

epaNews

The newsletter of the Environmental Protection Agency

New EPA resources for second-level schools

The EPA has recently developed an extensive range of resources for second-level schools. The resource entitled **2020 Vision – A closer look at Ireland's environment** is in a multi-media format, designed to engage students in an exciting and interactive way with environmental issues.

The resources are based on **2020 Vision**, the EPA's strategy to protect and improve Ireland's environment into the future. The strategy outlines six environmental goals for the period 2007 to 2020 and these are the themes of the schools' resources. By 2020, lots of the students who will have used these materials in schools up and down the country will be young adults, well-versed in the values of sustainable living. We hope that these resources will influence a generation of young people to have a life long passion for the environment.

We have worked with teachers to develop the resources and they are tailored to deliver what the professionals have told us will work best in the classroom.

The resources include lesson plans, comprehensions, ideas for projects and other useful resources. By using these resources, alongside a combination of clips from the Eco Eye TV series, support materials and up to date information on the Irish environment, teachers and students can explore the key environmental issues that we face today:

- climate change
- clean air
- clean water
- sustainable resource use
- biodiversity and
- enforcement of environmental law.



Students from Westland Row CBS pictured at the launch of the EPA education pack

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The materials have been tailored to suit the curriculum across four subjects:

- Transition Year
- CSPE
- Science
- Junior Cycle Geography.

The new resources complement the Senior Cycle Geography material already available on the EPA website and on CD and DVD.

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Director General's Statement



Welcome to the Autumn 2010 edition of EPANews.

2010 continues to be a very busy and challenging year for the EPA. Despite the economic and budgetary constraints the EPA continues to play a central role in keeping the environment centre stage during this unprecedented economic crisis.

The EPA held a series of important conferences over the last number of months which provided valuable input and focus on the environmental challenges that we are currently facing in Ireland.

The sixth annual *Environment Ireland* conference was held in September and focused on realising the potential of the green economy and the practical aspects of developing this important area. The conference, which has become Ireland's largest conference on environmental policy and management, focussed on key aspects of the green economy, namely the eco-efficient economy; a sustainable urban future; renewable energy; and investing in water, waste water and waste infrastructure. Also, at the conference the EPA launched a new *Environment in Focus* section on the EPA's website which now allows easier public access to environmental data that has been gathered by the EPA and external bodies. (See www.epa.ie/environmentinfocus)

The EPA *National Environmental Research Conference* was held on the 23rd June and was attended by over 350 delegates. This was the third in the EPA series of research conferences, designed to disseminate the results of research funded by the EPA, and to provide a discussion forum for environmental researchers. At the conference the EPA Report *Science and Sustainability* was launched which outlined how EPA funded research has provided significant support for environmental policy and decision making at national and international levels.

The *Local Authority Prevention Network Conference*, also held in June, highlighted how initiatives being run by the National Waste Prevention Programme help individuals and organisations save money through resource efficiency while promoting the green economy.

Managing Water in a Changing Environment was the theme of the annual *EPA Water Conference* which focused on water governance and legislative requirements.

After ten years of preparatory work the implementation of the Water Framework Directive (WFD) has reached a critical moment with the publication of management plans to achieve the objectives of the directive. The EPA has played a central role in facilitating and reviewing this process including reporting on the programme of measures and management plans. Full implementation of the measures will be critical to achieve the objectives set out in the plans.

During the summer the EPA hosted a significant conference on climate change to address the key elements of the Copenhagen Accord, agreed at the December 2009 meeting of the UNFCCC, and also to contribute to preparations for the forthcoming conference in Cancun, Mexico in November 2010. The conference provided an overall perspective on

some of the key challenges presented by climate change for Ireland, and explored developments in the climate science and policy arenas.

A lot of work has been carried out on the EPA Review during 2010, as provided for in the Programme for Government, including a public consultation phase. I very much look forward to the findings of the Review which will assist the EPA in developing our new corporate strategy for 2011-2013.

