons.²³

²² Decision VI/19 of the Parties to the Montreal Protocol.

²³ Decision X/7 of the Parties to the Montreal Protocol.

Proposed options on reporting requirements

1. Options for simplifying Member State Reporting obligations

- (a) **Establish electronic and on-line reporting** for Member States (including a provision in the Regulation so requiring);
- (b) A **single yearly consolidated report with two parts**, one including reporting requirements for the Commission and a second with the information to be reported to UNEP; and
- (c) **Single Article on reporting.**
- (d) Given the importance of destruction reporting, **introduce a requirement for destruction facilities to report directly to the Commission** on types of ODS and quantities destroyed annually.

2. Options for company/user reporting

- (a) Introduce a **“regulatory tool” for non-reporting**: if a company has not reported in the previous year or has provided false information it would not be able to receive authorisations/licenses under the Regulation; and
- (b) **On-line reporting.**

For the purpose of potential reporting simplification, two elements were considered (1) the need to report specific information; (2) identification of possible synergies or even duplications of data reporting on the basis of other pieces of EC legislation, and possibilities to coordinate these reporting requirements with the ones contained in the ODS Regulation.

Table 13. Comparison of options for reporting

	Economic impacts (all costs calculated in million €, NPV in 2010 for costs 2010-2019)				Social impacts	Environmental impacts (Total for 2010 – 2019)	
	Direct costs to EC industry	Administrative costs				Emissions in ODP tonnes	GHG emissions in CO ₂ equiv. tonnes/year
		For Industry	For MS	For COM			
No EU action							
No change in reporting	Risk of future caps on production	0.56	1.50	0.56		Depend on market potentials *	Estimates of CO ₂ equiv. not availal.
Proposed options							
MS electronic reporting; single yearly report; industry on-line reporting; etc.	No market disruption **	0.56	1.31	0.62		Small reduction	Estimates of CO ₂ equiv. not availal.

* The ODP of the new substances is still under research

** In contrast, industry representatives state that the option could lead to a loss of market potential

Impact assessment. In the first case, various pieces of EC legislation require reporting on recovery, recycling, reclamation, disposal and destruction, such as the Waste Framework Directive, the WEEE Directive, the E-PRTR Regulation and the ELV Directive. However, none of their reporting obligations provide the information needed to control the implementation of the phase-outs included in

the Regulation. Therefore, it is not possible at this stage to reduce the administrative cost of reporting unless the burden is passed onto waste operators. After careful examination, the option of harmonisation with the F-Gas Regulation for reporting was also discarded, since its limited requirements do not correspond to the need for information to comply with the Montreal Protocol.

In the case of company/user reporting on imports and exports, inclusion of ODS in Annex I of the PIC Regulation would be advantageous from a reporting point of view since the PIC Regulation already has obligations to report on substances and quantities exported. But this option was also discarded because it is not recommended to bring all of the ODS under the PIC Regulation at this time.

The recommendations on reporting would result in a slightly increased burden on industry. This would be incurred primarily by destruction facilities reporting directly to the Commission. However, the number of such facilities within the EU is rather limited, so these costs are also expected to be minimal. At the same time this direct reporting would slightly decrease the administrative costs incurred at present by the Member States. The administrative costs to Member States would also decrease because of the introduction of a single annual report.

The introduction of a regulatory tool to deny or delay the issuance of a license for companies that do not respect the reporting requirements of the Regulation may improve compliance monitoring and enforcement. The overall effects, however, are expected to be minor, as the Commission does not believe that non-reporting or inaccurate reporting is widespread.

As a general consideration, it should be highlighted that as phase-outs are completed and exceptions eliminated, reporting obligations will also be reduced.

3.11 Monitoring requirements, information to the public, including awareness raising, and research

The current ODS Regulation does not require monitoring the status of the ozone layer or informing the public about the dangers linked to depletion of the ozone layer or supporting research on ozone depletion. In addition, the EU is lagging behind on research relating to the depletion of the ozone layer. Major research projects are undertaken at the international level, led by other countries but the EU's action is not as visible as research carried out by specific countries. Other research initiatives could be taken on the relation between depletion of the ozone layer and human health.

