

AIR AND NOISE ENFORCEMENT

04

“Our air will be healthy and clean. Ireland’s emissions to atmosphere will meet all international and national targets”

2020 Vision – Clean Air – EPA 2007

- 4.1 INTRODUCTION**
- 4.2 IPPC AIR EMISSIONS ENFORCEMENT**
 - Inspections of IPPC licensed air activities
 - Criminal sanctions
- 4.3 LARGE COMBUSTION PLANT ENFORCEMENT**
- 4.4 GREENHOUSE GAS ENFORCEMENT**
 - Inspections of Emissions Trading Scheme facilities
- 4.5 OZONE DEPLETING SUBSTANCES ENFORCEMENT**
 - Inspections of facilities using ozone depleting substances
- 4.6 SOLVENTS ENFORCEMENT**
 - Inspections of solvents installations
- 4.7 LOCAL AUTHORITY LICENSED AIR ENFORCEMENT**
 - Inspections of local authority licensed air activities
 - Criminal sanctions
- 4.8 BITUMINOUS COAL BAN ENFORCEMENT**
 - Inspections of smokeless coal distributors
 - Criminal sanctions
- 4.9 NOISE RELATED STATUTORY FUNCTIONS**
- 4.10 LOCAL AUTHORITY AIR & NOISE ENFORCEMENT**
 - Inspections of air & noise complaints by local authorities
 - Administrative sanctions
 - Criminal sanctions
- 4.11 ENVIRONMENTAL OUTPUTS, OUTCOMES AND FUTURE ENFORCEMENT ACTIONS**
 - Environmental outputs and outcomes
 - Future enforcement actions

4.1 INTRODUCTION

The monitoring, assessment and protection of air quality in Ireland is controlled by a number of EU directives and national regulations. The EPA, as the designated competent authority, implements national monitoring programmes to comply with these directives and supplies real-time data on air quality to the public. There are 26 monitoring stations distributed nationally that are operated by both the EPA and local authorities. In addition, there are 19 monitoring stations measuring black smoke and sulphur dioxide (SO₂) operated by local authorities.^[1]

Air quality monitoring for Ireland indicates good compliance with current EU and national air quality standards with no exceedances of any ambient air quality limit values in recent years. This is primarily due to the prevailing clean Atlantic air and lack of large cities and heavy industry. Urban air quality has been improved in large cities and towns through the ban on the marketing, sale and distribution of bituminous coal. However, the main threat to urban air quality is the emission of pollutants from road traffic, particularly in the larger cities of Dublin and Cork, where emissions from traffic have resulted in levels of nitrogen dioxide (NO₂) and particulate matter (PM₁₀) approaching the specified EU limit values.

While air quality in Ireland remains very good, one of the key issues for Ireland is to reduce its emissions of transboundary air pollutants in line with international commitments set out in the EU National Emissions Ceilings (NEC) Directive (European Parliament and Council, 2001). Significant reductions of sulphur dioxide (SO₂), volatile organic compounds (VOCs) and ammonia (NH₃) have been achieved in the past decade. However, nitrogen oxide (NO_x) emissions will be well in excess of the ceiling in 2010 and will remain high for the short term owing to large increases in road transportation and in emissions from the cement producing sector^[2]. An overview of ambient air quality trends in Ireland is available in the published EPA Air Quality in Ireland Report^[3].

Both the EPA and local authorities regulate air emissions from industrial facilities. The EPA Integrated Pollution Prevention and Control (IPPC) licensing regime (EPA Acts 1992 to 2007) largely controls emissions to air from industry while local authorities are responsible for regulating facilities outside of the remit of the EPA Acts under the Air Pollution Act, 1987.



Noise is regulated by a variety of different mechanisms. These include conditions set out in planning permissions, IPPC licences and waste licences/permits, the EPA Acts, 1992 to 2007, and associated Noise Regulations, 1994^[4a], and the Environmental Noise Regulations 2006^[4b]. The Department of the Environment, Heritage and Local Government (DoEHLG) is currently examining noise legislation, following a consultation paper, with the aim of developing an integrated approach to noise pollution issues, improving powers for local authorities and An Garda Síochána to take steps to address noise sources and the development of codes of practice for the reduction of noise, reporting mechanisms and information provision.

4.2 IPPC AIR EMISSIONS ENFORCEMENT

The EPA Integrated Pollution Prevention and Control (IPPC) licensing regime controls emissions to air from industry. The licensing of industry by the EPA has been ongoing since 1994, during which time the licences issued have evolved to take account of new or revised environmental legislation. In its licensing remit the EPA has regard to the requirements of legislation related to air protection, including:

- Large Combustion Plant Directive (2001/80/EC)
- Air Quality Framework Directive (1996/62/EC) and Daughter Directives
- Clean Air for Europe Directive (2008/50/EC)

[1] There were 451 and 156 monitoring inspections carried out by local authorities in 2007 and 2008 respectively

[2] Environmental Protection Agency, 2008. Ireland's Environment 2008. EPA, Ireland

[3] O'Leary B, 2008. Air Quality in Ireland Report 2007 – Key Indicators of Ambient Air Quality. EPA, Ireland

[4a] S.I. No. 179 of 1994

[4b] S.I. No. 140 of 2006

- IPPC Directive (1996/61/EC)
- Waste Incineration Directive (2000/76/EC)
- Petroleum Vapour Emissions Regulations (S.I. No. 374 of 1997)
- Environmental Protection Agency Act, 1992 (Control of Volatile Organic Compound Emissions Resulting from Petrol Storage and Distribution) Regulations, 1997 (S.S. No. 374 of 1997)
- Solvents Directive (1999/13/EC)
- Emission Trading Directive (2003/87/EC)
- Seveso Directive (96/82/EC)
- EPA Acts 1992 to 2007
- Waste Management Acts 1996 to 2008
- Air Pollution Act, 1987
- Environmental Liability Directive (2004/35/EC) and
- EU Animal By-products Regulations (EC No. 1774/2002)

To address improvement and standardisation in existing practices the EPA has developed guidance for operators and consultants for the monitoring and sampling of emissions to air and the operation of continuous emission monitoring systems. The following air guidance notes have been developed and issued to date:

- **AG1:** Site Safety Requirements for Air Emission Monitoring Guidance Note
- **AG2:** Air Emissions Monitoring Guidance Note
- **AG3:** Air Guidance Note on the Implementation of I.S. EN 14181 for Continuous Emissions Monitoring Systems (CEMS)

There are now 47 licensed facilities using CEMS. These range from continuous monitoring of single parameters to complex multi-parameter continuous monitoring systems.

Currently, there are approximately 190 active IPPC licences that include limits for emissions to atmosphere and the EPA continues to monitor compliance with these limits via a programme of emissions monitoring.

The chemical sector is the largest sector licensed by the EPA with respect to atmospheric emissions. Its activities include the manufacture of organic or organo-metallic chemical products, inorganic chemicals, pesticides, pharmaceuticals, paints,

inks, resins, dyes, glues and adhesives. Compliance within this sector is generally good with significant investment and dedicated technical staff available on-site to support environmental performance. A number of fine chemical and pharmaceutical plants also operate on-site dedicated solvent recovery and waste incineration facilities, which are generally well managed and safely handle on-site waste streams.

The surface coating sector (licensing threshold of greater than 10 tonnes solvent consumption per annum) represents another large IPPC sector with licensed emission to atmosphere. This sector is diverse, ranging from small printing operations to large pharmaceutical product manufacturers. Compliance issues are mainly associated with the smaller operators in the area of meeting emission limit values and controlling fugitive emissions.

The predominant air issues relating to most IPPC and waste facilities regulated by the EPA are noise, odour and dust nuisance. Other specific air issues relate to certain sectors such as solvent emissions from the metals, pharmaceutical/chemical (pharmachem) and surface coating sectors and acidifying gases from the power generation sector. A detailed analysis of the compliance issues and enforcement activity at each class of industrial activity licensed by the EPA is provided in Chapter 5 and Appendices 2 & 3.

Nineteen IPPC-licensed combustion-based power stations^[5] were in operation at some time between 2001 and 2007. During this time, three old peat-fired power stations were decommissioned and replaced by two new peat-fired power stations, and four new gas-fired power stations commenced operations. The environmental impact of the power-generating sector is dominated by emissions of carbon dioxide (CO₂), sulphur oxides (SO_x), nitrous oxides (NO_x) and heavy metals to air. **Figure 4.1** shows that between 2001 and 2007, there were substantial reductions in SO_x



[5] IPPC activity code 1.1, EPA schedule 2.1

(63%), NO_x (41%) heavy metals (30%) and CO₂ (19%) from the sector.

Data presented in **Figure 4.1** were primarily based on annual environmental returns (AER) submissions and augmented by data submitted to the EPA under the Large Combustion Plant Directive (LCPD) requirements (SO_x and NO_x emissions), and through application of technology-specific emission factors to fuel-use data (heavy metal emissions)^[6].

There were 37 IPPC-licensed installations whose primary activity was the manufacture of pharmaceutical products^[7] in operation at some time between 1996 and 2007. Comprehensive reporting on emissions in Annual Environmental Reports (AERs) increased over time for these installations. From 2002 onwards, 28 major installations (responsible for 95% of the sector's 2002 emissions) submitted comprehensive emission data. The most environmentally important emissions to atmosphere from this sector are CO₂, VOCs, SO_x and NO_x. Among the core 28 installations, all of these emissions decreased between 2002 and 2007, with reductions ranging from 87% for SO_x to 1% for CO₂. However, when new installations are considered, sectoral emissions of CO₂ increased by 16% (**Figure 4.2**).

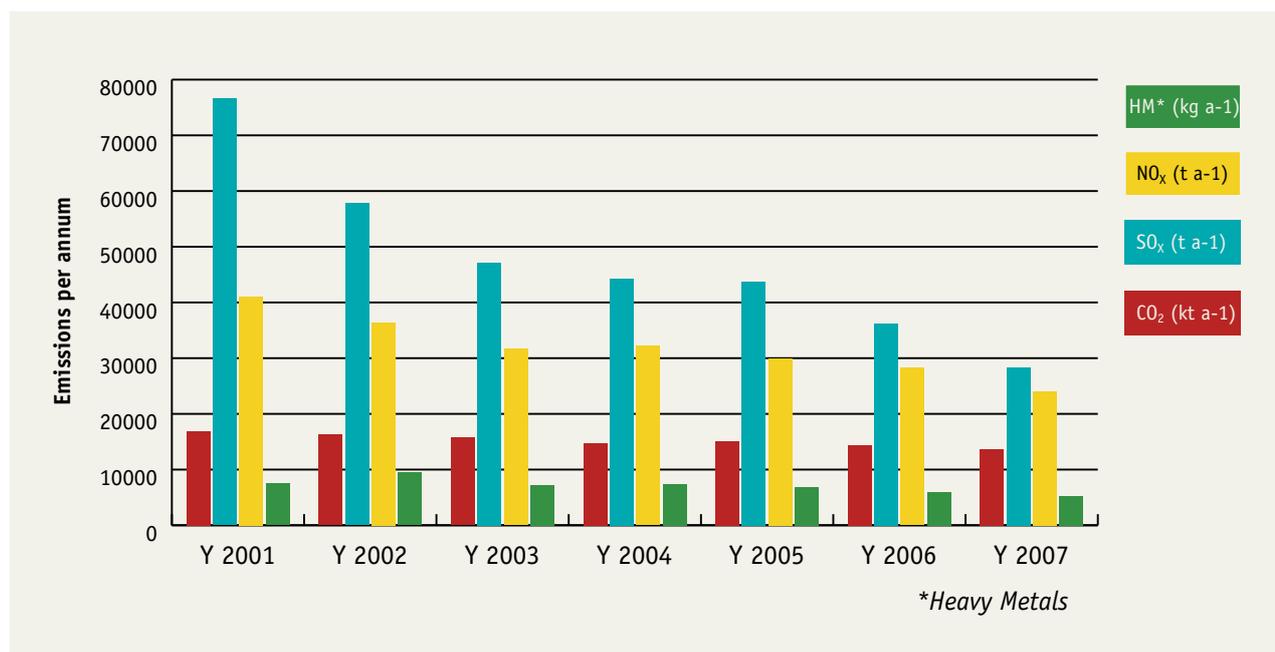
Reductions in emissions of SO_x and NO_x to air were all substantial for the sector as a whole (479 and 259 tonnes per annum, respectively). Reduced air

emissions reflect a shift towards cleaner fuels and improved boiler combustion efficiencies. The decrease in emissions detailed in **Figure 4.2** represents a significant reduction in emissions to the environment for SO_x and NO_x. Reported VOC emissions decreased by 10% from the sector, but this excludes the majority of fugitive emissions. Total VOC emissions from the sector are estimated to be approximately 3.5 times higher than reported in AERs (CTC, 2005^[8]).

To account for non-reporting by a few installations operating in 2002 and 2003, emissions data were extrapolated upwards by 5% and 2% in these years, respectively, to generate consistent and complete sectoral time-series. The inflation-adjusted value of chemical production in Ireland (dominated by pharmaceutical manufacture) remained relatively constant between 2002 and 2007 according to Central Statistics Office data.