Finally, on a sad note and on behalf of all the staff of the EPA, I would like to extend our deepest sympathy to the family of our esteemed colleague Michael Neill who sadly passed away in August. Michael was the Regional Manager/Chemist in our Kilkenny Inspectorate since the EPA was established in 1993 and dedicated his entire professional career of almost 45 years to environmental protection - particularly in the water area. Michael was a true professional, dear friend and work colleague and will be sadly missed by all of us who had the privilege of knowing and working with him.

Mary Kelly

Dr. Mary Kelly
Director General
Environmental Protection Agency

Michael Neill 1948 - 2010



The untimely and sudden death of our friend and colleague Michael Neill, following a brief illness, jolted all the staff of the EPA. The sadness in such an untimely passing is great, and leaves us all with a sense of profound loss and deep sorrow. He was just one day short of a distinguished career spanning 45 years in the Public Service - having joined University College Dublin on August 30, 1965.

He worked under Professor Tom Casey and was involved in piloting treatment systems for wastewater. These prototypes would later become the basis for the systems installed in towns around the country. He then worked at the Institute for Industrial Research and Standards - now Enterprise Ireland - where he was involved in research and development. Michael obtained his primary degree in Chemistry and Physics from the University of London and was later awarded a post-graduate diploma in Chemical Engineering by UCD.

Michael moved to Kilkenny in 1978 when he was appointed Regional Chemist by *An Foras Forbartha* and, with Dr Paddy Flanagan, set up the Regional Water Laboratory to service the water quality monitoring requirements of local authorities in the south-east. He joined the EPA in 1993. Michael was involved in the planning and design of the new Inspectorate at Seville Lodge, Kilkenny, and was extremely proud of it and the people who worked there. He was always hugely supportive of the work of the staff.

His commitment, energy and skills have enabled the Regional Inspectorate facilities to develop and, in this way, Michael's life touched and will continue to touch everyone who passes through the Kilkenny

office. His colleague in Kilkenny, John Lucey, spoke eloquently about Michael at his funeral service.

Michael produced an annual report on river water quality, in the south-east region, every year up to and including the work covered in 2009. In all he was responsible for 32 reports on river water quality in the region. He also reported on Lough Derg and Estuarine surveys which were undertaken by him and his staff. He wrote scientific papers which were published in international journals such as *Water Research* and *Marine Pollution Bulletin*. Important research of his included establishing a link between tillage (ploughing) and nitrate levels in rivers. His publications are widely valued and stand as a monument to the very special quality characteristic of his work at Kilkenny. His most recent initiative was in setting up a project to study siltation effects in rivers.

He had a great interest in Arctic and Antarctic exploration and was something of an expert in the field. Michael had travelled to the South Pole some years ago and the stunning scenes he captured of the region are a testimony to his skill as a photographer.

He was a man of keen intellect and wisdom, dedicated, sensitive and compassionate; his world was his family and his work also formed a central focus in that world.

He was very human: honest, warm, and forthright in his dealings with others, never prudish, always precise, but with a gentle manner, and a great sense of humor.

The loss of Michael is severely felt within the EPA, as it is throughout the south east region authorities in which he was so active, and among whom he was held in such high esteem.

Our deepest sympathies go to his wife and his children. Michael will be missed by us all. We mourn the passing of a generous soul and friend. We wish his family strength during this time.

Ar dheis Dé go raibh a anam dílis.

New EPA resources for second-level schools

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The **2020 Vision** resource is primarily web-based and we encourage teachers to visit www.epa.ie/education.

The site contains the full range of materials, including a website video player and Irish-language versions of all the comprehensions and lesson plans. *Eco Eye* clips on the website player are subtitled in English and Irish and transcripts in both languages can be downloaded from there. We hope that teachers will find these facilities useful, perhaps even in teaching other subjects.

Teachers can also request a hard copy by sending name and school details to education@epa.ie or by calling 053 91 60642.

The EPA will promote the resources with teacher associations and websites over the coming months and through a formal Ministerial launch later in the year.

