

STRATEGIES AND POLICIES OF PARTIES AND SIGNATORIES TO THE  
CONVENTION FOR THE ABATEMENT OF AIR POLLUTION

**2010 GENERAL POLICY QUESTIONS**

**Answers IRELAND**

**I. INSTITUTIONAL, REGULATORY AND STRATEGIC FRAMEWORK**

1. **Question 1: Please describe the division of responsibility within your country for measures to combat air pollution (i.e. the roles of national, provincial, and State authorities).**

The Department of the Environment, Heritage and Local Government (DoEHLG) is responsible for developing policy and introducing environmental legislation in Ireland. The mission of the Department is to pursue sustainable development. In pursuing this mission the Department's mandate is to:-

- achieve a high quality environment with effective environmental protection;
- address climate change;
- achieve effective conservation of our natural heritage and biodiversity;
- achieve effective conservation of our built heritage;
- protect and improve water resources and the quality of drinking water;
- ensure that our regions and communities are planned and built to respect sustainable and balanced regional development;
- ensure good quality housing in sustainable communities;
- monitor, analyse and predict Ireland's weather and climate;
- support and enable democratic and responsive local government.

The Environmental Protection Agency (EPA) has the primary role of implementing environmental legislation and therefore protecting the environment in Ireland. The EPA regulates and polices activities, often in co-operation with the 34 local authorities and other relevant statutory agencies (e.g. Health and Safety Authority) in Ireland.

EPA priorities include protecting the Irish environment and ensuring that development is sustainable as set out in their mission statement:

*'To protect and improve the natural environment for present and future generations, taking into account the environmental, social and economic principles of sustainable development.'*

**The EPA is responsible for:**

- Environmental licensing of large scale waste and industrial activities
- National environmental policing of EPA-licensed facilities and overseeing local authorities' environmental protection responsibilities.

- Monitoring, analysing and reporting on the environment
- Regulating Ireland's greenhouse gas (GHG) emissions
- Environmental research and development
- Strategic environmental assessment
- Environmental planning, education and guidance
- Proactive waste management and waste prevention.

The EPA is designated as a competent authority for much of the air quality legislation in Ireland. Ambient air quality assessment is the responsibility of the Environmental Protection Agency (EPA) and air quality management a matter for local authorities, informed by the national air quality monitoring network.

The EPA website (<http://www.epa.ie/>) provides real-time, publicly accessible, data from a number of monitoring stations nationally which allows the public to gauge air quality in relation to current EU and national standards.

The EPA's annual reports on air quality contain details of the monitoring and assessment of national air quality, and incorporates data from all air quality monitoring stations operated by the EPA and other organisations to comply with EU and Irish ambient air quality legislation.

They are:

- Local Authorities
- Met Éireann
- National University Ireland Galway at Mace Head
- Public Analyst's Laboratory Galway

For further details, the EPA's most recent Air Quality Report (2009) report can be downloaded from <http://www.epa.ie/downloads/pubs/air/quality/name.30440.en.html>.

Ireland's air management regulatory framework has been kept up to date with the EU requirements. In particular, integrated permitting was introduced through the 2003 Protection of the Environment Act, in line with provisions of the IPPC Directive (96/61/EC). IPPC licences, granted by the EPA to around 535 installations (as defined under the IPPC Directive) with 501 operating to end 2008, provide the framework for enforcement of legislation on all environmental media, including emissions to air. They require industry to innovate to decouple production from pollution. Prescribed activities that do not require an IPPC licence must be registered with their local authority and obtain a certificate of compliance.

Assessment of compliance with permits is carried out by the EPA's Office of Environmental Enforcement, established in 2003, with support from the Environmental Enforcement Network. Enforcement officers target facilities presenting a potentially high risk to the environment and/or continually showing significant non-compliance. Sectors requiring particular attention include mining, iron processing, recovery of non-ferrous metal, and

production of energy, aluminium, chemicals and cement. Most installations in these subsectors are large and many are operated by major multinational firms capable of meeting high environmental standards.

Irish local administration consists of 34 “county-level” units (29 counties and 5 cities).<sup>1</sup> They are responsible for environmental regulation (licensing) and assuring compliance by small and medium-sized businesses with legislation on air, noise, planning, waste, wastewater and water quality.

In addition, local authorities are empowered under [the Air Pollution Act, 1987](#) to develop air quality management plans for the prevention or limitation of air pollution or the preservation or improvement of air quality in the area or to assure compliance with an air quality standard.

**Question 2: Please provide details of your country’s ambient air quality and deposition standards, programmes and policies by completing the table below.**

**Table 1: Question 2**

	<b>Standard (unit) /conditions<sup>1</sup></b>	<b>Status<sup>2</sup>/objectives<sup>3</sup></b>	<b>Policy and programme/legislation (ref)</b>
<b>1. Ambient air quality standards</b>			
<b>Sulphur dioxide</b> As set out in Directive 1999/30/EC	SO <sub>2</sub> Hourly mean (not to be exceeded more than 24 times per yr)	350 µg/m <sup>3</sup> Health protection	Air Quality Standards Regulations 2002 <a href="#">S.I. No. 271 of 2002</a>
	SO <sub>2</sub> Daily mean (not to be exceeded more than three times per yr)	125 µg/m <sup>3</sup> Health protection	
	SO <sub>2</sub> Annual mean	20 µg/m <sup>3</sup> Ecosystem protection	

<sup>1</sup> The cities are Dublin, Cork, Limerick, Galway and Waterford, which are administered separately from the remainder of their respective counties. A second local government tier consists of 75 towns and 5 boroughs (Clonmel, Drogheda, Kilkenny, Sligo and Wexford, which have some autonomy within their counties). Two regional assemblies, established in 1999, promote co-ordination of public service provision, manage regional operational programmes in the Community Support Framework (CSF) and monitor the general impact of EU programmes under the CSF.

	SO <sub>2</sub> Winter mean	20 µg/m <sup>3</sup> Ecosystem protection	
<b>Nitrogen dioxide-nitrogen oxides</b> As set out in Directive 1999/30/EC	NO <sub>2</sub> Hourly (not to be exceeded more than 18 times per yr)	200 µg/m <sup>3</sup> Health protection	Air Quality Standards Regulations 2002 <a href="#">S.I. No. 271 of 2002</a>
	NO <sub>2</sub> Annual mean	40 µg/m <sup>3</sup> Health protection	
	NO <sub>x</sub> Annual mean	30 µg/m <sup>3</sup> Ecosystem protection	
<b>Ozone</b> As set out in Directive 2002/3/EC	O <sub>3</sub> Max daily 8-hr mean (not to be exceeded on more than 25 days averaged over 3 yrs)	120 µg/m <sup>3</sup> Health	Ozone in Ambient Air Regulations 2004 <a href="#">S.I. No. 53 of 2004</a>
	O <sub>3</sub> AOT <sub>40</sub> from 1-hour values  <i>AOT<sub>40</sub> is expressed in units of µg/m<sup>3</sup>.h and refers to the sum of the difference between hourly concentrations greater than 80 µg/m<sup>3</sup> (40 ppb) and 80 µg/m<sup>3</sup> over a specified period, such as a growing season. The AOT<sub>40</sub> target value in 2010 is 18,000 µg/m<sup>3</sup>.h, calculated from hourly values between 08:00 and 20:00 Central European Time (CET) each day from May to July and averaged over 5 yrs. The long-term objective for 2020 is 6,000 µg/m<sup>3</sup>.h.</i>	18,000 µg/m <sup>3</sup> h Ecosystems	

	O <sub>3</sub> Hourly information threshold	180 µg/m <sup>3</sup> Health	
	O <sub>3</sub> Hourly alert threshold	240 µg/m <sup>3</sup> Health	
<b>Particulate matter<sub>10</sub></b> As set out in Directive 1999/30/EC	PM <sub>10</sub> Daily (not to be exceeded more than 35 times per yr)	50 µg/m <sup>3</sup> Health protection	Air Quality Standards Regulations 2002 <a href="#">S.I. No. 271 of 2002</a>
	PM <sub>10</sub> Annual mean	40 µg/m <sup>3</sup> Health protection	
<b>Particulate matter<sub>2.5</sub></b> As set out in 2008/50/EC	Annual mean  PM <sub>2.5</sub> was measured at one station in Ireland in 2008.	25µg/m <sup>3</sup> Health protection	Legislation will shortly be introduced to transpose 2008/50/EC
<b>Total suspended particulates</b> As set out in Directive 2008/50/EC			
<b>Carbon monoxide</b> As set out in Directive 2000/69/EC	8 hr averaging period	10µg/m <sup>3</sup> Health protection	Air Quality Standards Regulations 2002 <a href="#">S.I. No. 271 of 2002</a>
<b>Lead</b> As set out in Directive 1999/30/EC	Annual mean	0.5 µg/m <sup>3</sup> Health protection	Air Quality Standards Regulations 2002 <a href="#">S.I. No. 271 of 2002</a>
<b>Cadmium</b>	Annual mean	5 µg/m <sup>3</sup>	Arsenic, Cadmium,