The sampling and monitoring of emissions to air has been found to be in need of improvement in a number of sectors in particular where small operators do not have dedicated technical staff on-site. While monitoring methods and standards are available for determining emission to air there is a need for improvement and standardisation in existing practices. To this end the EPA has developed guidance and recognises the merits of the existing monitoring

FIGURE 4.1 Emissions to atmosphere from IPPC licensed combustion-based power stations between 2001 and 2007



[6] Thistlethwaite, G., Passant, N., Jackson, J., Wagner, A., O'Leary, E., Creedon, M., 2006. Ireland Heavy Metal Inventories 1990, 1995 to 2004. A Report Produced for Ireland's Environmental Protection Agency by Netcen, an operating division of AEA Technology plc & the Clean Technology Centre, Cork. AEAT/ENV/R2119 Issue 1

[7] IPPC activity code 4.5; EPA schedule 5.6

[8] CTC, 2005. NMVOC inventory for Ireland (SNAP Sector 6 Solvent and Other Product Use). Report to the Environmental Protection Agency. CTC, Ireland

certification scheme for air emission monitoring. The EPA has also encouraged the use of MCERTS certified equipment (or equivalent) and the personal certification by Irish field technicians through the scheme. The EPA currently requires MCERTS for contractors who measure significant air emissions at facilities, and for monitoring and laboratory personnel (INAB or UKAS accreditation) who are carrying out air monitoring and analyses of these emissions.

4.2.1 Inspections of IPPC licensed air activities

The EPA undertakes monitoring of emissions to air from EPA licensed facilities in order to check compliance with emission limit values specified in the licences. This is in addition to licensee self-monitoring requirements as included in the respective licences. Air emissions monitoring undertaken by the EPA between 2006 and 2008 is provided in **Table 4.1**. A reduced number of monitoring visits were carried out in 2008 due to delays in the retendering of the external air contract, while in-house monitoring by the Agency ceased during 2008. All future emissions monitoring will be carried out on a contract basis. The number of planned visits for 2009 is in the region of 160.

The main emission parameters for which non-compliances were noted were particulates and volatile organic compounds (VOCs). There is no individual activity sector which dominates in terms of the number of non-compliances; however, the results highlight the main areas of concern in terms of the control of emissions to air. The EPA is adopting a risk-based approach to emissions monitoring and those sites which are found to be non-compliant will be subject to more frequent monitoring than compliant sites.

4.2.2 Special investigations

A number of special investigations were carried out by the EPA during 2006–2008 in relation to air issues, as follows:

4.2.2 (a) Investigation into cattle health problems

Investigations into the cause of ill thrift in a cattle herd in the Castlecomer area are ongoing with no definitive cause for the observed symptoms having currently been identified. The investigation has included the completion of soil and herbage sampling and analysis, detailed air dispersion modelling, air quality monitoring, ecological surveys, tree surveys, surface and groundwater monitoring, as well as emissions monitoring and operational reviews at a local brick factory. An expert review group of independent experts was also convened to review operational aspects of the brick factory, while the Department of Agriculture, Food and Fisheries has also initiated a detailed veterinary epidemiology study of the observed animal health issues.

4.2.2 (b) Dioxin monitoring

Dioxin monitoring during the pork contamination/ animal feeds incident of late 2008 was carried out and discussed earlier. Low level contamination of a small area of soil in the vicinity of the site was identified and remediation of this area is being carried out.

The majority of routine dioxin emission sampling takes place at pharmaceutical sites operating incinerators or thermal oxidation systems. Compliance with dioxin emission limit values for these sites for the period 2006–2008 is over 98%.

Dioxin monitoring also takes place at other sites where wastes are thermally treated (e.g. combustion of waste wood to generate heat or melting of waste metals for recycling purposes). These sites are generally smaller and compliance is more variable. Sites that have exceeded emission limits are subject to enforcement and increased frequency of monitoring.

Emission-based dioxin monitoring is complemented by the EPA Dioxin Survey using monitoring of cows milk as a mechanism to detect any deposition of dioxin to grasslands. These surveys have shown that all samples are well below EU limits and compare well with other EU countries.

TABLE 4.1 Monitoring and prosecutions in relation to air issues from IPPC and waste licensed facilities by the EPA, 2006–2008

	2006	2007	2008
Air Monitoring (IPPC only)	203	186	148
Prosecutions Taken	5	8	5
Total Fines & Costs Imposed	€217,374	€116,414	€46,138

4.2.3 Criminal sanctions

A total of 18 prosecutions were taken by the EPA and heard during the period 2006–2008 relating to emissions to air from Waste Licence and IPPC facilities. Over half of these prosecutions (10) related to odour, with nine of these relating to landfills, compost and waste handling facilities. All other air prosecutions related to exceedance of licensed emission limit values (ELVs) and/or failure to monitor emissions to atmosphere or the release of dust to atmosphere from a cement facility. A summary of the number of prosecutions taken by the EPA in relation to emissions to air is provided in **Table 4.1**. It should be noted that some prosecutions involved other issues relating to waste and water. Detailed information on these prosecutions is contained in Appendix 4. Odour prosecutions relating to waste licensed facilities are dealt with in Chapter 2, Waste. The EPA prepared three files for consideration by the Director of Public Prosecutions (DPP) during the reporting period relating to air emissions.



‘existing plant’. The NERP provides flexibility for plant operators to identify the most cost effective abatement options available, across existing plant, while still achieving the environmental objective of the Directive.

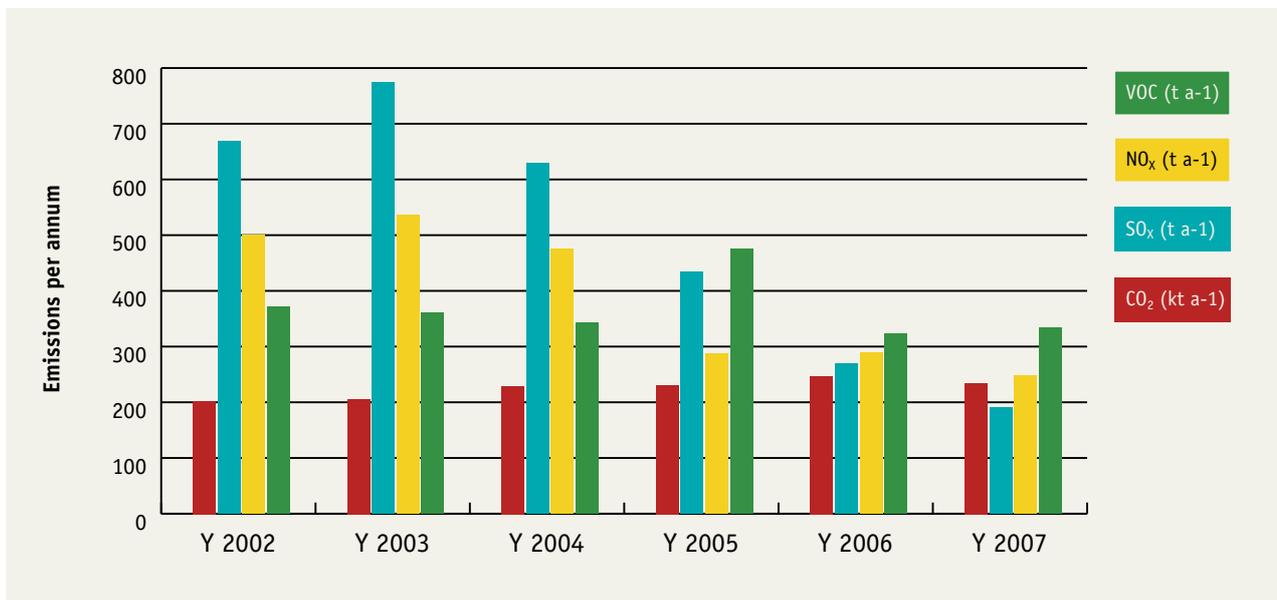
The greater emissions reductions delivered through this approach enables the electricity sector to make a greater contribution to meeting national obligations arising under the National Emissions Ceilings Directive (2001/81/EC) than would be achieved by meeting prescribed emission limit values. The flexibility afforded by the NERP compliance option facilitates the application of prioritised cost effective abatement measures.

The NERP has been developed and approved by the Department of the Environment, Heritage and Local Government (DoEHLG) and came into operation in 2008. EPA licences relating to five Electricity Supply Board (ESB) plants and the Aughinish Alumina plant were revised to reflect the provisions of the NERP.

4.3 LARGE COMBUSTION PLANT ENFORCEMENT

Ireland developed a National Emissions Reduction Plan (NERP) under the Large Combustion Plants Directive (2001/80/EC) on the limitation of emissions of certain pollutants into the air to address emissions from

FIGURE 4.2 Emissions to atmosphere from IPPC licensed pharmachem sector between 2001 and 2007



As can be seen from **Table 4.2** the sulphur dioxide (SO₂) NERP limit was exceeded by 1,577 tonnes. NERP limits for nitrous oxides (NO_x) and dust are complied with by substantial margins (3,623 tonnes and 784 tonnes respectively). Non-compliance with the NERP for SO₂ has been entirely due to major difficulties experienced in commissioning the flue gas desulphurisation (FGD) plant at Moneypoint power station. Only one of the two FGDs was operating for most of the year and scrubbing efficiency was seriously compromised for long periods by operational problems including scrubber plugging. Major modifications resulted in scrubbers being taken out of service for lengthy periods but have eliminated plugging downtime.

Following the above modifications to the FGD and the commissioning of the FGD on the third generating turbine at the ESB Moneypoint power station it is expected that NERP SO₂ compliance will be achieved in 2009.

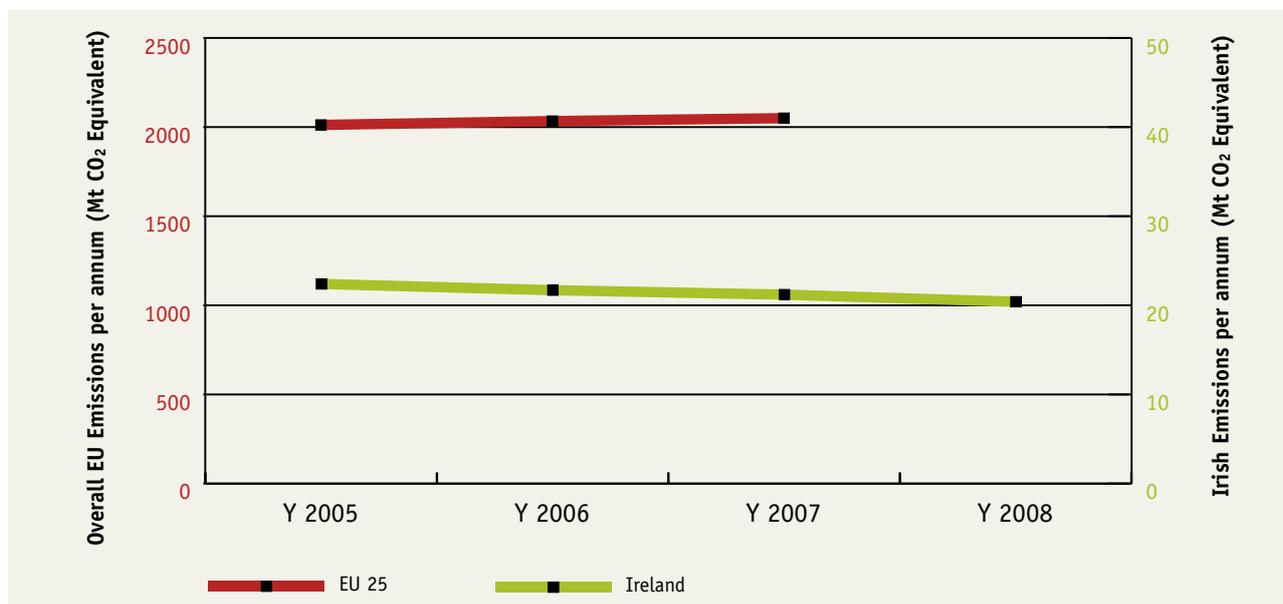
4.4 GREENHOUSE GAS ENFORCEMENT

The EU Emissions Trading Scheme (ETS) is a 'cap and trade' scheme where participating installations are given a free allocation of CO₂ allowances each year and must either abate CO₂ emissions to that level or purchase allowances to meet any exceedance. One allowance grants permission to emit to the atmosphere one tonne of carbon dioxide equivalent during a specified period for a participant. The number of allowances allocated to each installation for a given period are determined on the basis of the National Allocation Plan. The EPA was assigned responsibility for the implementation of the ETS in Ireland^[9] and in March 2008 finalised Ireland's second National Allocation Plan for the period 2008–2012. Returns to date from ETS Registry show that total emissions have reduced in Ireland from 22.4 Mt to 20.4 Mt CO₂ equivalents between 2005 and 2008 even though they have been increasing overall in the EU from 2,012 Mt to 2,050 Mt CO₂ equivalents between 2005 and 2007 (**Figure 4.3**).