Historic Mine Sites Inventory and Risk Classification Geochemical Characterisation & Environmental Matters

The exploration of mineral resources has been a world wide activity for centuries. Traditionally, mining was carried out without any recognition of the effects on the environment. In the latter part of the 20th century environmental impacts became more of a concern and regulators responded by enhancing legislation and permitting requirements.

A Directive on the management of waste from extractive industries was subsequently introduced. This became known as Directive 2006/21/EC of the European Parliament and of the Council on the Management of Waste from Extractive Industries and amending Directive 2004/35/EC.

Article 20 of this Directive is concerned with the preparation of an inventory of closed waste facilities. *The Historic Mine Sites – Inventory and Risk Classification* project addresses the EU Directive for an inventory of closed and/or abandoned mine sites and the associated data. Volume 1 of the project contains the geochemical characterisation and environmental matters. Volume 2, to be published in the future, will deal with the geotechnical aspects and safety features. It is important to note that this is not a risk assessment of the sites. Rather, the sites have been ranked relative to each other.

This project commenced in 2006. The work has produced the most comprehensive inventory of historic mining activity in Ireland. Mine sites have been classified as to which present the greatest risk to human and animal health and the environment. This provides a good basis for future investigations and assessments. The collation of all this information, and recommendations from the project, provides an excellent basis for future remediation at mine sites in Ireland.

To assess the hazard risk at each site the *Source – Pathway – Receptor* Paradigm was used. The illustration of this conceptual model is displayed below. This requires all relevant parameters to be documented, estimated, measured and recorded. Sampling and analysis was carried out at each waste facility. Each waste was then summed together to give the total score for each site.



Of the 32 sites visited:

- 22 districts will not require any interventions;
- seven districts will require further monitoring and
- three districts (Tynagh, Silvermines and Avoca) will require additional site-specific risk assessment by the landowners.

The top three Class 1 mine sites were all operated in the last century. These operated as modern mechanized mines that produced large volumes of ore and waste. Lead, Zinc and Copper were the main minerals mined with varying quantities of different other metals. Large volumes and areas of waste, along with significant concentrations of contaminants with high relative toxicity, contribute immensely to the final site score.

The project has resulted in the following:

- An *Inventory* of historic mine sites in Ireland, compiled in digital and GIS format;
- A compilation of all relevant information on each site in *GIS format*;
- *Site Investigation and Characterisation Reports* for each of the sites; and
- A methodology for *Risk-Ranking* these sites to establish the level of risk to the environment and to human and animal health associated with them.

The full Report is available free to download from www.epa.ie/downloads/pubs/land/ or www.gsi.ie.

An interactive map is located on a specific GIS mines webpage <http://maps.epa.ie/EnvisionMines/mapviewer.aspx>.

Photographs taken at each site during the course of the project will be added to this site in the future.

EPA monitors ash cloud in Ireland

The EPA's air quality monitoring network was used to assess the impact on health and the environment of the ash cloud produced from the eruption of Iceland's Eyjafjallajökull volcano in April and May 2010. Volcanic eruptions benefit the environment in the long-term by depositing minerals which enrich soil. However, they can impact on health and the environment in the short-term. The eruption released large amounts of ash and sulphur dioxide into the atmosphere - both of which can harm health and the environment. The ash can cause harm by increasing the amount of particulates in the air and from the effects of the chemical components of the ash, particularly fluoride. High levels of sulphur dioxide are harmful to health and it also contributes to acid rain.

The air quality monitoring network includes stations across the country that transmit information on levels of air pollutants hourly. Two of these pollutants, sulphur dioxide and PM₁₀ (particulate matter with diameter less than 10 microns) were components of the volcanic ash cloud. The EPA monitors meant that the public would be informed immediately should concentrations of air pollutants reach a level that impacted on health or the environment. Real-time data from the monitoring network was displayed on the EPA website and updated hourly. The EPA was a member of the government emergency taskforce on volcanic ash and worked with all participants to keep the public informed during the event.