Recommendations on monitoring, information to the public and research

1. Include a provision on awareness raising and information to the public:

The Regulation should require the Commission and Member States to promote and facilitate awareness programmes with regard to ODS and depletion of the ozone layer, including health and environmental effects. Member States could be required to provide the public with up-to-date information on ultraviolet radiation levels and health risks as well as precautionary measures to be adopted. The public awareness programmes could also inform consumers "holding" ODS-containing products and equipment on their obligations to ensure eventual recovery and destruction of ODS. These programmes could be integrated in initiatives under other acts (*e.g.*, WEEE).

2. Cross-reference to E-PRTR: Information on releases of ODS into the atmosphere already takes place under the E-PRTR.

3. Include a provision for the promotion of research & cooperation in this area.

Research in the latter area has already been undertaken in the past under earlier Research Framework Programmes. The 7th Research Framework Project includes the “Environment, including climate change”²⁴ among the main areas for research funding in the EU between 2007 and 2013.

²⁴ Article 2, Decision 182/2006/EC of 18 December 2006 concerning the Seventh Framework Programme of the European Community for research, technological development and demonstration activities (2007-2013).

4. Main conclusions and recommendations

Any review of the current ODS Regulation needs to take into account the history of the Montreal Protocol and the previous ODS Regulations that have implemented it. Regulation (EC) No. 2037/2000 and its predecessors have reduced greatly EC production and consumption of ozone-depleting substances (ODS). Measured in terms of ozone-depleting potential (ODP), EC production of these substances has fallen by 99.5% compared to baseline levels defined under the Protocol.

With the phase-out of these substances, the number of stakeholders still involved in ODS-related activities has also fallen, and the impacts of further efforts to tighten controls are relatively low in comparison to some other environmental initiatives.

Nonetheless, the review of the current Regulation has identified a number of new challenges to be addressed. With production almost ended and the end of permitted uses also in sight, the risk of illegal trade will increase. More attention is needed with respect to the remaining stocks of ODS still present in the EC, in existing products and equipment and especially in building foams, to ensure that as much as possible is recovered and eventually destroyed.

Moreover, there is significant scope for simplification and clarification of the text itself. A number of obsolete sections were identified that need to be deleted, and some administrative requirements such as reporting where consolidation will lead to reduction in administrative costs.

The recommendations detailed in the previous pages are aimed at meeting these challenges. The analyses under each issue area identify the main stakeholders potentially affected by a particular proposed revision to the Regulation. The table in Annex II lists the key stakeholders and indicates the topics where options are most likely to affect them

Taken as a whole, the proposed measures are projected to reduce ODS emissions by between 10,500 and 29,700 ODP tonnes (equivalent to 90 to 237 million CO₂-equivalent tonnes). These measures will cost EC industry between €26 million and €61 million. (See the table on the following page.) In terms of their ODS reduction, they will cost at least €1.2 per ODP kilogramme. In terms of the reduction of climate change impacts, the cost will be under €1 per CO₂-equivalent tonne.

The changes in administrative and direct costs for EU industry will be focused on the sectors that produce, import and use ODS, including chemical producers, commercial and industrial refrigeration users and sectors with specific fire fighting needs, such as civilian aviation and the military.

The proposed measures will slightly reduce administrative costs for EC industry, for Member State governments and for the European Commission. One key goal of the revision is to simplify and clarify the Regulation. This action will play a key role in reducing administrative costs, in particular for the companies subject to the Regulation, by reducing the time needed to understand the Regulation and its interactions with other EC legislation.

Overall, the proposals will reduce the time that industry, Member States and the European Commission spend addressing exemptions and the time for reporting; instead, administrative work will be focused on actions related to enforcement and actions for the recovery and destruction of ODS.

The recommendations in three key areas are particularly important, for their direct costs on EC industry as well as the reduction in emissions. The first area are the proposals to strengthen the recovery and destruction of ODS. One important consideration is that the costs here will also represent an economic and jobs benefit for recovery industry. The assessment of costs and benefits also does not include actions to recover ODS from building foams, the largest bank: here, the revised Regulation will require Member States to identify the best approach.