TABLE 4.2 National NERP emissions 2008 (ESB interim data, 2008)

	NO _x (t)	SO ₂ (t)	Dust (t)
National NERP Limit	19,372	23,027	1,869
Actual National NERP Emissions	15,749	24,604	1,085
National NERP Headroom	3,623 (compliant)	-1,577 (exceedance)	784 (compliant)

FIGURE 4.3 Data from European Emissions Trading Scheme Registry (CITL)^[10] 2005–2008



[9] SI 437 of 2004

[10] The Community Independent Transaction Log (CITL) records the movement of emission trading allowances in the registry

4.4.1 Inspections of Emissions Trading Scheme facilities

At the end of 2008, 105 facilities covered by the ETS in Ireland were in operation and held valid permits requiring them to monitor, report emissions and surrender allowances in accordance with the Regulations. This encompasses Ireland's largest greenhouse gas (GHG) emitters and represents about one third of national GHG emissions. EPA inspectors visit participating installations to ensure compliance with the general conditions of the GHG permit as well as doing a desktop review of all Verified Annual Installation Emission Reports. All permitted installations (105) were inspected at least once in the 2006–2008 period apart from one offshore platform. Minor non-compliances were reported and corrected. All installations report their annual emissions and surrender the required number of allowances by 30th April of each year.

4.5 OZONE DEPLETING SUBSTANCES ENFORCEMENT

The Montreal Protocol on Substances that Deplete the Ozone Layer is an international initiative to protect the stratospheric ozone layer from harm by certain anthropogenic chemicals. It aims to regulate the lifecycle of specific substances that have the potential to deplete ozone. Such substances are in limited use in diverse sectors such as:

- Refrigeration and air-conditioning (CFCs and HCFCs)
- Fumigation and pest control (methyl bromide)
- Fire prevention and suppression (halons)
- Pharmaceutical sector (ozone depleting solvents)

The Control of Substances that Deplete the Ozone Layer Regulations 2006^[11] assign responsibilities and reporting obligations in relation to ozone depleting substances. Enforcement of the regulations by the EPA focuses primarily on regulating their use and ensuring the correct management of waste ozone depleting substances.

4.5.1 Inspections of facilities using ozone depleting substances

A total of 15 unannounced inspections were carried out by the EPA on refrigeration and air conditioning operators during 2006–2008. Some minor non-compliances were uncovered with some of these still under investigation. Unauthorised stocks of CFC and HCFC were discovered and a legal notice was issued by the EPA. These stocks were appropriately managed following from this notice. The use of methyl bromide in Ireland has now virtually ceased.

4.6 SOLVENTS ENFORCEMENT

The Solvents Directive 1999/13/EC^[12] has been brought into effect in Ireland through the Emissions of Volatile Organic Compounds from Organic Solvents Regulations 2002^[13]. Following this, the amending Decorative Paints Directive 2004/42/EC^[14] was brought into effect in Ireland through the Limitation of Emissions of Volatile Organic Compounds due to the use of Organic Solvents in Certain Paints, Varnishes & Vehicle Refinishing Products Regulations 2007^[15].

The EPA regulates emissions to air from large petroleum storage terminals as required under the Control of Volatile Organic Compound Emissions Resulting From Petrol Storage and Distribution Regulations, 1997^[16]. Permit holders must implement various measures to prevent and reduce emissions, such as the use of reflective paint, floating roof seals, and vapour recovery. Compliance within this sector has been satisfactory.

The total numbers of installations regulated for solvents and petroleum vapour are provided in **Table 4.3**. The observed increases in the number of regulated installations are primarily as a result of the introduction of the Solvents and Decorative Paints Regulations.

[11] S.I. No. 281 of 2006

[12] Council Directive 1999/13/EC on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain activities and installations

[13] S.I. No. 543 of 2002

[14] Council Directive 2004/42/EC on the limitations of emissions of volatile organic compounds due to the use of organic solvents in certain paints and varnishes and vehicle refinishing products

[15] S.I. No 199 of 2007

[16] S.I. No. 374 of 1997

It is estimated that there are between 209 and 266 facilities still under investigation as suspected of being subject to the Solvents Directive, but not yet registered^[17]. This indicates that 80% of the solvent and petroleum vapour sector is currently regulated. Additional solvent enforcement measures are being employed by local authorities to track down unregulated sites. Clare County Council lists compliant dry cleaning facilities on its website. The Council are informing non-registered facilities of this website listing when issuing warning letters.

4.6.1 Inspections of solvents installations

Ireland is using both the IPPC licensing system and a unique scheme, the Accredited Inspection Contractor (AIC) scheme, to implement both the Solvents Directive and the Decorative Paints Directive. AICs are independent contractors, who assess compliance of facilities governed by the regulations. The AICs are accredited by the Irish National Accreditation Board (INAB). The EPA and local authorities are the competent bodies for these Regulations.

VOC inspections undertaken by local authorities have increased over 2006–2008 primarily as a result of the introduction of the Solvents and Decorative Paints Regulations (Table 4.4).

Product labelling inspections under the Decorative Paints Regulations were undertaken by the EPA in 2007 and 2008 (Table 4.5). The EPA also published the *'Best Practice Guidance for Vehicle Refinishing for Repair Installations'* guidance document, which outlines the operational requirements for compliance with the Regulations for commercial vehicle refinishing. Additionally, the EPA carried out joint inspections with the local authorities on retailers of vehicle refinishing products.

4.7 LOCAL AUTHORITY LICENSED AIR ENFORCEMENT

Local authorities are responsible for regulating facilities under the Air Pollution Act, 1987. While many of the industries that have significant emissions to the atmosphere are regulated by the IPPC regime operated by the EPA, there are a number of smaller industries that still require air emissions discharge licences under the Air Pollution Act. The main activities still licensed under the local authority control are asphalt plants, which are often operated in conjunction with quarries, and boilers with a heat input exceeding 50MW. The number of licensed installations for 2006 to 2008 is provided in Table 4.6.

TABLE 4.3 Solvent and Petroleum vapour emissions regulated installations 2006–2008

	2006	2007	2008
VOC regulated installation under IPPC	Data not available	57	61
VOC regulated installation under AIC	45	212	300
Deco-paints regulated installation under AIC	-	2	404
Petroleum Vapour Emissions Permits (EPA)	13	13	14
Petroleum Vapour Emissions Certificates (Local Authority)	Data not available	175	211

TABLE 4.4 Volatile organic compound inspections by local authorities from 2006 to 2008

	2006	2007	2008
Inspections of sites under 2007 Deco Paints Regulations (Vehicle Refinishers)	Data not available	15	495
Inspections of sites under 2002 Solvents Regulations (e.g. Dry cleaners, surface cleaning operations)	Data not available	158	315
Inspections of sites under Petroleum Vapours Regulations	67	64	155

[17] Environmental Protection Agency, 2008. Second Report on the implementation of Directive 1999/13/EC on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain activities and installations in Ireland. EPA, Ireland.

Improved reporting combined with an overall increase in the number of licensed facilities is responsible for the increased number of Air Emission Licences over the reporting period.

4.7.1 Inspections of local authority licensed air activities

The number of inspections of air pollution licensed facilities undertaken by local authorities (Table 4.6) has increased, reflecting the increase in the number of facilities licensed over the reporting period. It should also be noted that the proportional number of inspections has increased from 21% to 71% over the reporting period indicating improvements in air pollution licence inspection regimes by local authorities.

4.7.2 Criminal sanctions

Local authorities initiated one prosecution under Section 24 (obligation to prevent air pollution) and closed one prosecution under Section 30 (licence to operate industrial plant) of the Air Pollution Act 1987 relating to air emissions from unlicensed facilities.

4.8 BITUMINOUS COAL BAN ENFORCEMENT

A ban on the marketing, sale and distribution of bituminous coal applies in 16 towns and cities around the country (Dublin from 1990, Cork 1995, Arklow, Drogheda, Dundalk, Limerick and Wexford 1998, Celbridge, Galway, Leixlip, Naas and Waterford 2000, Bray, Kilkenny, Sligo and Tralee 2003).

The origin of the coal bans date from the start of the 1990s when the main air quality problem facing Ireland was the occurrence of 'winter smog' (smoke and sulphur dioxide emissions) resulting from widespread use of bituminous coal in major urban areas, notably Dublin, leading to serious health effects for people. Regulations were made in 1990 to ban the marketing, sale and distribution of bituminous coal in the Dublin area. Smoke and sulphur dioxide (SO₂) levels showed considerable improvement once the ban was introduced and the ban was extended in order to achieve further good air quality.

TABLE 4.5 Decorative paints enforcement activities by EPA in 2007/2008

	2007	2008
Number of product inspections	442	78
Products non-compliant – labelling ^[18]	51	-
Products non-compliant – labelling and VOC-content ^[19]	1	18
Products analyses for VOC-content verification	20	10
Products compliant – both labelling & VOC content	390	60

TABLE 4.6 Air emissions licences and inspections

	2006	2007	2008
Air Emissions Licences (under Air Pollution Act)	63	77	100
Air Pollution Licence inspections	13	42	71

[18] Products non-compliant with labelling requirements but compliant with VOC-content requirements

[19] Products non-compliant with both labelling and VOC-content requirements

Smoke levels in the major urban areas have dramatically reduced since the 1990s and have stabilised at acceptable values (Figure 4.4). This reduction shows the effectiveness of smoke-control legislation introduced. Similar improvements in terms of air quality have occurred in all bituminous coal ban areas since controls were introduced (EPA, 2008^[20]).

Since 2002 the Solid Fuel Trade Group Ltd. (SFTG) have agreed to reduce the sulphur content of all bituminous coal and petcoke and also provided for the extension of the ban on the marketing, sale and distribution of solid fuels. In October 2008 the DoEHLG and the SFTG signed a new agreement to ensure the air quality improvements resulting from the implementation of the regulations are maintained and improved.

4.8.1 Inspections of smokeless coal distributors

The number of inspections of smokeless coal distributors undertaken by local authorities during the reporting period is provided in Table 4.7.

4.8.2 Criminal sanctions

There were two prosecutions taken by local authorities in 2008 under the Air Pollution Act, 1987 (Marketing, Sale and Distribution of Fuels) Regulations as amended, 1990 to 2004.

FIGURE 4.4 98-%ile daily black-smoke concentrations major urban areas 1985–2007

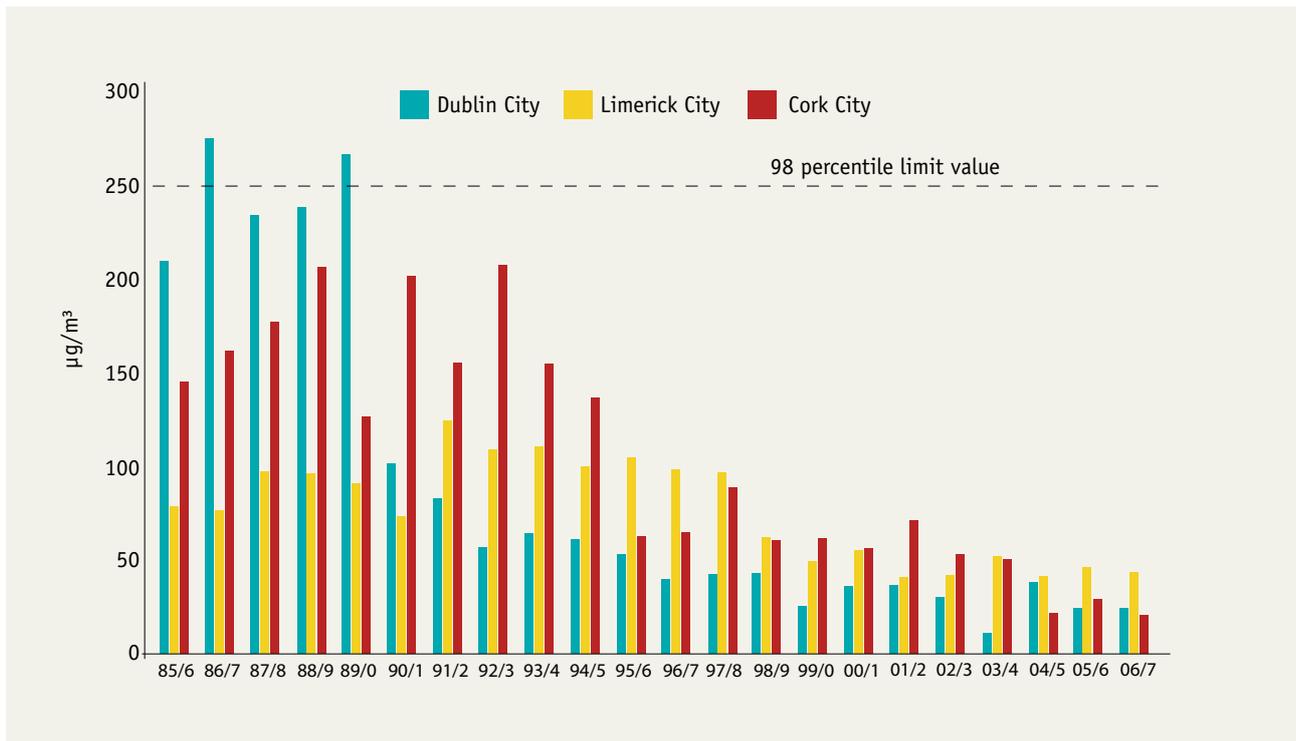


TABLE 4.7 Smokeless coal inspections by local authorities from 2006 to 2008

	2006	2007	2008
Smokeless coal distributors	341	494	493

[20] Environmental Protection Agency. Air Quality in Ireland 2007 – Key Indicators of Ambient Air Quality (2008). EPA Publication, Ireland.