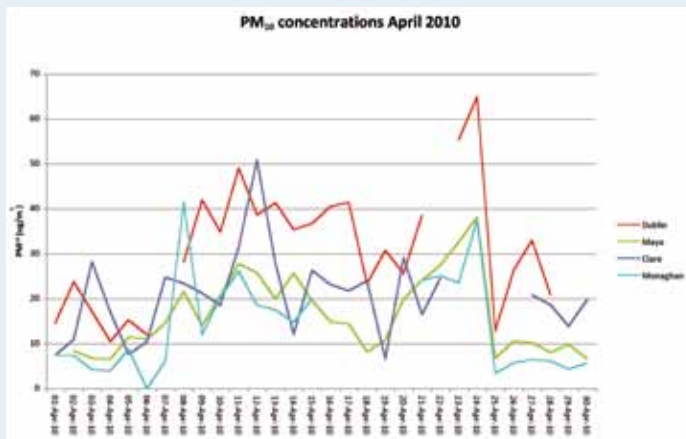
A network of deposition monitors was installed for the duration of the ash cloud event to monitor any ash that reached the ground through rainfall or dry deposition. This was undertaken in cooperation with Met Éireann. Some deposition monitors remain in place to assess the longer-term impact of the eruption on health and the environment.

The volcano emitted ash into the atmosphere at heights of 3km – 8km above the earth. This affected air travel, but was too high to impact on health or the environment. Over time the cloud dispersed and moved down through the atmosphere. Therefore, by the time it reached the ground, concentrations were too low to affect health. Increased concentrations of PM₁₀ were detected by the network monitors on 22-24 April which were probably due to the volcanic ash. The concentrations measured were not at levels which affect health. The graph shows the concentrations of PM₁₀ measured at four stations across Ireland in April 2010. No increase in sulphur dioxide was measured.

Rainfall and dust deposition samples were collected and analysed by the EPA and Met Éireann. The results showed a slight increase in sulphate and fluoride, both components of the volcanic ash. The levels of both remained too low to impact on health or the environment.

Monitoring of air quality and deposition across Europe found the volcanic ash

had minimal impact outside Iceland. The EPA monitoring programme showed no significant effects on air quality in Ireland from the Eyjafjallajökull eruption.



Waste licences issued from 1 April to 31 July 2010

Landfill:

Bord na Mona Energy Limited
Srahmore Peat Deposition Site
Srahmore and Attavally
Bangor – Erris, Co Mayo
W0199-02

Fingal County Council
Fingal Landfill
Nevitt, Lusk, Co Dublin
W0231-01

Waste Transfer Station:

Rilta Environmental Ltd.
Block 402, Grant's Drive
Greenogue Business Park
Rathcoole, Co Dublin
W0192-03

Interacting with the EPA

The EPA has published a new booklet *Interacting with the EPA* to help you find out how you can play your part in protecting Ireland's environment. We all have a role to play and this document will explain what you can do to become more involved.



It advises how to get involved in the licensing process and aspects of environmental enforcement; and how you can monitor your own environment. It also explains what you can do to reduce your carbon footprint and help prevent climate change, how you can reduce your waste generation and how you can learn more about the work of the EPA through our research programmes and educational initiatives. The booklet is available on the EPA website at www.epa.ie/downloads/pubs/other/corporate/.

STRIVE

Environmental Protection Agency Research
Programme 2007 - 2013



EPA STRIVE News

The Science, Technology, Research and Innovation for the Environment (STRIVE) programme 2007 - 2013

RESEARCH AND INNOVATION CONTRIBUTES TO A CLEAN ENVIRONMENT AND A SUSTAINABLE FUTURE

The EPA report, *Science and Sustainability: Research-based knowledge for environmental protection*, recently launched by Mr. John Gormley T.D., Minister for the Environment, Heritage and Local Government, looks in detail at the role of research in environmental protection. Over recent years, there has been significant expenditure of public monies on research and the EPA recognises the need to ensure that a clear return for this investment is achieved.

Targeted and reliable environmental research provides an authoritative scientific basis for environmental policy and decision making. Building on our own experience of environmental monitoring, regulation and guidance, the EPA supports a broad-ranging



Dr Mary Kelly and Mr. John Gormley, T.D., Minister for the Environment, Heritage and Local Government, pictured at the launch of the *Science and Sustainability* report.

programme of science to inform both environmental policy and eco-innovation.