As set out in Directive 2004/107/EC		Health protection	Mercury, Nickel and Polycyclic Aromatic Hydrocarbons in Ambient Air Regulations 2009 <a href="#">S.I. No. 58 of 2009</a>
<b>Mercury</b> As set out in Directive 2004/107/EC	Target to yet to be established.	N/A Health protection	Arsenic, Cadmium, Mercury, Nickel and Polycyclic Aromatic Hydrocarbons in Ambient Air Regulations 2009 <a href="#">S.I. No. 58 of 2009</a>
<b>Arsenic</b> As set out in Directive 2004/107/EC	Annual mean	6 µg/m <sup>3</sup> Health protection	Arsenic, Cadmium, Mercury, Nickel and Polycyclic Aromatic Hydrocarbons in Ambient Air Regulations 2009 <a href="#">S.I. No. 58 of 2009</a>
<b>Nickel</b> As set out in Directive 2004/107/EC	Annual mean	20 µg/m <sup>3</sup> Health protection	Arsenic, Cadmium, Mercury, Nickel and Polycyclic Aromatic Hydrocarbons in Ambient Air Regulations 2009 <a href="#">S.I. No. 58 of 2009</a>
<b>Benzene</b> As set out in Directive 2000/69/EC	Annual mean	5 µg/m <sup>3</sup> Health protection	Air Quality Standards Regulations 2002 <a href="#">S.I. No. 271 of 2002</a>
<b>Benzo(a)pyrene</b> As set out in Directive 2004/107/EC	Annual mean	1 µg/m <sup>3</sup> Health protection	Arsenic, Cadmium, Mercury, Nickel and Polycyclic Aromatic Hydrocarbons in Ambient Air Regulations 2009 <a href="#">S.I. No. 58 of 2009</a>
<b>Dioxins/furans</b>	Maximum	3.0 pg WHO-TEQ/g for	Commission

As set out in Commission Regulation (EC) No 1881/2006	levels	dioxins only  6.0 pg WHO-TEQ/g for dioxins and PCBs combined	Regulation (EC) No 1881/2006
Other			

The Environmental Protection Agency (EPA) in Ireland has overall responsibility for the national air emissions inventory. The EPA Office of Climate, Licensing and Resource Use (OCLR) performs the role of inventory agency in Ireland and undertakes all aspects of inventory preparation and management and the submission of results to CLRTAP. Further detailed information on Ambient Air Quality monitoring in Ireland is available in the most recent Air Quality 2009 report: <http://www.epa.ie/downloads/pubs/air/quality/Air%20Quality%20Report%202009%20Final.pdf>

The latest EPA report on dioxin levels in the Irish environment shows that the dioxin levels (based on levels in cows' milk) in all of the samples were well below the relevant EU limits. The reported ranges for dioxins in milk fat (37 samples) were 0.180 to 0.346 pg WHO-TEQ/g with a mean of 0.233 pg WHO-TEQ/g. When PCBs were included, the range is 0.301 to 0.897 pg WHO-TEQ with a mean of 0.385 pg WHO-TEQ/g. These levels are well below the EU limit in milk and milk products of 3.0 pg WHO-TEQ/g for dioxins only, and 6.0 pg WHO-TEQ/g for dioxins and PCBs combined. The report is available to download at [http://www.epa.ie/downloads/pubs/other/dioxinresults/Dioxin\\_web.pdf](http://www.epa.ie/downloads/pubs/other/dioxinresults/Dioxin_web.pdf)

The principal mechanism for the entry of dioxins into the environment in Ireland is by low-level emissions from multiple combustion sources to the atmosphere, with subsequent deposition onto vegetation such as grass. Any dioxins on grass ingested by cows tend to concentrate in the milk fat. Hence, sampling for dioxin levels in the milk of grazing cows is the approach adopted. The report also shows that dioxin levels measured in this survey compare favourably with those taken from similar surveys in the EU and other countries. This is the 7th such survey undertaken by the EPA since 1995 and the survey confirms the continuing low levels of dioxins and dioxin-like substances in the Irish environment.

<b>2. Deposition standards</b>	<b>Standard (unit) /conditions<sup>1</sup></b>	<b>Status<sup>2</sup>/objectives<sup>3</sup></b>	<b>Policy and programme/legislation (ref)</b>
<b>Acidification</b>	Critical Load for acidity	A research project is ongoing under the Environmental Protection Agency (EPA) to update the Critical Loads values for Ireland. Ireland is currently compiling information for a data call from the UNECE CCE	Yearly minimum reporting of national sector emissions under CLRTAP
<b>Eutrophication</b>	Critical Loads for Nutrient		Yearly minimum reporting of national

	Nitrogen		sector emissions under CLRTAP
<b>Heavy metals</b>	Total gaseous mercury (TGM)	<p>Mercury has been monitored at Mace Head since 1995 as well as heavy metal monitoring at Valentia in Kerry by Met Eireann.</p> <p><a href="http://www.epa.ie/downloads/publications/research/air/erc-9-leinert-for-web%2003.03.08.pdf">http://www.epa.ie/downloads/publications/research/air/erc-9-leinert-for-web%2003.03.08.pdf</a></p> <p><a href="http://tarantula.nilu.no/projects/cc/reports/cccr3-2009.pdf">http://tarantula.nilu.no/projects/cc/reports/cccr3-2009.pdf</a></p> <p><a href="http://www.epa.ie/whatwedo/monitoring/air/data/mh/bz/">http://www.epa.ie/whatwedo/monitoring/air/data/mh/bz/</a></p> <p><a href="https://www.epa.ie/downloads/publications/research/air/EPA_atmospheric_pollutants_at_valentia_ERC1.pdf">https://www.epa.ie/downloads/publications/research/air/EPA_atmospheric_pollutants_at_valentia_ERC1.pdf</a></p>	<p>Yearly minimum reporting of national sector emissions under CLRTAP</p> <p>EU 4th Daughter Directive (2004/107/EC).</p>
<b>Persistent organic pollutants (POPs)</b>		<p>Research is being undertaken by the EPA on POPs analysis in soil in upland lake catchments as part of a project on Acid Sensitive Lakes. POPs in ambient air are also being monitored using Passive samplers is part of the GAPS network. This monitoring is part of a research project which finishes in 2011.</p>	<p>Yearly minimum reporting of national sector emissions under CLRTAP</p> <p>GAPs network</p>
<b>Other</b>			

<sup>1</sup>What are the conditions for these standards (e.g. yearly values, 8-hour averages, etc.)?.

<sup>2</sup>What is the status of the quality standards: limit values, target values, etc.?

<sup>3</sup>What is their aim (e.g. health, vegetation, etc.)?.

**Question 3:**

- (a) Does your country apply a multi-pollutant management approach? If so, please describe this;
- (b) Are climate change and air pollution policies integrated in your country? Please give specific examples of programmes or technologies that address the co-benefits of reducing air pollution and greenhouse gases;

Answer to (a) and (b) combined

The Environmental Protection Agency's 2020 Vision strategy (<http://www.epa.ie/downloads/publications/other/corporate/2020%20Vision.pdf>) sets out the vision for Ireland's environment over the coming decade and beyond. The strategy aims to achieve results in a number of critical areas, including climate change, and is set within the framework of sustainable development.



The strategy recognises that social, economic and environmental issues are connected and so good decisions and policy should focus on these three elements in a balanced and harmonious way. 2020 Vision outlines six environmental goals, reflecting the main challenges identified by the EPA for Ireland as well as key issues at global and EU levels.

**These goals are:**

- Limiting and adapting to climate change
- Clean air
- Protected waters
- Protected soil and biodiversity (native plants and animals)
- Sustainable use of natural resources (water, energy and materials)
- Integration and enforcement

Limiting and adapting to climate change is the key focus of this document. As Figure 1 shows, all of the EPA 2020 Vision goals are linked to the issue of climate change.

