
The National Waste Prevention Programme

Seventh Annual Report – for year 2011



Environmental Protection Agency

The Environmental Protection Agency (EPA) is a statutory body responsible for protecting the environment in Ireland. We regulate and police activities that might otherwise cause pollution. We ensure there is solid information on environmental trends so that necessary actions are taken. Our priorities are protecting the Irish environment and ensuring that development is sustainable.

The EPA is an independent public body established in July 1993 under the Environmental Protection Agency Act, 1992. Its sponsor in Government is the Department of the Environment, Community and Local Government.

OUR RESPONSIBILITIES

LICENSING

We license the following to ensure that their emissions do not endanger human health or harm the environment:

- waste facilities (e.g., landfills, incinerators, waste transfer stations);
- large scale industrial activities (e.g., pharmaceutical manufacturing, cement manufacturing, power plants);
- intensive agriculture;
- the contained use and controlled release of Genetically Modified Organisms (GMOs);
- large petrol storage facilities;
- waste water discharges.

NATIONAL ENVIRONMENTAL ENFORCEMENT

- Conducting over 2,000 audits and inspections of EPA licensed facilities every year.
- Overseeing local authorities' environmental protection responsibilities in the areas of - air, noise, waste, waste-water and water quality.
- Working with local authorities and the Gardaí to stamp out illegal waste activity by co-ordinating a national enforcement network, targeting offenders, conducting investigations and overseeing remediation.
- Prosecuting those who flout environmental law and damage the environment as a result of their actions.

MONITORING, ANALYSING AND REPORTING ON THE ENVIRONMENT

- Monitoring air quality and the quality of rivers, lakes, tidal waters and ground waters; measuring water levels and river flows.
- Independent reporting to inform decision making by national and local government.

REGULATING IRELAND'S GREENHOUSE GAS EMISSIONS

- Quantifying Ireland's emissions of greenhouse gases in the context of our Kyoto commitments.
- Implementing the Emissions Trading Directive, involving over 100 companies who are major generators of carbon dioxide in Ireland.

ENVIRONMENTAL RESEARCH AND DEVELOPMENT

- Co-ordinating research on environmental issues (including air and water quality, climate change, biodiversity, environmental technologies).

STRATEGIC ENVIRONMENTAL ASSESSMENT

- Assessing the impact of plans and programmes on the Irish environment (such as waste management and development plans).

ENVIRONMENTAL PLANNING, EDUCATION AND GUIDANCE

- Providing guidance to the public and to industry on various environmental topics (including licence applications, waste prevention and environmental regulations).
- Generating greater environmental awareness (through environmental television programmes and primary and secondary schools' resource packs).

PROACTIVE WASTE MANAGEMENT

- Promoting waste prevention and minimisation projects through the co-ordination of the National Waste Prevention Programme, including input into the implementation of Producer Responsibility Initiatives.
- Enforcing Regulations such as Waste Electrical and Electronic Equipment (WEEE) and Restriction of Hazardous Substances (RoHS) and substances that deplete the ozone layer.
- Developing a National Hazardous Waste Management Plan to prevent and manage hazardous waste.

MANAGEMENT AND STRUCTURE OF THE EPA

The organisation is managed by a full time Board, consisting of a Director General and four Directors.

The work of the EPA is carried out across four offices:

- Office of Climate, Licensing and Resource Use
- Office of Environmental Enforcement
- Office of Environmental Assessment
- Office of Communications and Corporate Services

The EPA is assisted by an Advisory Committee of twelve members who meet several times a year to discuss issues of concern and offer advice to the Board.



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Presented to the

Minister for the Environment, Community & Local Government

February 2012



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- All members of the National Waste Prevention Committee who have generously provided their time and collective knowledge to the programme (c.f. Appendices A & B);
- The Board of the EPA for providing ongoing encouragement and support;
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- The many local authority staff who have contributed significantly to the development of the programme;
- The consultants engaged and managed by EPA to progress many of the projects;
- All other stakeholders, organisations and persons who helped in any way with this important national initiative.

To all of the above, my most sincere appreciation.

Jonathan Derham BSc, PhD, MA (Mgt).

(Acting Chair, National Waste Prevention Committee)

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1. Introduction

The National Waste Prevention Programme (NWPP) has continued to build on the success of existing and previous initiatives aimed at promoting resource efficiency and the sustainable use of all natural resources. The objective as stated in the *Delivering Change*¹ waste policy is to establish an ambitious and well-resourced programme to deliver substantive results on waste prevention and minimisation across both hazardous and non-hazardous waste arisings.

The NWPP has three main strands, one dealing with production and consumption behavioural change (resource efficiency); the second dealing with statutory producer and holder responsibility obligations for specified materials and substances; and the third deals with measurement of progress through waste reporting. The substantive element of the NWPP budget is expended on Resource Efficiency activities, and this report reflects that operational arrangement.

In the current very challenging economic conditions, prevention has been shown to reduce costs; improve competitiveness while encouraging innovation and the adoption of cleaner processes and products. In other words, prevention has an important contribution to make to the development of a cleaner, greener smart economy in Ireland. We are not sustainable in our current production and consumption behaviours: the EU Commission have determined that in the EU each person consumes 16 tonnes of materials annually, of which up to 6 tonnes are wasted (EU COM (2011)571).

This NWPP report provides an overview of the progress made in 2011 on a wide variety of integrated projects focussing on waste prevention during the seventh year of the programme. Extensive contacts have been made and we maintain on going contact with all relevant stakeholder organisations (representing all elements in society) in order to share learning and experiences and to involve them directly in the development and implementation of practical waste prevention/resource efficiency projects, as appropriate (Figure 1).



Figure 1 – Principal stakeholders in relation to the National Waste Prevention Programme

¹ <http://www.environ.ie/en/Environment/Waste/PublicationsDocuments/FileDownload,1469,en.pdf>

Companies are becoming increasingly aware of the financial savings and competitive advantage that arise from adopting an environmentally sustainable and resource-efficient approach to their business. Key business costs centre on energy use, raw material use, and waste management services. The increasing awareness by consumers and clients for “green” and sustainable products and services also provides new opportunities for enterprises to meet customer needs and be more creative.

Common to these concerns is the concept of environmental efficiency (Eco- or **Resource Efficiency**), which is understood as Water Conservation, Waste Prevention, Energy Efficiency, and Clean Technology (incorporating Eco-Design) (Figure 2). There is clear accounting evidence that *good environmental practices make good business sense: being resource efficient saves money*.

Resource efficiency allows the economy to create more with less, delivering greater value with less input, using resources in a sustainable way and minimising their impacts on the environment.

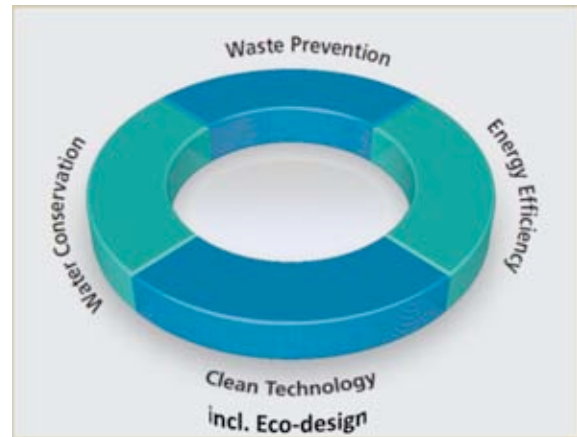


Figure 2: The Resource Efficiency Model

In the *Horizontal & Methodological Issues* section of the ‘National Reform Programme for Ireland’ (2011)² the Government identified key linkages in the reform programme, one of which was ‘decoupling economic growth from **resource use** while at the same time turning environmental challenges into growth and employment creation opportunities’. Similarly, the operation of the NWPP supports policy statements in the ‘National Recovery Plan’ (2011-2014)³ relating to improving the efficiency and competitiveness of companies, through actions concerning energy use and waste generation.

Efficient resource use and management is a core goal of economic policy
(OECD 2011 – towards green growth)

The EU Commission in their very significant recent communication ‘A Roadmap to a Resource Efficient Europe’ (COM(2011)571)⁴ observe that the Union today faces the dual challenge of stimulating economic growth, and of ensuring that this growth is sustainable. The Communication further states that to tackle these challenges and turn them into opportunities the economy will require a fundamental transformation within a generation – in energy, industry, agriculture, fisheries and transport systems, and most particularly in production and consumption behaviour.

Promoting efficient use of resources makes a lot of business sense and should help improve competitiveness and profitability.
(EU Commission COM(2011)571)

² National Reform Programme

³ <http://budget.gov.ie/RecoveryPlan.aspx>

⁴ http://ec.europa.eu/environment/resource_efficiency/pdf/com2011_571.pdf

Strategic Partnerships

The NWPP does not exist in a vacuum, its programme is part of a national family of programmes designed to promote a more sustainable society and economy, some examples of which are presented in Figure 3.



Figure 3 – Examples of National Resource Efficiency Activities

In the case of business and institutions, State supports and advice in the development and implementation of Green Business strategies are available from a range of agencies such as the EPA NWPP, the Sustainable Energy Authority of Ireland, Enterprise Ireland and IDA Ireland. The EPA works closely with these state agencies to promote and support sustainable enterprise attitudes and behaviours within organisations. It is this close working relationship that in 2011 yielded the *Green Enterprise Guide*⁵ which represents the coming together of five State agencies to produce a valuable business resource for private and public enterprises. The main aim was to provide in one document a brief introduction to the economic and operational benefits of Resource Efficiency for businesses, and to present an overview and directional information to the supports and services offered by the four principal agencies in the State active in this policy area. The goal was to be of assistance to enterprises by offering in one document a guide for the different business sectors where they can obtain the necessary State provided advice and support.

Web links to just some of the programmes cited are included in Appendix D.

⁵ <http://www.epa.ie/downloads/pubs/other/corporate/Developing%20a%20Green%20Enterprise%20Navigator.pdf>

The Green Enterprise Guide initiative also aimed to respond to a recommendation of the Government's *High-Level Action Group on Green Enterprise*⁶ - supported by Forfás, the Department of Jobs, Enterprise, and Innovation, and the Department of Communications, Energy and Natural Resources - which was for the State to work towards offering an integrated suite of efficiency programmes across agencies.



Launch of the Green Enterprise Guide. In the picture (L to R): Grainne O'Carroll, Department of Jobs, Enterprise and Innovation; Laura Burke, EPA; Fred McDarby, Enterprise Ireland; Phil Hogan, Minister for Environment, Community and Local Government; Eoin Gahan, Forfas; Ray Bowe, IDA; and Declan Meally, SEAI.

Coordination of national resource efficiency activities by all the relevant actors (Figure 3) is undertaken to date on an informal basis. In common with most EU member states, there is as yet no national Resource Efficiency programme. 'Responsibility' is divided amongst many actors. Action in relation to developing such a plan would be a significantly positive step towards achieving sustainability. The EPA through the STRIVE research programme has recently invited research proposals in relation to informing the development of a national Resource Efficiency plan. In 2011, the European Environment Agency published a report *Resource Efficiency in Europe*⁷ which includes examples from the Irish National Waste Prevention Programme.

There are excellent resources and case studies in relation to resource efficient practices and opportunities on the Enterprise Ireland *GreenTech* support web pages (www.envirocentre.ie), as well as on the SEAI web pages⁸. Enterprise Ireland have produced some very valuable sectoral resource efficiency assessments and environmental evaluations (e.g. *Resource Efficiency in Ireland's Dairy Processing Sector*; *Sustainable Practices in Irish Beef Processing*;

⁶ http://www.djei.ie/publications/trade/2009/developing_the_green_economy_in_ireland_01.12.09.pdf

⁷ <http://www.eea.europa.eu/highlights/publications/resource-efficiency-in-europe/>

⁸ http://www.seai.ie/Publications/Your_Business_Publications/

Environmental Compliance in Ireland's Food & Drinks Industry). The sectoral and case studies and guidance produced by Enterprise Ireland and SEAI add hugely to the 'behavioural change' process through raising awareness and sectoral benchmarking. Both these organisations play significant roles in national resource efficiency activities.

The Government funded *rx3* programme (www.rx3.ie) is another national platform contributing in a very notable way to resource efficiency through market analysis and development, including the publication of standards for recyclates and secondary raw materials. The *rx3* programme has also been charged with developing research into green public procurement methodologies, target-setting and effective implementation, evaluation and monitoring (refer Section 2 below).

In 2011 - as part of the European Week for Waste Reduction (EWWR) in November - some excellent workshops were organised for the benefit of the business community which involved a cooperative approach between REPAK (Packaging Prevention team), SEAI and the EPA-led Green Business. This approach presented an integrated and seamless front for state resource efficiency assistive services, and demonstrated the value of cooperation between national resource efficiency actors.

NWPP in 2012

The current National Waste Prevention Plan runs to the end of 2012. This terminus along with the recent statutory requirement for the EPA to devise a Waste Prevention Plan by December 2013⁹ means that in 2012 the EPA will commence the process of reviewing the current plan with a view to putting in place a revised plan. This activity will involve consultation with and input from, *inter alia*, the NWPP steering committee (c.f. Appendices A & B).

As noted above, amongst the key challenges for the establishment of a new plan will be the devising of appropriate measurable and achievable waste prevention benchmarks and indicators. These will be presented to the NWPP steering committee for discussion as part of the Plan review process in 2012.

In 2012 the EPA will be launching a new marketing programme for the NWPP. This will include a new branding ('BeGreen') with common branding themes to be used throughout the funded programmes, as well as a new web facility designed to draw many of the programme outputs together in one place.



Measuring NWPP Achievements for 2011

Not all of the NWPP programmes lend themselves to measurement of progress or success. Some are engaged in behavioural change, others in communication, or production of guidance, or sponsorship of environmental excellence awards; as well as funding of awareness and education type activity (e.g. Master Composters, Smart Garages Guide, etc.). But for those activities where measurement of identified resource efficiencies is possible the data tells a remarkable story of success, some of which are documented in the table below. Not all the metrics are comparable as programmes have different focus. The NWPP management team and participant contractors will in the future be devising appropriate - and where possible harmonised - benchmarks and indicators for waste prevention/resource

⁹ See Section 27A to the Waste Management Acts 1996-2011 (via Regulation 13 of the *European Communities (Waste Directive) Regulations 2011* (SI 126 of 2011))

efficiency activities. This will take account of indicators and benchmarks developed over the coming years under the EU Commission's 'Roadmap for a Resource Efficient Europe'.

These savings and activities can all be implemented at zero- or low-cost to operators. This measured success demonstrates good value for money for the state and a significant commercial gain for participant companies.

Table 1: Summary data for a selection of NWPP focussed Resource Efficiency programmes

Programme	NWPP Investment (c. 2011)	Resource Efficiency	Actual and Potential Savings Identified (last 12 months)	Return on Investment (rounded)
Green Hospitality Award	€0.452M	6,400 t waste prevented 38,748,000 KWh energy saved 352,000,000 litres water saved 221 members 125 properties certified	€5.58M	12:1
Green Business Initiative	€0.374M	Water, energy & waste savings 479 active members 45 Resource Efficiency Assessments Typical savings of €40,000 per annum per company assessed	c.€4M	11:1
€co-Cert	€0.03M	50 members 31 certificates Average >€5,000 savings per certified member	€0.16M	5:1
Green Healthcare Project	€0.150M	2,700 t waste could be prevented €80,000 potential savings in water use in three hospitals	€1.6M	11:1
SMILE	€0.106M	658 waste 'matches' made 6,800 t waste potentially diverted Numerous services & logistics traded	€0.812M	8:1
Green Retail	€0.05M	265 cost saving actions in energy, water & waste for 10 participant stores	€0.142M	3:1
Green Home	€0.125M	11,000 participant households >40,000 visits to greenhome.ie website Est. €320 saving potential saving per high performing household	€0.8M	6:1

Report Structure

Chapter 2 presents the main developments in national and EU waste/resource efficiency policy in 2011. Chapter 3 presents the activities and achievements of the resource efficiency/waste prevention programmes in 2011. Chapters 4 & 5 present an update on the NHPMP and the National Waste Report. Chapters 6 & 7 present achievements and activities in relation to producer and holder responsibility programmes; and Chapter 8 presents some concluding remarks and recommendations.

2. Overview of Waste Prevention Policy Developments

Legislative Provisions

In March 2011 the revised *EU Directive on waste* (98/2008/EC) (Waste Framework Directive) was transposed into Irish law by the *European Communities (Waste Directive) Regulations 2011* (SI 126 of 2011) (the Transposition Regulations). In terms of the National Waste Prevention Programme (NWPP) and waste management generally this is a hugely significant piece of legislation which introduces many new obligations for public and private sector waste operations as well as for regulatory activities.

The Transposition Regulations define ‘waste prevention and management legislation and policy’ as:

- (a) the Waste Management Act and regulations made under the Act,
- (b) policy issued by the Minister,
- (c) waste management plans made by a local authority, or
- (d) waste prevention programmes guidance or policy issued by the EPA.

There is no direct reference to EU policy, however such policy could be provided for in all of the above.

From the perspective of the National Waste Prevention Committee, perhaps the most significant legal change was the introduction of a new Section 27A to the Waste Management Acts 1996-2011 (via Regulation 13 of the transposition Regulations) which for the first time makes it a legal obligation to prepare waste prevention programmes (refer Text box 1, and Appendix C). The EPA is now the competent authority to establish these programmes which have to be in place by 12th December 2013, and shall be revised at least once every six years.

Key aspects of the legislative provisions are requirements to:

- Establish waste prevention objectives,
- Determine specific qualitative and quantitative benchmarks for monitoring and assessing progress of waste prevention measures,
- Adopt specific qualitative or quantitative targets and indicators as may be established by the European Commission,
- Consider additional specific qualitative or quantitative targets and indicators as may be appropriate.

These requirements will be considered in the context of a review of the current National Waste Prevention Plan¹⁰ which runs until end of 2012, and the development of a subsequent plan.

As detailed in Text Box 1 (see paragraph 27A(1)(b)), the waste hierarchy is - for the first time in national statute - legally established. Waste prevention is stated as representing the highest priority for policy makers, waste producers and regulatory authorities. The legislation states that the hierarchy ‘Shall apply as a priority’, and that competent bodies are to encourage production and waste management options that deliver best overall outcome. In relation to the production aspect, *Life Cycle Thinking*¹¹ is introduced as a decision support framework. Life

¹⁰ <http://www.epa.ie/downloads/pubs/waste/prevention/Prevention%20Plan%202009-2012%20FINAL2.pdf>

¹¹ <http://lct.jrc.ec.europa.eu/>

Cycle Thinking is a thought or decision process that seeks to identify improvements and to lower the negative environmental impacts of a good or service at all stages across its life cycle (design — raw material sourcing — manufacture — distribution — use — post-use (Disposal/Recovery) phases).

Waste prevention programmes.