4.9 NOISE RELATED STATUTORY FUNCTIONS

Local authorities have a number of responsibilities in relation to the control of noise via the Environmental Protection Agency Act 1992 (Noise) Regulations, 1994^[21] and through conditions of planning permission or waste permits. Noise from IPPC or Waste Licensed facilities is controlled by the EPA via conditions within the licence. Local authorities are required to report details to the EPA on an annual basis of any incidents arising from noise in respect of any wastewater treatment plant provided by it or on its behalf.

The Environmental Noise Regulations 2006^[22] give effect in Ireland to EU Directive 2002/49/EC, relating to the assessment and management of environmental noise. A two-stage approach to the assessment and management of environmental noise is provided for in the Regulations. Firstly, the preparation of strategic noise maps for areas and infrastructure falling within defined criteria, e.g. large agglomerations, major roads, railways and airports. Secondly, based on the results of the mapping process, the Regulations require the preparation of noise action plans for each area concerned. An example of a strategic noise map for Cork City is provided in **Figure 4.5**.

The Regulations specify that the first set of strategic noise maps were required to be ready by the 30th June 2007. Following on from this process, the first set of action plans were required to be prepared by the 18th July 2008. The EPA is the National Competent Authority for implementing the Regulations, with general supervision over noise-mapping bodies and action planning authorities and reporting duties. In

general, responsibility at local level is a matter for the relevant local authorities, relevant airport authorities, the National Roads Authority, Iarnród Éireann and the Railway Procurement Agency.

4.10 LOCAL AUTHORITY AIR & NOISE ENFORCEMENT

During 2006–2008 over 5,700 complaints were received by the EPA and Local Authorities relating to air/odour issues and almost 6,300 complaints were received relating to noise issues (**Table 4.8**). Air and noise complaints amount to over 6.0% of all local authority complaints in 2008. The majority of noise complaints (60% in 2008) arose in the four Greater Dublin local authorities (Dublin City, Fingal, Dun Laoghaire-Rathdown and South Dublin County Councils). The overall decrease in the number of air/noise complaints received by the EPA regarding the statutory performance of local authorities correlates with the improvement in local authority complaints handling and enforcement policies.

4.10.1 Inspections of air & noise complaints by local authorities

The number of inspections into incidents of nuisance/air pollution, including noise and vibration, undertaken by local authorities between 2006 and 2008 are detailed in **Table 4.9**. The inspection numbers remained relatively constant each year during the reporting period and comprised approximately 12% of non-routine inspections undertaken by local authorities in 2008.

TABLE 4.8 Air & noise complaints received by local authorities and the EPA in relation to local authority statutory functions from 2006 to 2008

	2006	2007	2008
EPA Air/Odour Complaints	43	23	25
EPA Noise Complaints	28	25	14
Local Authority Air/Odour Complaints	1,738	1,961	1,915
Local Authority Noise Complaints	2,366	2,028	1,838

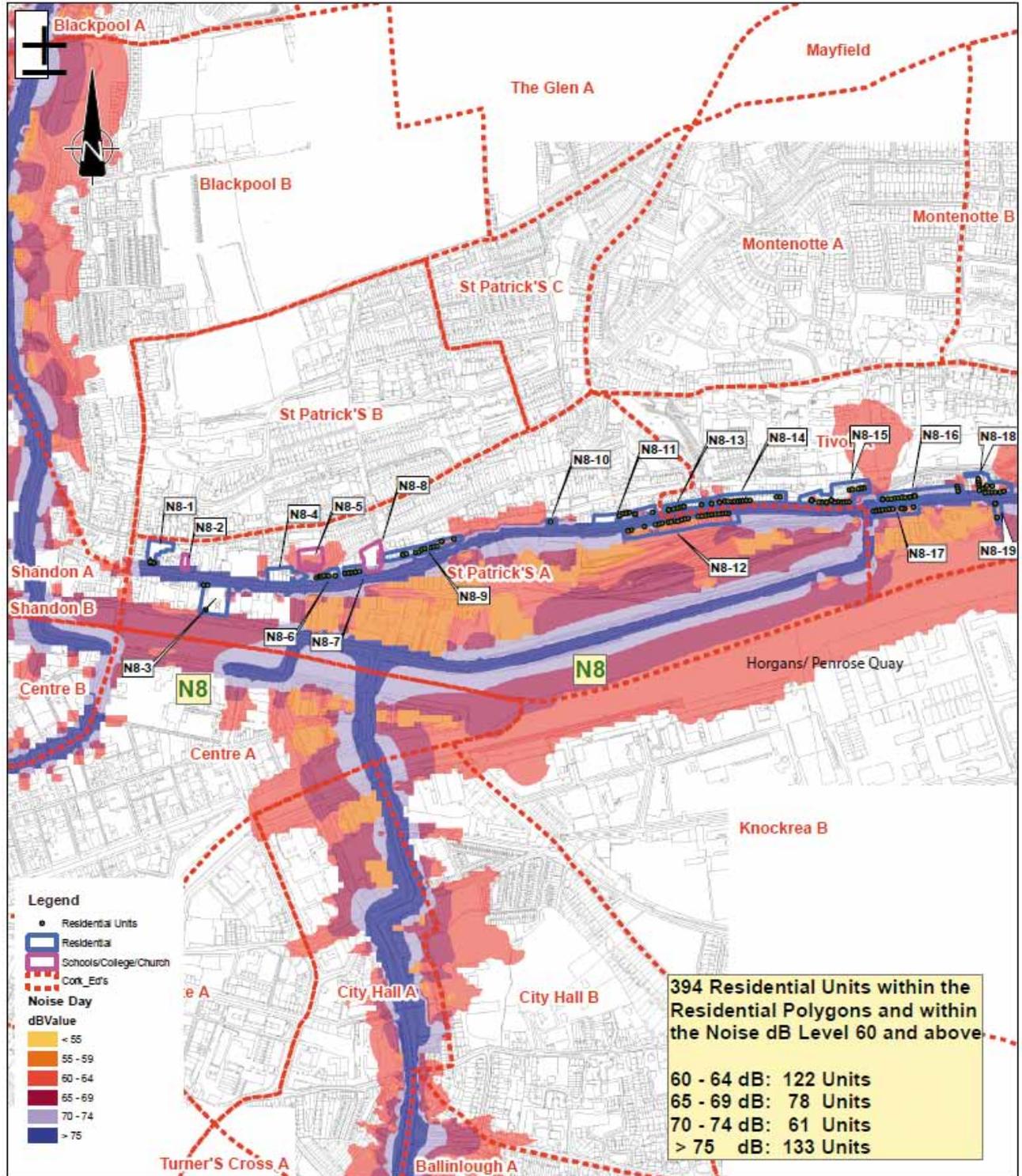
TABLE 4.9 Inspections by local authorities relating to air and noise complaints 2006–2008

	2006	2007	2008
Non-routine Nuisance/Air Pollution (Including noise and vibration)	3,217	2,941	3,266

[21] S.I. No. 179 of 1994

[22] S.I. No. 140 of 2006

FIGURE 4.5 Cork City Strategic Noise Map (Cork City Council, 2008)



4.10.2 Administrative sanctions

Under the Air Pollution Act, 1987, local authorities are empowered to issue notices for offences under different sections of the Act. The principal notices used to control air pollution are Section 16 and Section 26. Section 16 of the Air Pollution Act allows local authorities to issue notices requesting specific information on activities conducted on premises, emissions information or types/quantities of fuels imported or sold by persons. These powers are generally used in compliance investigations. Between 2006 and 2008, local authorities issued a total of 49 Section 16 notices. Under Section 26 of the Air Pollution Act local authorities may issue a notice specifying measures to be taken to prevent or limit air pollution. This is the most widely used section notice by local authorities in dealing with air pollution problems including nuisance. Between 2006 and 2008, local authorities issued a total of 64 Section 26 notices. A breakdown of statutory air notices over the reporting period is provided in **Table 4.10**.

There has been a substantial increase in the number of warning letters relating to air incidents issued by local authorities over the reporting period. This is a result of the approach taken by a number of local authorities in dealing with air pollution issues. The four local authorities of South Dublin, Limerick City and County and Westmeath County Councils issued 70% of the total number of air warning letters in 2008.

General noise issues or nuisance are regulated by the Environmental Protection Agency Act, 1992, and associated Noise Regulations, 1994.^[23] Noise issues in relation to commercial facilities are dealt with via IPPC licensing, waste licensing/permitting or planning conditions. Local authorities took action in a number of cases to deal with noise issues and where necessary issued notices to require the abatement of noise (**Table 4.11**).



The reduced number of warning letters relating to noise incidents in 2007 is a result of incomplete reporting for that year and does not necessarily represent an actual decrease in warning letters issued.

Notices issued under Section 107 of the EPA Act, 1992, must indicate the measures to be taken and may specify the period for taking such measures. Failure to comply with a notice is an offence and allows the relevant local authority to take steps to

TABLE 4.10 Statutory Notices issued by Local Authorities in 2006–2008

	2006	2007	2008
Air warning letters	235	220	662
Section 16 (requesting information)	6	24	19
Section 26 (measure to limit or prevent pollution)	23	20	21
Section 110 Notices Public Health Act	No data	3	18
Section 27 (Local authority takes steps)	1	-	-

[23] S.I. No. 179 of 1994

ensure compliance. Examples of the use of Section 107 notices include South Dublin County Council successfully specifying limits to the hours of operation of a construction site, and Dublin City Council controlling noise from outdoor events requiring the event promoter to comply with certain requirements (served in advance of the outdoor event). Prosecutions taken using Section 107 powers carry a limited fine of €1,270. Given that many Section 107 notices are issued in relation to construction activities, this level of deterrence can be insufficient.

It should be noted that many complaints are resolved without the need to resort to use of a Section 107 Notice. In this regard over 1,200 warning letters were issued regarding noise issues between 2006 and 2008. In the case of Dublin City Council approximately 70% of complaints are resolved without need to resort to issuing a notice.

The EPA has a supervisory role over the statutory performance of local authorities and can use its powers under Section 63 of the Protection of the Environment Act, 2003, to intervene and issue advice to local authorities. Under Section 63 the EPA may request information from the local authority in relation to a statutory environmental function, may issue advice and recommendations or may issue a binding direction to the local authority as it considers necessary. Between 2006 and 2008, the EPA initiated a total of 16 Section

63(1) information notices to local authorities and 10 Section 63(3)(a) advice and recommendation notices in relation to air and noise issues (**Table 4.12**). No binding directions were issued during this period. The decreasing use of Section 63 powers by the EPA with regard to air and noise issues reflects the overall decrease in the number of complaints received by the EPA regarding the statutory performance of local authorities (see **Table 4.8**) as a result of the improvement in local authority complaints handling and enforcement policies.

Odour complaints relating to EPA licensed facilities are dealt with separately in Chapter 2, Waste.

4.10.3 Criminal sanctions

Collectively local authorities initiated nine air prosecutions in the period 2006 to 2008, six relating to non-compliance with notices under Section 16 and Section 26 of the Air Pollution Act, one relating to Section 24 (obligation to prevent air pollution) of the Act and two relating to the Air Pollution Act, 1987 (Marketing, Sale and Distribution of Fuels) Regulations, 1998, **Table 4.13**.

Local authorities also brought four complaints to the District Court under Section 107 and 19 under Section 108 of the EPA Act in relation to noise issues in the period 2006 to 2008.