The recommendations propose the phase-out of EC production of HCFCs in 2015, bringing forward the 2020 date agreed by the Parties to the Montreal Protocol. As the Regulation will already have ended EC use of HCFCs, this option will mainly affect exports. Here, EC producers are losing market shares to producers in third countries, in particular China. In the face of this pressure, the range of costs presented here may be overestimates.

Table 11: Net costs and benefits of the options proposed for the revision of Regulation (EC) No. 2037/2000 on ozone-depleting substances

	Economic impacts (all costs calculated NPV at 2010 for costs 2010-2019)				Social impacts	Environmental impacts	
	Direct costs to EC industry (million €)	Administrative costs (million €)				Emissions in ODP tonnes (2010 – 2019 total)	GHG emissions in CO ₂ equiv. (2010 – 2019 total)
		For Industry	For MS	For COM			
Total net impact of all proposed options							
	27 – 161	-0.32	-0.15	-0.05	Possible jobs increase	10,500 – 29,700 reduction	90 – 237 million reduction
Impacts of simplification and clarification of the regulation							
	0	-2.38	-0.01	-0.03
Impacts of the proposed options in key areas							
Recovery and destruction of ODS	53 – 85	0.43	0.22	0	Possible jobs increase	2300 t reduction	44 million reduction
Early phase-out of HCFC production	12 – 83 *	0	0	0	Possible jobs loss	1300 – 5100 reduction**	45 – 175 million reduction**
Quarantine and pre-shipment (QPS)	Net gain of up to 31 million	-0.33	-0.58	0.04	Reduced health risks	860	7200

Notes:

* Will also stimulate production for alternatives to HCFCs; this benefit is not quantified.

** Third-country producers of HCFCs may replace a share of EC production, reducing the net reduction in emissions.

While the impact assessment has detailed the economic costs to EC industry, it has not done so for the corresponding benefits. Many of the recommendations are expected to create new economic opportunities. For example, the reduction in EC production of HCFCs as well as the inward processing of these substances can encourage users in third countries to switch to non-ODS alternatives, a market where EC producers have a stronger competitive advantage.

The review also highlighted the large size of ODS banks, in particular those contained in building foams. The proposed recommendation for building foams would call on Member States as well as the private sector to address this issue. This may assist operators in the voluntary carbon market who are interested in ODS recovery as a business opportunity for their sale of carbon offsets to the private sector.

Finally, the recommendations will continue the EC's leadership in the implementation of the Montreal Protocol, and thus will strengthen the EC's negotiating position.