27A. (1) The Agency shall establish waste prevention programmes not later than 12 December 2013 in accordance with—

- (a) Article 1 of the Waste Directive (to lay down measures to protect the environment and human health by preventing or reducing the adverse impacts of the generation and management of waste and by reducing overall impacts of resource use and improving the efficiency of such use), and
 - (b) the waste hierarchy set out in section 21A.
- (2) (a) The programmes referred to in subsection (1) shall be integrated into the waste management plans provided for in section 22 or into other environmental policy programmes, as appropriate, or shall function as separate programmes.
- (b) Where such programmes are integrated into a waste management plan or into other programmes, the waste prevention measures shall be clearly identified.
- (3) (a) The programmes provided for in subsection (1) shall set out waste prevention objectives.
- (b) The Agency shall describe the existing prevention measures and evaluate the usefulness of the examples of measures indicated in the First Schedule or other appropriate measures.
- (c) The aim of such objectives and measures shall be to break the link between economic growth and the environmental impacts associated with the generation of waste.
- (4) The Agency—
- (a) shall determine appropriate specific qualitative or quantitative benchmarks for waste prevention measures adopted in order to monitor and assess the progress of the measures, and
 - (b) may determine specific qualitative or quantitative targets and indicators, other than those referred to in subsection (5), for the same purpose.
- (5) Indicators adopted in accordance with the procedure referred to in Article 39(3) of the Waste Directive shall have effect.

Text Box 1: Extract from legislative text establishing the need for Waste Prevention Programmes (from Section 27A of the Waste Management Act)

The Transposition Regulations also detail clear responsibilities for waste producers and holders. Namely, it is a duty to ensure recovery in accordance with the hierarchy (with prevention at the top), and it is an offence not to. Moreover there is a responsibility on waste producers to treat waste or have it treated in accordance with the hierarchy. The Regulations also provide a framework for decision makers to consider a by-product of a production process a resource rather than a waste. This regulatory relief will be of significant advantage to production activities wishing to find alternative acceptable uses for production residues and for some production activities wishing to source secondary raw materials. Any intervention that sees a material diverted from the waste stream to an acceptable and safe form of economic utility is contributing to waste prevention success.

It is not possible herein to detail the full extent of the new Transposition Regulations, suffice to say that these legal provisions should have a significant impact on waste management practices in Ireland, including waste preventative measures.

National Policy

In relation to the Resource Efficiency agenda the recent policy consultation from the Department of the Environment, Community and Local Government (August 2011) 'Towards a new National Waste Policy', confirms the Government's position that waste prevention and resource efficiency are crucial elements of a platform for sustainable economic growth. Accordingly, the consultation states that any new policy will have a clear focus on prevention and resource efficiency, which builds on the success of the National Waste Prevention Programme.

The policy consultation presents some questions - the submissions on which will be very informative in relation to the forthcoming review of the National Waste Prevention Plan – namely — 'How can communities, individuals, businesses and the public sector be better encouraged to focus on waste prevention?' 'Are the current Producer Responsibility schemes the best vehicle to deliver on EU waste prevention obligations?' 'What role can levies play in delivering behavioural change?'

The proposed Policy commits to obliging Regional Waste Management Plans to have regard to prevention obligations, and also commits to requiring producer responsibility schemes to demonstrate significant waste prevention initiatives. Further use of economic instruments to drive change in production and consumption behaviour is anticipated. Significantly the Policy consultation confirms that the National Waste Prevention Programme will form the foundation for all waste prevention work and will support and mentor programmes at national, local and community level.

The national Green Public Procurement (GPP) policy area continues to develop with the publication in 2011 of the Government's Action Plan on Green Public Procurement, *Green Tenders*¹². This Action Plan is considered an intrinsic element of the National Recovery Plan³ whereby greening the economy is linked with growth and sustainability. Public procurement can shape production and consumption trends and generate significant demand for greener goods, in that way enlarging markets for environmentally friendly products and services. The €15 billion per annum purchasing power operated by the State has very significant potential to influence and 'move the market' in relation to the provision of more sustainable goods and services.

The *Green Tenders* Action Plan adopts the EU's indicative political target of 50% of GPP¹³ (i.e. 50% of procurement contract incorporating green criteria); this target to apply in respect of both the number and the value of public procurement contracts concluded¹⁴. The Action Plan nominates eight key sectors as priority for GPP, namely: Construction; Energy; Transport; Food and catering services; Cleaning products and services; Paper; Uniforms and other textiles; and ICT.

The Action Plan identifies certain key actions that will be important to the bedding-in of green procurement practices; these are articulated in Text Box 2.

Many of these key actions speak directly to NWPP activities. The full implementation of the GPP Action Plan will contribute in a significant way to the take-up of resource efficient consumption and production behaviours. Organisations operating resource efficient behaviours through, for example membership of the Green Hospitality, Green Business or EcoCert-type schemes should have a significantly greater chance of meeting criteria necessary to tender for GPP contracts.

¹² <http://www.environ.ie/en/Environment/SustainableDevelopment/GreenPublicProcurement/PublicationsDocuments/FileDownload,29208,en.pdf>

¹³ Mainstreaming sustainable development into EU policies: 2009 Review of the European Union Strategy for Sustainable Development (EU Communication COM(2009)400, 24-7-2009)

¹⁴ Understood to be within the lifetime of the current Government.

- Government Departments and Agencies with a procurement role shall progressively integrate green criteria into public sector tendering processes, as appropriate.
- A GPP Action Plan Implementation Group, comprising relevant Government Departments and Agencies, shall be tasked with reviewing implementation of GPP on an annual basis, by reference to existing and future national and EU targets.
- The GPP Action Plan Implementation Group's first annual progress report will include a detailed implementation plan for the eight areas prioritised in this Action Plan, to include a timeline for each of the individual actions.
- The GPP Action Plan Implementation Group shall draw up terms of reference for further on-going research into GPP methodologies, target-setting and effective implementation, evaluation and monitoring. This research could be carried out by rx3 and resourced out of monies allocated under the Market Development Programme.
- The GPP Action Plan Implementation Group's annual review should also report on the level of GPP training for public procurers that has taken place in the year under review.
- GPP content and reference to the Action Plan on Green Public Procurement should be integrated into all public procurement-related training provided to public bodies. This should apply irrespective of whether the training intervention is developed and delivered "in-house" or by external providers.
- In the case of the eight priority product groups, the Implementation Group's review will be based on available statistics and data for two key indicators – the number of contracts with GPP criteria relative to the overall number of contracts; and the value of such contracts relative to the overall public procurement spend.
- Public bodies, when addressing procurement capability in their Corporate Procurement Plans, should indicate a commitment to whole-of government objectives including GPP.
- Corporate Procurement Plans should set out how any GPP skills gap will be identified and dealt with through education, training, awareness raising and/ or dissemination of information. Those bodies with a significant procurement function should include these actions in their Training and Development Strategy/ Plan.
- Public bodies should ensure that procurement guidance material made available to staff (whether in hardcopy or electronic format) highlights the need to incorporate GPP criteria where appropriate into the tender and contract documents.
- Where applicable and relevant to the subject matter of the contract, public bodies shall clearly specify environmental and energy efficiency criteria, among criteria specified for contracts being awarded on the basis of Most Economically Advantageous Tender.
- When procuring hospitality services (e.g. hotels), the Green Hospitality Award scheme should (where possible) be utilised as a selection criteria. This is a voluntary programme that demonstrates leadership in environmental management within the hospitality sector.

Text Box 2: Key Actions from the Green Tenders Action Plan on Green Public Procurement

European Developments

This last two years have seen a number of very significant documents published by the EU Commission which are directly or indirectly related to the Resources Efficiency agenda. These lay out a clear policy programme that places Resource Efficiency (including waste prevention) at the heart of sustainable development and economic recovery (Green Growth). These policy documents will form the principal thinking behind, and content of, the forthcoming review of the National Waste Prevention strategy.

EU Commission 2020 Strategy

The EU 2020 Strategy (COM(2010)2020) for *Smart, Sustainable and Inclusive Growth* was published in March 2010. It presents three mutually reinforcing priorities, one being Sustainable Growth, which is to be gained through promotion of a more *resource efficient*, greener and more competitive economy. This ambition, it is suggested, will help the EU to

prosper in a low-carbon, resource constrained world while preventing environmental degradation, biodiversity loss and unsustainable use of resources: the stated aim being, *inter alia*, to decouple economic growth from unsustainable resources and energy use.

This strategy proposes the development of a number of 'flagship' initiatives to catalyse progress under the priorities. The 'flagship' proposal for a resource-efficient Europe was published in January 2011 (see below).

Commission Communication on Prevention & Recycling (2011)

The Thematic Strategy on the Prevention and Recycling of Waste adopted in 2005 (COM(2005)0666)¹⁵ sets as long-term goal for the EU that it should become a recycling society that seeks to avoid waste and which uses waste as a resource. The strategy expected more and better recycling, less waste to landfill and more compost and energy recovery from waste, leading to significant environmental, social and economic benefits. In January 2011 the Commission published a review of progress towards achieving the strategy objectives (COM(2011)13)¹⁶. In the review the Commission commented that waste prevention remains a clear priority in waste management and commits to publishing prevention guidelines and best practice notes from around the Union.

The review of the Thematic Strategy on waste prevention states that with continued growth of the world population combined with stronger emerging economies, total consumption is expected to increase significantly. This in turn will lead to pressure on resources and waste generation. Indeed it predicts that waste generation in the EU will increase by 7% between 2008 and 2020.

The report notes that though tangible progress in relation to quantitative waste prevention outcomes are difficult to measure in the way of progress, in the case of qualitative waste prevention more progress is evident. For example it is stated that the EU Directive on Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (2002/95/EC) is estimated to have reduced the amount of potentially harmful substances in electronics placed on the market by 110,000t annually. Similar such qualitative prevention achievements are being progressed under the Packaging Directive (94/62/EC, as revised). The application of the Registration, Evaluation, Authorisation and Restriction of Chemical substances (REACH) Regulation (EC 1907/2006) is also expected to contribute to reducing the generation of waste. And most recently the coming into effect of the new Waste Framework Directive (98/2008/EC) with the legally binding requirement for application of the waste hierarchy, the making of waste prevention plans, and the use of concepts such as eco-design and Life Cycle Thinking will further contribute to a robust policy environment that seeks to achieve waste prevention through behavioural change and efficiencies at production and consumption stages.

The Commission document signposts the development of initiatives that will yield more consistency between waste and product design policies, *including considering rules on the uptake of minimum content of recycled materials in priority products, the recyclability and durability of products and reducing the use of hazardous substances*. In particular the Commission states it will take concrete steps to move towards an EU resource efficient recycling society.

¹⁵ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2005:0666:FIN:EN:PDF>

¹⁶ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0013:FIN:EN:PDF>

Flagship Initiative for a Resource Efficient Europe

In January 2011 the EU Commission published the Resource Efficiency Flagship Communication (Com(2011) 21). The Commission identifies three conditions deemed necessary to Resource Efficiency;

- coordinated policy action,
- urgent action (due to long investment lead-times),
- empowering consumers to move to resource-efficient consumption thereby driving continuous innovation.

The flagship initiative is reported as aiming to create a policy to support the shift towards a resource efficient low carbon economy, which in turn is stated as helping Europe to:-

- boost economic performance while reducing resource use;
- identify and create opportunities for economic growth and greater innovation and boost the EU's competitiveness;
- ensure security of supply of essential resources;
- fight against climate change and limit the environmental impacts of resource use.

Changing consumption and production behaviours are considered central to the resource-efficiency challenge, as is the need to consider the whole life-cycle of resource use. The implementation of the resource efficiency and waste prevention aspects of the EU Waste Framework Directive (98/2008/EC) are cited as important policy interventions. The EU 2020 strategy has specified headline targets for renewable energy, greenhouse gas emissions, etc., and the Commission states that they are working to ensure that appropriate indicators are developed for resources use and efficiency.

In September 2011 the Commission published a related document 'The Roadmap to a Resource Efficient Europe' (COM(2011)571 final) (the *Roadmap*). This document defines medium and long-term objectives and means needed to achieve them, and in particular establishes a vision in relation to making Europe resource efficient (this vision built from the Europe 2020 Strategy).

The Vision: By 2050 the EU's economy has grown in a way that respects resource constraints and planetary boundaries, thus contributing to global economic transformation. Our economy is competitive, inclusive and provides a high standard of living with much lower environmental impacts. All resources are sustainably managed, from raw materials to energy, water, air land, and soil. Climate change milestones have been reached, while biodiversity and the ecosystem services it underpins have been protected, valued and substantially restored.

The Roadmap sets resource efficiency as key to this vision and establishes milestones and actions as well as a framework for how policies interrelate. The Commission sees that resource efficiency will bring increased competitiveness and new sources of growth and jobs through cost savings from reduced raw material use, commercialisation of innovations and better management of resources over their whole life cycle. Changing consumption patterns of public and private purchasers is important to the resource efficiency paradigm, and accurate information on life-cycle impacts and costs of resource use is essential to consumption decisions.

Some of the milestones articulated in the Roadmap include, that by 2020;

- *minimum environmental performance standards are set to remove the least resource efficient and most polluting products from the market;*
- *appropriate price signals and clear environmental information is available to the public to guide sustainable purchasing decisions;*
- *market and policy incentives that reward business investments in efficiency are in place;*
- *efficient production methods are widely used;*
- *all companies, and their investors, can measure and benchmark their lifecycle resource efficiency;*
- *economic growth and wellbeing is decoupled from resource inputs;*
- *resource efficiency will be a shared objective of the international community;*
- *ambitious resource efficiency targets and indicators are developed*
- *there will be a 1% yearly reduction, beginning 2012, in transport GHG emissions;*
- *there will be a 20% reduction in the food chains resource inputs*
- *water abstraction should stay below 20% of available renewable water resources.*

These are just a flavour of some of the milestones, others for example, deal with housing, soils, biodiversity, marine environment, research and innovation. The Roadmap document is very rich in policy informing content. It provides a good basis for further discussion among Member States, the EU Commission and all key stakeholders to progress resource efficiency agenda; moreover it also specifies matters that Member States should consider. These statements should inform national policy making for the next 10 to 15 years. The forthcoming 7th Environmental Action Plan will be an important support for any resource efficiency policy measures stemming from the Roadmap.

Raw Materials Strategy

Resource efficiency ambitions can be seen across the breath of the Commission's policy agenda. One of those agenda areas is the critically important Raw Materials Initiative (RMI)(COM(2008)699)¹⁷ which envisions the need for three policy pillars:- ensuring a level playing field in access to resources in third countries; fostering sustainable supply from EU sources; and, boosting resource efficiency and promoting recycling. Arising from this initiative the Commission developed a policy communication on 'Tackling the Challenges in Commodity Markets and on Raw Materials' (COM(2011)25)¹⁸ (the Raw Materials Strategy) published in February 2011. The Commission considers a resource efficiency policy 'pillar' as central to a sustainable raw material strategy (adopted from Pillar 3 of the RMI); this to include 'urban mining' where greater extraction of secondary raw materials from waste is seen as underexploited, as well as maximising efficiency of resources use, examining the recyclability and durability of products and ecodesign.

International Developments

Resource efficiency is seen as a central element of international sustainability agendas. In the OECD 'Towards Green Growth' (2011)¹⁹, the UNEP 'Towards a Green Economy' (2011)²⁰; and

¹⁷ http://ec.europa.eu/enterprise/sectors/metals-minerals/files/com699_en.pdf

¹⁸ <http://ec.europa.eu/enterprise/policies/raw-materials/>

¹⁹ http://www.oecd.org/document/10/0,3746,en_2649_37465_47983690_1_1_1_37465,00.html

in the pre-consultation papers for the Rio+20 UN Conference on Sustainable Development²¹, resource efficiency is given considerable prominence in relation to achievement of a sustainable economy and environment.

Green Growth (as per the OECD 2011) means fostering economic growth and development, while ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies. To do this, it must catalyse investment and innovation which underpin sustained growth and give rise to new economic opportunities.

Greater recycling is of course noted as core to a green economy, but so also are greener consumption and production behaviours – it is necessary to find new and innovative ways of producing and consuming things. Product redesign so as to ensure resource efficient production, extended durability, and easier recycling at end of life are identified as essential. Greater use of secondary resources and waste exchange activities are required.

Efficient resource use and management is a core goal of economic policy; and many fiscal and regulatory interventions that are not normally associated with a 'green' agenda will be involved in green growth (OECD, 2011). The OECD also comment that for green innovation, green growth strategies need to address a number of key challenges: correct pricing of environmental externalities (i.e. full cost of resources consumption, production and post-use management not factored into the price of a commodity); technology lock-in stifles more efficient new production technologies; and, barriers to trade (e.g. effective protection of intellectual property rights preventing diffusion of green technologies).

These international policy trends indicate that over the coming years the resource efficiency agenda is going to remain central to international and EU policy making, with resource efficiency interventions broadening in scope and deepening in ambition.

²⁰ <http://www.unep.org/greenconomy/>

²¹ <http://www.uncsd2012.org/rio20/index.php?menu=61>

3. National Waste Prevention Programme: Resource Efficiency/Prevention Projects

This part of the report is presented in three sections:

Section I: Resource Efficiency Programmes under the Green Business Initiative

Section II: Resource Efficiency Programmes under the Local Authority Prevention Network (LAPN)

Section III: Other Resource Efficiency Programmes

SECTION I: The Green Business Initiative Programmes

There is a range of resource efficiency enterprise support programmes managed within the Green Business family of activities.



The *greenbusiness.ie* project is the flagship project of the Green Business Initiative. It was constructed from scratch following research of similar schemes worldwide, and following stakeholder consultation, aimed at delivering a free high quality service to businesses (or any other commercial or public sector organisation), that might benefit from its services.

The website features interactive waste and water auditing tools that allow businesses self-help and to gather data on resource use. E-mail and phone line support are then available to answer queries or provide support in operating the self assessment tools. The website also hosts case studies, both from *greenbusiness.ie* users, and other sources such as the Cleaner Greener Production Programme, which is also funded by NWPP. Direct links to complimentary energy assessment tools provided by the Sustainable Energy Authority of Ireland are also provided (see Energy Map at www.seai.ie).



Businesses and organisations, may request a Resource Efficiency Assessment (REA), where a specialist member of staff from *greenbusiness.ie* will visit the premises of the organisation involved.

REAs are tailored to suit individual business activities, matching size and complexity of operation with potential outcomes. Businesses may be able to avail of up to 5 days of consultant support, including write up of reports. The site reports are specific and detailed and concentrate on “no and low cost” improvement actions. The service is completely free and confidential and the report produced is specific to that particular premises.

The service works closely with Enterprise Ireland (see www.envirocentre.ie), IDA Ireland and the Sustainable Energy Authority of Ireland in their outreach environmental programmes for business to enable synergies to be achieved. This is in line with the recommendations of the

recent Report of the High Level Group on the Green Economy. Additionally, the four organisations have drafted an Enterprise and Environment guide for businesses on green supports on offer. This guide is available at the EPA website (<http://www.epa.ie/whatwedo/enterprise/>).