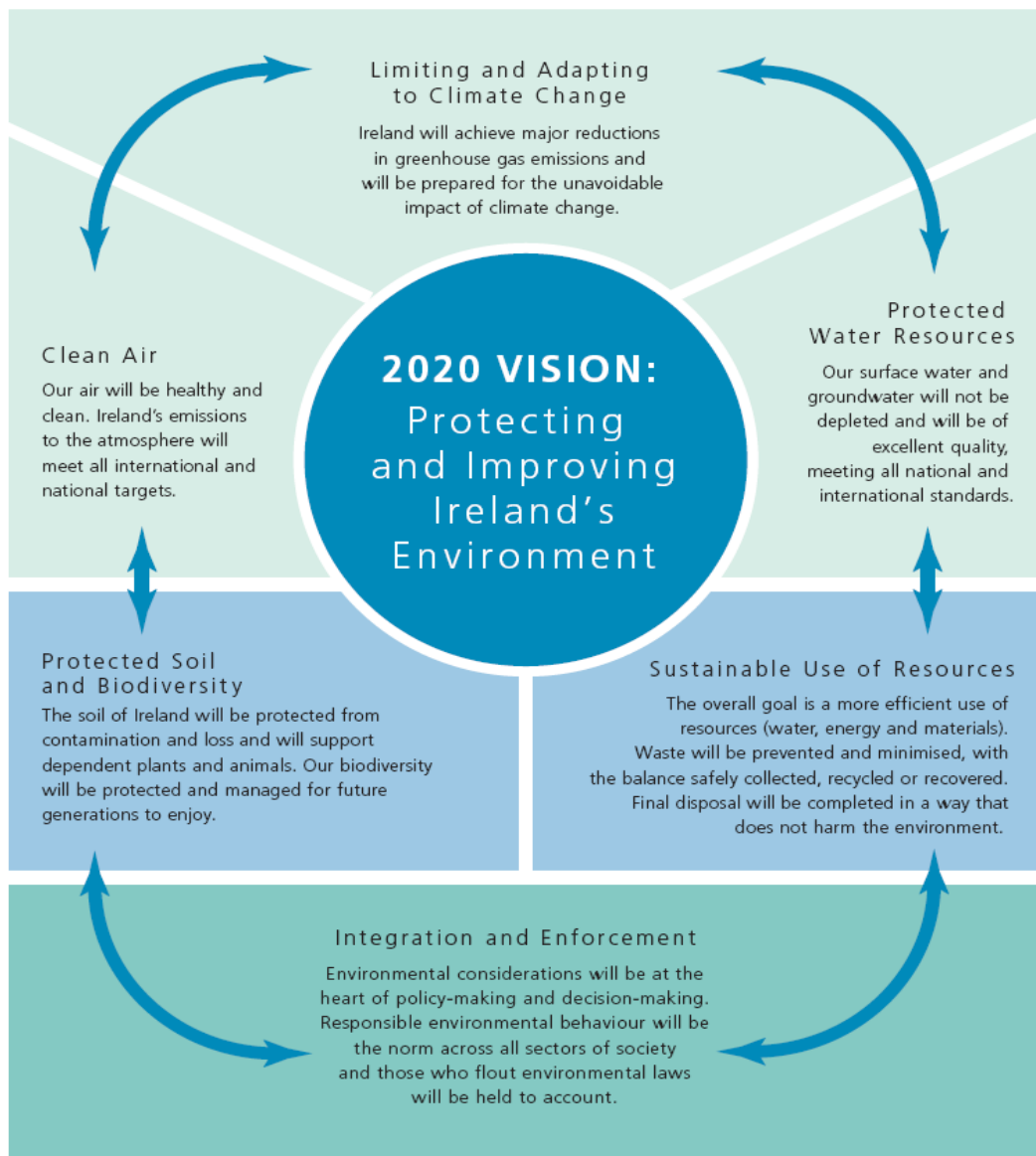


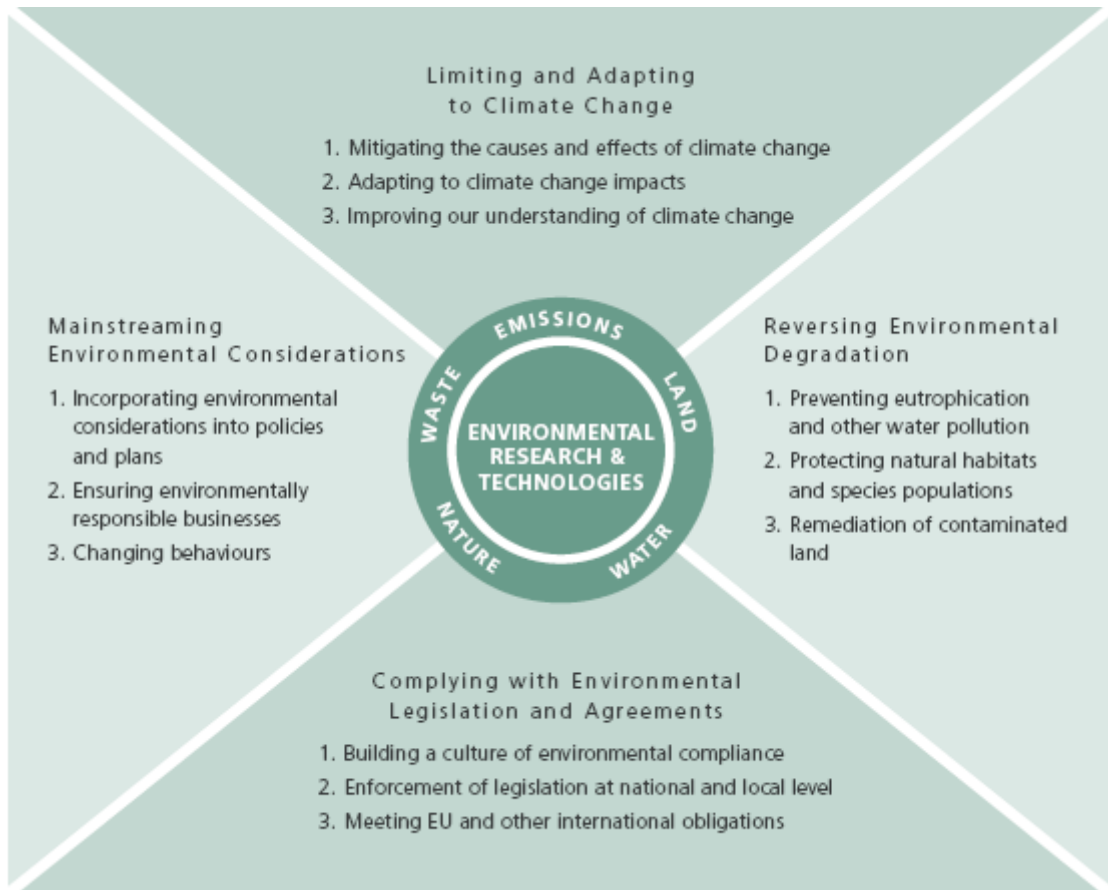
Figure 1

Question 4:

(a) To what extent does your country's air pollution policy address other (environmental) policies and other environmental media (e.g. fresh water, sea water, soil, waste, indoor air)? Please provide details;

The EPA publishes a report on Ireland's Environment every four years which provides an overall assessment of Ireland's environment. It reviews the quality of all aspects of the natural environment, identifies environmental pressures, and provides an assessment of the impacts and potential responses.

The report acknowledges the interdependency between air pollution and other environmental policies and media, as can be demonstrated in the following graphic which sets out the main environmental challenges facing Ireland. Emission reductions of air pollutants are expected as ancillary benefits from the implementation of the National Energy and Climate Strategy.



For more detailed information, the most recent report from 2008 is available to download at:

<http://www.epa.ie/downloads/pubs/other/indicators/irlenv/43366%20EPA%20report%20summary.pdf>

(b) To what extent do other policies take air pollution into account (e.g. industrial development, nature policy, spatial planning, financial policy, toxic substances policy)?.

The goal of improving ambient air quality to minimise health risks, particularly in urban areas, was included in the 1997 National Sustainable Development Strategy and the 2000-06 and 2007-13 National Development Plans.

#### *Governance for sustainable development*

Since the late 1990s, Ireland has made progress in mainstreaming sustainable development goals in general government and sectoral policies. The last ten-year Social Partnership Agreement, “Towards 2016”, explicitly acknowledged that “environmental challenges have profound implications for the future, including for economic performance”. It committed the government to review the Irish strategy for sustainable development. Programmes for Government adopted during the review period included environment-specific priorities. The 2002-06 Programme for Government committed to gradually phase in a greenhouse gas taxation policy taking into account the balance among economic, social and environmental objectives. The 2007-12 Programme for Government reiterated this commitment and made climate change one of three top political priorities (together with infrastructure development and health care).

Since 1999, Comhar, the Sustainable Development Council, has provided significant input on a number of major policy issues, such as the revision of the National Sustainable Development Strategy and the design of a carbon levy. Comhar’s 25 members come from a range of environmental NGOs, social NGOs, business sector organisations, the professions, academia and public sector bodies. The government approves the council’s terms of reference. The Minister for the Environment, Heritage and Local Government appoints the chairperson and members for three-year terms. The chairman of the Joint Oireachtas (Parliament) Committee on Environment and Local Government is a member *ex officio*. Comhar serves as a discussion forum that facilitates broad debates on sustainable development issues between the government and interest groups. The council meets regularly and works in three-year cycles; working groups deal with many of its work programme objectives. Comhar undertakes work at the request of any minister or on its own initiative. It provides i) advice to the government, ii) opinions and recommendations on policy development, iii) research and reports, and iv) sponsorship, conferences, seminars and other awareness-raising efforts. It submits its reports and other outputs to the minister for the environment, heritage and local government, who refers them as appropriate to the Cabinet, the Oireachtas Committee on the Environment and Local Government, government departments and other bodies.