Policy-related research plays a vital role in ensuring that European Union (EU) and national policies are implemented in the most cost-effective manner, thus minimising the burden to the State and to business. In this context, the return on investment in environmental research appears across a range of areas, including environmental protection, economic growth, sustainable development and national engagement with EU and United Nations processes.

The EPA has been assigned a statutory role to co-ordinate environmental research and our programmes are carefully planned to compliment and reinforce key responsibilities of the EPA and the Department of Environment, Heritage and Local Government. Building on our experience of environmental monitoring, regulation and guidance, the EPA supports a broad-ranging programme of science to inform both environmental policy and the eco-innovation agenda.

The report is timely in that it comes at a half-way point in the STRIVE research programme, which began in 2007 and continues to 2013. It examines the role of research in underpinning environmental policy and also the role of the EPA in supporting environmental research in Ireland.

Through a series of examples, the report demonstrates the benefits to Ireland that result from having a well-targeted and policy-relevant environmental research programme.

The report is available on the EPA website at www.epa.ie/downloads/pubs/research/.

EPA ANNOUNCES STRIVE RESEARCH CALLS

In July, the EPA invited applications for research in a number of priority areas:

- Water and the Aquatic Environment
- Environmental Liability Directive
- Air Quality, Atmospheric Deposition and Noise
- SMART Environmental Management
- Biodiversity
- Water Quality and the Cost of Inaction

In addition, the EPA announced Phase 5 of the Cleaner Greener Production Programme (CGPP). Funded by STRIVE, and the National Waste Prevention Programme, CGPP provides funding to support businesses and other organisations to become cleaner and greener.

Further information on these calls, along with the recent call for proposals in the Climate Change area, can be found at www.epa.ie/researchandeducation/research/funding/current/.

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Environmental Protection Agency Research
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EPA STRIVE News

The Science, Technology, Research and Innovation for the Environment (STRIVE) programme 2007 - 2013

EPA-SPONSORED RESEARCH PROJECT WINS YOUNG ENTREPRENEUR AWARD

Dr Lisa O'Donoghue has been named this year's Third-Level Winner of the Young Entrepreneur Award for her recycling equipment developer for LCD displays in worldwide markets. Lisa currently heads up LCD recycling at the University of Limerick, which is funded by STRIVE. The awards programme is a joint initiative between IT Tralee, Shannon Development and entrepreneur Jerry Kennelly. Lisa was chosen as the winner from a field of 120 participants by a panel of leading business people.



Dr. Lisa O' Donoghue - Young Entrepreneur
Award Winner

Liquid Crystal Displays (LCDs) are ubiquitous in modern households and workplaces, used in applications ranging from small display machines right up to 100 inch TV screens. It is anticipated that the global LCD-sales figures will rise by 54% each year up to 2009, when the sales value will be almost \$64 billion. Currently, no device exists in the market to address the recycling of millions of LCD screens. Lisa's new system allows LCD monitors to be safely disposed of into valuable computer waste, providing a sustainable and eco-friendly solution and limiting the amount of waste going to landfill.

RECENT STRIVE REPORTS

A brief selection of some recent STRIVE reports is given below. Reports are being published continually and the reports below, along with a full catalogue of all STRIVE reports, can be found at www.epa.ie/downloads/pubs/research/.

- Enhanced Nitrogen Removal for Slaughterhouse Wastewater using Novel Technologies - Xinmin Zhan et al. (NUI Galway)
- Minimization of hazardous waste generated by CIP operations in the dairy processing industry - Angela Boyce & Gary Walsh (University of Limerick)
- Monitoring of Gas Emissions at Landfill Sites using Autonomous Gas Sensors - Breda Kiernan (Dublin City University)

This will be followed by parallel sessions on key topic areas:

- Climate Change & Earth Observations;
- Cultural Heritage;
- Water & Technologies; and
- Future Calls & Research Gaps.