The project team also re-designed the website, and used social marketing to increase the profile of the project. Google analytics show the pattern of website traffic visiting the site. Since the introduction of a revised and improved web site in January 2011 site visits increased by 157% and page views by 44%.

Achievements

In order to identify larger potential savings, and to allocate resources more effectively, an emphasis on recruiting larger companies was made, particularly in the Food and Drink Sector. It was a noticeable feature that large companies with multiple sites requested multiple REA visits based on their positive experiences with the *greenbusiness.ie* project.

- 45 REAs Completed
- 254 on-line waste audits carried out, 132 on-line water audits and 90 members had carried out both waste and water audits.
- 479 active members in scheme
- 180 phone calls answered
- 12 events attended
- 13 case studies produced
- 250 e-mail queries answered
- Up to €6.1 million of potential savings due to resource efficiency activities recorded (c.€4M from NWPP REAs)
- Typical (i.e. outliers excluded) up to €40,000 potential savings per annum per company

Whilst the numbers are impressive, the emphasis is still on the businesses to carry out the identified actions to generate the potential savings. It is anticipated that in Phase 2 of the project, revisits may be carried out to assess how companies fared in implementing these efficiencies.

Generation of case studies was also seen as critical, with the case studies section of the site being the most visited. Word of mouth was also a key element in attracting new potential clients, with events such as the Water Workshop in Cork leading to a noticeable surge in interest.

The *greenbusiness* project team also participated in cross linking projects with the Green Festivals Programme, Green Healthcare, and Green Retail, carrying out REAs and producing guides and promotional materials. Using these cross functional links avoids duplication of efforts, builds links between projects and offers added value to the EPA. It also significantly expands the realm of influence.



The Green Hospitality Programme (GHP) provides a step-by-step approach to environmental management within the hospitality and catering sectors with awards given at Ecolabel, Silver, Gold and Platinum levels. The Programme is a resounding success and has swiftly become the standard for environmental management within the hospitality sector in Ireland. It is the only Irish programme recognised internationally, and has all major stakeholders supporting the project within Ireland, including Fáilte Ireland, Irish Hospitality Institute and Irish Hotels Federation.

The programme currently has 221 members. Achievements due to the members' efforts include reducing waste going to landfill by 50%, reducing water consumption by 50% and reducing energy consumption by up to 30%, all of which impact positively on the bottom line as well as on the environment.

The success of the Green Hospitality Programme since it commenced in January 2008, can be judged based on a number of factors:

- Meeting the project Key Performance Indicators;
- Penetration of the Green Hospitality Award into the market;
- Costs saving and environmental improvements achieved for the hospitality sector by the GHA Programme;
- Improvements in benchmark data returned by members over the last two years;
- Testimonials and published case studies from the many members who have significantly reduced their environmental impacts while reducing costs;
- Positive publicity generated by the GHA programme;
- The expansion of the GHA programme outside of the hotel sector and the potential for it to positively influence other sectors.



GHP not only offers the Green Hospitality Award and the Green Hospitality Eco-label, but also offers Green Hospitality Workshops, training, conferences, reviews, network opportunities, etc. The Green Hospitality Programme (GHP) now offers environmental certification to a wide range of sectors which include: hotels, restaurants, commercial catering, leisure centres, spas, golf clubhouses, nursing homes, activity centres and visitor centres. Environmental certification criteria have been developed for each of these sectors.

The GHP is also supported by Fáilte Ireland, the Irish Hospitality Industry and the Irish Hotels Federation.

This year, some key achievements of the programme included:

- The GHP now has corporate commitment from many of the largest hotel groups in Ireland including; Radisson Blu, Hilton, Bewley's, Moran, Carlton, Tower, etc.

- The GHP has received much interest from the contract catering sector, particularly Sodexo International who have adopted the GHP as a valuable asset for their CSR programme.
- A cluster of Bed and Breakfasts in the Limerick, Clare, Tipperary region have joined the Green Hospitality Programme. This cluster will serve as a good demonstration model for the micro business sector and will allow GHP to further develop its toolkit for small businesses
- The Green Hospitality Programme has become a member of the Guaranteed Irish Scheme and has included the Gaelic translation of the brand in our new logo, 'Clár Feile Glaise'. This reinforces the GHP motto that 'we are the only Irish environmental certification programme for the hospitality sector'.
- The project developed an environmental management module for Tourism and Catering at Cork Institute of Technology. This module will be further developed and tested in September 2011 when it is integrated into the curriculum. This module will be HETAC (Level 8) approved.
- The Green Hospitality Programme held a one-day national conference themed on Developing Green Conferencing. This topic complemented ongoing work on a side programme GHP is implementing on developing Dublin as a Green Business Tourism Destination and endorsed this work.
- Green Business Tourism – Dublin. This project was designed to establish the necessary steps to be taken by the Dublin Hospitality sector to allow Dublin to promote itself as a Green Business Tourism Destination (Conference & Event). The core of the project is being built around the 3 certified event centres in Dublin – Croke Park, Aviva Stadium & the Dublin Convention Centre coupled with the GHP accommodation members.



*Irish Hospitality Institute
Annual Awards –
Environmental Manager
of the Year 2011.
L to R: Fergal O'Connell
FIHI, President IHI;
Minister for Transport,
Tourism and Sport Leo
Varadkar, T.D.; Andrew
Mullen, Maintenance
Manager, Radisson Blu
Hotel & Spa, Cork; and
Dr Jonathan Derham,
Environmental
Protection Agency.*

Significant project metrics include;

- Recruitment raised to 221 members (including 141 hotels representing 25% of Irish hotel beds)
- 4 Platinum awards made, representing world class environmental performance by the entities involved (The Radisson Dublin Airport, Westin Hotel, Dublin, Dromoland Castle and Garryvoe Hotel).

- 125 properties certified (increasing from 85 in 2010)
- €5.58 million of measured savings for members
- 6,400 tonnes of waste prevented
- 38,748,000 KWh of energy saved
- 352,000 m³ of water saved
- 8,405 tonnes of CO₂ saved
- A cost benefit ratio of 15:1 on EPA NWPP investment

Despite extremely challenging circumstances in the hospitality sector, the GHP continues to go from strength to strength saving its members €13 million in the three years it has been operating, a truly exceptional result.



Green Healthcare is a programme delivered using the techniques and lessons learned by the Green Hospitality Programme (GHP), but tailored to meet the very specific demands of the Healthcare environment. The project was initiated in conjunction with the Health Service Executive (Estates Dept) and after being piloted in Cork, was expanded nationally, with demand initially outstripping available resources. Following encouraging initial results, the 9 hospitals originally involved was expanded to 22 primary healthcare facilities.



The emphasis of the project was primarily food waste, general and clinical waste, with some water and energy work carried out in a small number of the hospitals. Many of the largest opportunities for saving money were found in the food waste area.

The project used both GHP and *greenbusiness.ie* staff to help to build capacity in the sector and offer best value to the EPA.

Significant achievements included:

- 22 hospitals involved
- 40% of Irish acute hospital beds (6,400) covered
- 60 waste surveys carried out
- Up to €1.6 million of savings identified (incl. €1M food waste)
- €120,000 measured savings at one hospital
- €80,000 potential savings in water usage from 3 hospitals
- Up to 2,700 tonnes of waste could be prevented

The project team have started to revisit participants and assess how they have fared in implementing their action plans, quantifying savings where possible, and identifying further issues and challenges. The project will also produce training materials and manuals to help other healthcare users to reproduce the results shown to date in this exciting project, as well as a members' website allowing the exchange of information between hospitals.

SMILE

The Saving Money through Industry Links and Exchanges Project (SMILE) is an industrial symbiosis programme which aims to offer businesses an opportunity to exchange resources, by-products and to generate partnerships. The aim of industrial symbiosis is to save businesses money and divert waste from landfill by creating a network of businesses that reuse each other's surplus products, by-products and reusable items and also share services and logistics.

Project partners include City and County Enterprise Boards, Cork City and County Councils, Limerick, Clare and Kerry Enterprise Boards and Limerick Clare Kerry Regional Waste Management Office, with Macroom-e Eco-Industrial Park – providing the SMILE service.

Achievements include:

- 2 events held
- 658 matches identified
- 94 businesses participated
- Potentially 7,000 tonnes of waste diverted
- Over €800,000 of potential cost savings
- Over 93% approval rating from businesses that attended
- Services and logistics also traded, as well as companies developing strategic and businesses partnerships
- 400 members
- Dynamic new website and branding for the project developed



Minister for Environment, Community and Local Government, Phil Hogan, T.D. and Michelle Green of SMILE at the recent launch of the project in Limerick, Clare and Kerry.

€co-Cert

€co-Cert is a programme designed to help businesses (predominantly small businesses) to save on their energy, waste and water costs while becoming 'greener' in the process. They also get recognition through the award of an €co-Cert environmental certification.

The certification process is designed to be attractive to businesses with potential savings and an action plan being identified during an initial visit, with the performance of the business being audited prior to the issue of a certification, which is renewed on a 3 year basis, provided that constant improvement is demonstrated.

Project partners include Laois, Offaly, Waterford City, Waterford County and Dun Laoghaire/Rathdown County Councils. The *eco-Cert* programme has also supported Wexford Festival Opera and Waterford Tall Ships Festival.

Achievements include:

- 50 member businesses;
- 31 certifications issued;
- On average > €5000 per certified member savings made
- Members include Dundrum Town Centre, Nutgrove and Stillorgan Shopping Centres.

eco-Cert satisfies the need for many small businesses to have access to achievable, affordable environmental certification, which also delivers cost savings.



L to R: Ray O'Dwyer, Waterford County Manager; Anne O'Sullivan, Waterford County Council; Paul Dunne, Dunhill EcoPark; Phil Hogan TD, Minister for Environment, Community & Local Government; Helen Kavanagh, Interreg Action Dunhill; and Willie Moore, Chairperson, Dunhill Rural Enterprises Ltd.

Green Defence Forces/Irish Prisons Service (Pilot Project)

Subsequent to a meeting in late 2010 between the Army, the EPA and CTC in Collins Barracks in Cork City the potential for an Environmental Improvement programme for the Defence Forces was suggested. Much work has already been done by the Defence Forces with regard to the management of waste, water and energy. In 2001 an environmental strategy for the army was initiated and since then significant progress has been made throughout the sector.

However, the Army wished to manage this work in a more concerted manner and with this in mind is eager to establish a formal Green Defence Forces programme.

The aim of this pilot project was to reduce the overall environmental costs, and improve the environmental performance, of Irish Defence Force locations and facilities. This work will involve working with Collins Barracks in Cork City and comparing it with Sarsfield Barracks in Limerick.

The key areas of investigation were water management, paper use and food waste. Energy usage was not formally assessed, as Collins Barracks had worked with SEAI since 2007 with the aim of securing a culture change among personnel and the integration of energy saving into daily routine (http://www.seai.ie/Your_Business/Public_Sector/Defence_Forces.html).

A detailed weeklong waste assessment was conducted in Collins Barracks. This focused on mixed waste and a detailed food waste audit was conducted also at the 2 main food serving areas. A report has been submitted to Collins Barracks and they are in the process of implementing a number of key improvements after the draft report was discussed with CTC.

As part of this work an initial scoping of potentials for parallel improvements in the Irish Prison Service (IPS) will be investigated. Some prisons currently have ISO 14001 in place so examining the potential for positive work results in 2 locations will be done – one with ISO 14001 and one without. The IPS have been contacted and based on initial meetings a draft work-plan has been submitted with a view examining 2 locations – probably in Cork and Louth.



This programme set out to make the participants, and supply chains supporting events more environmentally friendly. The festivals included in the year's activities included Wexford Festival Opera, Galway Arts Festival and Waterford Tall Ships. By using the festival organisers as a focal point, businesses supporting the festivals were asked to sign up to a green charter, or join a green certification scheme. The festival organisers also encouraged their volunteers to participate in the An Taisce *Green Home* project.

Wexford Festival Opera

The number of businesses that participated was;

- 15 hospitality suppliers in Co. Wexford are now certified in the *Green Hospitality Programme* (4 were already certified prior to this project);
- 10 businesses certified with the *Eco-Cert*;
- 38 businesses participated in the *Green Aware Programme*;
- 50 homes joined the *Green Home Programme*.



Eamonn Carroll, WFO, Dr Gerry Byrne, EPA, Colm Campbell, Jeannette Hayden, Riverside Hotel & James Hogan CTC

Cost savings and environmental benefits achieved as a consequence of the project in 2010 included a number of immediate cost savings by hospitality businesses with the Riverbank Hotel, Maldron Hotel and Kelly's Hotel reporting savings ranging from €10,000 to €40,000 per annum through water savings, waste reduction and improved energy management. The 10 *Eco-cert* certified companies identified savings of on average €12,141 (86% of which were associated with energy savings).

- Estimated potential savings for 24 hospitality businesses identified as €250,000;
- Estimated potential savings for 12 non hospitality businesses €120,000;
- Total potential savings identified €370,000;
- Budget for Green Festival Opera circa €34,000
- Cost effectiveness ratio was 11:1 return

There were undoubtedly other savings made by businesses and householders which are not included in these estimates.

Galway Arts Festival

Galway Arts Festival is Ireland's largest international arts festival. Founded in 1978 it has grown into an event with a significant reputation where, in 2010, there were 158,000 attendances at 273 performances, talks and exhibitions in 25 venues over 14 days.

Project partners included *Green Hospitality Programme*, Galway Arts Festival, Galway City Council (Environment, Transport and Arts offices), Galway Chamber of Commerce and Fáilte Ireland.

A total of 67 mostly hospitality businesses registered as *Green Aware* (GA) members (15 *Green Hospitality Programme* members plus 52 new businesses). Green Aware members sign a commitment to carry out a 10 step approach to implement a simple environmental action plan, or join one of the *Green Business family schemes*. Although final auditing of the project is still underway, based on previous similar projects, it is estimated that businesses may have identified approximately €300,000 of potential savings. This project was a LAPN – Green Business family co-funded and co-managed effort and represents a good example of integration of NWPP project areas.

Other benefits included a reduction of landfill waste from the festival through waste segregation at Big Top, Town Hall and Black Box. Galway City Council also initiated enforcement of Food Waste Regulations during the Green Aware Arts Festival project period by engaging with local waste collection companies, requesting them to inform their customers (food waste producers – hotels, pubs, restaurants, cafés, take away, etc.) about their legal requirements.

Waterford Tall Ships

The 2011 Waterford Tall Ships festival took place during June 30th to July 3rd 2011. The Tall Ships Festival was a focal point for initiating this greening process with the potential to impact on the environment with an expected 500,000 visitors.

The vision for the project involved the development of an integrated supply network of accredited businesses and suppliers providing sustainable products to the Festival and its visitors. The Tall Ships Festival Committee promoted this network and provided advertising and messaging informing guests on the participating businesses and other hints and tips to make their stay more sustainable.

Businesses in Waterford City and County with no direct connection to the festival were also encouraged to join the greening process. The aim would be to leave behind the legacy of a greener Waterford, primarily in the form of more sustainable businesses, after the ships had sailed.

Twenty four businesses engaged with the project, with fifteen companies receiving initial site visits. A potential €60,000 worth of saving could be realised by implementation of the action plans. The project continued to work with the businesses until the end of 2011.

Green Festivals Framework

There are hundreds of Festivals/events held annually in Ireland and all have a direct impact on the communities in which they occur – most festivals are held in towns around the country and add to the vibrant social and cultural life of their peoples and also support the tourism attraction of a location/area.

The *Green Hospitality Programme* team are developing a framework for festival organisers so that future festivals that wish to “go green” can do so using a recognised roadmap, and action

plan. This will be appropriate from a small village show to a multi-day rock festival. There is also an 'Events' project group operated through the NWPP funded Local Authority Prevention Network (LAPN). On-going cooperation and integration of the activities of this events group and the Green Festivals Framework is intended to further enhance the success of the Festivals Framework.

It is proposed to produce a Green Festival Implementation Folder which would be a hard copy folder which would include all the documentation required for a festival to start the greening process. The folder would include such things as sample policies, case studies, tools, templates, marketing ideas/concepts, ten step approach, and a festival charter. The Action Plan provides a methodology for implementation by Festival committees and Post Festival Reviews of their green activities with plans for a following year's festival.

By following this framework, festivals will be able to apply for branding as official Green Festivals and interlink with other NWPP projects to offer an integrated green experience.



This pilot project was carried out in association with Musgrave Retail Partners, Enerit and *greenbusiness.ie*, and was designed to look at the potential for resource efficiency savings in small to medium size retail outlets. In this pilot programme, 10 stores participated - 5 Centra and 5 Supervalu.

The project was successfully rolled out to the 10 stores of various sizes, with the software and consulting service intervention being well received at all the stores. Potential resource cost savings (in water, waste and energy) of approximately €140,000 per annum were identified and the stores are currently implementing the recommendations, supported by an on-line management and monitoring system.

Potential Savings Identified by Resource Group

	No. of actions	Cost savings (€/yr)
Energy Actions	183	€102,995
Waste Actions	51	€26,720
Water Actions	31	€13,115
Total	265	€142,830

Based on the actions and cost savings identified across the 10 stores, the potential savings across 600 stores is estimated at €8.5 million, or 15-20% of resource costs, through zero-cost/low cost environmental resource reduction actions. Energy, waste and water costs savings are well recognised by all store owners as a major opportunity to remain competitive and to retain jobs within the Irish economy.

A guide for retailers has also been produced, which will be published in early 2012.

Cleaner Greener Production Programme

The Environmental Protection Agency launched the Cleaner Greener Production Programme (CGPP) in 2001 as a grant scheme to encourage Irish organisations to implement cleaner greener practices. The philosophy of the programme is that prevention is better than cure, and the objective is to achieve a balance between economic activity and protection of the environment. The main difference between this and other of the NWPP Green Business family programmes is the provision of direct grant aid to the business to research/develop/trial a greener production process/service. Grant aid is awarded on evaluation of proposals received following an open call. The scheme is managed by the EPA STRIVE programme team and receives funding from the NWPP.

The projects challenge organisations to produce goods and services in more environmentally friendly ways, targeting the minimisation of emissions through cleaner production methods. Companies commit to developing demonstration projects that reduce their environmental impact and are applicable across the business sector. The long-term aim of this programme is to try to ensure that cleaner greener production and eco-efficiency become the established norm in Ireland.

In 2011 an independent review of the CGPP yielded the following summary findings for 69 organisations funded through the CGPP²²:

- 76% of organisations continue to see a benefit and maintain their CGPP projects.
- 65% of organisations identified improved competitive advantage from their CGPP project.
- 43% of organisations have extended their CGPP project post-funding.
- 33% of organisations have gone on to develop further initiatives
- 81% of organisations see changed managerial environmental awareness.
- 71% of organisations saying environmental issues continue to be influential
- 77% of organisations managers always/often consider the environment in taking major decisions.
- 88% of organisations said that the programme met their expectations.
- 90% of organisations would participate in CGPP again.

And some of the key outcomes recorded by participants were:

- Significant environmental improvements.
- Economic advantages – cost savings and revenue growth.
- Reputational improvements – national & international eco-business awards.
- Four companies have patented new innovations developed under the programme.
- Creation of new expertise and broadening of the technology base within organisations.