#### *Other institutional arrangements*

Interdepartmental co-operation regarding sustainable development reached the highest political level in the case of climate change and energy with the establishment of the Cabinet Committee on Climate Change and Energy Security. The committee is supported by an interdepartmental subcommittee at senior level. While the committee does not have direct

decision-making power, it formulates proposals to the Cabinet for further action. Several institutions are involved in formulating and delivering the government's policy on energy and climate issues, with a strong emphasis on cross-sectoral and cross-departmental co-ordination.

More informally, there is regular co-operation at official level between the main government departments and agencies on a range of environmental and sustainable development issues, including infrastructure development, water quality and sustainable transport.

*Mechanisms to integrate sustainable development into decision-making*

In 2000, Ireland introduced strategic environmental assessment (SEA) through the Planning and Development Act, thus anticipating the EU SEA Directive (2001/42/EC). The Act required that several spatial plans (e.g. regional planning guidelines, development plans, local area plans and strategic development zone plans) be accompanied by information about their likely significant effects on the environment. The 2004 Planning and Development Regulations fully incorporated the directive's requirements in the spatial planning system. The 2004 Environmental Assessment of Certain Plans and Programmes Regulations extended SEA to the plans of other sectors listed under the SEA Directive. The Department of the Environment, Health and Local Government (DoEHLG) issued guidelines for regional and planning authorities on SEA implementation.

An increasing number of SEAs have been carried out. Consultation procedures have been strengthened; the Environmental Protection Agency (EPA), the DoEHLG and the Department of Communications, Energy and Natural Resources are the statutory environmental authorities that need to be consulted during assessment.

Since June 2005, regulatory impact analysis (RIA) has been required for all proposals of primary legislation, significant secondary legislation and all EU legislative proposals. It should assess all impacts of a proposal, including environmental and unintentional ones, and allow for stakeholder consultation. Some 74 RIAs were produced between June 2005 and February 2008, and more than 800 officials underwent RIA training.

## **II. INDUSTRIAL SECTOR**

2. Question 5: Please provide information on non-technical measures in your country for addressing the control of emissions from the industrial sector:

(a) Please describe the programmes and measures (whether mandatory or voluntary) that are in place in your country to address emissions from the industrial sector, including their potential impacts and positive or negative effects. These could include programmes to promote energy efficiency, renewable energy and energy conservation, programmes for reducing emissions from existing sources, financial assistance schemes, labelling schemes, classification of environmental preferability, product substitution, etc.;

The national programme on transboundary pollutants, revised in 2007, prioritises reducing emissions in i) road transport, by improving infrastructure, fuel quality and the effectiveness of pollution abatement technologies, and ii) power generation and industry, through integrated pollution and prevention control (IPPC) licensing, fuel switching and technology change.

Ireland's air management regulatory framework has been kept up to date with the EU requirements. In particular, integrated permitting was introduced through the 2003 Protection of the Environment Act, in line with provisions of the IPPC Directive (96/61/EC). IPPC licences, granted by the EPA to around 535 installations (as defined under the IPPC Directive) with 501 operating to end 2008 provide the framework for enforcement of legislation on all environmental media, including emissions to air. They require industry to innovate to decouple production from pollution. Activities that do not require an IPPC licence must be registered with their local authority and obtain a certificate of compliance.

#### *Promoting environmental performance of industry*

Voluntary approaches have been used in Ireland in environmental management and energy efficiency efforts. Repak, which in 1996 became Ireland's first voluntary initiative, expanded during recent years. In particular, it helped Ireland meet and then exceed its EU packaging recovery targets in 2001 (25%) and 2005 (50%), bringing packaging recycling close to 60% in 2007 (from under 15% in 1998). Over 2 000 companies are members, and Repak funds the recycling of over 60% of all packaging on the Irish market. Similarly, the Large Industry Energy Network (LIEN) has grown from a 1993 pilot project involving energy efficiency efforts in 10 companies to an 85 member Energy Agreements Programme (SEI, 2008). Since 1995, LIEN member companies have reduced their energy consumption by an average of 3% per year and their CO<sub>2</sub> emissions by nearly 150 million tonnes per year. More recently, adoption of the IS393 standard has been the major driver of reported energy savings (SEI, 2008). The Energy Agreements Programme, launched in 2006, centres on a commitment to adopt Irish Energy Management Standard IS393 to provide continuous and sustained improvements in energy efficiency. Companies also commit to complete three audits focusing on the viability of new energy-efficient technology or changes to core processes in energy-intensive areas

Agreements which promote the environmental performance of industry introduced between 2000 and 2008 include a 2002 commitment by importers and distributors of solid fuel to reduce the sulphur content in coal and petroleum coke and to extend the ban on the marketing, sale and distribution of bituminous coal in urban areas, a new agreement signed in 2008 carried forward the environmental gains achieved under the previous 2002 and 2006 agreements and maintained reduced levels in smoke and sulphur emissions arising from residential use of solid fuel.

Several initiatives support small and medium-sized facilities, which have less capacity for environmental management systems. The support focuses on development of environmental technology and eco-innovation. Enterprise Ireland is a government agency responsible for

developing and promoting Irish business. Enterprise Ireland, through its Environment and Green Technologies units, provides direct financial support that helped smaller Irish companies promote eco-efficiency in their operations. These efforts are complemented by information-based measures such as i) the Envirocentre website, which provides up-to-date information on a range of environmental issues relevant to industry; ii) regional industrial environmental forums aimed at smaller firms; and iii) technical advice to client companies from in-house experts in various environmental fields. Over 2000-06, the EPA funded environmental research with nearly EUR 40 million from the Environmental Research, Technological Development and Innovation programme (EPA, 2006c). Efforts will continue over 2007-13 under a reinforced successor programme, STRIVE, which in 2008 alone awarded over EUR 10 million for 30 eco-innovation projects.

The environmental goods and services sector in Ireland is relatively small, employing an estimated 6 500 persons, and has not matched the success of other high-growth sectors, such as biotechnology or information and communications technology. The market is estimated at EUR 2.8 billion, with exports worth EUR 106 million in 2006 (Forfás, 2008). Smaller firms dominate, with subsidiaries of UK and EU companies offering environmental consultancy services and competing in key sectors such as waste management. Because of the potential for further development (Ireland's National Advisory Body for Enterprise and Science estimated that exports of environmental goods and services will reach EUR 650 million and employ around 10 000 people by 2020), several government programmes support the sector. Both Enterprise Ireland and IDA Ireland, which promotes investment in Ireland, established environmental goods and services departments to support an expanding portfolio of start-up companies in the waste, water and energy sectors. Science Foundation Ireland's remit was extended to include sustainable energy and energy-efficient technology.

Demand for environmental products, services and technologies will increase as cost savings and business-to-business supply chain pressures increasingly become key factors in motivating eco-innovation. Recognising these links, Ireland's National Roadmap for the Implementation of the EU Environmental Technology Action Plan was adopted in 2006. It emphasises improving competitiveness and economic benefits of Irish companies and bridging the gap between research and the market place.

The Packaging Prevention Programme ([www.preventandsave.ie](http://www.preventandsave.ie)), jointly funded by the National Waste Prevention Programme and Repak, is an industry initiative. It involves the development of sectoral agreements with retailers on packaging prevention, and includes seminars, case studies and information on requirements. The programme is part of the strategy devised by the National Strategy Group for Packaging Waste Recycling.

By some estimates, in 2008 Irish eco-industry (environmental goods and services) generated turnover of EUR 2.8 billion and accounted for the equivalent of more than 6 500 full time jobs in direct employment (Forfás, 2008).

As set out already above, in April 2008 the consumer-oriented Change campaign ([www.change.ie](http://www.change.ie)) was launched. The campaign aims to raise general public awareness of

climate change and its causes and impacts, and promote behaviour that lowers emissions. The campaign includes seminars, road shows, guidance and projects for specific sectors (large industry, SMEs, the public sector, retail, education, agriculture, construction and tourism) to achieve emission reductions. It builds on the experience of the Race Against Waste and exploits synergies with the Power of One campaigns and other actions by Sustainable Energy Ireland.

(b) Does your country have in place any economic instruments for this sector? If so, please describe your country's most important economic instruments (e.g. tax incentives, fees, charges, subsidies, credit guarantees and low interest loans) and market-based programmes (e.g. emission trading programmes);

A tax incentive introduced in 2008 allows enterprises to deduct the full capital cost of energy efficient equipment when filing corporate tax. For more details please visit <http://www.dcenr.gov.ie/Energy/Energy+Efficiency+and+Affordability+Division/ACA+Scheme.htm>

In 2006, Ireland introduced the Biofuels Mineral Oil Tax Relief Scheme to kick-start the domestic biofuel industry and, in the long term, reduce dependence on imported fossil fuels. The uptake of biofuels considerably increased as a result, reaching 0.6% of road fuel consumption in 2007 (DoCENR, 2008), 117 compared with an intermediate target of 2.2% by 2008. The scheme terminated at the end of 2010.