FP7 Online Catalogue - Map of Europe illustrating Search on the Catalogue (16/11/09)

UPCOMING STRIVE EVENTS National FP7-ENV Information Day 2010

The next FP7-Environment National Information Day is being planned for the 6th October in Dublin. The aims of this year's event are to disseminate the contents of the current FP7 Environment calls, to encourage networking and to look forward to future calls and FP8.

It is proposed to provide an overview and update of FP7-Environment along with a session on how to involve new researchers.

2010 Fellowship & Scholarship Seminar

As part of Science Week, the EPA is holding its annual Fellowships and Scholarships Seminar in Dublin on 10th November. The seminar will include presentations of EPA-funded post-graduate and post-doctoral researchers across a broad range of environmental topics including Climate Change; Environment & Health; Waste Management; Biodiversity; and Water Quality.

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EPA STRIVE News

The Science, Technology, Research and Innovation for the Environment (STRIVE) programme



Attendees at the Ireland's Sustainable Future public lecture.

PAST STRIVE EVENTS

EPA National Research Conference

This event took place in Croke Park, Dublin on 23rd June and was attended by over 300 delegates. The aim of the conference was to highlight the knowledge developed under EPA-funded research and demonstrate its application to delivering a sustainable Ireland.

The event was opened by Mr. John Gormley, T.D., Minister for Environment, Heritage and Local Government and Dr Mary Kelly, EPA Director General. The keynote speech was given by Miranda Kavanagh, Director of Evidence at the UK Environment Agency, who addressed the role of science and research in underpinning environmental policies.

A series of parallel sessions examined key environmental issues within the framework of sustainable future development under the following headings:

- Planning for a New Ireland
- Protecting our Natural Resources
- Emerging Environment and Health Issues
- Advances in Water and Wastewater Management
- Research Supporting Better Regulation
- Greening Irish Enterprise

Conference presentations are available to view at <http://erc.epa.ie/safer/iso19115/display?isoID=179#files>

EPA Public Lecture – Ireland's Sustainable Future

Organised as a partner event to the national research conference, this public lecture was held in the Mansion House, Dublin on 22nd June. An audience of almost 200 was addressed by Prof. Frank Convery (COMHAR Sustainable Development Council) and Prof. John Fitzgerald (ESRI) on how a pro-active approach on the environment will help to deliver a sustainable future in Ireland. Videos of the lectures are available to watch at www.epa.ie/downloads/videos/sustfut/

Green chemistry - an exciting challenge

On 15th April, the All Ireland Group of the Society of Chemical Industry organised its first event *Green Chemistry in Ireland* at Dublin City University (DCU).

The aim of the event was to introduce a forum for Green Chemistry projects funded by the EPA, where Green Chemists in academia could exchange perspectives with their counterparts in industry and government agencies. Many of the EPA projects were presented by the students themselves, providing them with an invaluable opportunity to enhance their scientific communication skills as part of their postgraduate education. During the conference, speakers from the USA, Germany and Ireland showcased green initiatives in global pharmaceutical and chemical companies, such as Henkel and Lilly.

Dr Nick Gathergood from DCU opened proceedings, and welcomed delegates from all across Europe. EPA project talks covered a broad scope from organocatalysis, microphotochemistry, long-term deployment of sensor monitoring systems, upcycling of post consumer polyethylene to a biodegradable plastic and stress induced molecular and ecological changes in soil autotrophs: carbon capture and novel compound prospecting. A common theme was the close partnership with



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EPA STRIVE News

The Science, Technology, Research and Innovation for the Environment (STRIVE) programme

industry in Ireland. By working with industrial leaders such as Henkel and to reduce the use of hazardous chemicals and replace them with 'greener' and cost effective chemicals, the research targets win-win benefits for both environmental protection and the bottom line.

In closing remarks, Lisa Sheils of the EPA noted challenges ahead, particularly with regard to REACH, but highlighted that the conference had demonstrated that high quality research is underway to develop products and processes that can achieve major environmental and economic savings.