²² Hilliard, et al. 2011. *EPA CGPP: Experiences, Impacts & Outcomes for Participant Organisations*.

These recent findings support many of the conclusions of the EPA's 2009 publication 'Innovation for a Green Economy' which is a non-technical report giving a brief snapshot of the story with regard to EPA-funded Environmental Technologies and Cleaner Production research and innovation projects along with details of the next steps in the area²³.

For further information see www.cleanerproduction.ie.



Larkin Engineering of Tuam, Galway were recently awarded for its green initiatives in the national 'How Green is Your Business Competition' held by the Dublin Chamber of Commerce.

Noel Larkin, MD Larkin Engineering, with special guest, Dragon's Den Judge, Bobby Kerr

²³ http://www.epa.ie/downloads/pubs/research/tech/EPA%20STRIVE%20ET%20Report_Final.pdf

SECTION II: The Local Authority Prevention Network



The Local Authority Prevention Network (LAPN) is a key component for continuing to build capacity in local authorities for the promotion of resource efficiency and waste prevention at a local and grassroots level for the benefit of their localities. Over the past five years the programme has successfully developed this capacity for implementing prevention projects locally across the country and has demonstrated that local authorities can design and implement effective local integrated waste prevention programmes and projects.

As outlined earlier in this document, there is strong commitment to waste prevention both at EU and national policy level. Local authorities currently participating in the Network are well placed to meet any commitments likely to arise from these policies. In addition, local authorities have unique opportunities through development and planning control functions to influence the nature and design of local development, such that it meets best practice from the perspective of eco-efficiency (clean technology, waste prevention & minimisation, as well as water and energy efficiency).

The Network is also important for facilitating collaboration with other National Waste Prevention Programme partners. As the different NWPP programmes develop, the boundaries between them are knitting together and there is increasing collaboration and cross-cooperation. Local authorities are an important local contact point facilitating infiltration of the various different programmes locally and to some extent much of this would not be possible, or at least as easy, without the intervention of good local authority contacts. The EPA therefore views the Network as central to the successful local roll out of any waste prevention initiatives under NWPP.

The EPA provides support to the Network in the form of direct technical expertise (from the Clean Technology Centre) and grant monies. The grant aid is primarily intended to allow local authorities to assign staff to work on dedicated prevention projects or programmes. A significant finding is that prevention programmes require a long lead-in time to allow for suitable projects to be identified locally and contacts to be fostered at grassroots level. Successful programmes need strongly motivated individuals to drive the project forward and achieve results. Experience has also shown that full time project staff are more likely to maintain the momentum that is required for such projects to be successful. The most important outcome from the programme is the emergence of a group of people with knowledge and experience in relation to running successful prevention programmes. In addition these people are drawing on other staff within their local authority to implement their programmes.

During the past year it has become apparent that prevention is beginning to become systemic within the core LAPN participants. It has been (and should continue to be) a key goal of the programme that all local authorities in Ireland should foster and carry out prevention activities at the local level within their functional area. Furthermore, there should be a vibrant, functioning network, so as to share experiences and promote the learning process. Within the LAPN group, both of these objectives are being achieved with ever-increasing success and with improved efficiency.

Since 2006, there have been a total of 17 local authorities formally involved in the Local Authority Prevention Network or its precursor the Local Authority Prevention Demonstration Programme:

Local authorities involved in LAPD/N	
Carlow County Council	Kilkenny County Council
Cavan County Council	Limerick City Council
Clare County Council	Limerick County Council
Cork County Council	Monaghan County Council
Donegal County Council	Roscommon County Council
Dun Laoghaire/Rathdown County Council	South Tipperary County Council
Galway City Council	Waterford County Council
Galway County Council	Wicklow County Council
Kerry County Council	

This represents 50% of all the local authorities in the country. However the Network is open to all local authorities for sharing experience and expertise with other local authorities. All the programme outputs and network meetings are available for any local authority in the country to use. There are therefore two levels of participation in the Network, from the more formal participation for those who have dedicated staff time and are in receipt of grant aid to those who although may not be formally signed up to the programme, attend the Networking meetings and interact informally with the group. Ideally the former is best but the latter also contributes to building capacity. Currently there are twelve local authorities participating formally but up to 4 additional local authorities participating in the plenary meetings and networking informally with others.

Also while some of the local authorities that have participated in the past may no longer have dedicated staff actively implementing waste prevention programmes, a legacy effect remains where there are staff trained in waste prevention (42 people have received training on waste prevention and resource efficiency by attending the HETAC course developed) and some past participants are continuing to implement waste prevention in their areas and interacting with other elements of the NWPP such as Green Business, Eco-Cert and the Green Hospitality Programme.

A key element of the programme is to continue to avoid duplication of effort and develop synergy between the local authority prevention experts and many of the other initiatives in the family of prevention programmes under the NWPP, including Green Business, Green Hospitality, Green Retail and Green Healthcare for business sectors and Green Schools, Green Home and Stop Food Waste for community and household sectors. There are also plans to further develop in-house initiatives for local authority premises using the expertise of the local authority prevention network, through the working groups and other forms of formal and informal collaboration.

Many of the projects and actions being undertaken by the local authorities are examples of synergy between different NWPP programmes. Between them the build-up of a true prevention network is starting to be seen, which taps into the various national resources and tools. It would be much harder to roll out such programmes using only a top-down centralised approach. The local authorities are ideal facilitators for rolling out NWPP programmes and initiatives.

The LAPN idea is about learning and capacity building. It is about culture change and the development of people and tools to support that culture change. To this end, the larger the number of individual initiatives, the more people involved, the larger the number of tools generated, the larger the number of case studies produced, and the longer the continuation of

the process, the more successful the programme. Thus, some evaluation of these parameters is necessary, in order to indicate its likely success rate.

During the past year, the Network has continued to operate in a highly functional and interactive manner. Many sub-projects and events have been organised, and a number of bilateral, group and plenary meetings have taken place. These are all essential elements of an organic programme, and symptomatic of an innovation network, incorporating openness and learning. In order to facilitate formal and informal collaboration, regular network meetings are held and a number of working groups on common areas of interest have been set up.

LAPN Working Groups

Two working groups have been formed, with a view to enabling those participants who are working on related themes to meet, exchange experiences and generate documents, guides and case-studies. It is the objective that members of these working groups become experts and can be act as mentors for other local authorities. In this way the LAPN fulfils its networking and capacity building role, whereby groups of experts can promote good practice, provide training and supply support to other regions.

'Events' working group

This group encompasses festivals, shows and destinations, namely locations which attract visitors within defined boundaries (e.g. Fota Wildlife Park or Thomond Park), as opposed to tourist destinations, such as Killarney. This working group is one of the most active of all LAPN activities at the moment, although it is proposed to promote and foster other equally active groups. The group is comprised of representatives from twelve local authorities, as well as CTC staff. The current list of activities under this umbrella is as follows:

Events & destinations where waste prevention initiatives have been undertaken	
Baltimore Harbour (Cork)	Killarney National Park (Kerry)
Clarenbridge Oyster Festival (Galway)	Midleton Food Fair (Cork)
Charlie Chaplin Festival (Kerry)	Pairc na nGael (Limerick)
Cliffs of Moher Visitor Centre (Clare)	Sherkin Island Marina (Cork)
Dingle Food Fair (Kerry)	Tall Ships (Waterford)
Fleadh Cheoil na h-Eireann (Cavan)	Taste of Monaghan festival
Fota Wildlife Park (Cork)	Thomond Park (Limerick)
Galway Film Festival	Waterford Festival of Food
Green Carlow (greening Carlow festivals and shows)	Wicklow Town Christmas Market
Iverk Agricultural Show (Kilkenny)	Galway Arts Festival

'Food' working group

This working group focuses on the prevention of food waste. This is of concern to many local authorities, particularly since the introduction of the Food Waste regulations²⁴. It shares some commonality with the 'Events' working group (see, for example, Midleton, Waterford, Monaghan, Dingle food festivals). It also has some cross-cutting overlap with the EPA's Stop Food Waste, and Green Healthcare programmes. The group consists of representatives from twelve local authorities, as well as CTC staff. To date the group has produced a number of tools for use by other local authorities and the public. These include recipe booklets from Monaghan and Wicklow, a storage guide from Monaghan and a very exciting Food Waste

²⁴ S.I. 508 of 2009 Waste Management (Food Waste) Regulations 2009

video from Monaghan County Council. A number of catering premises have also been worked with, including:

Catering premises where waste prevention initiatives have been undertaken	
Cliffs of Moher Visitor's Centre Restaurant	The Portview Day Care Centre
An Óige Knockree Youth Hostel	Carnew Community Care Centre
Glenree Centre for Peace and Reconciliation – Restaurant & Hostel	Clermont Campus, Rathnew
The Baltinglass Inn – Pub	Wicklow County Council Staff Canteen
Goat Street Café, Dingle	

Communication, Networking and Basecamp

The Network is supported by 'Basecamp', which is a secure cloud-based internet project management system. By using the tools provided by Basecamp participants in the Network subscribe to particular projects and can communicate with all other members of that project. To date there has been heavy traffic on system. For example:

Events	
Number of messages/comments	100
Number of files uploaded	53
Tools/Communications	
Number of messages/comments	173
Number of files uploaded	94

The Basecamp tool is becoming, and will increasingly become, a central collaborative element of the Network. It is a means for the LAPN community to interact on a daily basis. This interaction is augmented by the face-to-face contact via plenary meetings.

In addition to collaboration through Basecamp and participation in the working groups, plenary meetings are held to facilitate networking and sharing of information. There were two plenary meetings during 2011, in Galway and in Cavan. In keeping with the ethos of synergy between EPA programmes, these were held in Green Hospitality approved hotels. These meetings are open to all local authorities, whether formally participating in the programme or not, as the aim is to share experience and expertise as widely as possible. As previously stated, by attending these meetings the local authorities not receiving funding are, however, participating in the Network.

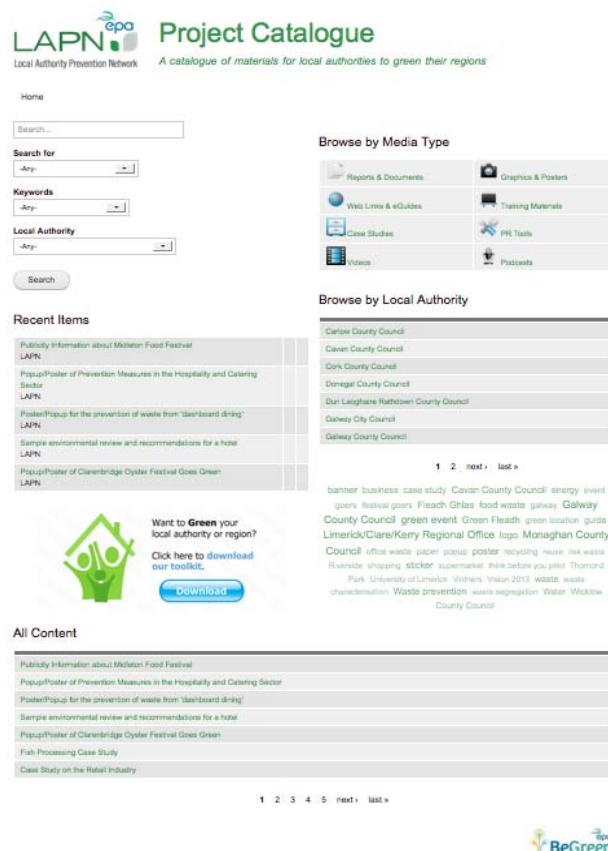
Galway meeting: The theme of the first plenary meeting was 'food waste reduction'. The 26 delegates heard case studies on initiatives to prevent food waste.

Cavan meeting: The theme of the second plenary meeting was 'Events and destinations'. The 28 delegates heard case studies on initiatives undertaken at a wide range of events and destinations around the country. On the afternoon before the plenary a market place event was held where participants exhibited a range of materials they had developed. These ranged from poster, flyers, brochures, stickers and signage to bin stands and an inflatable arch.

Project Catalogue

A new development in 2011 was to consolidate all the existing tools, techniques, materials and resources into a 'project catalogue' which will then be disseminated to all local authorities. The development of this catalogue by CTC is now well under way and it will pull together relevant resources into a toolkit (including signage templates, methodologies, resources, case studies, etc.), so that any local authority could undertake a similar initiative easily. This will create a legacy from the programme with a view to assisting local authorities to easily replicate successful initiatives whether they choose to formally join the Network or not.

It will be a fully searchable site, and have a number of intuitive features. For example, if a user searches under a key word or heading, and finds something useful, they will be prompted to use other similar, potentially useful items. Searching will be available with a number of options (e.g. local authority, type of project, type of document, etc.). A user guide will also be produced, to enable the user to thoroughly understand the tool. The site is based on Web 2.0 and contains the usual links to YouTube, Flickr, etc. This Project Catalogue is, in fact, an on-line toolbox for local authorities wishing to engage in prevention activities.



Initiatives with Businesses

Approximately 75 businesses are involved in the LAPN programme. These include: retail, hospitality, food processing, garages, healthcare, service industries, entertainment & leisure, manufacturing & engineering. Interactions involved waste and water auditing, training, assistance with identifying improvement options, etc. These are on-going. Of particular interest has been the establishment of two local networks: Corca Dhuibhne Glas on the Dingle Peninsula and Green Town Kilmallock in east Limerick. Both of these networks see businesses, organisations and individuals make a public commitment to the environment and undertake a resource efficiency programme. This model is gaining momentum and lessons learnt from these two pilots including the drivers for participation will be widely shared with other colleagues pursuing prevention projects.

Tools used include: signage, presentations for staff, adapted materials from CTC/EPA Macroon-e project, sustainable energy zone auditing & database materials, pop-up displays for staff awareness raising sessions, development of logos, environmental charters & commitment stickers for participating businesses.

The concept is to develop successful prevention programmes based on community ethos and spirit, social capital, training and technical assistance (learning), and intensive networking. These are the essential elements of any innovation process, and so the objective would be to develop models for use at the local level. These models, if replicated, can lead to a widespread prevention ethos among local communities throughout Ireland.

The Corca Dhuibhne Glas programme is at the more advanced stage. Loosely based on the EPA Macroom-e project, it has seen 25 businesses receive expert intervention, auditing, and recognition through the award of an environmental mark at a public ceremony. These businesses will display a sticker to show their participation. This, in turn, seeks to encourage other businesses to join, and is also intended to boost the tourism trade in the region. This type of initiative will be replicated in Carlow who are developing a logo and flyer to recruit local businesses. They hope to be able to produce stickers/flyers/flags and other promotional material (including Green Map of Carlow to promote businesses who have signed up to the project).

Informal cooperation and knowledge sharing

Apart from the internet, plenary, and other formal meetings, LAPN encourages local authorities to work together, to share experiences, and to learn from one another. All participants have attended the EPA's Prevention course, but can learn a lot from each other. As examples of this informal cooperation, the Limerick Clare Kerry region has received visits from colleagues in Cork, Galway, and Tipperary North. Waterford County Council has participated in the Midleton Food Festival, in preparation for their own festival in April 2012. Several authorities have received tips and guides from the Cavan Fleadh team, and various materials, such as signage, bin systems and flyers, have been developed by one or other of the participants, and modified and used by others.

SECTION III: Other Resource Efficiency Programmes

Packaging Waste Prevention Programme

The Packaging Directive and associated regulations include objectives for the reduction of packaging and packaging waste. Producers are obliged to meet the criteria of the Essential Requirements including minimising packaging placed on the market. While considerable progress has been made nationally in the segregated collection of packaging waste for recycling there is a need to reduce the actual amount of packaging waste generated. Companies already tend to “lightweight” or reduce material content of their packaging in order to reduce transport and other costs. They are also using innovative solutions to reduce the amount of secondary and tertiary packaging used thereby preventing waste packaging arising. However, there is a growing need for business marketing/supply-chain decision-makers to take action in relation to the environmental impacts of their packaging design choices. Consumers also need to actively demand less packaging and packaging that is more easily recycled. The amount of packaging arising nationally reflects a complex dynamic interaction between demographics, convenience, modern lifestyles, economic growth, competition, globalisation, product/technology developments and supply chain demands.

A Packaging Waste Prevention Programme is being jointly funded by NWPP and Repak Ltd., who are leading the implementation of the projects. A steering group including representatives from Repak, EPA, Enterprise Ireland, Musgraves Ltd and the Department of the Environment, Community & Local Government, is providing technical and strategic input. The objective of the programme is to provide practical assistance to Irish businesses to reduce the amount of packaging they place on the market. It is also necessary to communicate with a wider audience in relation to the role packaging plays in society and ways in which people as consumers can help to reduce it.

Over the last year the Packaging Waste Prevention Programme has delivered:

- Significant packaging and prevention related information is available for any organisation wishing to reduce their packaging on the www.preventandsave.ie website;
- More than 145 prevention related news stories uploaded on the website;
- By mid-year 2011, access to the site had increased significantly and was more than 4 times greater than over the corresponding period the previous year;
- In the period between July 2010 and June 2011 the programme worked with over 30 companies on packaging related projects and carried out 12 formal packaging optimisation surveys.
- It is estimated that Repak members have removed over 77,000 tonnes of packaging from their products in 2010. This equates to 13% of the total amount of packaging placed on the market by Repak members and is independent of the sales volume of these companies. Indeed if the sales volume was not considered the saving would be even larger.
- The Packaging Optimisation training course that was developed by Repak and FÁS has now been certified as a Level 6 FETAC course and will be run again in 2012.
- The ‘Positive Packaging’ newsletter was published three times during this period and has now moved to an electronic-only format. It can be accessed at http://www.preventandsave.ie/Positive_Packaging.html
- In 2010 Repak published the ‘Best Practice in Retail’ brochure which highlights the work that retailers are doing to minimise packaging waste. Details can be found at www.preventandsave.ie/RetailerBrochure.html

- A number of sector specific guides were also published which offers guidance for Grocery Retailers, Hotels and Offices. Details can be found at <http://www.preventandsave.ie/-BestPracticebySector.html>
- As work continues on re-usable packaging, Repak produced guidance on the different types of re-usable pallets that were available, who supplied them and what the differences are between the various schemes. Details can be found at http://www.preventandsave.ie/Reusable_Pallets.html
- The work of the Packaging Waste Prevention Programme was highlighted in a TV programme on City Channel which reaches an audience of over 500,000 people. The programme showed packaging at different levels of the supply chain and what is being done to optimise this packaging. Footage of the programme can be seen at: http://www.preventandsave.ie/City_Channel_.html
- The Easyfairs packaging conference in June was again co-sponsored by Repak and the Irish Packaging Society. Over 1,000 people attended the event. The Prevent and Save team held clinics with over thirty companies to help them to improve their packaging and also gave presentations on Packaging Optimisation and the Packaging Waste Prevention Programme.
- In November Repak and Greenbusiness co-hosted a 'Total Waste Prevention' workshop in Dublin (23rd November) and Cork (25th November). This was held as part of the European Week for Waste Reduction (EWWR) and over 40 participants attended each event. Details of the presentations given at the event can be found at: http://www.preventandsave.ie/EWWR_2010_Review.html
- The Repak Awards were again sponsored by the NWPP in 2011 specifically in relation to packaging prevention achievements. Further information can be found at <http://www.repak.ie/BestPrevIni2011.html>
- Presentations on packaging prevention have also been made at a wide range of business events in different parts of the country (reaching an estimated audience of 600 people)
- Early in 2011 various compliance schemes across Europe came together to form a packaging prevention sub-group which will identify areas common to the different compliance schemes and share information across countries. Initial projects that were identified were on a European packaging prevention website, packaging trends in recent years, indicators for packaging prevention, and common packaging guidelines.



The Stop Food Waste programme was initiated in June 2009 to promote food waste prevention and home composting in support of existing policy measures. The programme is designed to empower consumers to reduce food waste by rethinking how they shop, store, cook and re-use food. The programme has now become an established and recognised forum to promote food efficiency and composting to Irish householders. Food waste has been identified as a priority action in the EU Roadmap for a Resource Efficient Europe referred to previously. The Roadmap sets out a 2020 milestone to achieve a 20% reduction in resource inputs to the food supply chain and disposal of edible food waste in the EU to have been halved.

The programme is aimed initially at the householder and provides comprehensive information about food wasted and how best to prevent it. While there is an obvious benefit to this environmentally, the key message is that there is money to be saved through rethinking food habits. The StopFoodWaste.ie website has lots of information for ways to improve their shopping habits, how to store food, how to cook it and reuse the leftovers – all with the aim of reducing food waste and saving people money.

Launch of www.StopFoodWaste.ie website:

The official launch of the StopFoodWaste.ie website took place in Dublin on 23rd November 2010. The website was developed to provide tips and advice on how to reduce food waste in the home and how to compost any food waste that cannot be prevented. The launch event saw three of the country's top chefs, Rachel Allen, Kevin Thornton and Donal Skehan, taking time out to demonstrate how to prepare reduced waste meals and provide tips on how to shop for and prepare food in the most cost effective and sustainable way possible. The launch secured extensive media coverage and publicity, including articles in the main National newspapers, regional papers and interviews with over 15 local radio stations. The use of digital media was also an important communication tool and the programme got mentions in several online food blogs. The attention given to the programme resulted in a significant increase in traffic to the website.

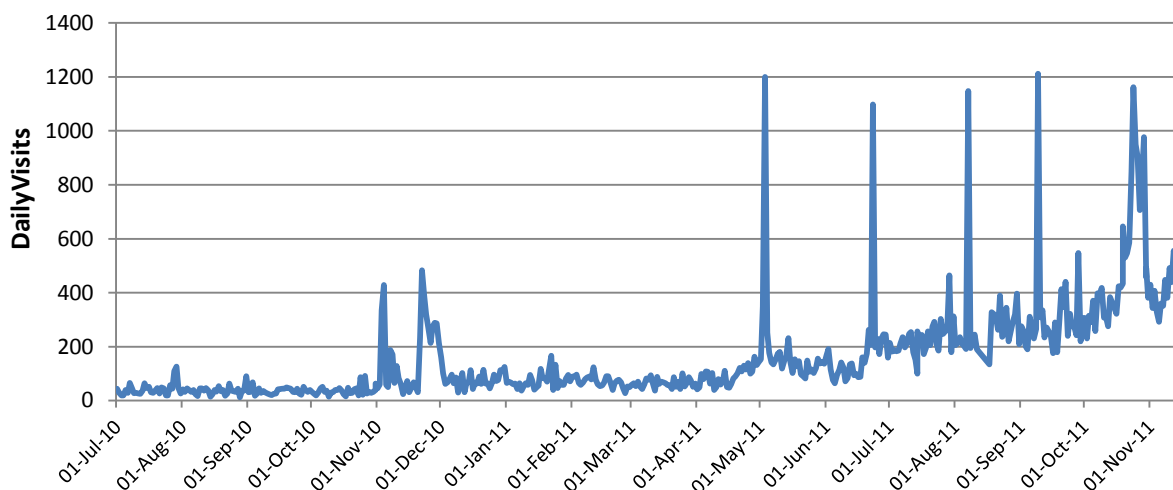


The total coverage of all the publications and media the articles relating to the launch of the Stop Food Waste website reached an audience in the region of 2,025,476 people. This is equivalent to an average of €118,342 worth of advertising, in terms of direct advertising, but as these were editorialised articles, the advertising value equivalent is three times more again so worth €355,027.

Communication, promotion and publicity:

The Stop Food Waste team continues to communicate the programme widely and regularly using a wide spread of tools and applications. As a result the programme is regularly contacted for information, comment, interviews and quotes issues relating to food waste and saving money. Traffic on the Stop Food Waste website has increased 6-fold since before the launch of the website and as a result of the ongoing media campaign daily hits on the website are now over 200 on average.

Stop Food Waste website activity since Jul 2010



The programme has its own Facebook page (www.facebook.com/stopfoodwaste) and Twitter feed (@Stop_Food_Waste) which allows for more interaction with the target audience, promoting interesting tips and information and allowing people to make their own suggestions to stop food waste. A quarterly newsletter is also circulated containing details of upcoming events and demonstrations and themed messages. In addition monthly press releases are issued, containing a food waste prevention message suitable to the time of the year, e.g. summer salads, back to school, Halloween and Christmas. The spikes on the graph above coincide with the press releases and subsequent media coverage. A total of 18 radio interviews were conducted with regional radio stations following these media releases in 2011.



The programme has also enlisted the support of home cook and TV presenter Donal Skehan to act as an ambassador. As well as having completed a successful run of his Kitchen Hero

TV series, Donal is an active blogger. Winner of best Irish Food Blog 2010 and with over 11,000 Twitter followers and 5,000 'likes' on Facebook, Donal has been especially important in spreading the Stop Food Waste message to a wider audience through social media outlets.

Working with local authorities and other organisations:

A key aspect of getting the message to as many people as possible is to work very closely with local authorities around the country. Much of the initial work involved developing guidance and training resources on food waste prevention and home composting for local authorities to distribute to householders in their areas. Through engaging with local authorities, who are in daily contact with the public, and producing a uniform set of technically correct support materials, as well as promoting food waste prevention and home composting from the community level up, the programme aims to support existing policy measures to limit the amount of household biodegradable waste requiring collection and central treatment. Examples of support provided to local authorities include Kerry GrassCycling case study, Kilkenny calendar, Limerick spaghetti measures, Dun Laoghaire schools worksheet and Mayo press releases.

The programme also actively pursues opportunities for collaboration with other organisations targeting similar audiences or having mutually beneficial goals, such as GreenHome, Grow Your Own, Kitchen Economics, Healthy Food for All, Nutrition and Health Foundation, Tidy Towns, *etc.* Stop Food Waste has been invited to present at many national events and provides support to many of these initiatives. For example, Green Home is actively promoted among the master composter volunteers and Stop Food Waste has also actively contributed to the development of a kitchen economics course run in Cork City on eating healthily, with less waste and lower costs. The programme has also offered advice and support to a number of food bank organisations that seek to reuse surplus food from supermarkets to feed those in need.

Master composter activities:

While prevention of food waste is the optimal solution, home composting provides a local solution to managing that waste that cannot be prevented. The promotion of home composting is seen as a key element to the programme as it has been shown that people that compost (or have previously composted) waste less food and also when done correctly composting is the most environmentally effective way of managing organic wastes. Some barriers associated with home composting were identified by a survey done by the Stop Food Waste team in conjunction with Sligo Co. Co. in 2010 and overcoming these barriers is best done through hands on training and demonstration. To reach a large portion of the population directly the programme has built twelve permanent composting demonstration sites around the country and these have been used to train over 230 Master Composters, from a variety of community groups, on food waste prevention, home composting techniques and the workings of the various composting systems available. There is a map of locations and contact details on the stopfoodwaste.ie website.



Master Composter volunteers at the opening of the demonstration site in the Botanic Gardens in Glasnevin, Co. Dublin.

These Master Composter volunteers have in turn committed to an additional 20 hours outreach. Now that the demonstration sites are up and running, they have been giving demonstrations and providing advice at events in their areas. They regularly man the demonstration sites during weekends and open days, attend local schools, festivals and fairs, allotments and tidy towns groups to share their composting know-how. A Facebook page is used by the Master Composters to communicate with each other and to publicise their events. In support of these activities, a dedicated volunteer co-ordination programme has been initiated and the Master Composters are provided with Stop Food Waste branded materials and advice for the events they attend. They are all identified by Hi-visibility vests with the Stop Food Waste logo on the back of it.

Through these activities, the Master Composters have reached over 14,000 people and distributed over 16,000 composting guides and food waste prevention leaflets at these events.

In addition to practical demonstrations and advice sessions organised on their allotments and community gardens, other events attended by some of the Master Composter volunteers include:

- Electric Picnic music festival;
- Oldcastle Agricultural Show Co. Meath;
- Sustainability events in businesses, including the Railway Procurement Agency, Hewlett Packard;
- Events around the country during National Heritage Week;
- Demonstrations every Sunday in September at Airfield in Dundrum, Co. Dublin; and
- 'Compost made Easy' talks at the Botanic Gardens.



The Master Composter volunteers in Mallow, Co. Cork are particularly active and they co-hosted a Harvest Celebration at the end of August at the Mallow site. In addition, Mallow was mentioned in the Tidy Towns judges' report, which applauded the energy and activities of these Master Composters.

The bee garden constructed by the volunteers at the composting demonstration site also received particular mention in the nature and biodiversity section of the judges' report.

Community Re-use Network

The NWPP, reflecting the wording of the revised Waste Framework Directive (2008/98/EC), and recognising the work of our European partners, have started to investigate the scope of re-use and preparation for re-use activities within Ireland. Directive, "reuse" means any operation by which products or components that are not waste are used again for the same purpose for which they are conceived. "Preparing for reuse" means checking, cleaning or repairing recovery operations, by which products or components of products that have become waste are prepared so that they will be re-used without any other pre-processing.

The NWPP funded the role of a Project Officer to establish and co-ordinate the Community Re-use Network (CRN). This acts as an umbrella for community based organisations who are engaged in re-use activities. CRN members are involved in both direct reuse and preparing for reuse activities.

The network seeks to develop:

- A stronger voice for community recycling
- National networking
- Member listing on website
- Access to best practice guidance, publications, etc.
- Access to lower rates for group services
- Reduced rates for network events
- Policy development and representation
- Support indigenous recycling industry

The project officer will report re-use statistics to the EPA to enable an understanding on what re-use activity is occurring, and its potential to influence national waste reporting figures. Additionally, the aim of the network is to identify and recruit other re-use projects.



The Irish Greening Communities Programme is a joint initiative of the Department of the Environment, Community and Local Government, the EPA and An Taisce – the National Trust for Ireland, to encourage the growth of greening communities in Ireland.

There are an abundance of initiatives and activities taking place in Ireland which demonstrate an increase in sustainable environmental behaviour. Change is taking place in the home, in schools, in communities and in the workplace, throughout Ireland (e.g. Tidy Towns, National Spring Clean, GreenBusiness, Green-Schools, Transitions Towns and Power of One). Communication with the wider network (national and international) is being facilitated through the use of the *Ask About Ireland* website (www.greencommunities.ie) and the use of social media networks (Facebook and Flickr). The aim is to engage with programme operators, local authority administrators (through the environmental awareness officers, heritage and community development officers) and community champions to advance the development of a robust and interactive network.

Greening Community Demonstration Projects are being used to document the “Greening Community” process (four projects in 2011) and these projects will inform the development of the certification methodology. The approach to the programme development can be broken into four themes, as follows:

- Engagement & Communication;
- Mapping & Documentation;
- Demonstration Projects; and
- Certification & Awarding.



Since 2007, the Environmental Education Unit of An Taisce and Environmental Protection Agency has worked in partnership to develop and implement the Green Home Programme under the National Waste Prevention Programme (NWPP). Green Home is a strongly action based programme that promotes waste prevention and sustainable living to all householders. In essence, Green Home is a framework to engage with, facilitate, support and encourage all householders to reduce their environmental impact. Green Home is promoted and delivered through a number of hubs. These hubs include the Green-Schools Network, the Tidy Towns Network and the Green Home website (www.greenhome.ie). The programme involves practical behaviour based tips on preventing waste, home composting, conserving water and energy as well as on more sustainable transport habits. In 2011 an estimation of the economic benefits of the Green Home programme was undertaken. This indicated a potential saving of c.320 euro per household per year for households that fully implement the programme and an

estimated combined savings of 800,000 euro per year among all households involved in the programme.

- Currently 2011 (mid-2011), there are approximately 11,000 households involved in the Green Home Programme. This is an increase of c.1,000 households over the last year. With an average household size of 2.81 persons, this represents an estimated outreach to c.31,000 people;
- The Green Home website (www.greenhome.ie) has received over 40,196 visits for the last year (mid-2010 to mid-2011) with 4,169 online registered members. This is an increase of over 10,000 visits and 840 new online members over the last year.
- In April 2011 the Green Home Programme was adopted by the Tidy Towns Programme as a 'preferred action' under the Waste Minimisation Criterion of the Tidy Towns National competition.
- Three community groups have received Green Home awards since September 2010 for their work at promoting and undertaking Green Home within their communities. These community Groups were Woodlawn Residents Association, Dublin; De Courcey Square Residents Association, Dublin and Emly Tidy Towns, Tipperary.
- The Green Home themed action based household challenges have proved to be very successful at engaging households to date. With this in mind it is planned to investigate further challenges on the themes of household hazardous waste and a stand-alone 'Food Waste' challenge in the period 2011-2012. There is also a need to increase awareness about over-packaging.

Communication of Waste Prevention

IBEC

A full time post within IBEC was supported by the NWPP with the primary aim of marketing the Green Business Initiative offerings within IBEC, both to staff and to the 7,000 IBEC members.

The agreed work programme targets are:

- Increase the number of IBEC members registered on greenbusiness.ie
- Increase the number of IBEC members using the online audit tools and Resource Efficiency Assessments offered by greenbusiness.ie.
- Foster additional demand for Resource Efficiency Assessments by IBEC members in 2011.
- Organise resource efficiency workshops and briefings for members
- Increase website traffic to GreenBusiness.ie website

Significant events organised in the year included;

- Water Efficiency for Business: This was a workshop to help businesses reduce costs and improve environmental performance held in Cork. The event was attended by 37 delegates (both IBEC and non IBEC companies) from a range of organisations. Evaluation forms returned after the event rated the workshop as either excellent or above average.
- Greening your Supply Chain Workshop was held in IBEC Head Office in Baggot Street, Dublin. The event was designed to promote Greenbusiness.ie and to demonstrate how a more sustainable supply chain could be developed. The invites were specifically targeted to include people who work in supply chain management, purchasing managers and those who had an interest in green procurement. Invites

were also sent to NWPP contacts. An excellent turnout of 54 people attended on the day. The workshop included an area with promotional stands from Greenbusiness.ie, SMILE and Eco-Cert.

Other outputs included articles in IBEC and IBEC affiliated publications, attendance at trade shows and mail-shots to IBEC members.

The post worked extremely effectively and 64% of new registrations in 2011 with greenbusiness.ie were IBEC members.

ResourceWise 2011

The National Waste Prevention Programme held a conference on 1 June 2011 in Dublin²⁵. The conference highlighted the wide range of work underway in Ireland to minimise and prevent waste and encourage resource efficiency, and thereby reduce operational overheads for organisations. The conference was opened by Mr. Phil Hogan T.D., Minister for the Environment, Community and Local Government and the event offered an opportunity for debate and exchanges of experience and best practice being demonstrated by participants in the National Waste Prevention Programme. The audience, consisting of 137 delegates from a wide range of businesses and organisations, was told of practical ways to minimise and prevent waste and resource inefficiency while saving money.



- Ms. Karolina Fras of the European Commission's Environment Directorate-General set out EU policy ambitions and experiences in relation to sustainable consumption and production, sustainable industry; prevention & recycling of waste, resource efficiency and reduction in raw material use.
- Dr. Rory O'Donnell, Director of the National Economic and Social Council of Ireland (NESC) discussed how the public reform agenda should be informed by the experience of Irish agencies, such as the EPA, that have been engaged in successful EU networks. Through innovative ways of working, partnerships and a focus on results policy objectives can be delivered at this particularly challenging time.
- The conference also heard presentations from IBEC and the Sustainable Energy Authority of Ireland, exploring the role of waste prevention and resource efficiency in Irish businesses, effective approaches to promoting energy efficiency and the opportunities and cost savings possible during times of increased economic pressures.
- The conference also included case studies by a wide range of businesses and other organisations from various sectors that have taken part in the programme and successfully reduced their use of resources.

European Week for Waste Reduction

The second European Week for Waste Reduction ran from 20th to 28th November 2010. The aim of European Week for Waste Reduction is to raise awareness about the waste reduction strategies of EU and Member States, and to encourage behaviour changes to promote more sustainable consumption and production. Partners in the National Waste Prevention Programme organised over 46 events over the week in Ireland. The events were aimed at the general public, business and other organisations and highlighted the ongoing work being done on waste prevention and resource efficiency in the areas of waste, water & energy. More information on these events can be found on the EPA website at www.ewwr.ie.

²⁵ Presentations are available to download at: <http://www.epa.ie/downloads/pubs/waste/resourcewise2011/>

4. National Waste Report

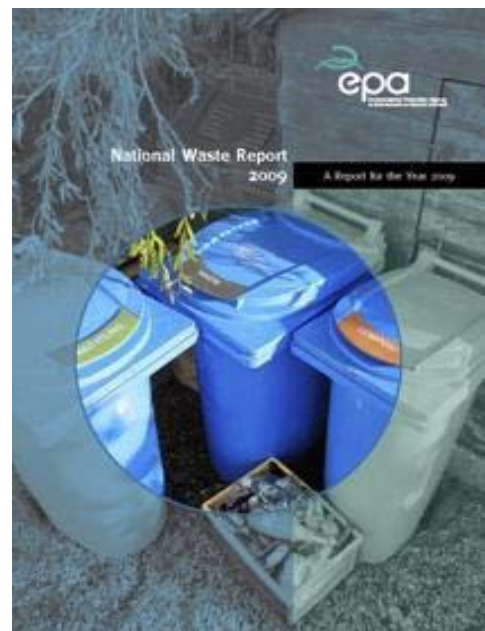
It is important to know the amounts and different types of waste arising in order to provide the context for the prevention programme. The annual National Waste Report series provide this information including the trends in waste arisings from a wide variety of sectors in the Republic of Ireland. The provision of accurate and timely information on waste arisings is critical to the effective management and prevention of waste on a national and regional basis. This enables these efforts to be effectively targeted at the prevention, recycling and management of priority waste streams. Additionally, the reports highlight relevant indicators on waste to regulators as well as policy and commercial decision makers. Importantly, reports demanded by the European Commission and other bodies in relation to a range of waste and Producer Responsibility Initiative Directives and Regulations, are based on data published in the National Waste Reports. See Appendix E for further information on the range of waste data reporting carried out by the National Waste Report team.

To develop the annual reports, the Core Prevention Team gather detailed waste data each year from numerous players in the waste management sector including landfill operators, waste recovery organisations, hazardous waste treatment facilities and local authorities. The National TransFrontier Shipment Office at Dublin City Council supports the project by providing data on imports and exports of waste. Extensive follow up exercises including desk-top assessments and site audits form an important part of the verification and validation process of the waste data that is provided. Data verification meetings are also held with the packaging and WEEE compliance schemes.

The National Waste Report for arisings in 2009 was published in February 2011 (see www.wastereport.ie). This generated useful national media coverage and public debate on the subject of waste and its correct management.

Some of the main findings for 2009 were:

- Municipal waste generation decreased by 8.4 per cent since 2008 to just over 2.9 million tonnes;
- Overall, 39 per cent of managed municipal waste was recovered (up from 37.5 per cent in 2008) exceeding the national target of 35 per cent by 2013;
- The quantity of household waste managed fell by approximately 4% from 2008 to almost 1.5 million tonnes;
- Only 29.5 per cent of household waste collected was recovered (there is a national target of 50 per cent recovery by 2013) with the balance being landfilled;
- An estimated 19% of occupied houses did not avail of, or were not offered, a collection service.
- Uncollected household waste was estimated at 128,000 tonnes, which is a matter for ongoing concern particularly as much of this may be burned or fly-tipped;
- A 3-bin service (residuals, mixed dry recyclables and organics bins) was provided to 24% of serviced households (21% in 2008).
- Ireland is on track to meet the first EU Landfill Directive biodegradable municipal waste diversion target due by July 2010;



- Packaging waste recovery increased to 70 per cent (up from 65 per cent in 2008) exceeding the target of recovering 60 per cent by the EU target date of 2011.
- A little over 45 thousand tonnes of waste electrical and electronic equipment (WEEE) was collected for treatment;
- For end of life vehicles a reuse/recovery rate of 82 per cent and a reuse/recycling rate of 76 per cent was achieved against targets for 2006 of 85 per cent and 80 per cent respectively.
- There was a 62 per cent decrease in the reported quantity of construction and demolition (C&D) waste collected (5.1 million tonnes) reflecting the end of the construction bubble;
- The reported quantity of hazardous waste generated in Ireland in 2009 decreased by 9% since 2008 to 289,910 tonnes, originating primarily from the pharmaceutical and chemical industries (164,661 t of which was managed in Ireland).

Considerable research has been completed on the data for National Waste Report for 2010 for anticipated publication early in 2012.

There have been some interesting developments over the past year in relation to waste data reporting that the Core Prevention team is supporting. The team is aware of the frustration felt by waste operators due to the multiple reporting requirements placed on them by legislative obligations or otherwise. For example, a landfill operator has to submit waste information in an Annual Environmental Report (AER), a Pollutant Release and Transfer regulation (PRTR) return, a National Waste Report return, a Biodegradable Municipal Waste quarterly report, and a report for climate change modelling. For this reason, in 2011 the Core Prevention team funded a business process analysis of waste data flows within the EPA. It is hoped that arising from this analysis, a pilot for the collection of waste collection data from Authorised Treatment Facilities for end-of-life vehicles will be undertaken. The operator would report their data to a central location, including data that would satisfy the various stakeholder reporting needs, and data would be available to relevant stakeholders to draw down.

Another initiative in relation to waste data reporting is that for 2010 data, all waste collection permit operators in the State reported their AERs online. The availability of national waste collection statistics through online reporting is a significant development, and one that will lead to efficiencies in regional and national waste reporting in the years ahead. The EPA provided funding for the roll-out of the online reporting system developed by Limerick Clare Kerry Regional Waste Management Office and Fitzpatrick's Software Development, and grant-aided five nominated authorities for the installation, back-filling and maintenance of the data management system. The EPA is currently funding a 'mirroring server' which will allow all local authorities to log in and view waste collection data in any local authority area. The reporting system will provide a master list of waste facilities in the State that collection permit holders are authorised to bring waste to. This master list is currently being quality controlled through funding provided by the Core Prevention team.

5. Hazardous Waste Prevention and Management

The National Hazardous Waste Management Plan (2008-2012) (NHWMP) was published by the EPA in September 2008 in accordance with Section 26 of the Waste Management Acts 1996 to 2008. During its development, the Plan was subjected to the requirements of the Strategic Environmental Assessment (SEA) Regulations. Accordingly, an Environmental Report was published with the draft Plan and an SEA Statement (providing required information on decision-making) was published with the final Plan.

The NHWMP is a strategic level document designed to provide overall direction to decision and policy makers involved in the prevention and management of hazardous waste. Recommendations are made for a number of public organisations, who were consulted during the preparation of the Plan, for them to implement. Objectives, Indicators and Targets for the Plan and SEA purposes are identified. Local authorities are obliged to take these recommendations into account when they review their operational regional and local area waste management plans.

In June of 2011 the EPA circulated for comment a report on an interim review of the NHWMP. This interim report reviews the Plan and SEA objectives and identified progress made in implementing its recommendations since its publication in 2008 up to mid-2011. All of the NHWMP recommendations are designed to reduce the environmental impact of hazardous waste.

The programme to reduce the generation of hazardous waste generally has been integrated into the wide range of projects within the EPA National Waste Prevention Programme. A number of the NHWMP recommendations and projects are aimed specifically at reducing the levels of unreported hazardous waste where possible by promoting more accessible collection points. The continued implementation of existing statutory Producer Responsibility Initiatives (such as Waste Electrical & Electronic Equipment/Restriction of Hazardous Substances (RoHS), Batteries, Packaging Essential Requirements, Solvents, Deco-paints, REACH and End-of-Life Vehicles) should reduce the hazardous components of specified products and also assist with the collection/reduction of unreported hazardous waste. Similarly, implementation of regulations in relation to Persistent Organic Pollutants (POPs) and Polychlorinated Biphenyls (PCBs) will increasingly eliminate these hazardous substances and wastes. Other projects pursued by the EPA in relation to unreported hazardous waste include the Farm Hazardous Waste Study, publication of the Garages Best Practice Guidance and the ongoing development of a Code of Practice for Civic Amenity Sites dealing with the correct management of hazardous waste. Contact is made on a continuing basis with relevant stakeholders to promote the implementation of the findings from these projects.

Striving for more self-sufficiency nationally in the management of Ireland's hazardous waste, where technically and economically feasible, is a guiding principle behind many of the NHWMP's recommendations. Projects pursued in this regard by the EPA include completing the study on a National Difficult Waste Facility (incorporating hazardous waste landfill) and the Economic Study of Solvent Recycling and Treatment in the Pharmachem sector in Ireland.

While the EPA can promote best practice and engage in a variety of projects to promote the NHWMP and SEA objectives, much responsibility rests with the producers and holders of hazardous waste. Many of their decisions will, ultimately, be driven by economic considerations. Similarly, while the EPA can provide data and reports in relation to hazardous waste, the provision of indigenous hazardous waste treatment facilities and service is driven primarily by economic and specific policy decisions outside its control. As an environmental regulator, the EPA has itself no function in the provision of either services or physical infrastructure for hazardous waste. It is important to stress that the NHWMP is a strategic level

document designed to provide overall direction for any decision and policy makers involved in the prevention and management of hazardous waste.

One of its purposes of the interim review of progress under the NHWMP is to monitor (in accordance with the SEA Regulations) the implementation of the Plan. Overall, the amount of hazardous waste is static or declining, unreported hazardous waste is very likely to have decreased (economic downturn, WEEE, Batteries, ELV, Civic Amenity Sites (CAS) and other initiatives have assisted here), emissions/complaints arising from licensed facilities do not appear excessive and, while treatment in Ireland is slowly declining, segregation is improving. This is supported in that all NHWMP recommendations are aimed at positively reducing the impact on the environment from hazardous waste.

In 2012 the EPA Resource Use team will commence the process of a full review and revision of the NHWMP (including SEA as may be necessary) with a view to establishing a viable national plan for the period 2013-2018.

6. Enforcement of Regulated Products and Scheduled Activity Compliance

Persistent Organic Pollutants (POPs) Regulation

Persistent Organic Pollutants (POPs) are man-made highly toxic chemicals that can persist for many years in the environment and bio-accumulate through the food chain posing serious risks to human health and the environment. They can travel long distances through air and water as well as accumulating in fatty tissue.

The EC Regulation on Persistent Organic Pollutants (EC Regulation 850/2004) aims to protect human health and the environment from POPs by prohibiting, phasing out as soon as possible, or restricting the production, placing on the market and use of substances subject to the Stockholm Convention on Persistent Organic Pollutants, and the 1998 Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution on Persistent Organic Pollutants, and by minimising, with a view to eliminating where feasible as soon as possible, releases of such substances, and by establishing provisions regarding waste consisting of, containing or contaminated by any of these substances. Ireland ratified the Stockholm Convention on 5th August 2010.

The number of substances classified as POPs has increased following meetings of the Stockholm Convention in 2009 and 2011. The newly designated POPs substances (new POPs) are different from those previously designated in that while they are no longer produced they are in a number of products that are still in use and will arise in waste streams in the future. There are also a number of other substances that are being considered for designation and these candidate POPs will be considered at the 6th Conference of Parties of the Stockholm Convention in 2013.

The 7th and 8th EU POPs Competent Authority meetings were attended in November 2010 and July 2011 respectively. The EPA and DECLG also participated in the Stockholm Convention 5th Conference of Parties which was held in Geneva in April 2011. At this meeting Endosulfan was listed as a POP substance under the Convention. The EPA and DECLG attended a POPs Technical Adaptation Committee Meeting in Brussels where the Commission proposals on new and candidate POPs were presented. It is expected that these proposals will be voted on by Member States in early 2012 and subsequently brought into EU legislation. Such proposals will have the effect of designating certain wastes as POPs wastes and therefore require destruction or irreversible transformation. Together with officials from the DECLG, the EPA has been engaging in extensive stakeholder engagement in relation to the operational and economic implications of new and candidate POPs.²⁶

Under the national Persistent Organic Pollutants Regulations, 2010 (SI No. 235 of 2010) the EPA is designated as the Competent Authority for the purposes of the EU POPs Regulation and other public authorities have responsibilities including the Department of Agriculture (Pesticides Control Service), Health and Safety Authority (REACH Regulations), Irish Medicines Board, Marine Institute, Revenue Commissioners, Food Safety Authority of Ireland, local authorities and other relevant bodies. In accordance with the Stockholm Convention Ireland's National Implementation Plan, including an Action Plan on measures to identify, characterise and minimise releases of unintentional POPs, is being drafted by the EPA and will be the subject of significant consultation in early 2012. The Plan must be completed and transmitted to Stockholm Convention Secretariat before 3rd November 2012.

²⁶ http://ec.europa.eu/environment/waste/studies/pdf/POP_Waste_2011.pdf

The development of the Plan is drawing on work already completed by the EPA and other public bodies. Inventories to air including certain POP substances continued to be completed by the EPA Inventories Unit. Monitoring data on the presence of dioxins, furans and PCBs in the environment will continue to be published by the EPA Office of Environmental Assessment. In relation to new POPs, the EPA coordinated sampling and testing of sewage sludges, shredder residue from metal shredding facilities and certain WEEE-derived plastics to determine the levels of new and candidate POPs present in these materials. This work was communicated to the EU to facilitate a Commission Study in identifying wastes containing new and candidate POPs. The Commission published this new POPs Waste study which included the EPA's findings.

The drafting, consultation and finalisation of Ireland's National Implementation Plan, including the Action Plan will be a key activity of the National Waste Prevention Programme in 2012.

Polychlorinated Bi-phenyls (PCBs) Regulation

Typically Polychlorinated Bi-phenyls (PCBs) chemicals occur in older electrical equipment such as transformers, capacitors and fluorescent lighting ballasts. They are themselves Persistent Organic Pollutants (POPs) and potentially extremely harmful to human health and the environment, if allowed to disperse. In addition to being covered by the POPs legislation, they are also controlled by the EU PCBs Directive brought into Irish law by S.I. No. 163 of 1998.

The EPA first published a Management Plan for PCBs in 2002 in accordance with the Regulations. An updated PCB Management Plan was published in 2008 incorporating a Code of Practice for the in-use management of PCBs and PCB-containing equipment. The EPA has continually instigated surveys and site inspections throughout the country to identify holdings of PCBs. Sixty-four inspections were conducted in 2009, one hundred and sixty-nine inspections were carried out in 2010 and one hundred and fifteen inspections have been carried out in 2011.

In this way, direct contact was made with numerous organisations likely to have a large number of older buildings including the Office of Public Works, Defence Forces, Irish Rail, ESB, Bord na Móna, Health Service Executive, major industrial & airport sites and the local authorities.

To develop local authority capacity in relation to identifying PCB holdings and to re-enforce the obligations of local authorities as potential holders of PCBs, 10 surveying and training events were held in 2011.

As holders of PCBs or PCB-contaminated equipment were obligated to dispose of or decontaminate such equipment where it contains more than 5 litres by the 31st December 2010. Much of the focus in 2011 has been on driving obligated companies and organisations towards compliance with the Regulations. This has been achieved through a combination of inspections, meetings and correspondence with the stakeholders involved.

An increase in the price of metals in 2011 has meant that theft and vandalism of potentially PCB-contaminated equipment has increased. This has resulted in an increased risk of PCB-contamination of non-operational sites in particular. The EPA has been liaising with the Gardaí in relation to this issue and will continue to do so in 2012. In order to minimize the risks of such occurrences emphasis was placed on the identification and inspection of non-operational sites with the potential to contain such equipment.



Transformer at a derelict site

A number of sites with PCB-contaminated equipment were identified and work to ensure the timely and appropriate disposal of this equipment is progressing in conjunction with local authority stakeholders. However, not all holders of PCBs have complied with their legal requirements and in 2012 enforcement action will be required to ensure that remaining PCB-contaminated equipment in obligated holdings are removed and treated appropriately. Cooperative action between local authorities and the EPA, in the context of their respective roles, will be needed to progress with work.

Information from the surveys and returns from known PCB holdings are used to periodically update the National PCB Inventory. The PCB Management Plan, EPA information and guidance are posted at www.pcbs.ie.

Ozone Depleting Substances (ODS) Regulation

The EPA is assigned as competent authority for enforcement of the European Regulation controlling ozone depleting substances (ODS). New Irish regulations were published in September 2011²⁷, to address aspects of the recast of the ODS Regulation²⁸ which came into effect on 1 January 2010. The aim of the Regulation is to control and ultimately phase out all substances that damage the ozone layer. These include mainly refrigerant gases (CFCs and HCFCs), fire suppression agents (halons) and a number of other substances for more specialist uses such as laboratory analysis and pest control.

As part of its role as competent authority, the EPA collects and collates data for the purpose of national reporting to the European Commission. Data is collected mainly from critical users of halon, which include the airports, aircraft operators and military. A number of data verification visits are also carried out each year.

²⁷ Control of Substances that Deplete the Ozone Layer Regulations 2011 (S.I. No. 465 of 2011).

²⁸ Regulation (EC) No 1005/2009 of the European Parliament and of the Council of 16 September 2009 on substances that deplete the ozone layer.

As part of its enforcement effort, the EPA carries out inspections of premises with equipment containing ozone depleting substances (e.g. refrigeration and air conditioning equipment) and of contractors handling ozone depleting substances in the course of maintenance and servicing of that equipment. The EPA also engages external resources to assist with enforcement and carry out campaigns of inspections. A campaign of 87 inspections took place from September to December 2010 and a second campaign of 60 inspections was completed in November 2011. In addition to the inspections described above, the EPA also carried out inspections as part of an investigation into the potential illegal import of HCFC (R22 refrigerant gas). This investigation was carried out with the cooperation of Customs.

The EPA is also involved in promotion and publicity related to compliance obligations. In late 2010, a series of best practice guidance notes were published and disseminated widely. This was followed up with a short guide to the requirements that was disseminated widely in summer 2011. A shortcut to the ODS pages of the EPA website is maintained at www.ozone.ie. This work has led to improvements in compliance with the requirements to leak check equipment to prevent emissions of ODS and F gases to the environment. It has also led to increased awareness of the requirements on professionals undertaking work on systems containing these gases to be appropriately trained and certified.

Fluorinated Greenhouse Gases (F-gas) Regulation

The EPA is also assigned as competent authority for enforcement of the European Regulation on fluorinated greenhouse gases (F-gases). New Irish regulations were published in June 2011²⁹, to address aspects of the F-gas Regulation³⁰, including penalties and fines. The aim of the Regulation is to control and contain emissions of f-gases, which have very strong global warming potential. The obligated sectors overlap with those obligated under the ODS Regulation and all enforcement and related activities undertaken by the EPA address requirements under both Regulations. A shortcut to the pages of the EPA website is maintained at www.fgases.ie

Restriction of Hazardous Substances (RoHS) Regulation

The RoHS Directive restricts the use of certain harmful substances in the manufacture of electrical and electronic equipment (EEE). The objective of this Single Market Directive is to contribute to the protection of human health and the environment by ensuring the environmentally sound disposal of Waste Electrical & Electronic Equipment (WEEE). The EU Commission guidance on the implementation of Single Market Directives is applicable to the enforcement of the RoHS Directive. The substances controlled include lead, mercury, cadmium, hexavalent chromium as well as specified brominated flame retardant chemicals. The Directive prohibits the marketing or distribution of relevant products that contain more than the specified level of these substances. In effect, this imposes statutory eco-design criteria on all players in the EEE market and supply chain. Producers must retain adequate records of certification of compliance or testing of any material or component utilised in production to verify compliance with these requirements.

The EPA is the sole enforcement agency for the RoHS Directive's requirements in Ireland and has been provided with extensive powers to investigate, test and, if necessary, issue directions for prohibited products to be withdrawn and/or recalled from the market. A strategy

²⁹ Environmental Protection Agency Act 1992 (Fluorinated Greenhouse Gas) Regulations 2011 (S.I. No 278 of 2011); Fluorinated Greenhouse Gas Regulations 2011 (S.I. No. 279 of 2011).

³⁰ Regulation (EC) No 842/2006 of the European Parliament and of the Council of 17 May 2006 on certain fluorinated greenhouse gases.

is being implemented including information provision, investigation of complaints, consideration of producer reported breaches and sampling/testing of products on the market. EPA information and guidance on the RoHS Directive have been posted at www.rohs.ie.

Twenty-five EEE products were tested in 2010 and, while most were found to be compliant, five non-compliant products tested non-compliant. Enforcement actions were taken against the relevant producers, retailers and supply chain players. In all cases non-compliant products are removed voluntarily from sale and sent for treatment as per the WEEE Regulations requirements. Additional EEE products have been purchased in 2011 and are currently undergoing compliance testing.