The Government introduced a biofuel obligation to ensure that a certain percentage of the transport fuel used in the state consists of biofuels. Such an obligation scheme will be a key component in achieving a 10% penetration of renewable energy in transport by 2020, to which the Government has committed under the proposed new EU Renewable energy and climate change packages, set out by the European Commission. The biofuel obligation scheme should allow for a gradual uptake of these new fuel supplies and will adopt the new sustainability criteria which will come with the new binding EU targets. While other forms of renewable energy will play an important role in transport by 2020, it is expected that biofuels will retain a substantial role, and that successively higher obligations rates will be required to deliver that overarching 10% target.

The Biofuel Obligation Scheme (BOS) began on 1 July 2010. It is being administered by the National Oil Reserves Agency (NORA).

Other measures introduced are set out in the below table:

**Fiscal Measures to promote energy efficiency and renewable energy sources, 2000-08**

Measure	Year	Target/sector	Details
Low-carbon homes programme	2008	Buildings; renewable energy sources	Capital grants (up to 40% of eligible expenditure, max EUR 15 000 per housing unit) for housing developments that improve energy and CO <sub>2</sub> performance by at least 70% compared to the Building Regulations 2005 standards. The minimum requirements are: i) building energy rating of A2; ii) energy performance coefficient lower than 0.25; iii) carbon dioxide performance coefficient lower than 0.30; iv) electricity generation onsite per unit equivalent of 10 kWh/m <sup>2</sup> /year (including from renewables). The preferred scale of projects is between 5 and 15 units. The level of support depends on various factors, including the level of innovation proposed, the performance improvement, and the floor area.
Combined heat and power (CHP) programme	2007	Renewable energy sources; industry, commerce, services, public sector, ESCOs	Capital grants for the installation of small-scale (less than 1 MW) fossil fired CHP and biomass CHP systems, up to 40% of feasibility study costs and 30% of investment costs (with maximum costs per kW <sub>e</sub> depending on capacity). The CHP plant, when operational, must meet specified energy savings requirements, in line with the EU Directive 2004/8/EC. The programme is managed by SEI with a budget of EUR 11 million.
Renewable heat deployment programme (ReHeat)	2007	Renewable energy for heating (industrial, commercial, public and community premises and ESCOs)	Capital grants for renewable heating systems (boilers fuelled by wood chips and/or wood pellets; solar thermal pumps; heat pumps) up to 40% of the feasibility study costs (with maximum of EUR 5 000 per technology) and 30% of investment costs (limited by a maximum qualifying cost profiles per kWh, varying with capacity size, for each technology). All the supported systems must carry the CE mark and are subject to efficiency requirements as well as the meeting of relevant standards. The programme is administered by SEI with a budget of EUR 26 million.

(c) What innovative and alternative approaches, if any, are you using to control emissions from this sector?.

**Carbon Budget / Levy**

Ireland is the first country in the world, followed by the United Kingdom, to have introduced a national carbon budget as part of the annual budgetary process. The aim is to inform decisions on expenditure and taxation not only in terms of their financial and economic



impacts but also regarding their impact on climate change. The carbon budget presents additional emission reductions expected from measures introduced in the budget (e.g. grants for residential renewable energy heating systems and revised vehicle taxation reflecting CO<sub>2</sub> emission ratings). Carbon Budgets aimed at reducing domestic carbon emissions across the economy have been in place since 2007.

A Carbon Levy was introduced at a rate of €15 per tonne in the 2010 budget. The tax applies to petrol and diesel from December, 2009. The carbon tax applied to home heating oils and gas from May, 2010. The application of the tax to coal and commercial peat has not yet been introduced in order to allow a robust mechanism to be put in place to counter the sourcing of coal and peat from outside the State where lower environmental standards apply.

### **Emissions Trading Scheme (ETS)**

Ireland has participated in the EU Emission Trading Scheme for CO<sub>2</sub> since its launch in 2005. The ETS covers over 100 major industrial sites, in sectors including power generation, cement, lime, glass and ceramics, pharmaceuticals, semiconductors, food and drink, and oil refining. The EPA manages the National Emissions Trading Registry, serves as licensing authority for participating installations and oversees the monitoring, reporting and verification of emissions.

The revised ETS Directive (2009/29/EC), published on 5 June 2009, provides substantial amendments to the original ETS Directive (2003/87/EC) so as to provide for a more efficient, more harmonised and fairer system. The fairness of the system has been substantially increased by the move towards EU-wide free allocation rules for industrial installations and by the introduction of a redistribution mechanism that entitles new Member States to auction more allowances. Increased efficiency will be achieved by means of a longer trading period, a robust and annually declining emissions cap, and a substantial increase in the amount of auctioning. More harmonisation has been agreed in many areas, including with respect to the cap-setting (the scheme will – from 2013 - be administered by the European Commission rather than by Member States) and the rules on transitional arrangements for the free allocation of allowances. Ireland has partially transposed the Directive with respect to a number of Articles and work is underway in transposing the remaining Articles.

## **III. TRANSPORT SECTOR**

3. Question 6: Please provide information on non-technical measures in your country for addressing the control of emissions from the transport sector.

(a) Please describe the programmes and measures (whether mandatory or voluntary) that are in place in your country to address emissions from the transport sector including their potential impacts and positive or negative effects. These could include financial assistance schemes to promote public transport, labelling schemes, traffic

management schemes, use of electrical vehicles, cleaner fuels, etc.;

Efforts have been made to address environmental issues in transport planning. The 2000 Planning and Development Act transferred responsibility for approval of motorways, bus routes and other road projects from the National Road Administration to the Irish Planning Board, together with consideration of environmental impact statements. The National Roads Project Management Guidelines, issued in 2000, aim at identifying negative environmental impacts in the early stages of planning, before the project goes through statutory procedures such as the impact statements.

Infrastructure development in Ireland has expanded greatly under [Transport 21](#), a capital investment framework for 2006-15 totalling EUR 34 billion, of which 54% is allocated for roads and 46% for public transport and regional airports (DoT, 2005). *Transport 21* aims to facilitate a switch to more sustainable modes, such as public transport, cycling and walking, and improve planning for transport infrastructure development within greater Dublin and other dynamic conurbations. Modelling of the impact of Transport 21 in the greater Dublin area has projected a 20% fuel consumption reduction by 2015.

[SmarterTravel, A Sustainable Transport Future](#), is the new transport policy for Ireland for the period 2009-2020. The policy recognises the vital importance of continued investment in transport to ensure an efficient economy and continued social development, but it also sets out the necessary steps to ensure that people choose more sustainable transport modes such as walking, cycling and public transport. The policy is a response to the fact that continued growth in demand for road transport is not sustainable from a number of angles; it will lead to further congestion, further local air pollution, contribute to global warming, and result in negative impacts to health through promoting increasingly sedentary lifestyles.

Like most countries, Ireland's transport sector is dependent on imported oil. Ireland is working to transform this dependency. A two pronged strategy has been put in place which combines significant increases in the use of biofuels with the accelerated development and use of electric vehicles in Ireland.

The national Biofuel Obligation Scheme 2010 obliges all road transport fuel suppliers to use biofuel in the fuel mix to ensure that they represent a certain percentage of their annual fuel sales. The initial penetration rate will be 4% per annum, to be increased over time. The biofuel obligation will ensure that Irish consumers have access to appropriately priced, sustainable and reliable sources of biofuel over the coming years, and, in doing so, this will give an important incentive to domestic biofuel production.

The Government has set a target of 10% electric vehicles by 2020. The Government is taking a broad ranging series of initiatives around Electric Vehicles, including signing Memoranda or Understanding with a number of motor manufacturers, committing to a large scale national roll out of Electric Vehicle Infrastructure and appropriate supports for the customer. The size and geography of Ireland make the country uniquely suitable for Electric Vehicles, and efforts are being made to ensure that Ireland becomes an early test bed for this

technology, and that it takes full advantage of the potential benefits associated with using electricity from renewable sources in transport.

Ireland implemented EU vehicle emissions standards for cars, trucks and vans in 2005-06. The Euro 5/6 standards, agreed in 2006 and in force from 2009, should have a positive effect on air quality, especially as regards NOx emissions.

Ireland's first National Cycle Policy Framework was launched in 2009 and aims to create a new culture of cycling in Ireland by 2020. Dublinbikes, a new rent-a-bike cycling scheme, was launched in September 2009 by Dublin City Council to improve the city's public transport infrastructure. The network will facilitate the use of bicycles for short journeys in the Dublin city centre area.

**(b) Does your country have in place any economic instruments for this sector? If so, please describe your country's primary economic instruments (e.g. tax incentives, fees, charges, subsidies, credit guarantees and low interest loans) and market-based programmes (e.g. road pricing programmes);**

Until 2008, the vehicle registration tax (VRT), for first-time registration of a vehicle in Ireland, and an annual motor vehicle tax were calculated according to engine size, with higher rates imposed on large engines. As disposable income increased, Irish citizens bought more and larger cars, so the rising number of cars with engine capacity over 1400cc offset fuel efficiency improvements between 2000 and 2007. In 2008, the basis for calculating the VRT and annual motor vehicle tax for passenger cars was revised to reflect CO<sub>2</sub> emission ratings, providing incentives to buy more CO<sub>2</sub>-efficient cars and putting Ireland among the front-runners in Europe in linking car emissions with climate effects. A 50% reduction in VRT applied to hybrid-electric cars until the end of 2006 resulted in an increase in their numbers from eight in 2002 to 248 in 2004. The relief was extended to flexible fuel cars; since 2008, registration of such cars has entailed VRT relief of up to EUR 2 500, in addition to VRT benefits related to their lower CO<sub>2</sub> emissions. For 2008-10, electric cars and cycles were entirely exempt from VRT.

**(c) What innovative and alternative approaches, if any, are you using to control emissions from the transport sector?**

As per above, initiatives including the introduction of a carbon tax, promotion of electric vehicles and changes in how Vehicle Registration Tax is calculated.

In addition, the TaxSaver Commuter Ticket Scheme was established in 1999 as an incentive for employees to use public transport to commute to work. Passes for travel by bus, rail and commuter ferry, provided by employers as part of employees' salary, are exempt from benefit-in-kind taxation and pay-related social insurance. Participating employees can save

up to 50% on their travel costs and employers benefit from savings on their social insurance payments.

A cycle to work programme, introduced in 2009, grants a similar exemption for bicycles and associated safety equipment provided by employers to employees who cycle to work. In contrast, a car parking levy of EUR 200 per year, also introduced in 2009, is charged to employees whose employers provided them with parking facilities in the main urban centres.

To support the development of public transport in rural areas, the Rural Transport Initiative (RTI) was launched with EUR 6 million under the 2000-06 NDP. The RTI was originally designed as a two-year pilot project to be concluded at the end of 2003, but it was extended and became permanent in 2007 with funding of EUR 90 million under the 2007-13 NDP. It now operates in virtually all counties, supporting 34 community transport groups. Current indications are that passenger numbers are growing. The RTI also benefits from application of a free travel programme for vulnerable populations operated by the Department of Social and Family Affairs (DoT, 2006).

The Government Carbon Offsetting Scheme to offset greenhouse gas emissions from official air travel applies to all Government Departments and Offices and bodies under their aegis, and covers all flights by Ministers and officials on both commercial airlines and Government passenger aircraft. Operating on an annual basis since 2009, it retrospectively accounted for all official air travel since June 2007.

Departments and offices are required each year to calculate their carbon dioxide emissions and associated offsetting costs based on total air kilometres travelled. The value of the total offsetting costs in each year is invested through Renewable Energy and Energy Efficiency Partnership (REEEP) in Gold Standard Voluntary Emissions Reductions (GS VERs) from small scale energy efficiency and renewable energy projects in Ireland's priority Overseas Development Aid countries in Africa. REEP which is based in Vienna, administers the scheme on Ireland's behalf. As of 31 December, 2009 Government Departments, Offices and other bodies contributed some €645,000 since the beginning of the scheme. In September, 2010 a contract was signed for the purchase of VERS generated by a project in Malawi. This project will involve reducing the use of non-renewable biomass through the supply of improved household cooking-stoves.

#### IV. ENERGY SECTOR

4. Question 7: Please provide information on non-technical measures in your country for addressing the control of emissions from the energy sector.

(a) Please describe the programmes and measures (whether mandatory or voluntary) that are in place in your country to address emissions from the energy sector including their potential impacts and positive or negative effects. These could include

programmes to promote energy efficiency, renewable energy and energy conservation, financial assistance schemes, labelling schemes, energy performance coefficients for buildings and housing, etc.;

Emissions from major stationary sources in Ireland are regulated by the EU Large Combustion Plant directive (2001/80/EC) transposed into law in Ireland by the Large Combustion Plant Regulations (S.I. No 644 of 2003). It is implemented through the Integrated Pollution Prevention and Control (IPPC) regime which applies the principle of BAT.

The [National Energy Efficiency Action Plan 2009 – 2020](#) was published on 8 May, 2009. This major Government policy document sets out Government plans and actions to achieve its target of 20% energy efficiency savings across the economy in 2020. Improving Ireland's energy efficiency is an essential part of Ireland's sustainable energy policy, and will play a vital role in reducing our dependence of fossil fuels.

The Government set out an energy policy framework in its [White Paper: Delivering a Sustainable Energy Future for Ireland - the Energy Policy Framework for 2007-2020](#). This policy framework is designed to steer Ireland to a new and sustainable energy future; one that helps us reduce greenhouse gas emissions and energy costs. Efficient energy use directly contributes to security of energy supply, sustainable transport, affordable energy, competitiveness and environmental sustainability.

The overall trend of emissions from the power generation sector is one of decline. Over the period 2006 – 2009, emissions of SO<sub>2</sub> decreased by 57%. The strategy of reducing emissions from power plants has two facets; reduced operation of sulphur intensive (oil fired) plants, and installation of abatement technologies. Ireland has opted to develop a national emissions reduction plan (NERP) under Article 4 (6) of the Large Combustion Plants directive (2001/80/EC) to address emissions from 'existing plant' as defined in the directive. The NERP sets ceilings for emissions of SO<sub>2</sub> which are significantly more ambitious than the minimum requirements of directive 2001/80/EC.

Total emissions of SO<sub>2</sub> have also fallen sharply in recent years, from 139.4 kt in 2000 to 32.7kt in 2009, a fall of 77% over the period. This reduction was driven by sharp falls in the powergen sector, which fell by 80% from 79.9 kt to 15.7kt over the same period largely as a result of the reduction of sulphur in heavy fuel oil from 3% to 1% (directive 99/32/EC) and reduced operation of oil fired plant.

(b) Does your country have in place any economic instruments for this sector? If so, please describe your country's primary economic instruments (e.g. tax incentives, fees, charges, subsidies, credit guarantees and low interest loans) and market-based programmes (e.g. emission trading programmes)?;

Several measures to promote energy efficiency were introduced and implemented during the years 2000-2008, mainly in the form of regulatory standards and financial assistance

Energy efficiency in transport has been tackled mainly through vehicle-related taxes, fuel efficiency standards and investment in public transport (see above).

To meet Ireland's objective of fuel diversification and comply with the EU Large Combustion Plant Directive, further steps have been taken to improve efficiency and environmental performance of fossil-fuelled power plants. The Moneypoint Environmental Retrofit Project entails retrofitting flue gas desulphurisation and selective catalytic reduction equipment at the coal-fired Moneypoint plant (900 MW). The project has been completed and has delivered substantial in SO<sub>x</sub>, NO<sub>x</sub> and dust emissions. Two new state-of-the-art peat-fired power stations replaced the old plants at Shannonbridge and Lanesboro. A number of other plants throughout the country were also closed. The Edenderry Plant has been co-fired by peat and biomass on a trial basis.

Although public spending has been cut in virtually all areas, including environment, energy, transport and overseas development aid, exceptions include funding provided for sustainable energy and energy efficiency of buildings (Home Energy Saving Scheme and Warmer Homes Scheme).

In the residential and building sector, in 2006 Ireland introduced the Building Energy Rating in line with the EU Directive on the Energy Performance of Buildings (2002/91/EC). Following encouraging results in the House of Tomorrow Programme, in 2007 the Irish Government further amended the Building Regulations, aiming at a 40% improvement in the energy and CO<sub>2</sub> emission performance of the housing sector. The new rules were gradually phased in, to allow for the necessary industry adjustments, and since mid-2009 have been applied to all new homes. The Building Regulations are currently being reviewed with a view to moving from a 40% to a 60% improvement, building on evidence expected from the Low Carbon Homes Programme. Other support measures have addressed energy performance in existing private and public buildings. Examples include the [Home Energy Saving Scheme](#) and the [Public Sector Programme](#).

Concerning the business sector, in 2005 Ireland introduced the Irish Energy Management Standard (IS393) for companies. It specifies requirements for continuous improvement in energy performance and obliges participating organisations to design and implement an energy management system. The Irish standard has been taken as the basis for an EU-wide version. SEI assists large energy-intensive companies in meeting the standard (Energy Agreements Programme) and offers small and medium-sized enterprises technical assistance and *ad hoc* training courses (Energy Management Action Programme). SEI also facilitates the voluntary Large Industry Energy Network (LIEN), involving 85 industrial companies developing an energy management and audit programme. Since its launch in 1995, LIEN member companies have reduced their energy consumption by an average of 3% per year and their CO<sub>2</sub> emissions by nearly 150 million tonnes per year. More recently, adoption of the IS393 standard has been the major driver of reported energy savings (SEI, 2008). A tax incentive introduced in 2008 allows enterprises to deduct the full capital cost of energy efficient equipment when filing corporate tax. For more details please visit <http://www.dcenr.gov.ie/Energy/Energy+Efficiency+and+Affordability+Division/ACA+Scheme.htm>

In 2006 Ireland opted for a renewable energy feed-in tariff (REFIT) to support electricity



generation from renewable sources, replacing the alternative energy requirement programme, which had produced unsatisfactory results (IEA, 2007). The option of tradable renewable certificates was also under consideration, but was dismissed due to the small size of the market at that time. Support is given in the form of fixed prices per kWh of electricity produced, differentiated on the basis of the renewable source so as to favour those sources that are at the earlier stages of development in the country: large wind farms receive the lowest tariff, whereas the highest price is awarded to ocean energy.

Ocean energy is seen as having high development potential in Ireland. A major programme to support this emerging technology was launched in 2008, with more than EUR 26 million earmarked over three years to assure development and testing of prototype ocean energy facilities. A draft [\*Offshore Renewable Energy Development Plan \(OREDPA\)\*](#) was published for public consultation in November, 2010. A post consultation report was scheduled to be published in the first half of 2011.

(c) What innovative and alternative approaches, if any, are you using to control emissions from the energy sector?.

See above, including the introduction of carbon levy and emission trading scheme.

## V. AGRICULTURAL SECTOR

5. Question 8: Please provide information on non-technical measures in your country for addressing the control of emissions from the agricultural sector.

(a) Please describe the programmes and measures (whether mandatory or voluntary) that are in place in your country to address emissions from the agriculture sector including their potential impacts and positive or negative effects. These could include good agricultural practices, programmes to promote energy efficiency (greenhouses), renewable energy and energy conservation, programmes for reducing emissions from stables, financial assistance schemes, labelling schemes, etc.;

Ireland's national Nitrates Action Programme was given statutory effect by the European Communities (Good Agricultural Practice for Protection of Waters) Regulations 2006 which were made on 19 July 2006. These Regulations provide strengthened statutory support for the protection of waters against pollution from agricultural sources e.g. by phosphorus or nitrogen. The Regulations require the avoidance of careless practices by farmers, which create a risk of causing pollution and provide for inspections by local authorities. Implementation of the Action Programme is supported by an enhanced package of financial supports for farmers by Department of Agriculture, Fisheries & Food (DAFF) and by the cross-compliance inspections carried out by that Department. There is cross reporting of breaches between local authorities and DAFF.

The EU Commission granted Ireland a derogation on the 22 October 2007, which allowed landspreading rates of up to 250kg of Nitrogen per hectare per annum for specific circumstances. The

European Communities (Good Agricultural Practice for Protection of Waters) Regulations 2009 give statutory effect to the operation of the derogation. The Regulations also provide for better farmyard management and strengthened enforcement provisions.

#### Rural Environment Protection Scheme

The Department of Agriculture, Fisheries and Food (DAFF) Rural Environment Protection Scheme (REPS) has been the main mechanism for promoting voluntary agri-environmental measures since 1994, in accordance with EU provisions for rural development. Spending on agri-environmental measures under REPS rose to more than EUR 300 million in recent years. Although the REPS has increasingly focused on biodiversity, participating farms follow farm-specific nutrient management plans

#### Bio-Energy Establishment Scheme

The Bioenergy Scheme provides establishment grants to farmers to grow miscanthus and willow for the production of biomass suitable for use as a renewable source of energy. The Scheme aims to increase the production of willow and miscanthus in Ireland and to encourage alternative land use options. It is open to applicants who are landowners or have leasehold title to the land and have responsibility for farming the land on which it is proposed to carry out the plantation.

#### Farm Waste Management Scheme

The Farm Waste Management Scheme operated by the Department of Agriculture, Fisheries and Food (DAFF) until 2008 provided investment support (40% of capital cost, to a ceiling of EUR 120 000 per holding) for building manure storage, winter livestock housing and silage storage. It also paid 20% of the cost of manure spreading equipment. Almost 43,000 approvals to commence work were issued to farmers under the Scheme.

(b) Does your country have in place any economic instruments for this sector? If so, please describe your country's primary economic instruments (e.g. tax incentives, fees, charges, subsidies, credit guarantees and low interest loans) and market-based programmes (e.g. emission trading programmes);

Please see above answer to 7(a) above

(c) Are there any programmes in your country that promote organic farming or consuming products from organic farming?;

The Organic Farming Scheme (relaunched January 2010) supports organic production methods that are environmentally friendly and sustainable. Organic farming methods benefit biodiversity and respect the countryside;

*Further information on the Organic Farming Scheme can be found on*



<http://www.agriculture.gov.ie/organics/>

Organic producers may also qualify for support under the other direct payment and investment schemes, which are open to all farmers. They may also avail of supports offered by various other state agencies, which include amongst others:

- [Bord Bia](#)
- [Department of Community, Gaeltacht and Rural Affairs](#)
- [Shannon Development](#)
- [Enterprise Ireland](#)
- [Udaras Na Gaeltachta](#)

Organic production and labelling of organic products is controlled by European and national regulations, i.e. European Council Regulation (EEC) No. 834/2007 as amended, which is backed up by Statutory Instruments Nos. 112 of 2004 and 698 of 2007. The EU legislation allows Member States to use private inspection bodies to carry out the inspection and licensing system of organic operators. Five certification bodies are approved to carry out this work in Ireland, i.e. Institute of Marketecology (IMO), Irish Organic Farmers and Growers Association (IOFGA), Organic Trust Limited, BDAA-Demeter UK and Global Trust Certification Limited.

From 1994 to 2006, organic farmers have been supported by way of a Supplementary Measure under the Rural Environment Protection Scheme (REPS). Under the current Rural Development Programme, which runs from 2007 to 2013, there is a stand-alone Organic Farming Scheme. Organic Farmers were entitled to join REPS also until it was closed to new applications in July 2009, and are entitled to join the Agri-Environment Options Scheme (AEOS) which was launched in March 2010.

(d) What innovative and alternative approaches, if any, are you using to control emissions from the agriculture sector?.

Integrated pollution control licensing of activities with significant polluting potential had been well established since the introduction of the 1992 Environmental Protection Agency Act. The 2003 Protection of the Environment Act harmonised this licensing with requirements of the EU directive on integrated pollution prevention and control (IPPC) so that it now covers a broader range of activities, such as intensive agriculture, milk processing, cattle slaughtering and production of paper, pulp or board.

## VI. RESEARCH, DEVELOPMENT AND MONITORING

6. Question 9: Please provide information related to air pollution in your country on research, development and monitoring; on the exchange of technology; and on information to the general public. Provide websites where relevant documentation is available.

- (a) Please provide information on activities undertaken with a view to encouraging research, development and monitoring;

### EPA Funded Research

The Environmental Protection Agency (EPA) has a statutory role to co-ordinate environmental research in Ireland.

### STRIVE Programme 2007-2013

The EPA research programme for the period 2007-2013 is entitled Science, Technology, Research and Innovation for the Environment (STRIVE) and is based on the following:

- the Environmental Research Sub-programmes of the National Development Plan 2007-2013;
- the Government's Strategy for Science, Technology and Innovation launched in 2006;
- the EPA's most recent assessments of Ireland's environment;
- the EPA's strategy 2020 Vision – Protecting and Improving Ireland's Environment;
- a series of workshops organised by the Agency, mainly during 2006, involving environmental policymakers, managers and researchers;
- the experience gained in previous EPA research programmes.

It also takes account of developments at EU level in respect of current environment and research programmes and of the wider international context.

The purpose of the programme is to protect and improve the natural environment by addressing key environmental management issues through the provision of world-class scientific knowledge generated through a vibrant, competitive programme of research developed supported and co-ordinated by EPA.

### Funding

The funding for the programme is provided from a number of sources:

- €3 million provided in the Environmental Research Sub-programme of the NDP 2007-2013;

- €8 million provided for research in aspects of climate change, transboundary pollution and earth observation under the Inter Departmental Committee for the Strategy for Science, Technology and Innovation (IDC-SSTI);
- Co-funding with other state agencies and funding groups for projects / themes where such an arrangement would deliver synergies and increase the utilisation of results;
- EPA core funding for staffing the management of the programme.

The STRIVE Programme consists of three key measures, two measures in support of these and seven principal thematic areas. Brief details of these are provided below:

- Key Measures
  - Measure 1: Sustainable Development
  - Measure 2: Environmental Technologies and Cleaner Production
  - Measure 3: A Healthy Environment
- Support Measures
  - Measure 4: EPA Environmental Research Centre
  - Measure 5: Capacity and Capability Building
- Principal Thematic areas
  - Air Quality, Atmospheric Deposition and Noise
  - Sectoral impacts on Biodiversity
  - Climate Change
  - Soils and Landscape
  - Socio-Economics
  - Waste, Resource Management and Chemicals
  - Water Quality and the Aquatic Environment.

In addition, the EPA undertakes other functions including key national support in respect of the EU's 7th Framework Programme for research (FP7), specifically the theme Environment, including Climate Change as well as liaison and support in respect of other EU programmes and in the wider international context.