Annexes

Annex I: Interlinkages between the ODS Regulation & other EC legislation

Subject	ODS Regulation	Other EU legislation	Section in the Legal Report
Definitions			
<ul style="list-style-type: none"> ▪ Recovery, recycling, disposal 	<ul style="list-style-type: none"> - Article 2 - Article 16 	<ul style="list-style-type: none"> - Waste legislation: WFD, WEEE, ELV. - F-Gas Regulation 	Section 2
<ul style="list-style-type: none"> ▪ Destruction 	<ul style="list-style-type: none"> - Not defined - Article 16 	<ul style="list-style-type: none"> - F-Gas Regulation 	Section 2
<ul style="list-style-type: none"> ▪ Products and equipment 	<ul style="list-style-type: none"> - Not defined - Various articles 	<ul style="list-style-type: none"> - Waste legislation - Consumer protection legislation - Chemicals legislation 	Section 2
<ul style="list-style-type: none"> ▪ Installation 	<ul style="list-style-type: none"> - Not defined - Article 16 	<ul style="list-style-type: none"> - Defined in IPCC - Used in REACH and waste legislation 	Section 2
<ul style="list-style-type: none"> ▪ Placing on the market 	<ul style="list-style-type: none"> - Article 2 - Article 4(6) - Article 5(4) 	<ul style="list-style-type: none"> - F-Gas Regulation - POPs Regulation - Biocides Directive - REACH 	Sections 2 & 5
<ul style="list-style-type: none"> ▪ Import, export, transit 	<ul style="list-style-type: none"> - Various articles 	<ul style="list-style-type: none"> - PIC Regulation - Waste Shipment Regulation - Customs Code Regulation - REACH 	Sections 2 & 5
<ul style="list-style-type: none"> ▪ Personal effects 	<ul style="list-style-type: none"> - Article 11(1) 	<ul style="list-style-type: none"> - CITES Convention 	Section 5
Critical use of MB			
<ul style="list-style-type: none"> ▪ (De-)registration under PPPD 	<ul style="list-style-type: none"> - Article 3(2) 	<ul style="list-style-type: none"> - Plant Protection Products Directive (PPPD) 	Section 3
Import and export requirements			
<ul style="list-style-type: none"> ▪ Inward processing 	<ul style="list-style-type: none"> - Article 6(2) 	<ul style="list-style-type: none"> - Customs Code Regulation: Article 114 and al. 	Section 5
<ul style="list-style-type: none"> ▪ Export of ODS and products & equipment containing ODS 	<ul style="list-style-type: none"> - Articles 11 & 12 	<ul style="list-style-type: none"> - PIC Regulation: Art. 7 & Annex I - Wild Life Trade Regulation (CITES) 	Section 5
Enforcement			
<ul style="list-style-type: none"> ▪ Inspections 	<ul style="list-style-type: none"> - Article 20 	<ul style="list-style-type: none"> - REACH - WFD - Waste Shipment Regulation (Basel) 	Section 6
<ul style="list-style-type: none"> ▪ Penalties 	<ul style="list-style-type: none"> - Article 21 	<ul style="list-style-type: none"> - Waste Shipment Regulation - Wild Life Trade Regulation - Wild Birds Directive - Habitats Directive 	Section 6
<ul style="list-style-type: none"> ▪ Single Window / one-stop-shop 	<ul style="list-style-type: none"> - Article 12 	<ul style="list-style-type: none"> - Development of single window at Community Level in DG TAXUD25 	Section 5
Classification, packaging and labelling			
		<ul style="list-style-type: none"> - CPL Directives 67/548/EC and 99/45/EC - Proposal for CPL Regulation - REACH - F-Gas Regulation 	Section 5 & 6

²⁵ Working Document "Single Window at Community Level" TAXUD/1241/2005, Brussels, 20 February 2006, http://ec.europa.eu/taxation_customs/resources/documents/customs/policy_issues/e-customs_initiative/ind_projects/single_window.pdf.

Subject	ODS Regulation	Other EU legislation	Section in the Legal Report
Recovery, recycling, reclamation and destruction	- Article 16	<ul style="list-style-type: none"> - Waste Shipment Regulation - Waste legislation: for example, WFD, WEEE, Hazardous Waste Directive, ELV Directive and Waste Shipment Regulation. - F-Gas Regulation - POPs Regulation 	Section 7
New substances	- Article 22, Annex I and II	- REACH	Section 8
Quarantine and pre-shipment	- Article 3 and 4	- Directive on phytosanitary rules	Section 9
Reporting	- Article 4, 5, 16, 19 and 20	<ul style="list-style-type: none"> - F-Gas Regulation - Waste legislation: WFD, WEEE, ELV and Waste Shipment Regulation. - PIC Regulation - E-PRTR Regulation - Wild Life Trade Regulation 	Section 10
Information to the public		<ul style="list-style-type: none"> - E-PRTR - Air Quality legislation 	Section 11

Annex II: Key stakeholders and topics where the revision of Regulation 2037/2000 may affect them

	End critical use of MB	Specify phase-out dates for halons	Cap and multi-year process for lab and analytical uses	End HCFC exemptions	Phase out of HCFC Production	End inward processing	Export controls	Recovery, recycling and destruction	QPS	Modify reporting requirements	New substances
Commission											
Member State governments											
EU producers of ODS											
EU importers of ODS											
Distributors of ODS											
Manufacturers of products containing ODS											
Industries that use ODS:											
Agriculture											
Cold storage/logistics											
Air conditioning uses (buildings)											
Civil aviation											
Military											
Fire services (civilian)											
Oil, gas and petroleum											
Medical/health											
Laboratories/research											
Disposal, recycling and recovery sector											
Consumers/households											
Third Countries											

Impact expected:



Small impact expected:

