

The European Commission's

Report for CSD-14/15

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I. UPDATED INFORMATION ON NATIONAL FOCAL POINT FOR SUSTAINABLE DEVELOPMENT

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PART II: NATIONAL SUSTAINABLE DEVELOPMENT STRATEGIES ¹

Please indicate the stages of NSDS (see Annex II for the list of key characteristics) development/implementation in your country, by responding to the questions below:

1. Is your country implementing an approved NSDS or its equivalent?

☒ Yes ☐ No

If No, go directly to question #2

If Yes:

- a) How was the NSDS or its equivalent developed?

☒ Multi-stakeholder consultations undertaken;

☐ Training or workshops undertaken;

☒ On the basis of inter-ministerial consultations;

☐ By one ministry responsible.

According to EU decision procedures, the EU SDS was developed by the European Commission, the European Council and the European Parliament. Multi-stakeholder consultations had also been organized.

- b) Do you have a national body designated to implement and/or monitor your country's NSDS (or its equivalent)?

☒ Yes ☐ No

Please give the year it started: 2001

Please also give the name and composition of such a body: European Commission

- c) How is your NSDS (or its equivalent) being implemented? Please give specific actions/activities undertaken for this purpose:

http://europa.eu.int/comm/sustainable/pages/legis_en.htm

- d) Is the implementation of NSDS (or its equivalent) being monitored?

☒ Monitored on a regular basis ☐ Not monitored on a regular basis
(every 5 yrs)

Has the implementation of NSDS (or its equivalent) been evaluated?

☒ Has been evaluated ☐ Has not yet been evaluated

2. Does your country have a national or federal NSDS or its equivalent approved by the government but not yet implemented?

☒ Yes ☐ No

If **yes**, please give the name of NSDS or its equivalent and the year of approval:

Name: European Union Strategy for Sustainable Development

Year of approval: 2001

¹ This survey was originally circulated to all member States on 27 October 2004. If you have already responded and if your information has not changed, please disregard this request.

Countries which are already implementing NSDS: please skip questions # 3-5

3. Has your country already developed an NSDS, but not yet formally approved it?

- ☐ Yes, a NSDS has been developed, waiting for a formal approval;
☐ NSDS is under development.

If your country is in the process of developing an NSDS, have there been:

- ☐ Multi-stakeholder consultations;
☐ Training or workshops undertaken;
☐ National coordination body established or designated?

- ☐ No, NSDS has not yet been developed but is under consideration.

4. If your country does not have an NSDS process (or its equivalent) in place, do you have any of the following components that could contribute to an NSDS (please check all that apply):

- ☐ Poverty Reduction Strategy (PRS)
☐ National Development Plan
☐ National Environmental Action Plan
☐ Other – please specify:

5. ☐ Click here if no action has been taken regarding NSDS or its equivalent

6. If your country has developed a PRS but not NSDS,

Does the PRS incorporate and integrate environmental, economic and social aspects of development?

- ☐ Yes ☐ No

7. If your country has developed both an NSDS and a PRS, is the PRS linked to the NSDS?

- ☐ Yes ☐ No

8. Does your PRS or NSDS target the Millennium Development Goals (MDGs)?

- ☐ Yes ☒ No

Comments: The EU SDS is currently being reviewed. A revised version will be published by the end of 2005.

http://europa.eu.int/eur-lex/en/com/cnc/2001/com2001_0264en01.pdf

PART III. THEMATIC AREAS – OVERVIEW

Please note that this report does not comprehensively cover EU policies in the three fields. It presents some selected key policies relevant for implementation of the WSSD commitments in these areas. Information on other policies relating to the themes of CSD14 can be obtained from the hyperlinked websites.

EU Policies/Initiatives covered by the report	A. Atmosphere / Air Pollution		B. Energy (access to energy, renewables, energy efficiency)		C. Industrial Development	
	National Emissions Ceilings (NECs)	8	RES-E Directive	20	Industrial Development in Developing Countries	31
	Air quality standards	8	Intelligent Energy for Europe Programme (IEE)	23	Eco-Management and Audit Scheme (EMAS)	32
	EU Policy on Ship Emissions (see here)	9			SME Policy (see here)	32
	Clean Air for Europe (CAFÉ)	10			Integrated Pollution Prevention and Control (IPPC)	33
					EU Research Activities (see here)	35
	CASE STUDY: Integrated Air Pollution Policy (Stationary source emissions and mobile source emissions, including the Auto-Oil II Programme (AOPII) and the directives on fuel quality, emission standards for vehicles)	13	CASE STUDY: EU Energy Initiative (EUEI) & Johannesburg Renewable Energy Coalition (JREC)	25	CASE STUDY: Environmental Technology Action Plan (ETAP)	36
	D. CASE STUDY ON CLIMATE CHANGE : EU Greenhouse Gas Emission Trading Scheme (EU ETS)					39
Additional relevant EU policies/Initiatives (follow hyperlinks for further information)	European Pollutant Emission Register (EPER)		6 th RTD Framework Programme (see here)		Greening Standards (see here)	
	Ozone Layer Protection (Regulation (EC) No 2037/2000)		Energy Demand Management (see here)		Voluntary Approaches (see here)	
	Priority Environmental Projects for Accession (PEPA)		ManagEnergy Initiative (see here)		European Multi-stakeholder Forum on CSR (CSR EMS Forum)	
	Integrated Pollution Prevention and Control (IPPC)		Organisations for the Promotion of Energy Technologies (OPET Network)		Integrated Product Policy (IPP)	
	6 th Environment Action Programme (EAP)		Energy Framework Programme, incl ALTENER (see here)		Green Public Procurement (see here)	
			Environmental Technology Action Plan (ETAP)			
	As part of the 6 th Environmental Action Programme (2002), the EU is developing seven thematic strategies to tackle key environmental issues which require a holistic approach because of their complexity, the diversity of actors concerned and the need to find multiple and innovative solutions. In the context of CSD14, the most important strategies will be those on air pollution and sustainable use and management of resources. The strategies are expected to come out in 2005. Further information will be provided to the secretariat later.					

EU environmental policy

Environmental protection is a policy area with **shared competence** within the European Union, i.e. between the 25 Member States and the European Community. The Community policy is very important for environmental policies as the Community has a number of directives i.a. laying down standards for emissions from a large variety of pollution sources and also for environmental quality. The Community environmental standards are often minimum standards, meaning that they can be made more stringent in the EU Member States. There are also several market oriented directives and regulations that are applied in the Member States requiring identical standards, such as the emission standards for vehicles.

The Community legislation applies in all the 25 EU Member States. Any new EU Member State would have to adopt all the existing Community legislation, known as the *acquis communautaire*. Almost all of the directives of the EU also apply to countries within the European Economic Agreement, i.e. Norway, Lichtenstein, Iceland.

For background information on the European Institutions see:

http://europa.eu.int/institutions/index_en.htm

A. ATMOSPHERE/AIR POLLUTION

Government focal point(s): DG Environment

Responding ministry/office(s): DG Environment

Introductory Remarks

The **main air pollution challenges** in the EU are health damage due to exposure to ozone and particulate matter, ecosystem damage due to acidifying and eutrophying compounds and damage to vegetation and crops due to ozone. In order to address the main environmental challenges, the Community has in 2002 adopted the 6th Environmental Action Programme² (6th EAP). The European Commission has a leading role in environmental protection and air pollution policy for the Community, being responsible for comprehensive analyses programs of problems, options for solutions and cost-benefit analyses and proposals for legislation. These programs are performed in consultations with various stakeholders in the EU, such as industry, NGOs and the EU Member States.

The Community air pollution policy hinges on three dimensions: regulation on specific sources and fuel quality, national emission ceilings of certain air pollutants and air quality standards which apply everywhere in the EU. It also hinges on the citizens right to know about air pollution, emissions, air quality and effects. The development of Community air pollution policy is closely linked to the climate change policy. Synergies have been found and win-win situations explored. Thus a maximum of policy options could be realised for both policy areas.

There is a close correspondence between the EU legislation and the UNECE Convention on Long Range Transboundary Air Pollution and its protocols in air emission policies. In most cases the limit values of the EU are the same as those of the Convention, thus potentially influencing a larger area than the EU.

Air pollution policy in effect in the EU

The Community air pollution policy dates back to 1970 when the first regulation on emission standards (carbon monoxide and hydrocarbons) for newly produced light vehicles entered into force. Later, in 1984, also air pollution from stationary sources such as industrial plants and energy industries were addressed requiring the application of best available technology cover the most important air pollutants. This legislation has been updated and amended several times to address new issues and also to take into account technical and economic development. Also other types of transport vehicles and off-road machinery are included in Community legislation.

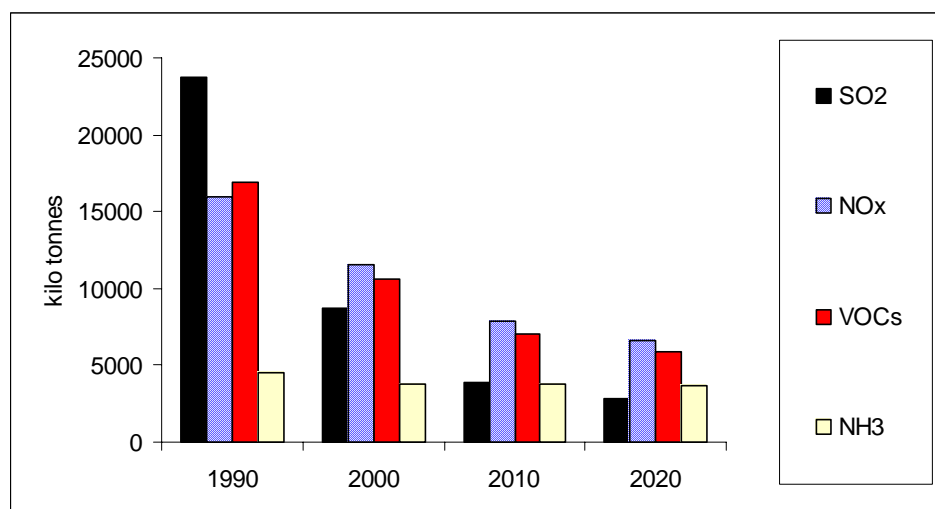
Directives related to air pollution presently include **stationary sources** (including energy plants and industry), **mobile sources and products**, **national emissions ceilings** to cap total emissions and **air quality standards** as well as policies on transport modes such as **shipping**. Other directives have a direct or indirect influence on the emissions of air pollution as well, such as energy efficiency requirements of products and energy efficiency for heating of buildings.

The Community policy on air pollution has been very effective in areas where common directives have been adopted and come into force. Within the present EU the emissions of most “classical” air pollutants have been reduced by substantial amounts and the already adopted legislation will have decisive effect

² Decision No 1600/2002/EC of the European Parliament and of the Council laying down the Sixth Community Environment Action Programme (OJ L 242 of 10/9/2002)

also in the future as provisions already decided come into effect and due to the phase in of new installations and new vehicles. For areas where a specific air pollution policy is yet to be developed, such as agricultural emissions of ammonia, the emissions have remained essentially unchanged.

Fig. EU-25 land-based emissions of pollutants from 1990 to 2020



Source: CAFE Baseline final report. Land-based emissions of pollutants covered by the NECD

National emission ceilings

In addition to source specific legislation, the Community has legislation to address the transboundary nature of air pollution where one country's emissions influences another one leading to adverse effects on human health and the environment due to ground-level ozone, acidification and eutrophication, The National Emission Ceilings Directive³ (NEC) sets upper limits for each Member State for the total emissions in 2010 of the four groups of pollutants sulphur dioxide, oxides of nitrogen, volatile organic compounds and ammonia. The exact implementing measures to achieve these limits are to be decided and implemented by the Member States. The emission ceilings are designed to meet interim objectives for acidification and ozone exposure, and are meant to be achieved in a cost-effective manner.

Parallel to the development of the NEC Directive, the EU Member States together with Central and Eastern European countries, the United States and Canada have negotiated the new "multi-pollutant" protocol under the UNECE Convention on Long-Range Transboundary Air Pollution (the so-called Gothenburg protocol, signed in 1999 and entered into force as from 2005). The emission ceilings in that protocol are to a large extent the same as those of the EU directive but in some cases slightly less ambitious.