TABLE 4.11 Noise enforcement actions by local authorities*

	2006*	2007*	2008
Noise Warning Letters Issued	581	180	471
Section 107 EPA Notice issued (measures to reduce noise)	75	48	43

* *Incomplete reporting in these years*

TABLE 4.12 Notices under Section 63(1) of the Protection of the Environment Act 2003 issued to local authorities by the EPA 2006–2008

	2006	2007	2008
Section 63(1) Air	6	1	2
Section 63(3)(a) Air	5	2	0
Section 63(1) Noise	5	1	1
Section 63(3)(a) Noise	1	2	0

TABLE 4.13 Air & noise prosecutions initiated by local authorities, 2006–2008

	2006	2007	2008
Section 16 Air Pollution Act (requesting information)	0	1	0
Section 26 Air Pollution Act (measure to limit or prevent pollution)	2	1	2
Other Air Pollution Prosecutions	No data	No data	3
Failure to comply with Section 107 Notice	1	1	2
Failure to comply with Section 108 Notice	13	4	2

TABLE 4.14 Application to the District Court under Sections 107 & 108 of the EPA Act, 1992 (Courts Service Annual Report 2006 & 2007)

	2005	2006	2007
Section 107 Applications Received (application to court due to non-compliance with noise measures)	13	11	12
Section 107 Applications Successful	12 (92%)	6 (55%)	6 (50%)
Section 108 Applications Received (application to court to direct noise measures)	36	96	73
Section 108 Applications Successful	26 (72%)	36 (38%)	57 (78%)

The public may also utilise Section 108 of the EPA Act and apply directly to the District Court to remedy a noise related problem. **Table 4.16** details figures from the Courts Service in relation to the total number of Sections 107 and 108 applications to the courts (from the general public and enforcement authorities) between 2005 and 2007.

It should be noted that while both local authorities and members of the public can make applications to the courts under Section 108, members of the public have taken the majority of those outlined in **Table 4.14**. It is apparent that the success rate of such actions is quite variable.

4.11 ENVIRONMENTAL OUTPUTS, OUTCOMES & FUTURE ENFORCEMENT ACTIONS

The following points outline some of the key outcomes in the air and noise areas over the reporting period 2006–2008.

4.11.1 Environmental outputs and outcomes

4.11.1 (a) Environmental policy

National Emissions Ceiling progress Emissions of transboundary air pollutants such as SO₂, VOCs and NH₃ have been significantly reduced in the past decade. However, NO_x emissions will be well in excess of the ceiling in 2010 and will remain high for the short term owing to large increases in road transportation and cement production.

Risk-based enforcement Has been implemented across all EPA licensed facilities with guidance provided to local authorities through the Environmental Enforcement Network (EEN) for risk assessing licensed/permitted facilities.

Structured enforcement by local authorities Has been implemented through the RMCEI 'Environmental Inspection Plan' system. This provides for consistent enforcement of environmental legislation by local authorities.

4.11.1 (b) Environmental implementation

Air enforcement The EPA prepared three files relating to air emissions for consideration by the Director of Public Prosecutions (DPP) during the reporting period. A total of 18 prosecutions relating to emissions to air from Waste Licence and IPPC facilities were taken by the EPA and heard during the reporting period. Over half of these prosecutions (10) related to odour, with nine of these relating to landfills, compost and waste handling facilities. Collectively local authorities initiated nine air prosecutions under the Air Pollution Act, 1987, and brought 23 complaints in relation to noise to the District Court under the Protection of the Environment Act, 2003, during the reporting period.

Better air monitoring There are now 47 licensed facilities using Continuous Emissions Monitoring (CEMS). These range from continuous monitoring of single parameters to complex multi-parameter continuous monitoring systems.

Good compliance Results from dioxin monitoring at pharmaceutical plant incinerators and thermal oxidisers indicates a high level of compliance with emission limit values.

Reduced greenhouse gas emissions Returns to date from the registry show that total emissions from the Emissions Trading Scheme (ETS) have reduced in Ireland from 22.4 Mt to 20.4 Mt CO₂ equivalents between 2005 and 2008 even though they have been increasing overall in the EU.

Reduced smoke emissions Smoke levels in the major urban areas have dramatically reduced since the 1990s and have stabilised at very acceptable values illustrating the effectiveness of the smoke-control legislation introduced.

Reduced SO_x and NO_x emissions Reductions in emissions of SO_x and NO_x to air were substantial for the power generation and pharmaceutical sectors over the reporting period. Reduced air emissions reflect a shift towards cleaner fuels and improved boiler combustion efficiencies.

Decreasing complaints The overall decrease in the number of air/noise complaints received by the EPA regarding the statutory performance of local authorities is a direct result of the improvement in local authority complaints handling and enforcement policies.

4.11.1 (c) Environmental capacity building

Air Guidance The following Air Guidance Notes have been developed and issued to date:

- **AG1:** Site Safety Requirements for Air Emission Monitoring Guidance Note
- **AG2:** Air Emissions Monitoring Guidance Note, and
- **AG3:** Air Guidance Note on the Implementation of I.S. EN 14181 for Continuous Emissions Monitoring Systems.

Noise Guidance The EPA issued Guidance on Noise in Relation to Scheduled Activities in 2006 to provide practical information and advice on noise from IPPC and waste licensed activities.

Environmental Enforcement Network Solvents

Working Group The EPA developed guidance in 2007 to facilitate consistent enforcement of the Solvent Regulations nationally and published Best Practice Guidelines for Dry Cleaning and for Vehicle Refinishing for Repair Installations in 2008.

Guidance on Greenhouse Gases The revised guidelines for Monitoring and Reporting of Greenhouse Gases was published by the EPA in 2007 with Frequently Asked Questions (FAQ) and query response documents issued in 2008

Guidance on Ozone Depleting Substances The EPA issued Guidance Notes on a range of ozone depleting substances along with information on the collection and transportation of waste refrigerants in 2008.

4.11.1 (d) Environmental reporting

Good air quality Air quality monitoring for Ireland indicates good compliance with current EU and national air quality standards with no exceedances of air quality limits in recent years.

Better solvents enforcement The second report on the implementation of the Solvents Directive in Ireland identified a significant improvement in enforcement and implementation from the last reporting period with the number of authorised installations increasing from 79 to 292.

National Allocation Plan In 2008 the EPA published Ireland's second National Allocation Plan for the period 2008–2012 which set CO₂ allowances for each installation participating in the Emission Trading Scheme ETS.

Dioxin Milk Survey Monitoring of dioxin levels in the Irish environment in 2006 and 2007 (based on dioxin levels measured in cows' milk) shows that all of the samples had dioxin levels well below the relevant EU limits. Dioxin levels measured in this survey compare favourably with those taken from similar surveys in EU and other countries.

4.11.2 Future enforcement actions

4.11.2 (a) Monitoring emissions from licensed activities

The EPA will continue to monitor emissions from licensed facilities. The performance of existing licensees is variable and sector specific. While emissions to air are tightly regulated, noise, odour and dust nuisance remain an issue for many sectors and in particular the Mineral, Cement, Surface Coating and Intensive Agriculture Sectors.

The EPA will develop and implement strategies in relation to air, odour and noise related enforcement issues (including air focused audits and inspections of licensed activities, and strategies to assess and improve the quality of self monitoring data submitted by licensees).

Specialist advice and training will be provided to EPA and local authority enforcement inspectors on air related issues.

Provide specialist advice and investigate air emissions incidents and non-compliances.

4.11.2 (b) Registering solvent and decorative paint users

It is estimated that there are between 209 and 266 facilities still under investigation that are suspected to come under the solvent regulations. As part of the implementation of their inspection plans, local authorities must register all relevant solvent users and deco-paints users. The EPA, through an Air/Solvents Working Group under the Environmental Enforcement Network is assisting local authorities and providing advice as required to aid in their implementation and enforcement of the Solvents and Decorative Paints Directives.

4.11.2 (c) Emissions Trading for Greenhouse Gases

The single EU-wide 'cap' contained in the revised EU ETS Directive indicates a 2020 CO₂ emission limit of 21% below 2005 verified emissions by way of stepwise annual reductions between 2013 and 2020.



This 21% cap will be further reduced in the event of an international climate change agreement being achieved. The EPA will continue to assess participating installations to ensure compliance with the general conditions of the GHG permit and review all Verified Annual Installation Emission Reports.

4.11.2 (d) Implementation of the National Emissions Reduction Plan

The national strategies, supported by the EPA Integrated Pollution Prevention and Control (IPPC) licensing regime, are expected to achieve compliance with the 2010 EU National Emissions Ceilings (NEC) Directive (European Parliament and Council, 2001) ceilings for SO₂, NH₃ and VOCs, but there is considerable difficulty in reducing NO_x emissions to the level required and the target will not be met. The main sources of NO_x emissions (based on 2007 data) are transport (45.4%), power stations (22.4%), industry (16%) and agriculture and forestry (9.1%). The reason for the difficulty in meeting the NEC target for NO_x is related to a number of factors; however, the largest sectoral increase in NO_x emissions over the period 1990–2007 is from the industrial sector with an increase in NO_x emissions of 97.8%. Of the reported industrial NO_x emissions in 2007, the cement industry alone accounts for 59.6% of emissions. Over the same period NO_x emissions from the power sector reduced by 41.7%. NO_x emissions from transport have increased by 7% over the 1990–2007 period due to significant increases in vehicle numbers which have been offset to some extent by overall reductions in NO_x emissions per vehicle due to cleaner vehicle technology. Air quality issues must continue to be an integral part of traffic management and planning processes, and efforts need to continue on a modal shift from the private car to high-quality public transport.

LARGE INDUSTRIAL ACTIVITIES

05

“Our air will be healthy and clean...Our surface water and groundwater will not be depleted and will be of excellent quality....The soil of Ireland will be protected from contamination.”

2020 Vision – Environmental Goals – EPA 2007

5.1 INTRODUCTION

5.2 EPA LICENSED INDUSTRY ENFORCEMENT

IPPC industry related inspections

IPPC industry related complaints

Specific enforcement activities

Administrative sanctions

Criminal sanctions

5.3 ENVIRONMENTAL OUTPUTS, OUTCOMES AND FUTURE ENFORCEMENT ACTIONS

Environmental outputs and outcomes

Future enforcement actions

5.1 INTRODUCTION

Large industrial activities with a significant polluting potential are controlled directly by the EPA through the determination and enforcement of IPPC licences. These activities are specifically listed in the EPA Acts and the IPPC Directive.^[1] EU Directives and National Regulations are implemented at these sites through these licences. The licensing of industry by the EPA has been ongoing now for 15 years. During this time significant environmental improvements have been made across many industrial sectors through the enforcement of IPPC licence conditions and compliance with the environmental legislation underpinning these licences.

Industrial activities licensed under IPPC are divided into 13 sectors ranging from intensive agriculture to chemicals and pharmaceuticals manufacturing. The EPA has developed a sectoral approach to the licensing and enforcement of these activities and the required environmental improvements for each sector have been identified.

IPPC licences provide for the controlled operation of activities to prevent or reduce emissions to air, water and land, reduce waste and use energy/resources efficiently. An IPPC licence is a single integrated licence that covers all emissions from the facility, its environmental management and all related activities carried out on site.

The determination and enforcement of IPPC licences plays a significant part in achieving our environmental goals of clean air, protected water resources, protected soil and biodiversity and sustainable use of resources.

Licensees are required to operate to a high environmental standard and maintain an environmental management system that prevents pollution and strives for continual improvement in environmental performance.

The EPA has responsibilities in relation to enforcing the following additional areas which have overlap with industrial facilities licensed under the IPPC regime:

- Volatile Organic Compounds Regulations
- Petroleum Vapour Emissions Regulations
- Ozone Depleting Substances
- Emissions Trading for Greenhouse Gases

These were discussed earlier in Chapter 4, Air & Noise.



This chapter covers industrial non-waste activities directly controlled by the EPA under an IPPC licence. The main water and air thematic issues associated with industrial activities are described in each thematic chapter.

5.2 EPA LICENSED INDUSTRY ENFORCEMENT

The total number of IPPC sites for enforcement under the EPA Acts 1992 and 2003 has increased from 535 at the beginning of 2006 to 550 at the end of 2008. The number of inactive sites currently stands at 122, 38 of which are activities ceased (or under threshold) and the remainder of which have not commenced. There are 13 VOC permitted sites and these permits must be renewed every three years.

Compliance assessment of industrial activities is determined by scheduled audits and inspections of sites, the sampling and monitoring of emissions and the investigation of incidents and complaints. The enforcement work of the EPA is planned in advance every year and is targeted on facilities that have continually shown significant non-compliance with relevant legislation or that present a potentially higher risk to the environment. **Table 5.1** summarises the EPA licensed industrial activities.

[1] Originally known as Integrated Pollution Control (IPC) licensing, governed by the EPA Act 1992. The Act was amended in 2003 by the Protection of the Environment Act, 2003 which implemented the Integrated Pollution Prevention & Control Directive (IPPC) 96/61/EC.

5.2.1 IPPC industry related inspections

Through the annual enforcement plan prepared by the Office of Environmental Enforcement, resources are managed and directed to focus the enforcement effort on where the risks or potential risks are highest. A combination of enforcement tools is used to bring about changes in environmental performance.

A standardised risk-based assessment of sites similar to that carried out for waste licensed sites (see Chapter 2, Waste) is also carried out for IPPC facilities.

Figure 5.1 shows how the IPPC licensed sites are distributed among the enforcement category groups for the 2008 period.