The Irish RoHS Regulations require producers and distributors to report any non-compliance with the Regulations when they become aware they have placed non-compliant products on the market. Five self-reported non-compliances were made by producers in 2010 concerning components with higher than permitted levels of certain brominated flame retardants which had been incorporated into products. The source of all the non-compliances was traced back to fake raw materials entering the supply chain. The incident reiterated the need for strong supply chain monitoring and control within the industry. The operators concerned have implemented operational practices to monitor their supply chains more thoroughly.



The EPA participates fully in the EU RoHS Enforcement Network which includes representatives of Member States' enforcement inspectorates. The network provides for discussion of common issues, interpretation of the Directive and guidance as well as co-ordination and mutual alerts to any non-compliances identified. As part of this work, pan-EU special projects are undertaken where each member checks targeted categories of EEE. The product category focus in 2009/10 was toys. Such participation supports the State's obligations under Regulation (EC) No. 765/2008 concerning cooperation with other enforcement authorities regarding the enforcement of the RoHS Directive. The EPA and DECLG participate in the inter-Departmental Committee on Market Surveillance through which notifications are periodically received regarding products that have been taken off the market in other Member States and appropriate is taken.

Batteries and Accumulators Prohibited Substances Regulation

The Batteries and Accumulators Regulations came into effect in September 2008 and prohibits the marketing of batteries containing more than specified maximum amounts of mercury and cadmium, or batteries which are inappropriately labelled. The Regulations cover a wide variety of battery types including those in the consumer portable, automotive and industrial sectors. Certain exemptions apply under the Directive, e.g. button cells and batteries used in emergency systems. EPA guidance and information in relation to these Regulations has been posted at www.batteries-enforcement.ie.

In 2010, 25 marketed products were purchased from a variety of suppliers from around the country in different categories of batteries/accumulators covered by the legislation. These samples were subjected to contract laboratory testing for compliance with the limits for the restricted metals. One battery sample was found to be non-compliant and was voluntarily withdrawn by the retailer from the market. Further samples of batteries have been purchased for testing in 2011 in an on-going surveillance programme.

Packaging Prohibited Substances Regulation

The Packaging Regulations require that packaging be minimised and limit the total content of specified hazardous substances in packaging materials in order to reduce the overall environmental impact of packaging. These Packaging Essential Requirements prohibit a producer from supplying packaging where certain aggregate concentrations of lead, cadmium, mercury or hexavalent chromium are exceeded. There are provisions for determining the compliance of glass packaging with these limits. As part of the Packaging Waste Prevention Programme (noted earlier in this report), a self-assessment audit tool is now available including guidance on prohibited substances (see www.preventandsave.ie).

The Core Prevention Team has developed enforcement protocols and surveillance methodologies to test packaging placed on the market in Ireland. Twelve samples of packaging were procured in 2010 for testing and found compliant. The EPA has purchased samples for compliance testing in 2011 as part of its continuing monitoring programme.



Solvents and Deco-paints Regulation

The Deco-paints Directive is a Single Market Directive implemented in Ireland by the Deco-paints Regulations. These Regulations specify limits for the solvent or Volatile Organic Compounds (VOC) content of paints marketed to the household, professional and vehicle refinishing sectors. Labelling information is also required for the products covered. The EPA has been nominated as the Competent Authority in relation to the product compliance aspects of these Regulations. EPA guidance and information is published on these requirements at www.decopaints.ie.

During 2010, the EPA had a market surveillance campaign carried out on its behalf to ascertain the availability of non-compliant products, primarily car paint, following receipt of complaints from industry. The campaign involved the testing of fourteen car paint samples and 5 household gloss paints. All domestic paints tested compliant. Concerning the car paints, the campaign highlighted an issue, namely the lack of technical definitions distinguishing certain product categories with differing VOC content limits, which has been brought to the attention of the Department of the Environment, Community and Local Government and was communicated to the EU commission as part of Ireland's report under the Directive.

The Solvents Directive aims to prevent emissions of Volatile Organic Compounds and hazardous waste arising in 20 different industrial sectors that use solvents. The EPA regulates larger solvent using installations under the Integrated Pollution Prevention and Control (IPPC) licensing regime. The Regulations require that smaller obligated operators register with their local authority, develop and implement a solvent management plan which includes maintaining detailed records of solvent use/reduction and undertake annual inspections of their operations. Accredited Inspection Contractors must conduct these inspections and be duly registered by the Irish National Accreditation Board (INAB) to the ISO 17020 International Inspection Bodies Standard. Similarly, the Deco-paints Regulations require Vehicle Refinishing operators register with their local authority having undertaken and obtained a compliant AIC audit every two years. These operators are prohibited from using non-compliant paints. There are a large number of SME companies potentially impacted by the Solvents and Deco-paints Regulations. However, there is considerable scope for significant reductions in hazardous waste solvents arising. Any hazardous waste arising should be better managed as a result of these AIC

schemes. Information and guidance in relation to these Regulations is made available at www.solvents.ie and www.vehiclerefinishers.ie.

Currently, there is only one operational Accredited Inspection Contractor within the State offering inspection services to obligated operators. The local authorities are responsible for the enforcement of these Regulations. The Office of Environmental Enforcement has been working with local authorities to deal with uncertified vehicle refinishers and has highlighted the need to only use certified refinishers via the print media thereby reducing any market for non-compliant paint products. By the end 2010, 232 operators (under the Solvents Regulations) and 646 vehicle refinishing installations (under the Deco-paints Regulations) were registered with local authorities. Also in 2010, local authorities initiated prosecutions against two unauthorised vehicle refinishers under the Deco-paints Regulations and 5 unauthorised dry cleaners under the Solvents Regulations.

Solid Fuels Regulations

The new Solid Fuels Regulations, published in June 2011, limited the sulphur content of bituminous coal for residential use to 0.7% by weight. This was in replacement of a previous voluntary agreement. In preparation for the introduction of the Regulations, the Department of the Environment, Community and Local Government contracted inspections of the coal baggers on the island of Ireland to ascertain the level of compliance with the Regulations and to make the operators aware of their obligations.

The Regulations require operators within the supply chain of bituminous coal to register with the EPA. Coal baggers must register before 1st September 2011 and annually thereafter while other, currently existing, suppliers must register before the end of December 2011 and subsequently every two years. The EPA is charged with establishing and maintaining the register of relevant operators. The EPA has commenced the publication of the registers of coal bagging operators and fuel suppliers on its internet site and is planning to develop an on-line registration system which should provide a simple and cost-effective registration process.

Coal baggers must maintain and provide records to demonstrate the coal concerned complies with the new sulphur content limit. Most importantly, anyone retailing bituminous coal must hold a record to confirm that the product they are supplying is in compliance with the 0.7% by weight. Local authorities are responsible for the enforcement of the Regulations within their functional areas and have been granted additional powers under the Environment (Miscellaneous Provisions) Act 2011 (No. 20 of 2011) to issue fixed penalty notices in certain circumstances including in relation to the non-registration with the EPA or for the absence of records to confirm that coal is in compliance with the sulphur limit.

End-of-Life Vehicle Product Regulation

The End-of-Life (ELV) Vehicle Directive contain eco-design obligations on vehicle producers including a requirement to ensure that specified vehicle materials and components do not contain lead, mercury or hexavalent chromium. The Core Prevention Team may be assigned responsibility for enforcing these requirements later under new Irish regulations currently being drafted. Most vehicles are imported into Ireland through other EU Member States and have already undergone vehicle type approval. Work will be progressed on this issue once legislation is in place including guidance to be posted at www.elvecodesign.ie.

7. Enforcement of Producer Responsibility Initiatives

Enforcement of the WEEE Regulations

The Environmental Protection Agency is responsible for enforcing many aspects of the WEEE Regulations in Ireland, with other enforcement responsibilities assigned to the local authorities. The European WEEE Directive³¹ came into effect in August 2005 and was transposed in Ireland from then. Revised Irish WEEE Regulations were published in 2011³².

The EPA carries out announced and unannounced inspections of producers and retailers of electrical and electronic equipment. The EPA also engages external resources to assist with enforcement and carry out campaigns of inspections from time to time. A programme of audits is also undertaken to verify the data submitted to the EPA by producers operating on a business to business (B2B) basis. The number and type of inspections carried out in the last year is summarised below.

Inspection type	Number of inspections completed	EPA or external resources
Producers Inspections	8	EPA
Special investigations (retailers/producers)	16	EPA
B2B Producer Audits	40	External resources
Retailer Inspections	612	EPA and external resources

The EPA continues to engage with all stakeholders involved in the management of WEEE as a producer responsibility initiative, including the Department of Environment, Community and Local Government, WEEE Register Society and the two compliance schemes, WEEE Ireland and ERP Ireland. In 2011, the value of metal has created an additional challenge for the proper management of WEEE with metal theft becoming more prevalent. The EPA has been investigating this issue and is engaged with all stakeholders to ensure that WEEE is properly managed and the integrity of the system maintained. This issue forms part of a larger national issue with metal theft and the EPA is in liaison with the Gardaí to provide information on its work both on WEEE and on PCBs. This will continue into 2012.

EPA guidance and information on WEEE is posted at www.weee-enforcement.ie.

Producers that operate on a business to business (B2B) basis that have not opted to join a compliance scheme must submit 3-yearly Waste Management Plan and an annual Waste Management Report to the EPA. An online tool for submission of plans and reports is being developed by the EPA to facilitate the B2B producers and it is hoped to have it available for use prior to the next submission deadline on 31st January 2012.

³¹ European Parliament and Council Directive 2002/96/EC on waste electrical and electronic equipment as amended.

³² European Communities (Waste Electrical and Electronic Equipment) Regulations 2011 (S.I. No 355 of 2011).

Enforcement of the Batteries and Accumulators Regulations

The objectives of the European Battery Directive³³ are similar to that of the WEEE Directive, in particular to ensure the environmentally sound management of waste batteries. The EPA is responsible for enforcing many aspects the Battery Regulations³⁴ in Ireland, with other enforcement responsibilities assigned to the local authorities. Obligations under the Battery Regulations come into effect in 2008.

All battery enforcement activity carried out by the EPA, including that which is carried out using external resources, is fully integrated with the WEEE enforcement activity described above. The majority of inspections address both WEEE and battery requirements as the vast majority of producers and retailers are obligated under both regimes.

The first battery prosecution was concluded in 2011, where a case was taken against Forklift Services and Handling Equipment Ltd. for offences under the Battery Regulations. The Probation Act was applied and costs were awarded to the EPA.

EPA guidance and information on batteries is posted at www.batteries-enforcement.ie.

End-of-Life Vehicle Recycling Regulation

Under the End-of-Life (ELV) Vehicle Regulations, vehicle brand holders or producers must put in place a national network of Authorised Treatment Facilities (ATFs). These facilities must meet specified environmental standards and provide for the free depollution, treatment and recovery of vehicles at the end of their useful life. Local authorities are responsible for enforcing these aspects of the regulations in each of their functional areas.

The EPA is responsible for collecting ELV waste data through the National Waste Report project, and provides data tables and a quality report for submission by the DECLG to the European Commission.

From the figures reported in the EPA National Waste Report for 2009, ELV reuse and recovery was 82% and reuse and recycling was 76% in 2008. These percentages indicate that Ireland is failing marginally to meet the EU targets of 85% reuse and recovery and 80% reuse and recycling which have been in force since January 2006. In order to meet the targets, it is expected that additional processing of ELVs will be required, through (i) increased dismantling of ELVs prior to shredding and/or (ii) application of post shredder technologies to extract recyclable materials from the shredder residue.

Obligated producers will need to ensure that this is achieved as more stringent targets are in place to be met by 2015.

Other Producer Responsibility Initiatives

The Farm Plastics scheme has been in place in Ireland for a number of years. Regulations on waste tyres were published in 2007 in order to promote the environmentally sound management of this waste stream. The local authorities are the enforcement authorities for both of these regulations.

³³ European Parliament and Council Directive 2006/66/EC on batteries and accumulators and waste batteries and accumulators.

³⁴ Waste Management (Batteries and Accumulators) Regulations 2008 (S.I. No. 268 of 2008).

Challenges in relation to Producer Responsibility Initiatives

Metal theft has become a significant issue in Ireland in 2011 and impacts on the work of the NWPP in the areas of WEEE and PCBs. This will be a key area where coordination between public organisations and commercial stakeholders will be needed in 2012 and beyond and will continue to form an important part of the National Waste Prevention Programme.

A key activity of the Resource Use team in 2012 will be ensuring that the National POPs Implementation Plan and associated Action Plan on unintentional POPs is finalised in time for its submission to the Stockholm Secretariat. This will require a wide consultation with a variety of stakeholders and development of coordination mechanisms between public bodies.

Ensuring the timely removal of remaining PCB holdings will be a challenge in 2012 and continuing to identify PCB holdings for the national inventory will form part of the team's activities. Cooperative action between local authorities and the EPA, in the context of their respective roles, will be needed to ensure that holders of PCBs meet their legal obligations to remove and treat their holdings.

8. Conclusions

In the current very challenging economic conditions, prevention has been proven to reduce costs; improve competitiveness, encourage innovation and the adoption of cleaner processes and products. In other words, prevention has an important contribution to make to the development of a cleaner, greener, smart economy in Ireland.

The Green Economy focus has the potential to significantly advance the sustainable development ambitions: for instance in the areas of Clean Technology, Resource Efficiency, Eco-Design, Secondary Resource Standards, Innovation, Green Public Procurement, and Regulatory Clarity & Certainty.

Clean Technology (Green Chemistry, etc.) seeks to change the way products are made by using less environmentally damaging processes and raw materials. Resource Efficiency, in its strict sense, addresses the efficiency of use of key raw materials (water, energy, and other raw materials) and also the prevention/re-use of waste, in manufacturing processes and service provision. Eco-Design seeks to change how products and services are devised at design stage with a view to reducing/eliminating the use of dangerous chemicals, improving energy efficiency during use of product, or increasing the durability of a product or enhancing its ability to be dismantled and recycled at end of life, etc.

Waste produced by society and enterprise has so much potential as a resource in its own right, and the development of appropriate standards and awareness can contribute to the conservation of primary resources through the safe use of secondary resources. Sustainability (Resource Efficiency) interventions require public and private innovation, which can in itself contribute to the green economy through patents, intellectual property rights, regulatory environment, etc. Green Public Procurement has a potentially huge role to play in driving the Green Economy agenda.

'Transformation to a sustainable production and consumption society will need a policy framework that creates an environment where innovation and Resource Efficiency are rewarded, creating economic opportunities and improved security of supply through product redesign, sustainable management of environmental resources, greater reuse, recycling and substitution of materials and resource savings.' (EU Commission, COM(2011) 571)

In the case of business and institutions, State supports and advice in the development and implementation of Green Business strategies are available from a range of agencies such as the EPA NWPP, the Sustainable Energy Authority of Ireland, Enterprise Ireland, the IDA Ireland and local authorities. The offerings from these and other agencies are not integrated because in Ireland, as in many other Member States, we do not yet have a national Resource Efficiency programme nor a national Raw Materials Strategy that would seek to coordinate a national sustainable consumption and production programme. Responsibility is divided amongst many actors. Action on these two elements alone would be a significant further step towards achieving sustainability. Through the STRIVE research programme, the EPA has invited research proposals in relation to informing the development of a national Resource Efficiency plan.

The central challenge for Ireland and the EU in relation to driving the green economy, and indeed in advancing any real ambition on sustainable development, will be to determine how to influence change in the way things are made, or services provided, with a view to moving these manufacturers and service providers towards greater sustainability. There are national and international trade implications and competitiveness implications which will have to be carefully balanced with the environmental ambition. However action is certainly needed,

because as a society we cannot keep manufacturing products from materials that are finite, that are water and energy inefficient during service life, and that cannot be recycled due to the design or the manufacturing process.

The EPA believes that continued investment in developing environmental technologies is an appropriate fiscal stimulus in an Irish context, which would be spent domestically and provide a high rate of return in terms of future economic growth. We believe that the environmental technologies field provides a significant opportunity in this regard. Not only is this one of the fastest growing market areas internationally, but such technologies will also reduce pressure on the environment and improve resource efficiency, while supporting competitiveness and job creation. Environmental research is an important element underpinning the concept of a 'knowledge-based society' and the Smart Green Economy.

A second significant challenge of the Resource Efficiency paradigm is in the consumption cycle. Paradoxically we believe there is significant green economy potential in changing consumption behaviour. Changing consumers' expectations and behaviours regarding a product can permit a manufacturer greater - and more sustainable - design possibilities (e.g. use of recycled paper, less packaging, purchase premium for more energy efficient product, recycling behaviours, etc.). With some notable exceptions (e.g. energy, Race Against Waste) there has, to-date, been little coordinated and integrated action in relation to consumer based green economy supportive behaviours and expectations

Over recent years it has become clear to the NWPP that there is significant potential for achieving behavioural change through social capital mechanisms, in particular through application of social marketing techniques within specific groups. Programmes such as Green Schools, Green Home, Green Communities, Green Festivals, Master Composter, etc., have been particularly successful. Other approaches into business peer groups (Retail, Hospitality, Garages, Healthcare, etc.) have been similarly successful. The NWPP also involves representative groupings in the programmes which facilitated sectoral penetration (e.g. Fáilte Ireland, IBEC, Irish Hospitality Sector). Behavioural change in relation to consumption and recycling (resource efficiency) in society can be successfully advanced through targeted societal interventions. The EPA, with the DECLG, has commenced activities in this area through the Greening Communities programme. However it is an area where the State can develop specific policy action, perhaps availing of the *Local Agenda21* mechanism. For example, the Tidy Towns programme could be reinforced with detailed criteria that better reward engagement of local private and public enterprises in Resource Efficiency programmes for their operations.

As reported herein, the NWPP has recorded significant success and continues to grow from strength to strength. That said, it is notable that engaging business with the substantially free advice and services available continues to be a 'hard sell'. The generation of case studies has resulted in significantly increased web traffic to the various programme sites. While the advice and assistance provided is free this will not always be the case. As 'membership' of the green business and LAPN family of programmes grows, the State will not be able to fund to the same level. However, it is expected that the savings and value of membership will have permeated general good business practice to the extent that there will be a 'willingness to pay' (for the service). Moreover, companies will not need such direct NWPP intervention as there will be enough sector-specific guidance and case studies available that managers will be able to self-motivate.

To date some local authorities have not participated in LAPN discussions or activities. The completion, in 2012, of the 'project catalogue' (www.lapn.ie) is expected to encourage more local authorities to consider local resource efficiency/waste prevention initiatives. Every local authority should have a full time waste prevention officer so as to provide programmes, advice and guidance direct to businesses, institutions and communities located in the county. The

new legislation brought into effect in 2011 makes it a legal requirement for local authorities to provide for waste prevention measures in their Regional Waste Management Plans.

The EPA views the Local Authority Prevention Network as central to the successful local take-up of any waste prevention initiatives under NWPP. Many of the projects and actions being undertaken by the local authorities are examples of synergy between different NWPP programmes. Moreover the LAPN programme is ideally placed to draw together both the business and community aspects of the various resource efficiency activities. There is scope for further interaction and cooperation, and this is a priority consideration for 2012.