#### Air quality

The Environmental Protection Agency (EPA)'s research programme on Air quality has focused on assessment of urban air quality, traffic impacts and development of understanding of particulate

matter (PM) in the Irish atmosphere. Research projects combined both measurement and modelling activities and were linked to international assessments and activities in these areas.

Key projects:

- The nature and origin of PM10 and smaller particulate matter
- Modelling urban air quality
- Prediction of traffic impacts on air quality in sub-urban and regional locations.

These projects will assist the development of the monitoring network in line with the requirements of the EU Air Framework Directive.

Additional work on air pollution has been carried out under the Environmental Research Centre (ERC). This focuses on regional and transboundary air pollution issues arising from the UNECE Convention on Long Range Transport of Air Pollution (CLTRAP) and linked processes under EU Clean Air For Europe (CAFE) program.

Further information is available to download: <http://www.epa.ie/researchandeducation/research/>

**(b) To what extent is your research, development and monitoring activities linked to international activities?;**

The EPA is closely involved in programmes such as EU Framework Programme 7 and maintains contact and liaison with the EU level activities and other relevant international activities. This engagement helps to inform the development and ongoing implementation of the national programmes.

#### EU Framework Programme 7

The EPA is the National Contact Point (NCP) for the Environment (including Climate Change) thematic area of the EU Framework Programme 7 (FP7). The EPA provides support to potential Irish participants to successfully access FP7 funding. ([Read more about the EU Framework Programme 7 \(FP7\)](#)).

#### COST

Run by the [ESF](#) (European Science Foundation), COST – European Cooperation in the field of Scientific and Technical Research - is an intergovernmental framework for the coordination of nationally-funded research at a European level.

COST brings together researchers and experts in different countries working on specific topics. COST does not fund research itself, but supports networking activities such as meetings,

conferences, short term scientific exchanges and outreach activities. Currently more than 200 scientific networks (Actions) are supported. ([Read more about COST](#))

#### LIFE+

The EU LIFE+ Programme 2007-2013 is a dedicated EU funding programme for environmental projects. Covering the period 2007-2013, LIFE+ will provide €1.7 billion for co-funded projects across the EU which are linked to nature conservation, environmental technology and the communication of environmental matters. The LIFE+ National Authority in Ireland is the Department of Environment, Heritage and Local Government (Sustainable Development Unit). (Read more about LIFE+ )

#### Other Activities

The EPA participates in several European funded projects for research funders, such as:

- [SKEP ERA-Net](#)
- [ENVHEALTH ERA-Net](#)

The EPA is also a member of the Member States Mirror Group for the Water supply & sanitation Technology Platform. ([Read more about the WssTP](#) )

(c) In what language is the information on research, development and monitoring available?.

English.

## VII. EXCHANGE OF TECHNOLOGY

7. Question 10: Please provide information on exchange of technology in your country:

(a) Please provide information on measures taken to create favourable conditions to facilitate the exchange of information on technologies and techniques;

The Environmental Protection Agency (EPA) has the primary role of implementing environmental legislation and therefore protecting the environment in Ireland. The EPA publishes all its reports, bulletins, advice and guidelines on its website [www.epa.ie](http://www.epa.ie). In addition, the EPA organises workshops and seminars on environmental issues for both local authorities and industry.

(b) How does your country actively promote the exchange of technology internationally?;

Engagement in BREF process with EU peers and implementation of BAT Guidance under IPPC Directive

(c) In what language is the information on exchange of information on technologies and techniques available?.

English

## VIII. INFORMATION TO THE GENERAL PUBLIC

8. Question 11:

(a) Please provide information on the process for public participation in developing legislation and strategies related to air pollution in your country;

Since June 2005, regulatory impact analysis (RIA) has been required for all proposals of primary legislation, significant secondary legislation and all EU legislative proposals. It should assess all impacts of a proposal, including environmental and unintentional ones, and allow for stakeholder consultation. New legislation which comes into force is also published on the Department's website.

(b) Please indicate whether your country has a programme that alerts citizens to days when poor air quality is predicted. If so, please describe it;

The EPA website (<http://www.epa.ie/>) provides real-time, publicly accessible, data from a number of monitoring stations nationally which allows the public to gauge air quality in relation to current EU and national standards.

(c) Please provide information about the way in which the general public is informed about air pollution policy in your country;

The EPA publishes an annual Air Quality Report and monthly bulletins on Ozone and PM10. As at point (b) directly above, the EPA website (<http://www.epa.ie/>) provides real-time data on air quality.

(d) In what languages is the information to the general public available?.

English.

## IX. PARTICIPATION IN THE WORK OF THE CONVENTION AND STATUS OF RATIFICATION OF THE PROTOCOLS

9. Question 12: Please provide information on your country's current participation in the technical and scientific work under the Convention and the status of ratification of the Protocols, by completing the tables below.

**Table 2: Question 12**

### **Participation in the technical and scientific work under the Convention**

<b>1. International Cooperative Programmes (ICPs) under</b>	<b>Participation</b>
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<b>Working Group on Effects<sup>1/</sup></b> (a) ICP Waters (b) ICP Vegetation (c) ICP Forests (d) ICP Materials (e) ICP Integrated Monitoring (f) ICP Mapping and Modelling	EPA  Coillte  EPA / Trent University
<b>2. Technical and scientific groups<sup>2/</sup></b> (a) Task Force on Emission Inventories and Projections (b) Task Force on Measurements and Modelling (c) Task Force on Integrated Assessment Modelling (d) Expert Group on Techno-economic Issues (e) Network of Experts on Benefits and Economic Instruments (f) Task Force on Hemispheric Transport of Air Pollution	EPA EPA EPA
<b>3. Other task forces and expert groups<sup>2/</sup></b> (a) Task Force on Health (b) Task Force on Reactive Nitrogen (c) Task Force on Heavy Metals (d) Task Force on POPs	EPA EPA

<sup>1/</sup> Please indicate with A = active, meaning taking part with one or more monitoring sites, or P=passive, meaning taking part without sites, N = not taking part

<sup>2/</sup> Please indicate with R = regularly, O = occasionally or N =never

#### (b) Ratification of protocols

Protocol	Ratification <sup>1/</sup>	Potential obstacles to ratification and needs for assistance <sup>2/</sup>	Timescale for ratification <sup>3/</sup>
1. EMEP Protocol <sup>4/</sup>	Y		
2. 1985 Sulphur Protocol	N	Superseded by the 1994 Protocol which Ireland has ratified	N/A
3. Nitrogen Oxides Protocol	Y		
4. Protocol on Volatile Organic Compounds	N	Superseded by the Gothenburg Protocol (see below)	N/A
5. 1994 Sulphur Protocol	Y		
6. Protocol on Heavy Metals	N	Finding appropriate administrative window	Ratification will be considered in the context of

			the new Programme for Government
7. Protocol on POPs	N	Finding appropriate administrative window	Ratification will be considered in the context of the new Programme for Government
8. Gothenburg Protocol <sup>5/</sup>	N	The lack of a flexibility mechanism in relation to the obligation to comply with the ceilings in Annex V, in particular the NO <sub>x</sub> ceiling, presents Ireland with significant challenges, particularly in the context of, <i>inter alia</i> , the failure of specific vehicle abatement (EURO) standards to deliver NO <sub>x</sub> emission reductions.	To be considered in the context of the review of the Gothenburg protocol.

<sup>1/</sup> Indicate with Y if you have ratified this Protocol or N if you have not yet ratified.

<sup>2/</sup> If not yet ratified

<sup>3/</sup> If not yet ratified, please provide details of the timescale within which your country intends to ratify the Protocol

<sup>4/</sup> 1984 Geneva Protocol on Long-term Financing of the Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe

<sup>5/</sup> 1999 Gothenburg Protocol to Abate Acidification, Eutrophication and Ground-level Ozone

## X. APPLICATION OF BEST AVAILABLE TECHNIQUES TO MOBILE AND STATIONNARY SOURCES

10. Question 13: Please describe how your country applies best available techniques (BAT) to mobile sources and to each new or existing stationary source with regard to the Gothenburg Protocol obligations and taking into account guidance documents I to V adopted by the Executive Body at its seventeenth session (decision 1999/1).

Integrated pollution control licensing of activities with significant polluting potential had been well established since the introduction of the 1992 Environmental Protection Agency Act. The 2003 Protection of the Environment Act harmonised this licensing with requirements of the EU directive on integrated pollution prevention and control (IPPC) so that it now covers a broader range of activities, such as intensive agriculture, milk processing, cattle slaughtering and production of paper,



pulp or board. The environmental requirements in permits were strengthened by applying best available techniques (BAT) based on the EU BAT Reference Documents (BREFs), as well as by introducing emission limit values, including for greenhouse gas emissions, and measures for energy efficiency and pollution prevention.

## XI. FEEDBACK ON THE QUESTIONNAIRE

11. Question 14: Have you encountered difficulties in answering this questionnaire, whether technical or interpretative? Please use the table below to provide further details.

**Table 3: Question 12**

<b>Question no.</b>	<b>Problem</b>	<b>Suggestion for improvement</b>

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