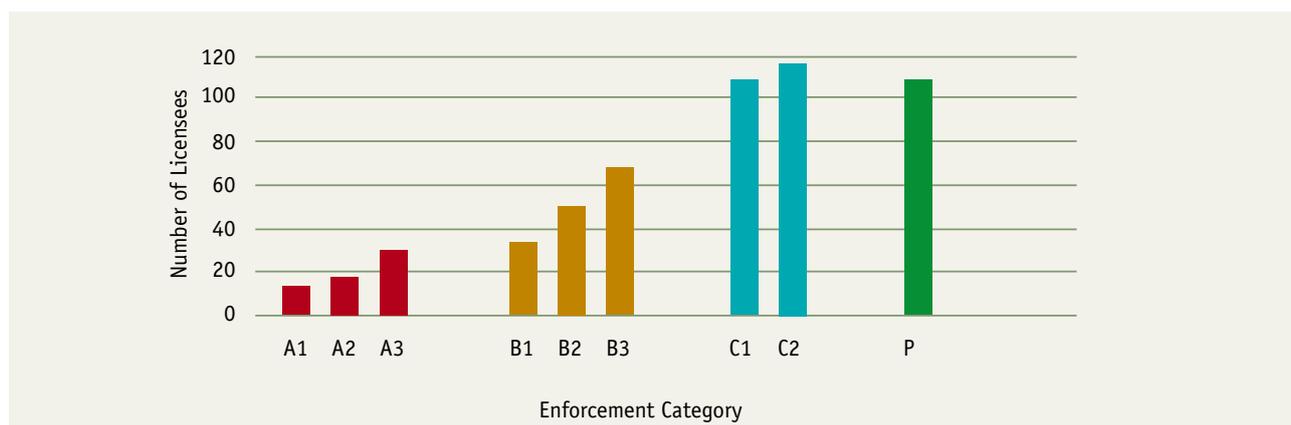
Enforcement effort has been directed towards achieving improvements and corrective actions where non-compliances with licence conditions have been identified. This effort has been focused on specific problematic sites and sectoral issues, resulting in an increased effort on a small number of sites that is reflected in the numbers of audits and inspections.

TABLE 5.1 Breakdown of IPPC facilities by sector (end 2008)

	Facilities licensed (excluding surrenders)	Total operational facilities	Total closed/ceased & under threshold/not commenced	Total surrendered 2006–2008
1. Mineral and Other Materials	15	15	0	0
2. Energy	22	16	6	0
3. Metals	35	26	9	1
4. Mineral Fibres and Glass	6	3	3	0
5. Chemicals	97	81	16	0
6. Intensive Agriculture	98	96	2	0
7. Food and Drink	91	76	15	0
8. Timber Treatment (8.3)	47	34	13	0
8. Wood, Paper, Textiles and Leather	25	8	17	6
9. Fossil Fuels	3	2	1	0
10. Cement	4	4	0	0
12. Surface Coatings	90	55	35	3
13. Other Activities	17	12	5	0
TOTALS	550	428	122	10

FIGURE 5.1 Distribution of IPPC facilities in enforcement categories in 2008

[Note: P refers to intensive agricultural activities]



Enforcement effort (e.g. particularly relating to air emissions from industrial facilities) has been directed at the higher enforcement categories (generally Category A sites). This has resulted in identifying and addressing the priority compliance issues and risks to the environment. As a consequence of this a greater number of cases have been sent for prosecution by the Director of Public Prosecutions (DPP).

In combination with site inspections and audits, compliance meetings and interaction with stakeholders form a substantial and growing facet of the enforcement work undertaken. Communication and meetings with sectoral representative bodies including local authorities, the Health and Safety Authority and the Irish Business and Employers Confederation (IBEC) have formed an important part of enforcement during the reporting period. On a more local level, meeting with residents' groups, complainants, public representatives and local councillors has been very effective in identifying and addressing problems such as odour and noise.

Compliance meetings with licensees to secure senior management commitment to corrective actions and improved environmental performance have also been effective in driving change where non-compliances have been identified. All inspections, audits and emission monitoring reports are placed on the public file. These reports detail the findings of a site assessment, breaches of licence conditions identified and the corrective actions needed to achieve compliance. Where appropriate a notification of non-compliance (NONC) is issued and further enforcement action is initiated. While the combined numbers of audits/inspections and monitoring visits remained relatively constant over the 2006–2008 period the number of audits/inspections specifically was lower in 2008. As previously described in Chapters 1 & 2, this was as a result of the decision to concentrate more resources on problematic sites (e.g. odour causing landfills/intensive agriculture/food & drink plants and timber treatment facilities). **Table 5.2** outlines

the inspections & monitoring enforcement activities carried out by the EPA during the reporting period, while **Section 5.2.3 Specific enforcement activities** outlines the results and outcomes of these enforcement activities. Greater detail is provided in Appendix 2 of this report.

In contrast to the waste sector, the number of complaints associated with the non-waste industry has decreased significantly in the past ten years (see **Figure 5.3**). This is mainly due to an investment in technologies to deal with odour emissions and improvements in the management of on-site wastewater treatment systems. While the licensing and enforcement system has had a positive impact with improved environmental performance across all sectors, a number of sites still present issues and the complaints received mainly relate to a small number of sites or specific incidents.

Table 5.3 outlines the IPPC facilities which have recorded the five highest numbers of complaints received during 2008. The majority of these complaints are odour/air related. These top five facilities constituted 57% of all IPPC related complaints received during 2008. Three of the facilities listed in Table 5.3 have been successfully prosecuted by the EPA in relation to various environmental issues during 2006–2008 (marked with *). Cases are in preparation in relation to other facilities.

FIGURE 5.2 Cause of complaints about IPPC facilities

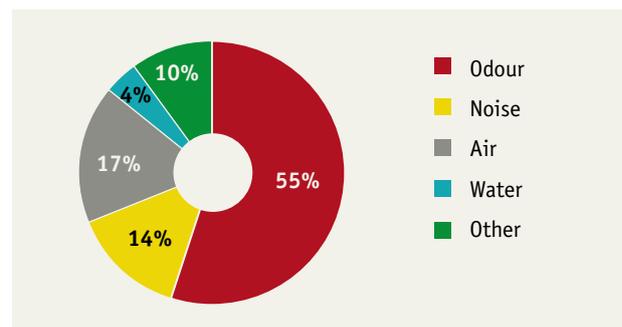


TABLE 5.2 Inspections/monitoring of IPPC facilities in 2006–2008

	2006			2007			2008		
	Audits & inspections	Water monitoring	Air monitoring	Audits & inspections	Water monitoring	Air monitoring	Audits & inspections	Water monitoring	Air monitoring
TOTALS	583	624	156	624	583	132	506	637	148

Of the top five facilities listed that received the most complaints for 2004–2005, only one facility appears in the corresponding 2008 reporting period. This has been due to a combination of EPA enforcement activities, infrastructural/process improvements, abatement improvements and in one case facility closure.

The majority of the sites in **Table 5.3** fall into the high or medium enforcement category (i.e. Categories A & B). This ensures that greater enforcement effort is focused on these facilities, consistent with EPA enforcement being risk-based and outcome driven.

5.2.3 Specific enforcement activities

The EPA operates a number of Sectoral Working Groups (SWG) that pool expertise and knowledge of the various licensed industrial sectors subject to IPPC licensing. This has allowed for the identification of priority issues for the sectors and provides a focus for enforcement activities within specified sectors. General priorities for environmental improvement have been identified across a number of sectors, including:

- **Soil/Groundwater protection** – improvement in on-site storage and containment of polluting materials.

- **Wastewater treatment** – improvement in maintenance and control of on-site wastewater treatment and, in particular, effluent discharges from food sector plants.
- **Environmental monitoring** – improvement in the quality of self-monitoring results submitted from EPA licensed facilities.

Table 5.4 summarises general compliance and aggregate (rather than individual) environmental significance within each sector.

'Aggregate environmental significance' is a summation of all of the individual enforcement categories within each sector. Of particular interest is where there are instances of poor compliance coupled with higher 'aggregate environmental significance' – these sectors are highlighted i.e. Sectors 6, 7, 8 and 12. Both factors are considered to determine where enforcement attention is required. Therefore a sector with a high environmental significance that is relatively compliant may not require the same enforcement attention as a sector that has a medium environmental significance but a record of poor compliance (e.g. Wood, Paper, Textiles and Leather).

FIGURE 5.3 Trend in complaints about IPPC facilities

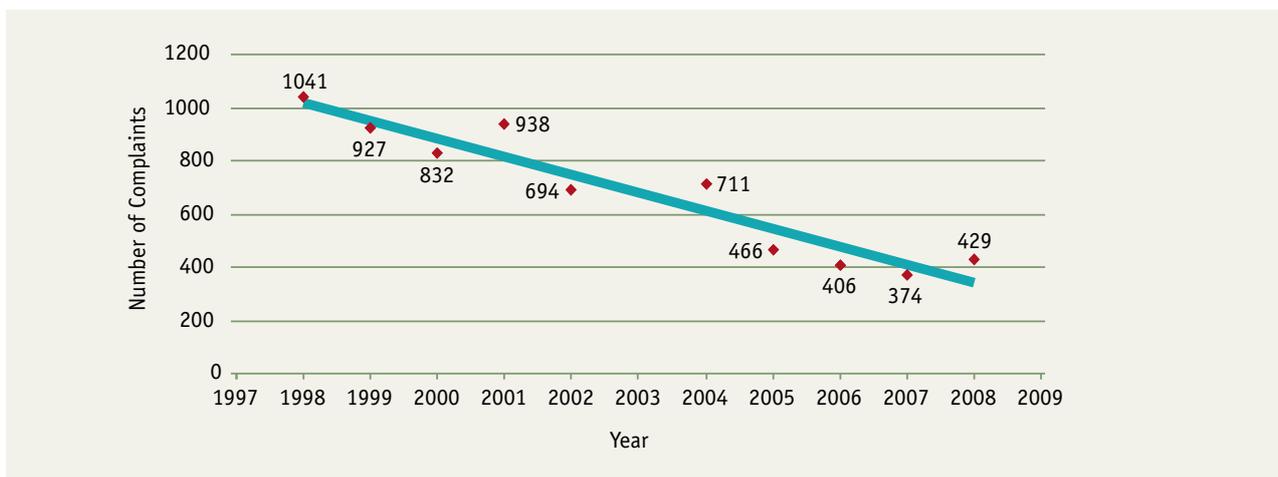


TABLE 5.3 Complaints about IPPC industry facilities in 2008

Organisation/Facility	Reg No.	Complaints
1. College Proteins	P0037-03	100+
2. Premier Proteins (2000) Limited*	P0045-03	50–60
3. Glanbia Foods Society Limited	P0799-01	20–30
4. Kepak Athleague*	P0168-01	20–30
5. Kildare Chilling Company*	P0170-01	10–20

* prosecuted by the EPA during 2006–2008.

Sectoral summary

Actions and outcomes in various IPPC sectors are summarised below.

i. Chemical sector

Research studies^[2] have show that EPA licensing of industry has resulted in a significant reduction in pollutant emissions to the environment (**Figure 5.4**). In particular focusing on the pharmaceutical/chemical sector, a comparison of aggregated pollutant emissions^[3] from 1995 to 2007 has demonstrated an approximate reduction of 59% in emissions. Over the same period, production output from this sector increased by 70%, indicating that actual pollutant emission avoidance and eco-efficiency improvements were even higher. In fact, for each tonne of product manufactured, pollutant emissions have been reduced by 76%. In addition, the research demonstrates that within

the chemical sector regulation is rated as the single most important driver towards reduction in environmental emissions and environmental improvement – causing approximately half of the 76% pollutant emissions avoidance described above (**Table 5.5**). Other factors reported to be important were corporate social and environmental policy, improved technology and cost-saving efficiencies.

Complaints received for the chemical sector have decreased from the 2004/2005 period. This reflects improved control and investments made by the sector in noise and odour abatement systems. Compliance at these facilities is generally at a satisfactory level, which is a reflection of the high level of investment and commitment to environmental matters. Improved reporting of Pollution Release and Transfer Register (PRTR) Regulations will result in a clearer picture of emission trends, waste generated and waste reduction.

TABLE 5.4 Sectoral analysis

SECTOR	AGGREGATE ENVIRONMENTAL CATEGORIES	GENERAL COMPLIANCE
1. Minerals and Other Materials Sector	LOW	Good–Medium
2. Energy Sector	MEDIUM	Good
3. Metals Sector	MEDIUM	Medium–Poor
4. Mineral Fibres and Glass Sector	LOW	Medium
5. Chemical Sector	HIGH	Good
6. Intensive Agriculture	HIGH	Poor
7. Food and Drink Sector	HIGH	Medium–Poor
8. Wood, Paper, Textiles and Leather	MEDIUM	Poor
9. Fossil Fuels Sector	LOW	Good
10. Cement	LOW	Good–Medium
12. Surface Coatings Sector	HIGH	Medium
13. Class 13 Sectors	LOW	Medium

[2] Measuring the environmental performance of IPPC industry I & II (2009) – David Styles, Eileen O’Leary and Michael B. Jones

[3] Various emissions are combined on the basis of environmental impact to produce a single index of environmental performance – known as an Environmental Emissions Index (EEI)

ii. Wood, Paper, Textiles and Leather (including Timber Treatment sites)

Tackling the persistent soil and groundwater issues associated with the timber treatment industry was a priority for the EPA in 2007. An EPA study of high pressure facilities identified specific high-risk sites with contaminated groundwater/surface water. The EPA has directed actions that should be taken to improve water quality at these timber treatment sites in light of the study's findings. Ongoing monitoring will determine the success of remediation measures in place. Enforcement of licence conditions, including a number of successful prosecutions, has resulted in investment in infrastructure and remediation at a number of sites in this

sector. One site, for example, has invested more than €1m in infrastructure/remediation – including installation of a 'pump & treat' system for groundwater remediation resulting in a significant reduction of emission of contaminants to ground and surface water.

In board and paper manufacturing, textiles and fibres facilities, compliance was generally satisfactory but varied depending on the facility. In one particular case concern with effluent treatment consistency after plant downtime led to the installation of an advanced membrane treatment facility at an approximate cost of over €2m. This has resulted in significant reduction in loads discharged to water from the facility.

FIGURE 5.4 Pollutant emission reduction/avoidance in the pharmaceutical/chemical sector from 1995 to 2007^[4]

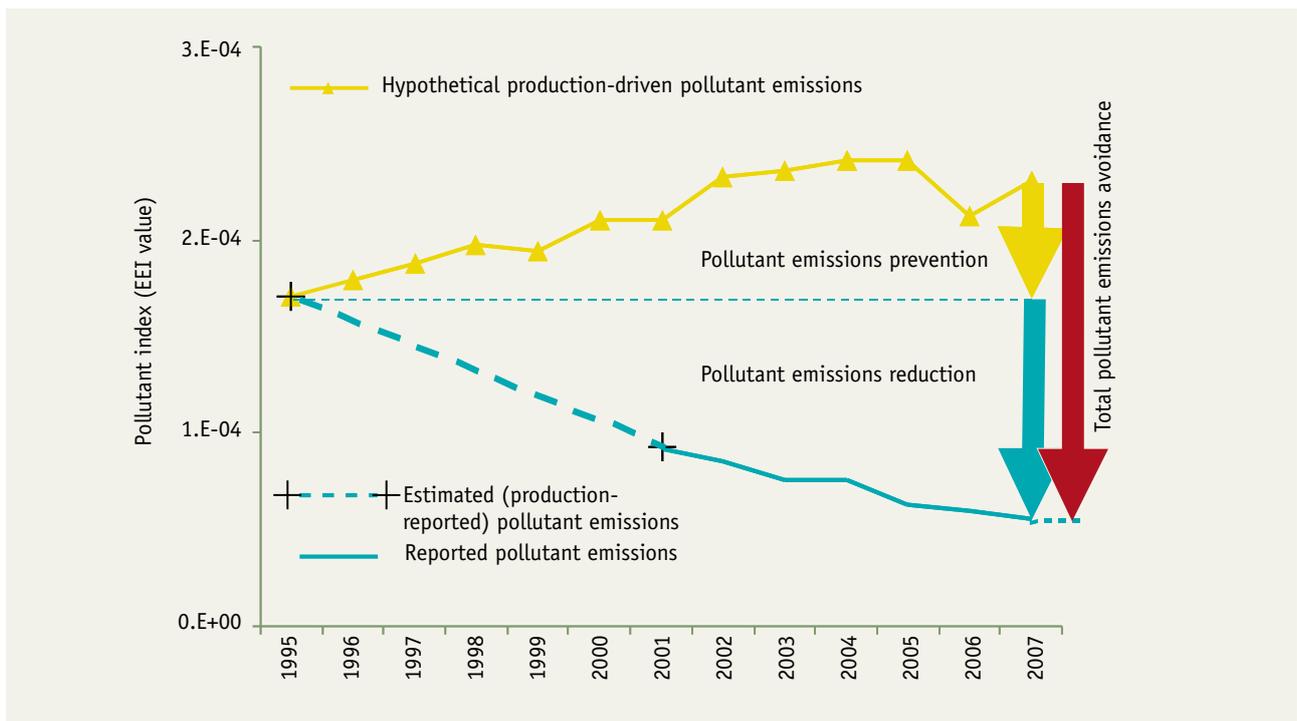


TABLE 5.5 Response of IPPC licensees regarding main drivers to reduction in environmental emissions

Factors in reducing emissions	Impact
1. EPA regulation (IPC and IPPC licensing)	
2. Corporate social and environmental policy	
3. Improved technology & technical knowledge	
4. Cost-saving efficiencies	
5. Voluntary guidelines for sector	
6. Environmental Management System accreditation	

[4] Measuring the environmental performance of IPPC industry I & II (2009) – David Styles, Eileen O’Leary and Michael B. Jones



iii. Fossil Fuels

While this has been largely a compliant sector, there has been a significant improvement in secondary containment of hydrocarbon fuels storage infrastructure, along with the installation of leak detection technology.

iv. Cement

The number of complaints received by the EPA in connection with this sector has decreased since the previous reporting period. A large number of the complaints were received in 2006 in relation to one facility. However, the number of complaints for the facility has significantly reduced in 2007 and 2008, following EPA enforcement activity and on-site improvements. These included more effective dust and noise monitoring, installation of acoustic barriers and improvements in facility complaint response procedures. This facility received more than 100 complaints in the 2004/2005 period, with fewer than 10 complaints received in 2008.

An incident at another cement facility in late 2006 resulted in a successful prosecution by the EPA. Subsequent to the prosecution, there has been a continuing focus on preventative maintenance at the facility and inspections by EPA staff have demonstrated significant improvements in preventative maintenance schedules and procedures.

v. Intensive Agriculture

Failure to submit nutrient management plans (NMP) for the recovery of slurry is a major issue in this sector. The EPA and the Irish Farmers Association came to a negotiated agreement in 2008 regarding the information to be submitted

to the Agency for assessment. Continued enforcement by the EPA has seen improved compliance with this requirement of their licence. Since 2008 the number of piggeries in compliance with this aspect of their licence has almost doubled.

There have been significant improvements at many facilities such as:

- ◆ Improved slurry management
- ◆ Installation of leak detection systems
- ◆ Improved animal husbandry
- ◆ Reduced air emissions through new slurry flush systems
- ◆ Installation of low air emission housing units

Twelve prosecutions were taken in the period 2006–2008, which mainly referred to a failure to adequately manage and/or control the slurry generated by the sites. Much of the infrastructure and improved slurry management arises from enforcement and prosecutions by the EPA. In 2007, an estimated €5.4m was spent at a single facility on various improvements to facility infrastructure.

Notwithstanding the above, a number of facilities have failed to submit nutrient management plans and a number of pig units have failed to submit licence applications and are currently operating illegally. The Agency has targeted these facilities for increased enforcement and legal action.

vi. Food & Drink

Monitoring and operation of wastewater treatment plants is a particular problem in the food and drink sector. Enforcement activities concentrate on improving compliance with emission limit values for emissions to water/sewer, in particular facilities contributing to specific instances of seriously polluted river stretches.

Wastewater treatment infrastructure has been installed at a number of facilities as a result of IPPC licence requirements. Indeed, licensees, reporting through PRTR (Pollutant Release and Transfer Register) Regulations have shown a progressive reduction in mass annual emissions to waters. A reduction of 17%–35% in BOD, nitrogen and phosphorus has been reported. An overall volume reduction of 6% was also reported.



There has been a particular focus on installing balancing infrastructure to reduce commonly seen peak seasonal loading to treatment plants. A selection of improvements as a result of IPPC licence conditions/discharge constraints are described as follows:

- ◆ The installation of new tanks for load balancing and nitrogen removal. In addition, a computerised process control system, improved monitoring instrumentation and a systematic maintenance programme were installed – resulting in a total investment of over €1.2m.
- ◆ The installation of a constructed wetland system to further treat effluent. The efficacy of this system meant that treated effluent could be reused resulting in no discharge to local watercourses, and maintaining a closed-loop system of wastewater reuse.
- ◆ The construction of a new wastewater treatment plant at a cost of approximately €2.5m.
- ◆ Subsequent to prosecutions by the EPA the wastewater treatment plant at another facility has been upgraded at a cost of €180k.

Guidance has been developed by the EPA relating to the quality of monitoring information submitted by licensees through Analytical Quality Control (AQC) – particularly highlighting wastewater treatment plants and effluent emissions in this sector. Inspections are being targeted at facilities discharging near seriously polluted river stretches, and focusing on on-site laboratories to ensure monitoring data is of a sufficient quality.

vii. Energy Sector

There have been significant changes in the energy sector in recent times with the ESB now supplying approximately 40% of the energy market, as compared with virtually 100% in the past.

There have been substantial reductions in SO_x (63%), NO_x (41%), heavy metals (30%) and CO₂ (19%) from 19 facilities in this sector as new abatement systems have come on line and old plant has been replaced by more efficient and cleaner plant. Air monitoring is a priority, along with monitoring checks of continuous emissions monitoring systems (CEMS) in this sector.

viii. Surface Coating (Solvent users excluding pharmaceuticals)

The number of complaints received in relation to the surface coating sector has reduced since the 2004–2005 period.

The main challenge is to ensure compliance with emission limits specified under the Solvents Directive for installations subject to the Directive. Enforcement activities will focus on carrying out air monitoring and other enforcement checks in this sector. Guidance has been circulated to the sector in relation to the quality of monitoring information. In one particular case a facility has completely eliminated the use of organic solvents and moved to water based solvents with consequential lowering of its environmental impact.

ix. Metals

A priority for the metals sector is to address non-compliances for bunding and proper storage of material and waste. While improvements have been made, further work is required in this



sector. Improvements at one galvanising facility included better management and segregation of processed materials and improved housekeeping. Dioxin emissions at another facility led to the installation of a ceramic dioxin abatement filtration system. At two licensed facilities soil/groundwater contamination caused by the poor handling of organic solvents was fully remediated. The contamination was removed and both facilities have since surrendered their licences to the satisfaction of the EPA.

x. Mineral Fibres and Glass

The compliance issues identified for the mineral fibres and glass sector relate to the exceedances of emission limits to sewer and air; waste handling; storage of hazardous materials; and more recently to the requirements to prepare site decommissioning plans, to carry out an environmental liabilities risk assessment and to maintain financial provisions to cover any environmental liabilities identified.

xi. Mineral & Other Materials

Generally there has been a decreasing trend in the number of complaints in this sector from 41 in the previous reporting period of 2004/2005 to 33 for the reporting period 2006–2008. The planning for the approaching closure of two of the lead/zinc mines was the focus of much enforcement work and meetings with stakeholders in 2007 and 2008. Prosecution and enforcement activities in one case resulted in improved waste handling arrangements, and better management of surface water in tailings management facilities. Ongoing restoration and aftercare works at this facility upon completion will have resulted in the investment of more than €10m to ensure licence compliance and adequate environmental protection into the future.

The level of compliance for the peat sub-sector during 2006–2008 was generally satisfactory.

Further details in relation to activities in particular sectors are included in *Appendix 2*.

PRTR – European Pollutant Release and Transfer Register^[5]

The European Pollutant Release and Transfer Register is an inventory of pollutant emissions from industry and other sources. The aim of the inventory is to make information more available to the public on pollutant emissions and waste transfers from a range of industrial sectors. The EPA provides the information collection service for Irish industrial facilities, both within and outside of the Integrated Pollution Control and Waste Licensing systems, and reports the required data to the European Commission. This data set facilitates the following far more effectively than was previously possible by:

- providing public access to information on releases of pollutants
- tracking emission trends
- demonstrating progress in pollution reduction and
- evaluating progress relating to environmental policies and goals.

Reporting under PRTR by the EPA will be on an annual basis. The first report, for the year 2007, was submitted to the Commission in June 2009.

To simplify reporting arrangements the EPA has developed a web-based data reporting system for facilities to report for E-PRTR, Annual Environmental Reports (AERs) and other related reporting requirements.

[5] Regulation (EC) No. 166/2006 – European Pollutant Release and Transfer Register and amending Council Directive Regulation

Greenhouse gas enforcement in IPPC industry

The EPA implements the EU Emissions Trading Scheme (ETS) in Ireland. Of the 105 facilities covered by the ETS in Ireland at the end of 2008, almost 90% of them are also regulated under the IPPC regime. Reductions in emissions are driven through the implementation and enforcement of the ETS. Total emissions from the 105 facilities have reduced from 22.4 Mt to 20.4 Mt CO₂ equivalents between 2005 and 2008. Additionally all IPPC licensees are required to report annually on energy and resource use to the EPA. The operation and enforcement of the scheme in Ireland is described in more detail in Chapter 4.

5.2.4 Administrative sanctions

The EPA issues notifications of non-compliance for breaches of EPA licence conditions. In 2008 the EPA issued 434 such notifications. Summary details for 2006–2008 are presented in **Table 5.6** and **Figure 5.5** (further details in *Appendix 2*). The numbers of non-compliances detected and the types of non-compliances vary from sector to sector. The main non-compliance issues within each sector are described above and in more detail in the appendices to this report.