Maintaining momentum of resource efficiency initiatives will always be a challenge. For businesses that have embraced the 'new thinking' and operate it as part of normal business practices, they will achieve an efficient state of operation. What then? There is a risk of losing momentum. So the NWPP as part of the next review will have to set out ambitions to move these high achievers to the next stage of sustainability by, for example, helping them to green their supply chain, or assisting them to embark on life cycle thinking (including eco-design) for their products or service.

The transposition of the Waste Framework Directive in Ireland in 2011 has confirmed the role of the EPA in relation to the operation of the National Waste Prevention Programme. Furthermore the legislation requires that a Waste Prevention Plan be devised and put in place in 2013. The making of this plan will involve all stakeholders, particularly so as the plan is required to set out benchmarks and indicators for waste prevention.

Appendix A

National Waste Prevention Committee Representatives

Representative	Organisation
Dr's G Byrne & J Derham, Chairmen	Environmental Protection Agency
Mr. Ronan Mulhall / Mr Pat Fenton / Ms. Jean Clarke	Department of Environment, Community & Local Government
Mr. Tom Quinlivan	Department of Agriculture, Fisheries & Food
Nomination requested	Department of Jobs, Enterprise and Innovation
Nomination requested	City & County Managers Association
Mr. Conor Gouldsbury	Irish Business & Employers' Confederation
Mr. Brendan Keane	Irish Waste Management Association
Mr. Enda Kiernan	Chartered Institution of Wastes Management
Ms. Marian Byron	Irish Industrial Products Association
Mr. Des Cummins	Small Firms Association
Mr. Andrew Cartwright	Irish Small Medium Enterprises
Mr. Michael Gillen	Pharmaceutical Ireland
Mr. Thomas Ryan	Irish Farmers Association
Mr. Fred McDarby	Enterprise Ireland
Dr. Cathy Maguire	Comhar
Mr. Noel Duffy / Mr Tadhg Coakley	Clean Technology Centre
Mr. Frank Corcoran	Environmental NGOs
Mr. Paul Jevens	Chambers of Commerce of Ireland
Nomination requested	Irish Creamery Milk Suppliers Association
Ms. Mary Twomey	Forfás
Ms. Helen Maher	Health Service Executive
Mr. Brendan McDonagh	Industrial Development Authority
Mr. Olivier Gaillot	Engineers Ireland & rx3

Appendix B

Committee Terms of Reference

National Waste Prevention Committee

TERMS OF REFERENCE

- Monitor the development and implementation of the National Waste Prevention Programme;
- Monitor the implementation, by relevant public authorities, of National Hazardous Waste Management Plan recommendations;
- Advise and provide strategic direction to the Core Prevention Team in developing and driving the National Waste Prevention Programme;
- Provide input to the Environmental Protection Agency for the purpose of section 26(6) of the 1996 Waste Management Act;
- Identify priorities for action and make recommendations to relevant public authorities and private bodies;
- Consider and make recommendations to the Minister for the Environment, Community and Local Government regarding appropriate policy and legislative initiatives;
- Have regard to national, European Union and international policy and legislation and best practice in relation to waste prevention and hazardous waste management;
- Facilitate, support and promote co-ordination and liaison between relevant bodies, public and private, on the National Waste Prevention Programme and the National Hazardous Waste Management Plan;
- Consider and make recommendations to relevant bodies regarding public awareness requirements in relation to hazardous waste and the prevention of waste;
- Monitor and evaluate new research and data on waste prevention, trends in hazardous and non-hazardous waste production and waste management practices;
- Consider and make recommendations to the Environmental Protection Agency and the Department of the Environment, Community and Local Government on research priorities;
- Monitor progress in sectoral producer responsibility initiatives;
- Disseminate information on best practice in waste prevention and hazardous waste management;
- Consider and make recommendations to relevant bodies regarding the provision of funding to support implementation of the National Waste Prevention Programme and the National Hazardous Waste Management Plan; and
- Prepare and submit to the Minister for the Environment, Community and Local Government an annual report outlining progress on the implementation of the National Waste Prevention Programme and the National Hazardous Waste Management Plan.

Appendix C

Waste Framework Directive Annex IV: Examples of Waste Prevention Measures referred to in *Article 29* of the Waste Framework Directive

Section 27A(3) and the First Schedule of the Waste Management Acts also refers
<i>Measures that can affect the framework conditions related to the generation of waste</i>
The use of planning measures, or other economic instruments promoting the efficient use of resources.
The promotion of research and development into the area of achieving cleaner and less wasteful products and technologies and the dissemination and use of the results of such research and development.
The development of effective and meaningful indicators of the environmental pressures associated with the generation of waste aimed at contributing to the prevention of waste generation at all levels, from product comparisons at Community level through action by local authorities to national measures.
<i>Measures that can affect the design and production and distribution phase</i>
The promotion of eco-design (the systematic integration of environmental aspects into product design with the aim to improve the environmental performance of the product throughout its whole life cycle).
The provision of information on waste prevention techniques with a view to facilitating the implementation of best available techniques by industry.
Organise training of competent authorities as regards the insertion of waste prevention requirements in permits under this Directive and Directive 2008/1/EC.
The inclusion of measures to prevent waste production at installations not falling under Directive 2008/1/EC. Where appropriate, such measures could include waste prevention assessments or plans.
The use of awareness campaigns or the provision of financial, decision-making or other support to businesses. Such measures are likely to be particularly effective where they are aimed at, and adapted to, small and medium sized enterprises and work through established business networks.
The use of voluntary agreements, consumer/producer panels or sectoral negotiations in order that the relevant businesses or industrial sectors set their own waste prevention plans or objectives or correct wasteful products or packaging.
The promotion of credible environmental management systems, including EMAS and ISO 14001.
<i>Measures that can affect the consumption and use phase</i>
Economic instruments such as incentives for clean purchases or the institution of an obligatory payment by consumers for a given article or element of packaging that would otherwise be provided free of charge.
The use of awareness campaigns and information provision directed at the general public or a specific set of consumers.
The promotion of credible eco-labels.
Agreements with industry, such as the use of product panels such as those being carried out within the framework of Integrated Product Policies or with retailers on the availability of waste prevention information and products with a lower environmental impact.
In the context of public and corporate procurement, the integration of environmental and waste prevention criteria into calls for tenders and contracts, in line with the Handbook on environmental public procurement published by the Commission on 29 October 2004.
The promotion of the reuse and/or repair of appropriate discarded products or of their components, notably through the use of educational, economic, logistic or other measures such as support to or establishment of accredited repair and reuse-centres and networks especially in densely populated regions.

Appendix D

Prevention and Guidance Website Resources

Website Address	Features
www.batteries-enforcement.ie	EPA guidance and information on compliance with the Batteries Regulations (SI Nos. 268 & 556 of 2008)
www.cleanerproduction.ie	Case studies and information on the EPA/STRIVE Cleaner Greener Production Programme
www.decopaints.ie	EPA guidance and information on compliance with the Decopaints Regulations (SI No 199 of 2007)
www.elvecodesign.ie (in development)	EPA guidance and information on compliance with the ecodesign requirements of the End-of-Life Vehicles Regulations (SI No 282 of 2006)
www.epa.ie/whatwedo/resource/hazardous	The EPA National Hazardous Waste Management Plan and associated guidance/information
www.envirocentre.ie	Enterprise Ireland's environmental website aimed at assisting SMEs with their environmental obligations and improving their eco-efficiency and competitiveness
www.fgases.ie	EPA guidance and information on compliance with the Fluorinated Greenhouse Gases EC Regulation 842/2006
www.freetradeireland.ie	Publically funded website to enable householders and businesses to gift pre-owned products for others to re-use for free
www.ghaward.ie or www.greenhospitality.ie	EPA NWPP project information and guidance on how organisations in the hospitality, event and catering sector can save money by reducing their waste and conserving water & energy
www.greenbusiness.ie	EPA NWPP project information and guidance on how any organisation can save money by reducing their waste and conserving water & energy
www.greenhealthcare.ie	EPA NWPP project information and guidance on how organisations in the healthcare sector can save money by reducing their waste and conserving water and energy
www.greenhome.ie	EPA NWPP/An Taisce project information and guidance on how any person can save money at home by reducing and composting their waste, conserving water & energy and travelling more sustainably
www.greenschoolsireland.org	Information on the highly successful An Taisce Green Schools programme

www.hazred.org.uk	Environment Agency UK Information, guidance and case studies on hazardous waste prevention in SMEs resulting from an EU/Life project completed in 2007
www.lapd.ie and www.ctc-cork.ie/lapd	Information on the EPA NWPP Local Authority Prevention Demonstration Programme
www.lapn.ie and www.localprevention.ie	Information on the EPA NWPP Local Authority Prevention Network
www.macroom-e.com	Macrooom E is an industrial park based on environmental principles with a range of outreach eco-projects supported by EPA NWPP and STRIVE
www.managewaste.ie	Prevention guidance developed by the NWPP Limerick/Clare/Kerry Prevention Team under LAPD
www.nwpp.ie	The home web address for the EPA National Waste Prevention Programme
www.ozone.ie	EPA guidance and information on compliance with legislation relating to Ozone Depleting Substances (EC Regulations 2037/2000 & 1005/2009 and SI No. 281 of 2006)
www.pcbs.ie	EPA guidance and information on compliance with legislation relating to Polychlorinated Bi-phenyls (Council Directive 96/59/EC and SI No. 163 of 1998)
www.pops.ie	EPA guidance and information on compliance with legislation relating to Persistent Organic Pollutants (EC Regulation 850/2004 and SI No. 235 of 2010)
www.preventandsave.ie	Repak Ltd/NWPP information, guidance and case studies on how organisations in the product supply chain can save money by optimising their packaging
www.reevaluate.ie	EPA STRIVE supported project researching the re-use of used electrical & electronic equipment
www.rohs.ie	EPA guidance and information on compliance with the Restriction of Hazardous Substances (in electrical/electronic equipment) Regulations (SI No. 341 of 2005 and SI No. 376 of 2008)
www.rx3.ie	Website of the Government Market Development Programme to develop sustainable markets and outlets for recyclables in Ireland.
www.seai.ie	Sustainable Energy Authority of Ireland's website with guidance, information and grants available to reduce energy consumption and switch to renewable energy supplies
www.schoolbookexchange.ie	Website devoted to the re-use of school and college textbooks
www.solvents.ie	EPA guidance and information on compliance with the Solvents Regulation (SI No. 543 of 2002)

www.stopfoodwaste.ie	EPA NWPP information and guidance on how any person can save money by reducing their food waste
www.taptips.ie	Publically funded website offering information and tips for householders and businesses to reduce water consumption
www.vehiclerefinishers.ie	EPA guidance and information on compliance with the Decopaints Regulation (SI No. 199 of 2007)
www.wastematchers.com	Website developed by the Macroom-E project to enable people and businesses to exchange information on pre-owned or unwanted products, by-products or waste resources
www.wastereport.ie	The EPA annual National Waste Reports and associated guidance/information
www.weee-enforcement.ie	EPA guidance and information on compliance with the Waste Electrical & Electronic Equipment Waste Regulation (SI No.199 of 2007)
www.wastesurvey.ie	National Waste Report survey and guidance homepage

Appendix E

Data Reporting October 2010 – October 2011

Report Month	Report Name	Reported to	Reporting frequency	Year data relates to	Core Prevention Team responsibility
October 2010	Waste Statistics Regulation	Eurostat	Biennial	Amended 2006 Quality Report	National Waste Report team
October 2010	Regional Environmental Questionnaire 2010	Eurostat	Biennial	Municipal waste, various years	National Waste Report team
December 2010	Waste Statistics Regulation	Eurostat	Biennial	Waste generation and treatment – 2008 datasets	National Waste Report team
February 2011	Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal	Secretariat of the Basel Convention ^{35 36}	Annual	2009 data	National Waste Report team
March 2011	Structural Indicators on Municipal Waste	Eurostat	Annual	2009 data	National Waste Report team
May 2011	OECD Environmental Data Compendium	OECD	Once-off	Various years	National Waste Report team
June 2011	Packaging Directive	European Commission ³⁵	Annual	2009 data	National Waste Report team
June 2011	End of Life Vehicle Directive	European Commission ³⁵	Annual	2009 data	National Waste Report team
September 2011	Questionnaire on Waste from Mining and Quarrying Activities	Eurostat	Once-off	Not applicable	National Waste Report team

³⁵ Report sent via DECLG.

³⁶ National TransFrontier Shipment Office at Dublin City Council provided most of the 2009 data to DECLG as they are the competent authority for transboundary shipments of waste.

An Ghníomhaireacht um Chaomhnú Comhshaoil

Is í an Ghníomhaireacht um Chaomhnú Comhshaoil (EPA) comhlachta reachtúil a chosnaíonn an comhshaol do mhuintir na tíre go léir. Rialaímid agus déanaimid maoirsiú ar ghníomhaíochtaí a d'fhéadfadh truailliú a chruthú murach sin. Cinntímid go bhfuil eolas cruinn ann ar threochtaí comhshaoil ionas go nglactar aon chéim is gá. Is iad na príomhnithe a bhfuilimid gníomhach leo ná comhshaol na hÉireann a chosaint agus cinntiú go bhfuil forbairt inbhuanaithe.

Is comhlacht poiblí neamhspleách í an Ghníomhaireacht um Chaomhnú Comhshaoil (EPA) a bunaíodh i mí Iúil 1993 faoin Acht fán nGníomhaireacht um Chaomhnú Comhshaoil 1992. Ó thaobh an Rialtais, is í an Roinn Comhshaoil, Pobal agus Rialtais Áitiúil.

ÁR bhFREAGRACHTAÍ

CEADÚNÚ

Bíonn ceadúnais á n-eisiúint againn i gcomhair na nithe seo a leanas chun a chinntiú nach mbíonn astuithe uathu ag cur sláinte an phobail ná an comhshaol i mbaol:

- áiseanna dramhaíola (m.sh., líonadh talún, loisceoirí, stáisiúin aistrithe dramhaíola);
- gníomhaíochtaí tionsclaíocha ar scála mór (m.sh., déantúsaíocht cógaisíochta, déantúsaíocht stroighne, stáisiúin chumhachta);
- diantalmhaíocht;
- úsáid faoi shrian agus scaoileadh smachtaithe Orgánach Géinathraithe (GMO);
- mór-áiseanna stórais peitreal;
- scardadh dramhuisce.

FEIDHMIÚ COMHSHAOIL NÁISIÚNTA

- Stiúradh os cionn 2,000 iniúchadh agus cigireacht de áiseanna a fuair ceadúnas ón nGníomhaireacht gach bliain.
- Maoirsiú freagrachtaí cosanta comhshaoil údarás áitiúla thar sé earnáil - aer, fuaim, dramhaíl, dramhuisce agus caighdeán uisce.
- Obair le húdaráis áitiúla agus leis na Gardaí chun stop a chur le gníomhaíocht mhídhleathach dramhaíola trí chomhordú a dhéanamh ar líonra forfheidhmithe náisiúnta, díriú isteach ar chiontóirí, stiúradh fiosrúcháin agus maoirsiú leigheas na bhfadhbanna.
- An dlí a chur orthu siúd a bhriseann dlí comhshaoil agus a dhéanann dochar don chomhshaol mar thoradh ar a ngníomhaíochtaí.

MONATÓIREACHT, ANAILÍS AGUS TUAIRISCIÚ AR AN GCOMHSHAOIL

- Monatóireacht ar chaighdeán aer agus caighdeáin aibhneacha, locha, uiscí taoide agus uiscí talaimh; leibhéil agus sruth aibhneacha a thomhas.
- Tuairisciú neamhspleách chun cabhrú le rialtais náisiúnta agus áitiúla cinntiú a dhéanamh.

RIALÚ ASTUITHE GÁIS CEAPTHA TEASA NA HÉIREANN

- Caimníochtú astuithe gáis ceaptha teasa na hÉireann i gcomhthéacs ár dtiomantas Kyoto.
- Cur i bhfeidhm na Treorach um Thrádáil Astuithe, a bhfuil baint aige le hos cionn 100 cuideachta atá ina mór-ghineadóirí dé-ocsaíd charbóin in Éirinn.

TAIGHDE AGUS FORBAIRT COMHSHAOIL

- Taighde ar shaincheisteanna comhshaoil a chomhordú (cosúil le caighdeán aer agus uisce, athrú aeráide, bithéagsúlacht, teicneolaíochtaí comhshaoil).

MEASÚNÚ STRAITÉISEACH COMHSHAOIL

- Ag déanamh measúnú ar thionchar phleananna agus chláracha ar chomhshaol na hÉireann (cosúil le pleananna bainistíochta dramhaíola agus forbartha).

PLEANÁIL, OIDEACHAS AGUS TREOIR CHOMHSHAOIL

- Treoir a thabhairt don phobal agus do thionscal ar cheisteanna comhshaoil éagsúla (m.sh., iarratais ar cheadúnais, seachaint dramhaíola agus rialacháin chomhshaoil).
- Eolas níos fearr ar an gcomhshaol a scaipeadh (trí cláracha teilifíse comhshaoil agus pacáistí acmhainne do bhunscoileanna agus do mheánscoileanna).

BAINISTÍOCHT DRAMHAÍOLA FHORGHNÍOMHACH

- Cur chun cinn seachaint agus laghdú dramhaíola trí chomhordú An Chláir Náisiúnta um Chosc Dramhaíola, lena n-áirítear cur i bhfeidhm na dTionscnamh Freagrachta Táirgeoirí.
- Cur i bhfeidhm Rialachán ar nós na treoracha maidir le Trealamh Leictreach agus Leictreonach Caite agus le Srianadh Substaintí Ghuaiseacha agus substaintí a dhéanann ídiú ar an gcrios ózóin.
- Plean Náisiúnta Bainistíochta um Dramhaíl Ghuaiseach a fhorbairt chun dramhaíl ghuaiseach a sheachaint agus a bhainistiú.

STRUCHTÚR NA GNÍOMHAIREACHTA

Bunaíodh an Ghníomhaireacht i 1993 chun comhshaol na hÉireann a chosaint. Tá an eagraíocht á bhainistiú ag Bord lánaimseartha, ar a bhfuil Príomhstíúrthóir agus ceithre Stíúrthóir.

Tá obair na Ghníomhaireachta ar siúl trí ceithre Oifig:

- An Oifig Aeráide, Ceadúnaithe agus Úsáide Acmhainní
- An Oifig um Fhorfheidhmiúchán Comhshaoil
- An Oifig um Measúnacht Comhshaoil
- An Oifig Cumarsáide agus Seirbhísí Corparáide

Tá Coiste Comhairleach ag an nGníomhaireacht le cabhrú léi. Tá dáréag ball air agus tagann siad le chéile cúpla uair in aghaidh na bliana le plé a dhéanamh ar cheisteanna ar ábhar imní iad agus le comhairle a thabhairt don Bhord.

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