Ambient air quality standards

The ambient air quality standards are set to reduce, mitigate and avoid adverse effects on human health and the environment. The present legislation consists of a framework directive⁴ and four specific direc-

³ Directive 2001/81/EC of the European Parliament and of the Council of 23 October 2001 on national emission ceilings for certain atmospheric pollutants.

⁴ Council Directive 96/62/EC of 27 September 1996 on ambient air quality assessment and management and Council Directive 1999/30/EC of 22 April 1999 relating to limit values for sulphur dioxide, nitrogen dioxide and oxides

tives on air pollutants. Air quality standards are either expressed as limit values that have to be achieved by a certain date or target values for which the standards should be achieved wherever possible. The air pollutants with limit values include sulphur dioxide, nitrogen dioxide and oxides of nitrogen, particulate matter and lead, benzene and carbon monoxide. The air pollutants with target values include ozone and the heavy metals arsenic, cadmium, nickel and Benzo(a)pyrene. For mercury there is only a requirement to monitor the pollutant.

It should be pointed out that the air quality standards for ambient air apply everywhere in the territory of the EU, except in areas that have been explicitly exempted (such as work places). In the event the air quality standards are not met, the Member States, or competent authorities thereof, will have to develop plans and programs to achieve the air quality objectives. Such plans could include both restricting activities and setting more stringent emission standards.

Shipping emissions

Within a decade or so, air pollutant emissions from seagoing ships in EU waters (or in their direct vicinity) are projected to be larger than those from all EU land based sources put together, because of the relatively poor quality of marine fuel and the lack of engine abatement measures. Thus it will be important to take further action to reduce ship emissions in order to achieve the long term air quality objectives of the EU.

In 2002, an EU strategy to reduce atmospheric emissions from seagoing ships was adopted. The strategy reports on the magnitude and impact of ship emissions in the EU and sets out a number of actions to reduce the contribution of shipping to acidification, ground-level ozone, eutrophication, health, climate change and ozone depletion.

The EU has adopted new legislation (to be published in 2005) that requires ships to use lower sulphur fuels in EU sea areas. The directive will reduce the sulphur content of marine fuels from the current average 2.7%, to 1.5% for fuels used by all ships in the Baltic Sea and by all passenger vessels on regular services between EU ports, from twelve months after publication; and the same 1.5% sulphur limit for all ships in the North Sea & Channel from autumn 2007. The directive also introduces a 0.1 % sulphur limit on fuel used by inland vessels and by all seagoing ships at berth in EU ports, from 1 January 2010.

Lessons learned and good practices

The above-mentioned directives set emission limit values and quality standards for a number of air pollution sources and allow for sufficiently lead time for the sectors to adapt to the new conditions. In some cases flexibility has been built into the legislation, such as for large combustion plants where individual Member States may introduce alternate so called national plans to reach the same objectives as following the limit values. The involvement of the stakeholders in the programs and in the preparation of legislation has been a key factor for its success.

of nitrogen, particulate matter and lead in ambient air, Directive 2000/69/EC of the European Parliament and of the Council of 16 November 2000 relating to limit values for benzene and carbon monoxide in ambient air, Directive 2002/3/EC of the European Parliament and of the Council of 12 February 2002 relating to ozone in ambient air and Directive 2004/107/EC of the European Parliament and of the Council of 15 December 2004 relating to arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air.

A major lesson learnt is to consider all sectors that contribute to the problem so that cost effective measures can be taken. One example is the role of shipping emissions that have been excluded in earlier analyses and policy options and has escaped regulation due to lack of appropriate international action. Another aspect to consider is the role of air pollution coming from outside the European Union through long distance transport which may prevent the Community from achieving its environmental objectives.

Trends and emerging issues

The stationary sources and transport are key sectors for the reduction of greenhouse gases and of air pollutants harming human health and the environment. A number of countries are presently building more capacity for power generation, both for meeting the increased demand of electricity but also to replace old installations. Transport is also continuously increasing both within the EU as well as into and out of the EU. With the present trend the shipping emissions in EU waters are projected to be higher than the total of land based sources within a decade.

Constraints and challenges

The constraints and challenges vary between the different sub-sectors. The main constraint and challenge for the stationary sources is that not all sub-sectors are covered by legislation. One example would be the power generation sector where the directive covers only plants larger than 50 MW_{th}. For the transport sector the main challenge is the increasing volumes of transport, generating both air pollution and other nuisances (noise, congestions) as well as using other limited resources (such as land) in a non-sustainable way. Both for stationary and mobile sources of air pollution a major challenge is to manage demand and to also “turn over the stock” of old existing plants and vehicles. A further challenge is the issue of assessing the real emissions from various sources so that relevant measures and policy instrument can be developed, one example of this would be the real emissions from traffic which may be rather different from those assessed in the test cycles for certification of compliance of emission standards.

For shipping the challenge would be to find measures to implement at the Community scale and to have a basis for action in international forum such as the International Maritime Organisation (IMO).

Recent developments - Clean Air For Europe (CAFÉ) and a Thematic Strategy on Air Pollution

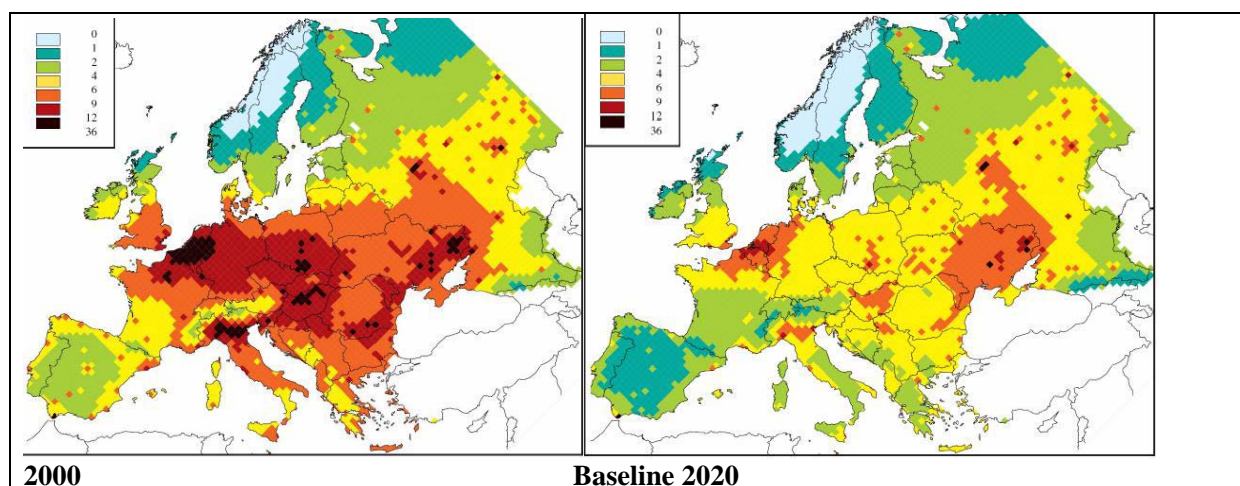
Clean Air for Europe is a program that started in 2001 with the objective to analyse the present and future air pollution situation in the enlarged EU and also to assess the policy options to reach interim and long-term objectives. The long-term objective of the Strategy would be - as outlined in the 6th EAP - to achieve an air quality that does not give significant negative effects on human health and the environment. *The Strategy is expected to be adopted by the European Commission in late 2005.*

The analysis of air pollution in the EU identifies both the present and future situation with respect to emissions, air pollution and effects on human health and the environment. Several options of environmental targets have been investigated and explored for cost effectiveness and assessed through cost-benefits analysis. The present air pollution policies will improve the situation for acidification and eutrophication and air quality in general. However, some major effects will still remain such as severe impact on human health due to particulate matter (PM_{2.5}) and ozone and widespread damage to the ecosystems due to ozone and eutrophying substances.

Further measures are needed to reduce these effects and to achieve the long term objectives. Potential measures would include transport, industry, power generation and small scale installations for heating. Also the overall emissions of the Member States need to be reviewed and the review can be a basis for revision of the Directive on National Emission Ceilings (2001/81/EC) and other source directives, includ-

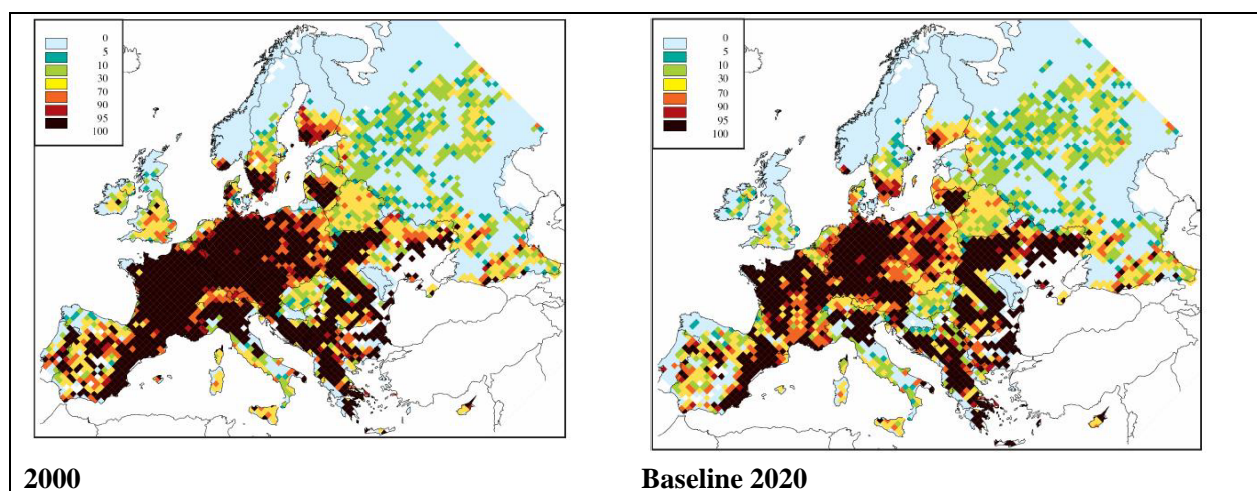
ing new emission standards for vehicles and other products. In view of the new findings of adverse health effects of air pollution on human health, and in particular for the particulate matter also new air quality standards focusing on the finer fraction $PM_{2.5}$ would be under consideration.

Figure Loss in life expectancy attributable to anthropogenic $PM_{2.5}$ in 2000 and 2020 (Results from the CAFE program)



Source: RAINS. Note: Calculation based on meteorological conditions of 1997.

Figure Evolution of the percentage of the total ecosystem area receiving nitrogen deposition above the critical loads for nutrient nitrogen in 2000 and 2020 (Results from the CAFE program)



Source: RAINS. Note: Calculation results are based on meteorological conditions of 1997, using grid-average deposition. Critical loads data base of 2003.

Lessons learned and good practices

The CAFE program has been highly successful in using the knowledge base approach to analyse the policy options and also successful because of its wide consultations with European stakeholders. An important lesson learnt has been the free and open access of information⁵ for all stakeholders in the process.

Trends and emerging issues

The CAFE program has shown that air pollution causes major impact on human health and the environment throughout the EU. The main damage is due to airborne particulate matter, ozone and other harmful substances, like acidifying and eutrophying components. Substantial emissions reductions would be needed to reach the long-term objectives of the 6th EAP. Furthermore, as emissions go down in Europe the emissions outside Europe grow in relative importance (local and regional problems remaining the main sources). Another important finding of CAFE is that in order to reach the objectives in a cost-effective way, all sectors have to contribute to emission reductions, including those where only few measures have been taken such as in agriculture, international shipping and aviation and on domestic heating.

For air quality a main trend is the difficulty to attain the air quality limit values and target values in most of the EU Member States, in particular in the larger cities. Plans and programs at the regional or local level have to be developed to meet the objectives and in many cases this would be essential for improvements. However, in many cases also Community action may be needed to achieve the objectives.

Constraints and challenges

The main constraint for achieving the objectives of air quality policy as reflected in the 6th EAP is mainly the cost of implementation, although the benefits of action (i.e. reduced externalities) generally are substantially larger than the cost. A main challenge is to find the most effective way of implementing the measures (choice of policy instrument), and to find the right balance between community and national programmes. A Strategy on Air Pollution, as announced in the 6th EAP, should be adopted by the Commission in 2005.

⁵ Available at <http://europa.eu.int/comm/environment/air/cafe/index.htm>

CASE STUDY OF A SUCCESSFUL NATIONAL ATMOSPHERE/AIR POLLUTION PROGRAMME/STRATEGY

1. The problem or issue addressed: air pollution

2. Name of the programme: Not a single programme, but a policy approach: Integrated Air Pollution Policy

3. Timeframe: open ended years Year started: late 1990s

4. Status: ☒ Ongoing ☐ Completed in year

5. Main objectives:

- To achieve environmental and health objectives by integrated management and cost-effective measures

6. Lead institution: European Commission, Directorate-General Environment

7. Other implementation arrangements and stakeholders involved (public, private, NGOs, CBOs, international support, etc.): EU Member States, private industry and NGOs

8. The results achieved (if possible, please address the social, economic and environmental impacts of the programme): see text below

9. The relationship of the programme to internationally agreed goals and targets: Convention on Long-Range Transboundary Air Pollution and its Protocols. The European and international processes are closely coordinated.

Note: Kindly provide any appropriate facts, figures or charts that document the problem addressed and the results achieved. Noteworthy case studies may be published and/or summarized in UN publications as a means of sharing information on best practices.

Case Study: Integrated Air Pollution Policy

An integrated policy or strategy analyses the environmental and health problems, sets interim and long term objectives and identifies cost-effective measures to reach several environmental objectives. As a consequence packages of measures may be identified that would achieve several of the objectives. The implementing policy instruments depend on the sector targeted, combining regulatory, economic and voluntary instruments. Important strategies have been developed to fight acidification and ground-level ozone. These issues are also addressed in the comprehensive Auto-Oil programs related to fuels and vehicles.

The energy and industry sector (stationary sources) and transport sector (mobile sources) are the two main contributors to air pollution. Fair market conditions can be ensured by establishing the same conditions of operation within the market which can be guaranteed through common environmental standards for large combustion plants fuels and the vehicle standards. Furthermore legislation for fuel quality is closely linked to marketing of products and environmental performance.

Stationary source emissions

The stationary emission sources directives cover large combustion plants (Directive 2001/80/EC), waste incineration plants (Directive 2000/76/EC) and emissions of volatile organic compounds from storage of petrol (Directive 94/63/EC) and from solvents (Directive 1999/13/EC). In the source oriented directives direct reference is given to the air quality standards in force that have to be met.

Directive 2001/80/EC⁶ on the limitation of emissions of certain pollutants into the air from large combustion plants plays a decisive role in the Community's efforts to combat acidification, eutrophication and ground-level ozone as part of the overall strategy to reduce air pollution. The directive aims at tightening the Community's curbs on air pollution from new combustion plants in line with the substantial technical progress made in this sector. The directive also covers "old" power plants. The new Directive encourages the combined generation of heat and power and sets specific emission limit values for the use of biomass as fuel. It sets standards for emissions of sulphur and nitrogen oxides and for dust. Limit values depend on type of fuel used, production (power) of the plant and separates existing and new plants. The directive also sets reduction targets for the sector in the Member States and allows for flexible ways of achieving these targets through alternative national plans and programs that achieve the same overall target as emission limit values applied for each installation. Member States have in several cases extended their national legislation to include also power plants below the threshold size level (50 MW_{th}) laid down in the directive and also applying stricter emission standards.

The Directive on waste incineration plants (Directive 2000/76/EC⁷) requires the Member States to permit incineration within limit values for dust, total organic carbon, hydrogen chloride and fluoride, sulphur dioxide and oxides of nitrogen, metals and dioxins and furans, and carbon monoxide. Also other substances may be controlled through this directive such as PCBs.

⁶ Directive 2001/80/EC on the limitation of emissions of certain pollutants into the air from Large Combustion Plants. Building on and amending Directive 88/609/EEC on the limitation of emissions of certain pollutants into the air from Large Combustion Plants and Council Directive 94/66/EC amending Directive 88/609/EEC on the limitation of emissions of certain pollutants into the air from large combustion plants.

⁷ Directive 2000/76/EC of the European Parliament and of the Council of 4th December 2000 on the incineration of waste. Building on and amending Directive 89/369/EEC of 8 June 1989 on the prevention of air pollution from new municipal waste incineration plants, Directive 89/429/EEC of 21 June 1989 on the reduction of air pollution from existing municipal waste-incineration plants, Directive 94/67/EC on incineration of hazardous waste, latest amendment proposal COM (97) 604,

Directive 1999/32/EC⁸ on the reduction of sulphur content of certain liquid fuels aims to reduce the emissions of sulphur dioxide resulting from the combustion of heavy fuel oils and gas oils and marine gas oils in the EU. Heavy fuel oils are generally used in combustion plants, while gas oils are used in heating boilers and marine gas oils are used in smaller engines on ships. Reducing emissions from these sources will reduce the harmful effects of such emissions on man and the environment. These reductions shall be achieved by imposing limits on the sulphur content of certain fuels as a condition for their use within the territory of the Member States. The sulphur limits are 1% for heavy fuel oil and 0.2% for gas oil and marine gas oil (dropping to 0.1% in 2008).

Volatile Organic Compounds (VOCs) have a direct effect on human health and the environment and through their role in producing ground level ozone. For VOCs two major directives are in force: the VOC Stage I directive (94/63/EC)⁹ and VOC solvents directive (1999/13/EC)¹⁰. The VOC Stage I directive aims to prevent emissions to the atmosphere of VOCs (mainly hydrocarbons) during the storage of petrol at terminals and its subsequent distribution to service stations. It contains measures that terminals should employ such as floating roofs and reflective coatings so as to reduce evaporative losses from storage tanks. In addition, when petrol is loaded onto tankers and transported to service stations, the directive ensures that any vapours are recovered and returned to the tanker or terminal.

The VOC solvent directive sets emission limit values (expressed in terms of the maximum solvent concentration in waste gases) and fugitive emission values (expressed as a percentage of solvent input). Industrial operators can be exempted from the above-mentioned limitations, provided that they achieve by other means the same reduction as would be made by applying them. In other words, they can choose the most cost-effective way to achieve the required reductions: either by the use of abatement technology, or by substituting high-solvent products by low-solvent or solvent-free products. Member States are required either to implement the set of emission limit values foreseen by the Directive, or to design and implement a National Plan to achieve the same reduction.

The VOC solvent directive was recently amended to include also the limitation of emissions of VOCs due to the use of organic solvents in certain paints and varnishes and vehicle refinishing products (the so-called VOC Paints Directive¹¹). The directive establishes limit values for maximum VOC contents of decorative paints and other products covered by the Directive. For paints, the Directive sets up two sets of limit values for the maximum contents of VOCs in grammes per litre of the product ready for use. The first set of limit values shall apply from 1 January 2007. The second, and stricter, set of limit values apply from 1 January 2010. See Annex II A.

⁸ Council Directive 1999/32/EC of 26 April 1999 relating to a reduction in the sulphur content of certain liquid fuels and amending Directive 93/12/EEC

⁹ European Parliament and Council Directive 94/63/EC of 20 December 1994 on the control of volatile organic compound (VOC) emissions resulting from the storage of petrol and its distribution from terminals to service stations

¹⁰ Council Directive 1999/13/EC of 11 March 1999 on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain activities and installations

¹¹ Directive 2004/42/EC of the European Parliament and of the Council of 21 April 2004 on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain paints and varnishes and vehicle refinishing products and amending Directive 1999/13/EC.

Road transport emissions

The *Auto Oil programs* from 1992 to 2000 carefully analyzed the relationship between vehicle fuel quality and technical standards for vehicles. One objective of the programs was to meet air quality objectives and to reduce the effects of urban air pollution on human health. The Auto Oil programs formed the basis of and underpinning for a number of directives on fuel quality and performance standards for vehicles.

Vehicles standards

Directive 70/220/EEC¹² is the base directive for emission standards for **light duty vehicles** (classes M1 and N1), and Directive 88/77/EEC¹³ is the base directive for emission standards for heavy vehicles. For motorcycles and mopeds Directive 1997/24/EC¹⁴ lowers the emissions.

For **light commercial vehicles and passenger cars** the present so called EURO IV (in force from 2005) sets emission standards for diesel and petrol cars and includes pollutants such as particulate matter, nitrogen oxides, carbon monoxide and hydrocarbons. Further tightening of the emission standards for cars is being prepared. Also two and three wheelers are covered in a separate directive¹⁵ setting the standards for carbon monoxide, hydrocarbons and nitrogen oxides.

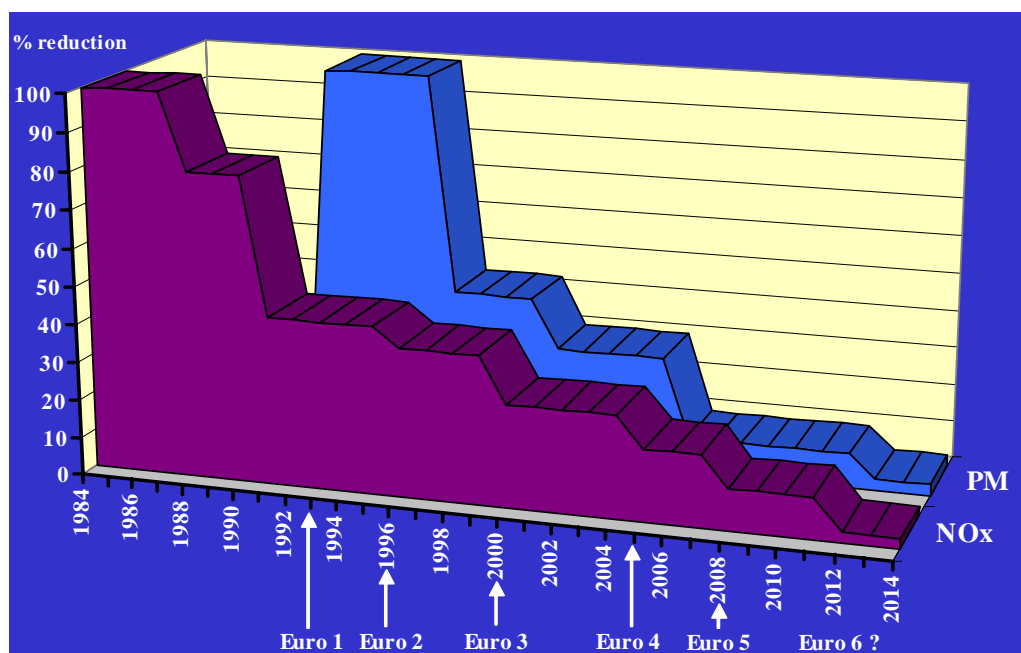
For **heavy duty vehicles**, buses and trucks the present standard EURO IV has been in force as of 2005. EURO IV sets standards for emissions of nitrogen oxides, hydrocarbons and particulate matter. As a further step, the EURO V standards will enter into force as of 2008 that will further reduce the emissions of nitrogen oxides.

¹² Directive 70/220/EEC on the approximation of the laws of the Member States relating to measures to be taken against air pollution by gases from positive-ignition engines of motor vehicles. Amendments to Directive 70/220/EEC: Council Directive 74/290/EEC, Commission Directive 77/102/EEC, Commission Directive 78/665/EEC, Council Directive 83/351/EEC, Council Directive 88/76/EEC, Council Directive 88/436/EEC, Council Directive 89/458/EEC, Council Directive 91/441/EEC, Council Directive 93/59/EEC, European Parliament and Council Directive 94/12/EC, Commission Directive 96/44/EEC, European Parliament and Council Directive 96/69/EC, European Parliament and Council Directive 98/69/EC, Commission Directive 99/102/EC, European Parliament and Council Directive 2001/1/EC, European Parliament and Council Directive 2001/100/EC.

¹³ Directive 88/77/EEC on the approximation of the laws of the Member States relating to the measures to be taken against the emission of gaseous pollutants from diesel engines for use in vehicles. Amendments to Directive 88/77/EEC: Council Directive 91/542/EEC (this provides the Euro 1 and Euro 2 emission standards), Commission Directive 96/1/EC, European Parliament and Council Directive 1999/96/EC (this provides the Euro 3 (from October 2000), Euro 4 (from October 2005) and Euro 5 (from October 2008) emission standards), Commission Directive 2001/27/EC.

¹⁴ Directive 97/24/EC amended through Commission Directive 2003/77/EC and Commission Directive 2005/30/EC.

¹⁵ Commission directive 2003/77/EC of 11 August 2003 amending Directives 97/24/EC and 2002/24/EC of the European Parliament and of the Council relating to the type-approval of two- or three-wheel motor vehicles

Figure Development of Emission standards for heavy duty vehicles*Non-road mobile machinery*

The engines and fuels used for the non-road machinery are similar to those used in heavy duty vehicles. The Community standards are laid down in Directive 97/68/EC on the approximation of the laws of the Member States relating to roadworthiness tests for motor vehicles and their trailers. The present legislation covers agriculture and forestry tractors¹⁶ and other non-road machinery (excavators, bulldozers, front loaders, back loaders, compressors locomotives, railcars and inland waterway vessels etc)¹⁷ and hand held and non-hand held engines¹⁸. The directives set emission standards for nitrogen oxides and hydrocarbons, carbon monoxide and particulate matter. For seagoing ship emissions, please see later section.

Automotive Fuel Quality

Directive 98/70/EC as amended by Directive 2003/17/EC¹⁹ contains the environmental fuel quality specifications for petrol and diesel fuels in the Community with the main focus for diesel on sulphur and for

¹⁶ Directive 2000/25/EC of the European Parliament and of the Council of 22 May 2000 on action to be taken against the emission of gaseous and particulate pollutants by engines intended to power agricultural or forestry tractors and amending Council Directive 74/150/EEC.

¹⁷ Directive 2004/26/EC of the European Parliament and of the Council of 21 April 2004 amending Directive 97/68/EC on the approximation of the laws of the Member States relating to measures against the emission of gaseous and particulate pollutants from internal combustion engines to be installed in non-road mobile machinery.

¹⁸ Directive 2002/88/EC of the European Parliament and of the Council of 9 December 2002 amending Directive 97/68/EC on the approximation of the laws of the Member States relating to measures against the emission of gaseous and particulate pollutants from internal combustion engines to be installed in non-road mobile machinery.

¹⁹ Directive 2003/17/EC of the European Parliament and of the Council amending Directive 98/70/EC relating to the quality of petrol and diesel fuels and Commission Recommendation 2005/27/EC on what, for the purposes of Directive 98/70/EC of the European Parliament and of the Council concerning petrol and diesel fuels, constitutes availability of unleaded petrol and diesel fuel with a maximum sulphur content on an appropriately balanced geographical basis.

petrol on lead and aromatics. There are three distinct specifications. The first entered into effect on 1st January 2000, the second on 1st January 2005 (it sets limits for the sulphur content of petrol and diesel (50 ppm) and the aromatics content of petrol (35% by volume)) and the third is the phase in, as of 1st January 2005, of diesel and petrol with a sulphur content of 10 ppm to be fully implemented by 2009. In addition, since 1 January 2002 all petrol sold in the Member States is unleaded.

PART III. NATIONAL REPORTING GUIDELINES FOR CSD-14/15 THEMATIC AREAS

B. ENERGY

Government focal point: DG Environment
Responding ministry/office: DG Environment

The EU has taken many actions on energy efficiency and sustainable energy. In 2000, the Energy Efficiency Action Plan was prepared with the aim to realise the available economic potential for energy efficiency in line with the proposed target for reduced energy intensity of 1% per year above and beyond business-as-usual trends. A set of core instruments for implementing the action plan²⁰ has been agreed. Promotion of cogeneration was one of the short-term priority areas identified in the Action Plan. The purpose of the Cogeneration Directive²¹ of 2001 is to create a framework for promotion and development of high efficiency cogeneration based on useful heat demand and primary energy savings.

The Buildings' Directive²² (2002) is another key element of the EU energy efficiency strategy. Buildings account for 40% of the energy consumed in the union and research shows that more than 1/5 of this energy could be saved by applying tougher standards on buildings.

In June 2005, the European Commission adopted a green paper on energy efficiency proposing to reduce 2005 energy consumption by 20% by 2020. Moreover, a directive on energy end-use efficiency and energy services has been proposed²³. It has the objective to increase end-use energy efficiency using a number of operational measures. In the field of renewable energies, the RES-E directive of 2001 is most important, as it promotes renewable energy sources for electricity generation.

Legislation on energy efficiency and energy for sustainable development is being implemented via various Community support programmes, such as the Intelligent Energy - Europe (2003-2006) that funds initiatives like the EU-wide Campaign for Sustainable Energy.

While there are a number of legislative initiatives and programmes on sustainable energy, two have been selected to be presented here. Information on all other policies can be accessed online via the hyperlinks provided in the overview table.

Energy is also being integrated in the Commission's development policies, with a strong focus on the major role energy can play in poverty alleviation and in achieving the Millennium Development Goals. This was further stimulated by the launch of the EU Energy Initiative for Poverty Eradication and Sustainable Development (EUEI) at WSSD²⁴ that has now become an important framework for policy development, coordination and partnerships between EU Member States, the European Commission and developing

²⁰ <http://europa.eu.int/comm/energy/demand/overview/measures.htm>

²¹ Directive 2004/8/EC of 11 February 2004 on the promotion of cogeneration based on a useful heat demand in the internal energy market and amending Directive 92/42/EEC

²² Directive 2002/91/EC of 16 December 2002 on the energy performance of buildings

²³ Proposal for a Directive of the European Parliament and of the Council on energy end-use efficiency and energy services [COM(2003)453]

²⁴ COM (2000) 212 on The European Community's Development Policy, COM (2002) 408 on Energy Cooperation with Developing Countries, COM (2003) 829 on The World Summit for Sustainable Development – implementing our commitments and COM (2004) 711 on the future development of the EUEI and the establishment of an ACP-EU Energy Facility.

countries. The EUEI, and its achievements so far, are further described in the case study provided in this report.

Promotion of electricity from renewable energy sources (RES-E)

The development of renewable energy sources is a central aim of EU energy policy, reflecting the clear benefits that clean, sustainable and secure energy supplies will bring. The central aim of the RES-E directive²⁵ is the promotion of renewable energy sources for electricity generation.

Since the adoption of the RES-E directive, implementation of its provisions has progressed. A comprehensive EU regulatory framework is in place and Member States have adopted national targets for green electricity consumption and are working towards them. By creating national targets, the directive gives a quantitative framework within which each Member State can plan and implement the most appropriate measures. National indicative targets are included in the Accession Treaty for new Member States. With their accession the 22.1% target set initially for the 15 then EU Member States; for 2010 becomes 21% for the EU-25. In 2004, as required by the directive, the European Commission produced an assessment of Member States' progress²⁶ based on reports submitted by Member States. The report emphasises that more must be done for the production of electricity, heat, as well as biofuels for transport, from bio-energy. The Commission will therefore propose a Community action plan for energy from biomass by the end of 2005. To assist the development of this, the European Commission held a public consultation from February to March 2005, the results of which are available on their website²⁷.

In addition, the Commission has proposed several concrete actions to take renewable energies forward and to emphasise the deployment of renewable energy in its main financial instruments, the Structural and Cohesion funds. The development of renewable energy is also supported by other programmes such as ALTENER within Intelligent Energy – Europe and the Campaign for Sustainable Energy as well as ongoing community wide standardisation of technologies and products. This includes, amongst others, the development of standards for biodiesel and solar PV through the involvement of the European Standardisation Committee (CEN) and will also be reinforced by the proposed directive on eco-design of energy using products.

Lessons learned and good practice

Whilst policies and legislation are now in place at a European level for promoting the use of renewable energies and energy efficiency, such “top-down” approaches must be complemented by “bottom-up” actions if the ambitious EU renewable energy and energy efficiency targets are to be achieved. This implies the need for intelligent energy projects which “involve” and “engage” the local market actors in the regional and local authorities, as well as the utilities and sustainable energy technology suppliers in the cities, towns and rural communities across the EU.

The good projects of this type which have been supported under the SAVE, ALTENER and SYNERGIE programmes provide a framework within which key market actors can work together to improve their understanding of the non-technical barriers that need to be overcome, as well as to put in place new policies,

²⁵ Directive 2001/77/EC on the promotion of electricity produced from renewable energy sources in the internal electricity markets, October 2001.

²⁶ COM (2004) 366 final, Communication from the Commission to the Council and European Parliament ‘The share of renewable energy in the EU’, May 2004

²⁷ http://europa.eu.int/comm/energy/res/biomass_action_plan/doc/results_consultation_bap.pdf

regulations and local support schemes which will create a more favorable business environment for the suppliers of sustainable energy services.

In this context, the impacts of good projects can be measured at three levels,

- (a) raising awareness
- (b) changing local policies and attitudes
- (c) changing the local regulations or making investments

Most projects can achieve impacts at the first level (a), but it takes time and substantially greater effort to achieve impacts (b) and (c).

Trends and emerging issues

Whilst national support schemes for renewable energy are now in place in most of the EU member states, there remain major issues to address at EU level in relation to trading of renewable electricity across national borders. In many Member States the administrative procedures which have to be implemented by end users remain a major market barrier. Similarly, whilst the leaders of electricity utilities state that they are committed to encouraging greater use of renewable energy, the experience which has been reported from demonstration projects as well as from ALTERNER²⁸ and SAVE²⁹ projects shows that the utility staff in regional and local offices do not always have the knowledge, experience and procedures needed to implement the visions of their leaders. Further capacity building actions are therefore needed.

Concerns about the overall security of energy supplies in the EU have led the European Parliament to demand that new policy and legislative frameworks be put in place across the EU for the supply of renewable heating and cooling, but new ideas are urgently needed how to do this for diverse energy sources. New ALTENER projects are therefore being supported, with a view to identifying and testing new policy and legal frameworks, which might provide a suitable basis for promoting renewable heating and cooling at an EU level.

Challenges and constraints

As the oil prices have risen more quickly in recent years, there has been increasing impatience with the rate of growth of renewable energy markets, despite year-on-year levels of market growth which have exceeded 35% in some of the renewable energy sectors. This impatience has led some politicians to question whether to seek alternative means to achieve greater security of their future energy supplies, even though it is far from clear whether or not such alternatives could come on stream more quickly than the renewable energies.

²⁸ ALTENER ended its five-year term at the end of 1997. It has been succeeded by ALTENER II, an initiative that extends activities in the renewable energies field and makes a major contribution to the Community Strategy and Action Plan outlined in the White Paper 'Energy for the Future: Renewable Sources of Energy'.

²⁹ It is the only Union-wide programme dedicated exclusively to promoting energy efficiency and encouraging energy-saving behaviour in industry, commerce and the domestic sector as well as in transport through policy measures, information, studies and pilot actions and the creation of local and regional energy management agencies.

This challenge can best be addressed in the short term by implementing major new initiatives to achieve greater energy efficiency at an EU level, since this will buy the time which is needed to permit new production facilities for renewable energy technologies to be expanded, with their associated benefits in terms of economies of scale and consequent acceleration of renewable energy markets. Typical examples of how this is being done with support from the European Commission include the new public awareness campaign for sustainable energy and the creation of more than 300 new energy Agencies across the EU, as well as the inclusion of sustainable energy by the EU regional and cohesion funds as a priority for investment, together with a wide range of regional and local capacity building and training projects supported under the SAVE and ALTENER programmes.

A key constraint in recent years has been the limited availability of co-financing for sustainable energy agencies and projects at local and regional levels, despite the evident benefits in the form of new high technology jobs and businesses.

Intelligent Energy – Europe (IEE)

Intelligent Energy – Europe³⁰ supports sustainable development in the energy context. Its objectives are:

- to provide the elements needed for the promotion of energy efficiency, the increased use or renewable energy sources and energy diversification;
- to develop means and instruments to monitor and evaluate the impact of measures adopted by the Community and Member States in these fields; and
- to promote efficient and intelligent patterns of energy production and consumption.

There are four specific fields in the programme:

- SAVE, which concerns the improvement of energy efficiency and rational use of energy.
- ALTENER, which promotes new and renewable energy sources.
- STEER, which concerns support relating to all energy aspects of transport.
- COOPENER, which concerns support for initiatives relating to the promotion of renewable energy sources and energy efficiency in developing countries.

The financial framework for the implementation of the programme 2003-2006 is 250 million euros³¹. In April 2005, a proposal was adopted for the continuation of the Intelligent Energy - Europe programme during 2007-2013, as part of the *Competitiveness and Innovation framework Programme (CIP)*. The continued IEE programme will provide support in the same fields as the current IEE programme. However, as far as COOPENER is concerned, the continuation of the related activities is foreseen under the Community instruments for external co-operation, whose legal basis were proposed by the Commission in September 2004. The continued IEE will also introduce 'Replication Projects' throughout the SAVE, ALTENER and STEER parts of the programme which aim to help speed commercialisation of particularly innovative processes or products that are close to but not yet cost-competitive. The proposed IEE budget from 2007-2013 is 780 million euros, with approximately 315 million (40%) allocated to replication projects.

Lessons learned and good practice

The Intelligent Energy – Europe (IEE) programme has built on the earlier experience and lessons learned from the Altener, Save and Synergie programmes, with the aim not only of providing benefits within the EU, but also to tackle poverty in developing countries through COOPENER. Support under COOPENER has therefore been focused on projects falling within the context of the EU Energy Initiative for poverty eradication and sustainable development. The best projects of this type have been selected with a view to building local capacity amongst the local policy makers, regulators and other market actors in the poorest developing countries of sub-Saharan Africa, and of Central and Latin America.

Although work on the first COOPENER projects began only at the start of 2005, it is already clear that the governments and other key energy market actors in several of the poorest countries are keen to participate, and are pleased to benefit from the capacity building which is offered by experienced EU organisations.

³⁰ Decision 1230/2003/EC adopting a multiannual programme for action in the field of energy: 'Intelligent Energy – Europe' (2003-2006), 26 June 2003.

³¹ http://europa.eu.int/comm/energy/intelligent/work_programme/doc/global_wp_%202003_2006_en_final.pdf

On-going COOPENER activities include the structuring and analysis of local energy data as a basis for future planning and policy making, as well as capacity building for energy policy development and planning with a view to strengthening the provision of sustainable energy services that aim to meet the needs of the poorest people. Networking between energy sector organisations in different African countries, and training of energy professionals, including energy planners and regulators is also being supported.

Trends and emerging issues

Within the EU there is considerable interest in the potential for a greater use of modern forms of biomass, and employing the technologies and experience which have been developed during recent years in the EU. This implies improvements to the entire biomass energy supply chain, and new policies governing the use of biomass for electricity production, heating and transport fuels.

Following the WSSD, there is a strong interest in working on projects with local policy makers in developing countries, with the aim of trying to ensure that energy is given greater priority in their ***Poverty Reduction Strategy Papers*** and other development strategy documents. This is expected to lead to more requests for donor financing of sustainable energy systems (possibly in combination with financing from other investors or lenders), which will provide energy services, mainly in the form of electricity for clean water supplies, health care, education, and communications, for local productive purposes as well as for cooking and heating.

Challenges and constraints

One of the most complicated aspects of the COOPENER programme is that of the co-financing of projects, which requires complex financial procedures between the various actors. A more flexible approach is being investigated for the implementation of future COOPENER projects.

In the developing countries, the longer term need is for a combination of investment capital and donor aid for sustainable electricity generation and for the secure supply and distribution of other electricity and other modern fuels for heating and cooling applications. It remains to be seen whether the on-going COOPENER projects can succeed in helping to create a more favorable policy, regulatory, and business environment, and thereby encourage the required investors and donors to step forward.

Additional relevant EU policies/initiatives

In July 2005, the European Commission has adopted a proposal on passenger car related taxes (COM (2005) 261 final) which introduces the use of fiscal incentives, as a tool to contribute to the achievement of the Community's strategic objective to reduce the carbon dioxide emissions from passenger cars.

CASE STUDY OF A SUCCESSFUL NATIONAL ENERGY PROGRAMME/STRATEGY

1. The problem or issue addressed: Lack of access to sustainable energy services for productive and social purposes in developing countries

2. Name of the programme: EU Energy Initiative for Poverty Eradication and Sustainable Development (EUEI)

3. Timeframe: an open ended long term commitment

Year started: Launched at WSSD 2002

4. Status: ☒ Ongoing ☐ Completed in year

5. Main objectives:

- Contribute to improving access to energy necessary for the achievement of the Millennium Development Goals, through the provision of adequate, affordable, sustainable energy services for the poor. Activities implemented under the Initiative are driven by the needs and priorities of the participating developing countries.
- Raise political awareness among high level decision makers of the important role energy can play in poverty reduction
- Attract new resources (capital, technology, human resources) from the private sector, financial institutions, civil society and end-users.
- Address energy access through a wide menu of institutional and technical options including rural electrification, decentralised energy systems, increased use of renewable energy and enhanced energy efficiency, including more efficient use of fossil fuels and traditional biomass

6. Lead institution: European Commission

7. Other implementation arrangements and stakeholders involved (public, private, NGOs, CBOs, international support, etc.): The EUEI is implemented through specific actions by the Commission and EU Member States, in partnership with developing country governments, private sector, end-users, NGOs, and financial institutions

8. The results achieved (if possible, please address the social, economic and environmental impacts of the programme): The EUEI has already contributed to increased attention to energy and development at the policy level. A number of specific actions are under implementation or in the pipeline and will deliver results on the ground.

9. The relationship of the programme to internationally agreed goals and targets: The EUEI has a direct link to the Millennium Development Goals and commitments in the Johannesburg Plan of Implementation, in particular Chapter II on poverty eradication, Chapter VII in sustainable development of small island developing states and Chapter VIII on sustainable development for Africa.

Note: Kindly provide any appropriate facts, figures or charts that document the problem addressed and the results achieved. Noteworthy case studies may be published and/or summarized in UN publications as a means of sharing information on best practices.

http://europa.eu.int/comm/development/body/theme/energy/initiative/index_en.htm

Case Study: EU Energy Initiative (EUEI)

In order to respond to unmet needs for energy services, the European Union (EU) developed the Initiative for Poverty Eradication and Sustainable Development, launched at the WSSD. It demonstrates the commitment of the EU Member States and European Commission (EC) to support improved access to sustainable energy services in developing countries. Through the Initiative, the EU proposes to work with developing countries towards creating the necessary conditions in the energy sector to achieve their national economic, social and environmental objectives.

The EU Energy Initiative focuses on achieving poverty eradication and sustainable development by improving access to adequate sustainable energy services in rural, peri-urban and urban areas, through a menu of technical and institutional options, including:

- rural electrification
- enhanced energy efficiency (including cleaner, more efficient fossil fuel technologies, technology for more efficient appliances and the more efficient use of traditional biomass)
- decentralised energy systems
- increased use of renewable energy (such as hydropower, biomass, solar energy, wind power, tidal, wave, or geothermal energy)
- institutional capacity building and restructuring policy, planning and transfer of knowledge and skills.

Activities implemented under the Initiative are driven by the needs and priorities of the participating developing countries. The EU invites developing countries and other stakeholders to become part of the Initiative and to participate in the further development and implementation of partnerships at the national and regional level.

How the initiative works

A demand-led approach

The Initiative enables the EU and its developing country partners to work together in partnership with the private sector, financial institutions and civil society to achieve effective improvement of the energy situation in partner countries. It works through a demand-led approach that involves both government-to-government liaison and local participation. Ownership of activities by the partner country is a key feature. The government-to-government liaison is based around dialogue, formalisation of responsibilities and action from national governments. Local participation will be encouraged from end-users, communities, businesses and other stakeholders in both the planning and implementation stages.

The EU is taking the Initiative forward through open dialogue with partner governments at country level. The situation may vary from one country to another. The European Commission facilitates in countries where energy is a focal sector for EC Programmes, and Member States facilitate in those countries where they are active in energy-related projects and programmes, co-ordinating with each other. The EU and partner country dialogue is followed by or in parallel with dialogue with the private sector, financing organisations, civil society and end-users. Partnerships will develop in response to the energy needs of developing countries and regions.

Working together through Partnerships

An important first step is working with developing countries to highlight the role of energy within their development strategies, such as National Poverty Reduction Strategy Papers, and other development strategy documents. Currently, the importance of energy services is identified in only a small number of development strategies. The Initiative is helping to integrate energy issues into sectoral strategies and

programmes (such as, education, health, water and sanitation, the creation of income-generating activities) as they are developed or revised, thus encouraging a cross-sectoral approach to energy.



From dialogue to partnerships...

Dialogue defines the scope and the nature of the partnerships, the activities in the countries or regions, and the roles of the different stakeholders. The fundamental basis for action is to develop partnerships in areas where common efforts between the EU (Commission and Member States) and participating countries can contribute to broadening access to energy services, in particular for poorer populations. Gender issues are important in all aspects of the Initiative.

The partnerships evolve through in-depth discussion of necessary actions with participating countries or regions, so as to contribute to their specific needs, as defined in development strategies. The partnerships are country-driven and are based on existing organisations, structures and procedures so as to avoid creating new structures or administrative burdens for partner countries. Appropriate and transparent monitoring and review arrangements, based on existing co-operation practices will be put in place. The partnerships provide flexible and transparent frameworks to achieve synergies with and feedback from other international energy-related initiatives.

Partnerships lead to action...

The agreed activities are carried out in each country or region. The EU Energy Initiative is supporting partner countries in carrying out the agreed national and regional action plans through concerted efforts at all levels. Activities draw on national, regional and international resources and strengthen regional co-operation in the field. The specific activities will be determined through the dialogue between Partners. Some examples of the type of partnership activities are described below.

The Initiative is drawing upon appropriate combinations of public and/or private resources, both from domestic and international sources. EC and EU Member State co-operation agencies contribute financing, following the procedures and priorities established with respect to development strategies. Public resources will be provided in a variety of forms, so as to maximise their impact.

Given the magnitude of need for access to energy services, the Initiative will strive to attract a major contribution from private sources. Official Development Assistance (ODA) provides a basic funding framework attracting private resources for further investment. Specific activities are designed to create the conditions for maximising private sector involvement. The Initiative also invites involvement of development banks (including the European Investment Bank), other investors and private sector companies, to facilitate increased investment. Such financing may come from:

- domestic public and/or private sector
- international private sector
- loans from international financial institutions and development banks

- donor aid provided by other public and private donors, grants and guarantees from international organisations and foundations
- proceeds from mechanisms such as the Clean Development Mechanism and/or innovative equity financing mechanisms.

Other Examples of Partnership Activity

The Johannesburg Renewable Energy Coalition (JREC)

This initiative is made up of almost 90 governments who have decided to co-operate actively on the promotion of renewable energy sources on the basis of **concrete, ambitious and agreed objectives**. In addition to developing their national renewable energy policies and measures, JREC members focus on regional and international political initiatives that foster the establishment of a global policy framework promoting an enhanced uptake of renewable energy. Such actions are aimed at **guiding investments and developing global renewable energy markets**.

Membership is voluntary and is the prerogative of governments. Member Governments have signed up to the JREC declaration launched at the 2002 WSSD. JREC is a virtual platform supported by the co-chairs and a small secretariat.

The JREC co-Chair is held by the European Commission and Morocco. Together they provide political strategic direction and propose the coalition's agenda for endorsement by the members. Decisions are summarized and reported in the Chair's conclusions. Invitations to JREC meetings are extended by the co-chairs and delivered through the European Community's diplomatic channels. Governments can delegate one or several ministers that hold responsibility for renewable energy and sustainable development strategies.

The JREC secretariat is hosted by the European Commission. It supports the co-chairs and members whilst also facilitating inputs from the JREC stakeholders. It assists in the development of strategic priorities, facilitates the organization of conferences and meetings including the participation from all JREC members (in particular from developing countries). Finally, the secretariat offers selected technical services to ensure an adequate knowledge based approach. It aims at promoting synergies between JREC and other initiatives such as the EU Energy Initiative (EU EI), the Renewable Energy and Energy Efficiency Partnership (REEEP), the post Renewables2004 policy network (REN21), etc.

The Global Renewable Energy Fund of Funds (GREFF)

As part of JREC, the European Commission is sponsoring the development of an innovative public-private financing mechanism to enhance access to affordable risk capital by renewable energy business and project developers. Following the conclusion of a feasibility study, experts proposed to develop a Global Renewable Energy Fund of Funds. The GREFF should help closing the financing gap for developing renewable energy markets and services world-wide. The European Commission will soon launch a call for proposals to hire a professional fund management team to implement the recommendations of the feasibility study completed in November 2004 with a view of establishing a Global Renewable Energy Fund of Funds. The JREC secretariat encourages the development of additional innovative financing initiatives through associated partnerships and IFIs.

Who is involved

Stakeholders involved in the EUEI come from the partner country governments, private sector, end-users, NGOs, and financial institutions. A successful partnership appeals to the interests of different stakeholders, and at the same time, the overall approach of the Initiative is driven by the needs of the partner country and target group. There are two levels of stakeholder involvement: the country level and the international level. The country level is the primary forum for development and implementation of the partnerships. At the international level stakeholder involvement contributes in a number of areas by benefiting from sharing:

- experiences in carrying out ‘energy access’ projects in the field.
- views on the different models available for public/private cooperation in energy service delivery.
- views on models for implementation of the activities.
- experience of outcomes in the field and in the longer-term.
- experience of best practice as a result of the partnerships under the Initiative.

There have already been a number of multi-stakeholder meetings at national, regional and international level and these will continue throughout the life of the Initiative to enhance dialogue.

The EU Advisory Group is the forum for presentation of specific inputs to the Initiative from Member States and the Commission. It takes an overview of activities, identifying gaps in co-ordination, as well as new opportunities. The group serves as a vehicle for seeking complementarity between this and other initiatives and programmes and to develop networking.

Working Groups are identified as the need arises to aid development of appropriate activities. These working groups operate either in a virtual manner by electronic means, or in a physical manner by meeting and working together, developing thematic papers, concepts, proposing solutions and exchanging views and experiences.

The EU Secretariat is at the core of the Initiative. The Commission hosts the Secretariat within DG Development. The Secretariat draws upon staff from both the Commission and Member States. The Secretariat:

- facilitates and stimulates co-operation and synergy between EU donors and partner countries and regions
- communicates with other donors and initiatives
- participates in international fora
- monitors and reports on activities
- provides a promotional and communication role through a Web site and other promotional tools
- provides a point of contact for the Initiative

The Initiative strives to work with other ongoing sustainable development efforts, and in particular the international energy-related initiatives, whenever this contributes to the national and regional partnerships. There are common issues between this and other initiatives and there is collaboration to ensure that the various initiatives are complementary and do not overlap. Other Initiatives include: the New Partnership for Africa’s Development (NEPAD), the Forum for Energy Ministers of Africa (FEMA), the Johannesburg Renewable Energy Coalition (JREC), the Global Village Energy Partnership (GVEP), the Global Network on Energy for Sustainable Development (GNESD), the Global Forum for Sustainable Energy (GFSE), and the Renewable Energy and Energy Efficiency Partnership (REEEP).

To gain maximum benefit, information and knowledge will be shared throughout these initiatives on issues such as finance, transfer of knowledge and skills, lessons learned, dialogue with stakeholders, moni-

toring and evaluation of projects etc. In addition the EU Energy Initiative will take part in the partnership dialogue envisaged within the context of the Commission for Sustainable Development (CSD).

Current situation

Actions under the EUEI are implemented by EU Member States and the European Commission, in close partnership with Developing Countries.

Among specific actions under implementation or preparation are:

- Energy and Environment Partnership with Central America. Partners: Seven Central American countries, Finland, SG-SICA, CCAD, private sector.
- Pacific Island Energy Policies and Strategic Action Planning Project (PIEPSAP). Partners: Fourteen Pacific Island Countries. Denmark. SOPAC, UNDP.
- Renewable energy partnership for poverty eradication and sustainable development in Africa. Partners: Illovo Sugar (South Africa), ENDA (Senegal), CEEZ (Zambia), WIP-ETA Consortium (Germany/Italy), ITDG (UK) and SEI (Sweden), European Commission.
- EUEI Facilitation and high-level policy dialogue events with 14 countries in Southern and Western Africa, as a follow-up of the EUEI 'Energy for Africa' meeting. Partners: African Governments, Denmark, European Commission, other EU Member States,
- COOPENER: First call resulted in 14 projects aiming at creating the institutional conditions for improved access to energy in Sub-Sahara Africa. Partners: Different consortia of African and European partners. Second call also included poor counties Latin America, European Commission.
- Human Resource Development and Energy Efficiency within Pacific Island Country Power Utilities. Partners: Power utilities in nine Pacific Island Countries. European Commission. Pacific Power Association.
- Caribbean Regional Energy Policy and Renewable Energy Development Programme. Partners: CARICOM Member States, European Commission, Germany, CARICOM.
- Dissemination of improved biomass energy technologies in five SADC countries. Partners: SADC, European Commission, Germany.
- Productive uses of energy for rural development in ECOWAS member states. Partners: ECOWAS, Commission, France.
- Energy Dialogue with the East African Community (EAC). Partners: EAC member states, Germany.
- EUEI facilitation and high-level EUEI policy dialogue event for Central Africa, to be held July 2005. Partners: African Governments, CEMAC and EUEI PDF.

During 2005, two new instruments under the EUEI are becoming operational:

- A 5 M Euro EUEI Partnership and Dialogue Facility (PDF), supporting EUEI 'upstream dialogue' (e.g. policy, capacity building and partnership development) with Developing Countries. The PDF is funded by 6 EU Member States (Austria, France, Germany, the Netherlands, Sweden, UK) and managed by GTZ in Germany.
- A 220 M Euro ACP-EU Energy Facility, with a main focus on co-financing of delivery of modern energy services to rural areas in Sub-Sahara Africa, and of energy efficiency/renewable energy in Caribbean and Pacific Island States. Funding for the Facility was approved by EU Member States and ACP countries June 2005. The Facility that is expected to become fully operational early 2006 will be managed by the European Commission.

PART III. NATIONAL REPORTING GUIDELINES FOR CSD-14/15 THEMATIC AREAS

C. INDUSTRIAL DEVELOPMENT

Government focal point(s): DG Environment

Responding ministry/office(s): DG Environment

Industrial Development in Developing Countries

Industrial development is an integral part of private sector development, a key objective of the EU development policy. Enterprises face a lot of constraints in developing countries including access to finance and to business development services (BDS). Over the years, the EC has developed many programmes to address those constraints. The Centre for the Development of Enterprises, CDE was thus established to provide BDS to ACP firms, and PROINVEST was launched to promote investments, business linkages and inter-enterprise partnership and cooperation, while the €2.2 billion Investment Facility, managed by the EIB was providing loans, equity and guarantees to private companies.

Lessons learned and good practice

The EC has devised a comprehensive strategy to help third countries private sector overcome the obstacles mentioned above. This strategy, initiated in 1998 in the ACP countries to address all the main constraints to business development, was extended to all developing countries by the 2003 Communication to the Council and European Parliament on business development in third countries. It is this policy as a whole for enterprise development, both industrial and service companies, that should be considered good practice.

Trends and emerging issues

Increasing globalisation affects Developing Countries in many ways. While some countries profit from trade liberalisation, others face growing difficulties due to lack of diversification of their economies, vulnerability to economic and environmental shocks, and increasing demand for higher quality products on the side of industrialised countries. Foreign Direct Investment is strongly linked to risk of conflict and good governance; not surprisingly, private investors hesitate to start business development in countries afflicted by corruption and violent conflict. That is the reason why more and more donors, including the EC, pay a growing attention to the improvement of the business environment. The European Commission has recently approved a new private sector enabling environment facility to complement its all ACP mechanisms for business development. This facility will be active in promoting policy reform and public-private dialogue.

Constraints and challenges

Business development, especially that of SMEs, is a key objective of EU aid policy, because ODA alone, even when substantially increased, will never be sufficient to fulfil the needs of the population in developing countries. A vibrant private sector must play its role as the main engine of economic growth and thus as a major actor in reducing poverty.

Constraints to private sector development exist at macro level (non-conducive business climate), meso level (weak intermediary organisations) and at micro level (difficult access to financial and non financial support). Not all constraints can be addressed at the same time. Some prioritisation is therefore necessary.

EMAS

The Eco-Management and Audit Scheme (EMAS) is the EU voluntary scheme for organisations willing to commit themselves to evaluate, improve and report on their environmental performances. The scheme was launched in April 1995 and revised in 2001.

Lessons learned and good practices

"EMAS-Easy" concept for micro-companies. Capacity building project in 5 new Member States to fully register 50 companies EMAS, based on this EMAS-Easy approach, aimed at demonstrating that EMAS is also suitable/affordable/effective and useful not only for large companies, but also for small to micro-companies.

Trends and emerging issues

Growing demand from companies to be able to certify their products within the EMAS management system, compared to the current situation. Corporate Social Responsibility reporting is emerging as opposed to reporting on environmental issues only with EMAS.

Constraints and challenges

There is still a low take up of EMAS (and Environmental Management Systems in general) in companies and public administrations in the EU, especially among SMEs (which represent more than 98% of 20 million enterprises in the EU). Many environmental management systems/programs are "competing" in the EU, with various degrees of requirements and various levels of monitoring processes: it is therefore difficult for consumers and in business-to-business relationships to know which system delivers exactly what in terms of requirements.

SMEs and the environment

Small and medium-sized enterprises (SMEs) are important engines of economic growth and employment throughout the European Union. At the same time, they are no different from large companies in exerting considerable pressures on the environment, not necessarily individually but through their combined total impact across sectors. It is therefore vital that the environmental policy of the EU should be further developed in order to promote sustainable development in SMEs - both in terms of the pollution caused by their plants and in terms of the goods and services that they produce.

Lessons learned and good practices

There is a growing awareness of the important economic, social and environmental role of SMEs in Europe, and policy making is taking their peculiarities into consideration at an early stage. The internal extended impact assessment, the exercise for simplifying legislation and the new Lisbon Strategy show a great commitment by the EU to address SME problems.

Trends and emerging issues

SMEs themselves are often unaware, or not fully aware, of their environmental impacts, and they are not always well informed about their obligations under environmental legislation. A growing interest in environmental aspects of the business activity is nevertheless perceivable.

Proper implementation of existing EU legislation and, at the same time, fostering the eco-efficiency of Small and Medium-sized Enterprises (SMEs) are the challenges of the Compliance assistance programme foreseen as a key initiative for 2006. This is in line with the renewed Lisbon Strategy objectives and constitutes also a contribution to our WSSD commitments on Sustainable Production and Consumption.

Constraints and challenges

For many reasons, involvement of SMEs in the field of environment is very low and, consequently, the pressure exerted by them on environment is high. A recent report about the corporate social responsibility provides evidence that green activities are not integrated within the firms' core businesses.

Comprehensive pollution or resource consumption statistics for SMEs do not exist, making it difficult to determine the contribution of SMEs to environmental degradation. In most OECD countries, statistics on SMEs do not tally with data collected on emissions, waste generation and effluents from firms so there is little hard data to determine the small firm contribution to pollution load or to make cross-country comparisons.

One of the main obstacles to an effective environmental policy is the relationship between a future and uncertain economic advantage and the actual costs incurred by the need for technological adequacy and certification.

The Integrated Pollution Prevention and Control (IPPC) Directive

The EU has a set of common rules for the regulation of pollution by industrial installations. These rules are set out in the so-called **IPPC Directive** of 1996. IPPC stands for *Integrated Pollution Prevention and Control*. In essence, the IPPC Directive is about minimising pollution from various point sources throughout the European Union. All installations covered by *Annex I* of the Directive are required to obtain an authorisation (permit) from the authorities in the EU countries. Unless they have a permit, they are not allowed to operate. The permits must be based on the concept of *Best Available Techniques* (or BAT), which is defined in Article 2 of the Directive. In many cases BAT means quite radical environmental improvements and sometimes it will be very costly for companies to adapt their plants to BAT. To impose new and considerably tougher BAT rules on all existing installations in the European Union could jeopardise many European jobs, and therefore the Directive grants these installations an eleven year long transition period counting from the day that the Directive entered into force.

Lessons learned and good practice

The general view is that the IPPC Directive is an effective tool in combating pollution from industrial installations, bringing a number of benefits, in particular as regards the integrated and preventive approach, the implementation of permit conditions based on BAT, the updating of permits, improved monitoring and public participation.

One of the key success of the implementation of the Directive has been the publication by the Commission of the BAT Reference Documents (the so-called BREFs). The BREFs are the results of the information exchange organised by the European Commission (the European IPPC Bureau in the Joint Research Centre based in Seville). This exercise is a key driver for improved environmental performance as it involves systematic sector-by-sector benchmarking and comprehensive screening and assessment of techniques applied. The information exchange is also a highly cost-effective activity, as, in its absence, each Member State would be required to do a corresponding identification/determination of BAT in order to

fulfil its obligations under the Directive. Member States, industry representatives and NGOs are fully involved in the information exchange.

Trends and emerging issues

One of the main trends as regards the permission and control of industrial installations is the issue of streamlining existing legislation to avoid problems of coherence between legal requirements. This is an important feature both at national and Community level.

The Commission is currently assessing policy options to streamline existing legislation on industrial emissions in order to achieve “better regulation”. In this context, the Commission is preparing a review of the IPPC Directive which will also aim at clarifying the Directive and at assessing the possible use of economic instruments or incentives to encourage innovation to reduce industrial emissions.

There is also a trend, in particular at national and regional level, to disseminate more widely the information on Best Available Techniques.

Constraints and challenges

The IPPC Directive adopted in October 1996 aims at achieving integrated prevention and control of pollution arising from about 50.000 large industrial installations across the EU. The IPPC Directive has applied to new installations since 30 October 1999. For existing installations, the final deadline to achieve full compliance with the Directive is 30 October 2007, unless an installation is subject to a “substantial” change before that date.

One of the main constraints of the Directive is therefore to meet the deadline of October 2007 for all existing installations. It is indeed not sufficient to simply issue a permit but the installations should operate in full compliance with the Directive by this date. The Directive requires that the permit conditions should be based on Best Available Techniques (BAT) taking into account the technical characteristics of the installation concerned, its geographical location and the local environmental conditions. The actual implementation of this key requirement is left to the discretion of the competent authorities in the Member States. The implementation of the Directive remains therefore a challenge both for the competent authorities due to the resources needed to issue or review permits and for the operators in view of the possible investments needed to comply with permits conditions.

The implementation can be all the more complex as a number of existing installations are old and are far from applying BAT. The Directive provides for sufficient flexibility to allow competent authorities and operators to take into account constraints resulting from basic choices in the production process or plant layout and to respect cost efficiency considerations.

There is however a risk that certain Member States set permit conditions which are too lenient and not based on BAT. A close monitoring by the European Commission is therefore needed. This has started with the use of the EPER (European Pollutant Emission Register) data which has highlighted that certain installations generate large amounts of pollutants. Sectoral studies are also carried out to benchmark the level of environmental performance of industrial installations across the EU and make sure that the principles of the Directive are properly implemented.

EU Research Activities

The overall picture: EU research activities funded by the Industrial Technologies Directorate (FP5 and FP6), to be followed by the 7th Framework Programme, have taken constant care to integrate the three pillars of sustainable development: economic, social and environmental.

Lessons learned – good practices:

- All research projects (a total of 1.4 billion Euros in the 6th Framework Programme alone) are related to common everyday use materials and products and to the corresponding production processes. With three quarters of EU economic output based directly or indirectly on industrial activity, these products and processes largely determine society's environmental impact. Research efforts in these areas (e.g. life-cycle approaches encompassing natural resource management, starting at the products' inception; new intelligent materials, nanotechnologies etc) are thus directly contributing to help attain both economic growth and sustainable development objectives and findings are applicable in developed and developing countries.
- New knowledge through ongoing and future EU-funded R&D activities is applicable to developing economies.

Trends and emerging issues:

- An increasingly knowledge-based industry is replacing the current material-based paradigm.
- Increasing functionalities are being embedded in the product all the way down to the nano-scale for new intelligent materials.
- Convergence of nano-bio-info-cognitive and other dimensions
- Research policies deal with technological domains (materials, processes, nanotechnologies, life sciences, information technologies, etc.) in a more integrated way

Constraints and challenges:

- The rate of adoption of new knowledge-based paradigms by traditional industrial sectors in order to increase competitiveness, keep employment and greatly reduce environmental impacts.
- The understanding and alleviation through research of potential risks following the introduction of nanotechnologies.
- In-depth understanding and support of coherent and sustainable consumption patterns in the society, and their integration upstream of the production chain.

CASE STUDY OF A SUCCESSFUL NATIONAL INDUSTRIAL DEVELOPMENT PROGRAMME/STRATEGY

1. The problem or issue addressed: Lack of support mechanisms for eco-innovations.

2. Name of the programme: Environmental Technologies Action Plan (ETAP)

3. Timeframe: open ended Year started: 2004

4. Status: ☒ Ongoing ☐ Completed in year

5. Main objectives:

- Give eco-efficient innovations a fair and competitive market perspective and provide for the internalisation of external costs through an effective mix of instruments.
- Promote the global competitiveness of the European economy.

6. Lead institution: European Commission

7. Other implementation arrangements and stakeholders involved (public, private, NGOs, CBOs, international support, etc.): Broad stakeholder consultation.

8. The results achieved (if possible, please address the social, economic and environmental impacts of the programme): see text below

9. The relationship of the programme to internationally agreed goals and targets: The Action Plan indirectly contributes to the implementation of several MEAs. With regard to renewable energies, the Action Plan contributes to the implementation of the commitment made in the Johannesburg Plan of Implementation.

Link

<http://europa.eu.int/comm/environment/etap/>

Case Study: Environmental Technology Action Plan

The Environmental Technologies Action Plan (ETAP) was endorsed by EU heads of state and government at the European Spring Council in March 2004. Positive reactions to ETAP were received from a wide variety of stakeholders including business organisations, financial actors, the research community, non-governmental organisations.

ETAP is aiming at giving eco-efficient innovations a fair and competitive market perspective and to provide for the internalisation of external costs through an effective mix of instruments. These include performance-based green public procurement, fiscal incentives, reform of subsidies that have considerable negative effects on the environment and are inconsistent with sustainable development, and risk-sharing facilities, especially for SMEs.

ETAP and EU Competitiveness

More evidence is emerging on the contribution of environmental protection to the competitiveness of EU business and enterprises as a whole. When considering eco-industries alone, the world market for environmental goods and services was estimated at over €500 billion in 2003 – comparable to the aerospace and pharmaceutical industries – and continues to grow at around 5% per year.

At the global level, the sharp increase and fluctuation in oil prices in recent months has re-launched the debate on the need to reduce EU dependence on oil and boost support to policies aiming at energy efficiency, renewable energies and low carbon energies. Energy efficiency can reduce the energy demand in a cost-effective manner. It should be noted that investments in such technologies, by reducing the dependency on oil, also protect the economy against GDP losses because of the oil-GDP effect: recent calculations³² suggest that an increase of 10% in the share of renewable sources in electricity production can avoid oil-induced GDP losses in the range of \$29–\$53 billion in the US and the EU (\$49–\$90 billion for OECD). These avoided losses offset *one-fifth* of the investment needs in renewable energy projected by the European Renewables Energy Council and *half* the OECD investment projected by a G-8 Task Force.

The European Commission Communication on the share of renewable energy in the EU assesses the state of development of renewable energy and proposes concrete actions at national and Community level to ensure the achievement of EU renewable energy targets for 2010. Investments in both energy efficiency and renewable energy will thus increase the security of supply of energy for Europe.

Technological developments in the energy sector, especially regarding energy efficiency and renewable energies, are also, but not only, steered by the EU Climate Change policy. The launch of the Emission Trading System in January 2005, should be instrumental in this respect. Technological developments are also crucial for the preparation of the next steps of the fight against climate change, after the deadlines fixed in Kyoto. The Commission's Communication relating to the costs and benefits of medium and long term strategies on climate change ("post-2012") will give elements to guide the EU on the way forward.

The Implementation of ETAP so far

The implementation of the Action Plan is well underway. Progress has been made in giving more priority to environmental technologies in the EU Framework-Programme for Research and Development. An important action of the Environmental Technologies Action Plan (ETAP) was to increase and support research on Environmental Technologies, with the identification of "dedicated actions".

³² Shimon Awerbuch, Exploiting the oil-GDP effect to support renewables deployment.

Research Priority 3 has opened several research topics in its Work Programmes using two key instruments, namely: Integrated Projects (IP) which are big projects of the order of 10 billion Euros designed to attain a critical mass of activities (research, demonstration, training, innovation, management) and resources (staff, skills, competences, finances, infrastructure, equipment etc.); Coordination actions (CA), intended essentially to promote and support the networking and coordination of research and innovation activities.

Some examples include:

- 2004: Integrated Projects (IP) for SMEs on "Eco-industries", Coordinated Action (CA) on "Sustainable Consumption", Integrated Project on "Low CO2 steel production".
- 2005: Running call for proposals on "Industrial Biotechnology - Environmental technology for Sustainable Production".

They all demonstrate the importance attached to the knowledge-based approach through research in achieving the goals of sustainable development via a wide spectrum of subjects and stakeholders, including a focus on SME participation.

Several among the European Technology Platforms (ETP) launched are also very relevant to the balance that has to be kept between industrial development and environmental impact, including through adequate research efforts. A "Technology Platform" is a concept to bring together all interested stakeholders at European level with a view to developing a long-term vision and strategy as well as concrete measures around specific technologies. Examples of ETP related to industrial technologies include: Future of Manufacturing, Pulp & Paper, Clean Steel, Sustainable Chemistry, Construction, etc. Moreover, networks of testing centres are being established and should prepare the ground for a possible EU-wide environmental technology verification system. The Action Plan on Nanotechnologies and Nanosciences also contributes to the promotion of environmental technologies.

The proposed Regulations for the future period of the Cohesion policy³³ should facilitate regional investments in sustainable techniques and solutions; and the preparation of a future framework-programme for Competitiveness and Innovation should extend the range of EU instruments supporting environmental technologies. In order to improve market conditions for the uptake of environmental technologies, an EIB facility supporting private investments related to the EU Emission Trading Scheme has been established, and preparatory work paves the way for further action regarding risk funding schemes. The finalisation of key orientation documents on Green Public Procurement, on standardisation, and on environmentally-harmful subsidies should catalyse action at both EU and Member States levels in these areas. In particular, co-operation between the European Commission and Member States is taking place on the basis of the Handbook on Green Public Procurement, in order to facilitate the preparation of national Action Plans, measure progress and possibly set common targets. Preparatory work is also pursued on the design and implementation of performance targets for key products, services and processes.

Progress has also been made with respect to the global dimension, with the preparation of a "Patient Capital Initiative"³⁴ supporting investments in renewable energy and energy efficiency, and discussions at international level on export credits and trade agreements. The implementation of the water and energy ACP-EU facilities, in the framework of the development policy, also creates significant opportunities for environmental technologies. The development of information tools and the mobilisation of relevant stakeholders should pave the way for further initiatives regarding awareness-raising and targeted training.

³³ Cohesion policy refers to measures that aim at reducing disparities between European regions and to promote greater economic, social and territorial cohesion.

³⁴ The Patient Capital Initiative is designed to provide equity and quasi-equity funding to renewable energy businesses and projects in developing markets.

PART III. NATIONAL REPORTING GUIDELINES FOR CSD-14/15 THEMATIC AREAS

D. CLIMATE CHANGE

Government focal point(s): DG Environment

Responding ministry/office(s): DG Environment

CASE STUDY OF A SUCCESSFUL NATIONAL CLIMATE CHANGE PROGRAMME / STRATEGY

1. The problem or issue addressed: Industrial CO₂ emissions

2. Name of the programme: EU Emissions Trading Scheme

3. Timeframe: open ended/1st review in 2006 Year started: 2005

4. Status: X Ongoing ☐ Completed in year

5. Main objectives:

- Combat climate change.
- Achieving the EU's Kyoto target in a cost-effective way.

6. Lead institution: European Commission

7. Other implementation arrangements and stakeholders involved (public, private, NGOs, CBOs, international support, etc.): Strong involvement of the private sector through emissions trading, joint implementation and the Clean Development Mechanism.

8. The results achieved (if possible, please address the social, economic and environmental impacts of the programme): The 1st review will be conducted in mid-2006.

9. The relationship of the programme to internationally agreed goals and targets: The EU ETS shall contribute to the EU to meeting its commitments in the Kyoto Protocol.

Note: Kindly provide any appropriate facts, figures or charts that document the problem addressed and the results achieved. Noteworthy case studies may be published and/or summarized in UN publications as a means of sharing information on best practices.

Case Study: The EU Emissions Trading Scheme (EU ETS)

The EU emissions trading scheme (ETS) is based on a recognition that creating a price for carbon through the establishment of a liquid market for emission reductions offers the most cost-effective way for EU Member States to meet their Kyoto obligations and move towards the low-carbon economy of the future. The scheme should allow the EU to achieve its Kyoto target at a cost of between €2.9 and €3.7 billion annually. This is less than 0.1 % of the EU's GDP. Without the scheme, compliance costs could reach up to €6.8 billion a year. The ETS has been established through binding legislation³⁵ proposed by the European Commission and approved by all EU Member States and the European Parliament. The scheme is based on six fundamental principles:

- It is a 'cap-and-trade' system
- Its initial focus is on CO₂ from big industrial emitters
- Implementation is taking place in phases, with periodic reviews and opportunities for expansion to other gases and sectors
- Allocation plans for emission allowances are decided periodically
- It includes a strong compliance framework
- The market is EU-wide but taps emission reduction opportunities in the rest of the world through the use of CDM and JI, and provides for links with compatible schemes in third countries.

What the scheme covers

While emissions trading has the potential to involve many sectors of the economy and all the greenhouse gases controlled by the Kyoto Protocol (CO₂, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride), the scope of the ETS is intentionally limited during its initial phase while experience of emissions trading is built up. Consequently, during the first trading period, from 2005 to 2007, the ETS covers only CO₂ emissions from large emitters in the power and heat generation industry and in selected energy-intensive industrial sectors: combustion plants, oil refineries, coke ovens, iron and steel plants and factories making cement, glass, lime, bricks, ceramics, pulp and paper. A size threshold based on production capacity or output determines which plants in these sectors are included in the scheme. Even with this limited scope, more than 11,000 installations in the 25 Member States are covered, accounting for around 45 % of the EU's total CO₂ emissions or about 30 % of its overall greenhouse gas emissions. The scheme will be reviewed around mid-2006 to allow fine-tuning in the light of experience gained and to consider whether it should be extended to other sectors, such as chemicals, aluminium and transport, and to more greenhouse gases.

Emission allowances

At the heart of the ETS is the common trading 'currency' of emission allowances. One allowance represents the right to emit one tonne of CO₂. Member States have drawn up national allocation plans for 2005–07 which give each installation in the scheme an initial permission to emit an amount of CO₂ that corresponds to the number of allowances received. Decisions on the allocations are made public. The limit or 'cap' on the total number of allowances allocated in the ETS creates the scarcity needed for a trading market to emerge. Companies that keep their emissions below the level of their allowances are able to sell their excess allowances at a price determined by supply and demand at that time. Those facing difficulty in remaining within their emissions limit have a choice between taking measures to reduce their emissions, such as investing in more efficient technology or using a less carbon-intensive energy source, buying the extra allowances they need at the market rate, or a combination of the two, whichever is

³⁵ Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC

cheapest. This ensures that emissions are reduced in the most cost-effective way. Most allowances are allocated to installations free of charge — at least 95 % during the initial phase and at least 90 % in the second phase from 2008 to 2012. Though only plants covered by the scheme are given allowances, anyone else — individuals, institutions, non-governmental organisations or whoever — is free to buy and sell in the market in the same way as companies.

National allocation plans

Member States' national allocation plans (NAPs) have to be based on objective and transparent criteria, including a set of common rules that are laid down in the legislative framework establishing the ETS. The most important of these rules are as follows:

- An allocation plan has to reflect a Member State's Kyoto target as well as its actual and projected progress towards meeting it. The total quantity of allowances allocated is key in this regard. Allocating too many allowances would mean that greater efforts to cut emissions would have to be taken in economic sectors not covered by the scheme, in potentially less cost-effective ways than trading.
- Allocations to installations must take account of their potential for reducing emissions, and must not be higher than the installations are likely to need.
- Where Member States intend to use JI and CDM credits — thereby giving their companies more scope to emit — to help them reach their national emission target, these plans must be substantiated, for example through budgetary provisions.

The European Commission has issued specific guidance on how these rules are to be applied by Member States³⁶. The Commission assesses NAPs on the basis of these rules, as well as EU rules on State aids and competition, and has the power to require changes or even to reject them altogether.

Ensuring compliance

Appropriately for a market-based instrument that makes it possible to put a price on carbon, the ETS incorporates a robust framework of measures to ensure compliance that also gives a central role to economic incentives. After each calendar year, installations must surrender a number of allowances equivalent to their verified CO₂ emissions in that year. These allowances are then cancelled so they cannot be used again. Those installations with allowances left over can sell them or keep them for the future. Those that have not produced enough allowances to cover their emissions will have to pay a dissuasive fine for each excess tonne emitted. In the initial phase the penalty is €40 per tonne, but from 2008 it will rise to €100. Operators also have to obtain allowances to make up the shortfall in the following year, and they will be 'named and shamed' by having their names published. Member States are also required to lay down dissuasive penalties for any infringements of the ETS rules at national level.

Monitoring and reporting emissions

Each installation in the ETS must have a permit from its competent authority for its emissions of all six greenhouse gases controlled by the Kyoto Protocol. A condition for granting the permit is that the operator is capable of monitoring and reporting the plant's emissions. A permit is different from the allowances: the permit sets out the emissions monitoring and reporting requirements for an installation, whereas allowances are the scheme's tradable unit. Installations must report their CO₂ emissions after

³⁶ Commission Communication COM(2003)830 of 7 January 2004 on guidance to assist Member States in the implementation of the criteria listed in Annex III to Directive 2003/87/EC establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC

each calendar year. The European Commission has issued a set of monitoring and reporting guidelines³⁷ to be followed. Installations' reports have to be checked by an independent verifier on the basis of criteria set out in the ETS legislation, and are made public. Operators whose emission reports for the previous year are not verified as satisfactory will not be allowed to sell allowances until a revised report is approved by a verifier.

Transaction registries

Allowances are not printed but held in accounts in electronic registries set up by Member States. The European Commission has set out specific legislation for a standardised and secured system of registries based on UN data exchange standards to track the issue, holding, transfer and cancellation of allowances. Provisions on the tracking and use of credits from JI and CDM projects in the EU scheme are also included. The registries system is similar to a banking system which keeps track of the ownership of money in accounts but does not look into the deals that lead to money changing hands. The system of registries is overseen by a central administrator at EU level who, through an independent transaction log, checks each transfer.

Trading in practice

The legal framework of the ETS does not lay down how and where trading in allowances should take place. Companies and other participants in the market may trade directly with each other or buy and sell via a broker, exchange or any other type of market intermediary that may spring up to take advantage of a new market of significant size.

The price of allowances is determined by supply and demand as in any other market. Recent months have seen an accelerating upward trend in the volumes traded on the 'forward' allowance market as new players enter and existing players gain in confidence, and the 'spot'-market is also developing.

Benefits for partners outside the EU

Creating stable demand for credits from JI and CDM

Joint implementation and the clean development mechanism enable developed countries that have binding emission reduction or limitation targets under the Kyoto Protocol to undertake emission-saving investments in third countries and credit these savings towards their own emission target. CDM covers projects in countries without an emission target under the Protocol, i.e. developing nations. Reductions since 2000 are potentially eligible to receive credits called 'certified emission reductions', or CERs. JI applies to projects in countries that have agreed to an emission target — other industrialised countries and countries with economies in transition — and will yield credits known as 'emission reduction units', or ERUs, once the first Kyoto commitment period starts in 2008. The EU scheme is the first in the world that recognises most of these credits as equivalent to emission allowances (1 EUA = 1 CER = 1 ERU) and allows them to be traded under the scheme³⁸. Credits from nuclear facilities and land use, land-use change and forestry activities are not accepted.

³⁷ Commission Decision 2004/156/EC of 29 January 2004 establishing guidelines for the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC of the European Parliament and of the Council transaction for any irregularities. Any irregularities detected prevent a transaction from being completed until they have been remedied. The EU registries system will be integrated with the international registries system used under the Kyoto Protocol.

³⁸ (5) Directive 2004/101/EC of the European Parliament and of the Council of 27 October 2004 amending Directive 2003/87/EC establishing a scheme for greenhouse gas emission allowance within the Community, in respect of the Kyoto Protocol's project mechanisms

Thus, three years before the Protocol's first commitment period starts, the EU scheme is giving certainty to investors in the rapidly emerging market for JI and CDM projects. This encourages more investment in such projects and consequently promotes the transfer of environmentally sound technologies that help the host countries meet their sustainable development goals.

For EU companies covered by the scheme, the recognition of JI and CDM credits increases the range of options available for meeting their emission targets, improves the liquidity of the market and potentially lowers the price of allowances, thus further reducing their compliance costs. Companies are not the only ones looking for emission reduction credits through JI and CDM. Member States intend to use such credits themselves to help meet their emission target under the Protocol. As of October 2004, Member States had provisionally indicated in their national allocation plans that they intend to procure 500–600 million CO₂ credits for the period 2008–12. Since the majority of JI and CDM projects tend to generate emission reductions averaging between 500 000 and one million tonnes of CO₂, EU countries' demand for emission credits can only be satisfied through a great number of such projects. As 2008 draws nearer, EU Member States are actively seeking JI and CDM projects and a number of project contracts have already been signed (see **box???**). With this strong demand for emission credits building up rapidly, major European banks are becoming active in providing finance for prospective emission reduction projects. At the end of 2003, the European Investment Bank created a dedicated financing facility of €500 million. Likewise, Germany's KfW set up a carbon fund in June 2004, and other leading European banks are considering similar initiatives. The use of the Kyoto mechanisms within the EU will be supplemental to domestic action to limit or reduce emissions, as agreed by UNFCCC parties. Member States will address this question specifically in their national allocation plans for 2008–12.

Linking the EU ETS with trading schemes in partner countries

The ETS is open to linking with compatible greenhouse gas emission trading schemes in other countries that have ratified the Kyoto Protocol. It is foreseen that each side would agree to recognise allowances issued by the other, thereby expanding the market for trading. The EU is discussing Norway's possible participation in the ETS and preliminary discussions on cooperation have taken place with a number of other countries. The EU is also encouraged by moves to create an emissions trading scheme for CO₂ among a significant number of US states.

Shaping the future debate by sharing experience with partners

During the design of this innovative scheme, EU officials have exchanged information with many experts about existing trading schemes for other pollutants, particularly in the US. Now that the EU scheme has started, systematic 'learning by doing' will be crucial for its successful further development. Independent monitoring and evaluation is accompanying its implementation. These processes will yield invaluable information which the EU will want to share with all interested parties and stakeholders.