Figure 5.5 provides a profile of the non-compliances detected. These are the main issues identified for corrective action in audits and inspections. It is apparent that materials handling, inadequate procedures, exceeding limit values, inadequate monitoring, non-submission or reports and waste handling constitute 85% of detected non-compliances. This is reflected in the compliance issues noted within the sectoral descriptions. The enforcement actions and prosecutions taken by the EPA are in response to these detected non-compliances.

5.2.5 Criminal sanctions

The EPA took 10 prosecutions against its IPPC licensees during 2006, 8 during 2007, and a further 12 during 2008. The reason prosecutions were taken

varied from sector to sector. Following on from the main categories of non-compliances detected, which are described above, the general issues within these prosecutions are summarised below in **Figure 5.6**. While a total of 30 individual prosecutions were taken in 2006–2008 (see **Table 5.7**), the subject of each individual prosecution often covered a number of issues (i.e. a single prosecution might include a number of charges covering such issues as discharges to water, non-reporting and poor materials handling).

The main prosecutions were in the following areas:

- **Piggeries** – related to poor handling of slurry, improper storage of organic wastes and non-submission of nutrient management plans
- **Timber treatment, pharmachem facilities, mining and solvent users** – related to waste/materials handling and the protection of surface and groundwaters
- **Pharmachem facilities, cement productions and solvent users** – related to non-compliant emissions to air, or non-monitoring of emissions to air
- **Slaughtering plants** – related to non-compliant emissions to water, or non-monitoring of emissions to water

Many of the above prosecutions resulted in the improvements made on site outlined previously under sectoral enforcement activities.

In addition to the above cases, three IPPC cases were referred to the Director of Public Prosecutions in 2006–2008. One criminal case was adjudicated on during 2006 – Schwarz Pharma Limited. This case related to:

- Air emissions up to 35 times the limits set out in the licence (including unauthorised emission points). Some of these emissions contained suspected carcinogens
- Failure to notify the EPA of these emissions
- Poor on-site environmental management practices which had the potential to cause pollution

TABLE 5.6 Summary of non-compliances detected and Enforcement Notices issued against IPPC facilities in 2006–2008

	2006		2007		2008	
	NONCs issued	NONCs detected	NONCs issued	NONCs detected	NONCs issued	NONCs detected
TOTALS	433	1,150	446	1,292	434	846

FIGURE 5.5 Non-compliances with IPPC Licences detected in 2006–2008

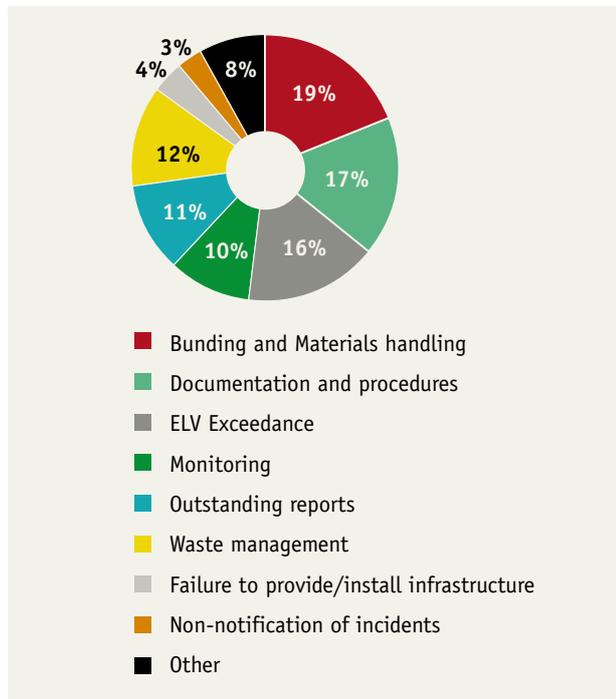
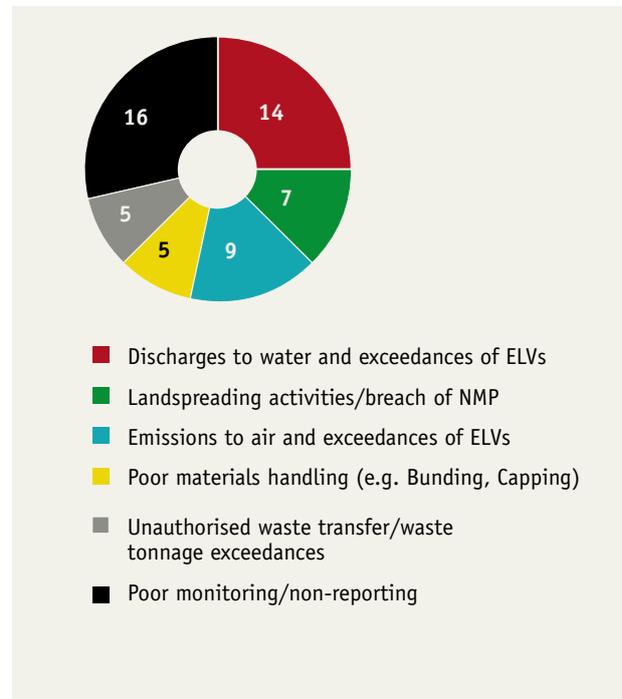


FIGURE 5.6 IPPC (Industry) Prosecutions – breakdown of issues 2006–2008



As a direct result of this prosecution, enforcement activities generally and IPPC licence requirements a number of significant infrastructural improvements and management changes were put in place. Approximately €30 million has been spent on Environmental, Health and Safety (EHS) related infrastructural improvements between 2005 and 2008

at this facility. The major changes made are outlined in **Table 5.8**.

Further details of all prosecutions taken during 2006–2008 are included in *Appendix 4* (with more detailed descriptions of these prosecutions on www.epa.ie).

TABLE 5.7 Prosecutions and convictions of IPPC facilities in 2006–2008

	2006		2007		2008	
	Prosecutions	Convictions	Prosecutions	Convictions	Prosecutions	Convictions
1. Minerals and Other Materials Sector	0	0	0	0	1	1
5. Chemical Sector	2	2	1	1	1	0
6. Intensive Agriculture	4	4	1	0	7	7
7. Food and Drink Sector	2	2	2	2	1	1
8. Timber Treatment Sector	1	1	1	1	2	2
10. Cement	0	0	1	1	0	0
12. Surface Coatings Sector	1	0	2	2	0	0
TOTALS	10	9	8	7	12	11

No prosecutions in the following sectors:

- 2. Energy Sector & 3. Metals Sector
- 4. Mineral Fibres and Glass Sector
- 9. Fossil Fuels Sector
- 13. Class 13 Sectors

TABLE 5.8 Major changes instituted at Schwarz Pharma Limited from 2005 to 2008

Infrastructural improvements	Management improvements
Complete reconstruction of a section of the plant	Installation of a dedicated Senior Environmental Manager
Upgrade of wastewater treatment plant	Direct reporting by Environmental Manager to Managing Director
Investment in new Environmental, Health and Safety laboratories	Increase in staff numbers and technical competency in the EHS Department
Upgrade of the surface water and firewater retention systems	Registration of the facility to ISO14001 in 2006 (ISO14001 is a standard for environmental management systems which can be implemented in any industry)
Upgrade of bunding & storage infrastructure	Implementation of a risk-based approach to environmental management on site
Installation of new fire protection system	
Installation of new drum store & tank farm	
Installation of system for the pre-treatment of aqueous waste streams.	
Installation of new waste management area.	

5.3 ENVIRONMENTAL OUTPUTS, OUTCOMES & FUTURE ENFORCEMENT ACTIONS

5.3.1 Environmental outcomes

The following points outline some of the environmental outputs and outcomes over the reporting period 2006–2008.

5.3.1(a) Environmental policy

Risk-based enforcement. Full implementation of the risk-based enforcement methodology. All IPPC licensed facilities are categorised using a detailed multi-faceted risk-based methodology. More enforcement effort is directed where the need is greatest, i.e. towards the higher category facilities.

5.3.1(b) Environmental implementation

Pollutant emission reduction. Total pollutant emissions from the pharmaceutical/chemical sector have decreased by 59% (when various emissions are combined into a single pollution index) following the introduction of Integrated Pollution Prevention & Control (IPPC) licensing.

Criminal investigations. Submission of three IPPC industry related cases to the DPP during 2006–2008 (of a total of eight cases submitted/heard). One was successful and the other cases have yet to be determined.

Summary prosecutions. Achieving successful prosecutions in almost 95% of IPPC cases.

Decrease of ~60% in complaints against IPPC facilities. A generally decreasing trend in complaints against IPPC licensed facilities has been seen during the 1998–2008 period. Complaints received in 2008 were approximately 60% down on 1998.

Sectoral improvements. Many infrastructural improvements within the IPPC sectors described in detail earlier including: provision of improved wastewater treatment, better waste management, improved air abatement infrastructure, improved slurry management, improved monitoring and general facility management.

Reduction in air emissions. Between 2001 and 2007, there were substantial reductions in SO_x (63%), NO_x (41%) heavy metals (30%) and CO₂ (19%) from 19 IPPC-licensed combustion-based power stations. This constitutes a significant mass load of these parameters emitted in the state (see Chapter 4, Air/ Noise for further details).



Reduction in water emissions. Between 2004 and 2007, there were substantial reductions in BOD (21%), nitrogen (35%) and phosphorus (17%) from 44 IPPC-licensed food and drink facilities (see Chapter 3, Water for further details).

Reduction in greenhouse gas emissions. Returns to date show that total emissions from the 105 Emissions Trading Scheme facilities have reduced from 22.4 Mt to 20.4 Mt CO₂ equivalents between 2005 and 2008. Almost 90% of these facilities are licensed under the IPPC regime.

5.3.1(c) Environmental capacity building^[5]

Development of Air Guidance. The Agency has developed a number of guidance notes in the area of air emissions

- Guidance (AG1) on Site Safety Requirements for Air Emissions Monitoring
- Guidance (AG2) on Air Emissions Monitoring aimed at improving the overall quality of stack emission monitoring
- Guidance (AG3) to aid process operators and test houses on stack emission monitoring

Environmental liabilities. The Agency has published guidance on the assessment and management of Environmental Liabilities in order to comply with IPPC

and Waste Licence conditions for Environmental Risk Assessment (ELRA), Residual Management Planning (RMP) and Financial Provision (FP).

Incident notification. Guidance was published on the notification of environmental incidents to the EPA.

PRTR Guidance. The Agency published guidance in relation to the EU Regulations and how licensees can comply with EU reporting requirements.

5.3.1(d) Environmental reporting

PRTR reporting. The EPA compiled and published data returns on a national basis to the EU.

Focus on Environmental Enforcement. The EPA has previously published reports on activity within the licence sectors regulated by the EPA. The most recent report for 2004–2005 and this report in particular (i.e. 2006–2008) focus on the wider aspect of environmental enforcement generally in the state.

5.3.2 Future enforcement actions

5.3.2 (a) Increased scope of EPA licensing

The scope of activities directly licensed by the EPA will increase significantly over the next few years. This increase will mainly result from an increased role for EPA licensing and enforcement in the following areas:

- Lower threshold for EPA licensing of power sector facilities
- Lower threshold for EPA licensing of pig and poultry facilities
- New classes for food activities under the IPPC Directive
- A potentially small increase in the number of licensed facilities under the proposed Industrial Emissions Directive^[6]

These new activities will present new challenges for licensees, with major investment and improvements in management and environmental performance required in the new activities licensed.

5.3.2 (b) Environmental Liabilities Directive

As described previously in Chapter 2, the Environmental Liabilities Directive will be relevant to the IPPC licensed community. The Directive aims to encourage polluters not to cause environmental damage and makes an operator liable for preventing and remedying any damage caused.

[5] All guidance available for download at: <http://www.epa.ie/downloads/advice/>

[6] COM(2007) 843 – Directive of the European Parliament and of the Council on industrial emissions

5.3.2 (c) IPPC licensee performance

The performance of existing IPPC licensees is variable and sector specific. It is clear that bunding and material handling are common issues that need to be addressed across the sectors. While groundwater contamination is being addressed in specific sectors, noise, odour and dust nuisance remain an issue for many sectors. In addition to these issues the EPA will focus on ensuring compliance with EU-PRTR reporting requirements within (and outside of) the licensed community, and implementation of the Environmental Liabilities Directive. This focus will continue to drive a downward trend in emissions to the environment.

The EPA will continue to focus on areas where the risks or potential risks are highest, and on using the available enforcement tools to bring about changes in environmental performance. The focus of the EPA will be on:

- inadequate bunding and storage of materials and waste
- poor quality of monitoring data submitted
- non-compliant emissions from wastewater treatment plants and
- non-compliant emissions to air

There will also be a focus on improving compliance in the areas of

- materials handling and storage
- remediation of contaminated land
- accuracy of monitoring data and waste records
- management of Wastewater Treatment Plants and
- management and monitoring of air abatement systems

The EPA will target sector-specific issues by focused audit and inspections and take enforcement actions as appropriate to bring about improvements and compliance with licence conditions. Persistent non-compliance will result in legal enforcement action against operators in order to protect the environment.