CGPP Network Workshop

On May 19th, over 30 participants Phase 4 of the Cleaner Greener Production Programme, came together in Tullamore for a network workshop to share research, ideas and products into new cleaner greener business practices which reduce costs, protect the environment and improve the bottom line.

INTERNATIONAL CONTEXT

Framework Programme 7

Open Calls

A number of FP7 calls were published on the 20th July 2010 across a range of areas of relevance to environmental researchers including Nanotechnologies, Transport, Energy-efficient Buildings and Eco-Innovation. The technical description of the Environment topics for each call listed above is included

in the Work Programme of the main FP7 2011 Environment Call and each call has specific annexes (Guide for Applicants) in addition to the common FP7 Guides for Applicants.

Full details of these calls are available from www.fp7ireland.ie or e-mail queries to fp7@epa.ie

Catalogue of Irish expertise in environmental research

The Catalogue of Irish Expertise in Environmental Research is an online tool to support researchers and enterprises in finding appropriate partners for FP7 activities. The catalogue contains a large database of potential partners which can be searched by keywords, names etc. There are now 158 profiles in the Catalogue providing details of the skills and experience of people and organisations interested in participating in FP7.

SKEP Network

The EPA is involved in the SKEP network of Environmental Regulators that support research. In recent months, the network published reports from a group of jointly funded projects looking at links from science to policy. The projects looked at the lessons learned in the communication of scientific issues to environmental policymakers and at evaluating the impact of environmental research on policy. These reports are available to download at www.skep-network.eu/Home/Research/Search.aspx.

RESEARCH RESOURCES

EPA Research News on Twitter:

Updates and announcements from the EPA research programme are available through the EPA Research News Twitter site. Follow us on twitter.com/EPAResearchNews

Web Resources

The following websites provide additional resources of interest for researchers:

EPA Research Publications:

www.epa.ie/downloads/pubs/research/

ERC Environmental Research Data Archive website:

<http://erc.epa.ie/safer/>

National Soil Database Archive website:

<http://erc.epa.ie/nsdb/>

Cleaner Greener Production Programme website:

www.cleanerproduction.ie

FP7 website: www.fp7ireland.com

Online Catalogue of Irish Expertise in Environmental Research:

www.epa.ie/researchandeducation/research/funding/fp7/catalogueofirishexpertise/

SKEP website: www.skep-network.eu/

ERA-ENVHealth website:

www.era-envhealth.eu/



CLIMATE CHANGE RESEARCH PROGRAMME



EPA CLIMATE CHANGE RESEARCH CONFERENCE

The EPA Climate Change Research Conference was held in the new Aviva Stadium at Lansdowne Road on June 30th. Almost 300 people attended the conference which was opened by Mr. Ciarán Cuffe, T.D., Minister of State for Planning, Sustainable Transport and Horticulture.

The conference explored a number of key issues including:

- The challenges presented by climate change for Ireland.
- Developments in the climate science and policy arenas.
- The target of keeping the global temperature increase to below two degrees Celcius.
- A major financial package for developing countries to assist them with adaptation and mitigation actions.
- Opportunities for enterprises.



Philip O'Brien and Margaret Desmond of the EPA show Minister Ciarán Cuffe some of the research posters on display at the conference

Conference speakers included Dr Lisa Ryan of the International Energy Agency; Dr Andrea Pinna of the European Investment Bank (EIB); Dr. Olive Heffernan of Nature Magazine and Prof. Ray Bates, Climate Adviser Office of Chief Scientist.

There was also a comprehensive poster session where researchers had the opportunity to view research work being carried out by other academics.

The conference concluded with a tour of the new stadium, highlighting its sustainable design principles. Presentations from the conference can be viewed on the EPA SlideShare site at www.slideshare.net/EPAIreland.



CLIMATE CHANGE RESEARCH PROGRAMME



Carbon Capture and Storage report

A recent research report from the EPA, which examined the potential of carbon capture and storage in Ireland, shows that the geology of West Clare is unsuitable for long term carbon storage, a key technology in the fight against climate change.

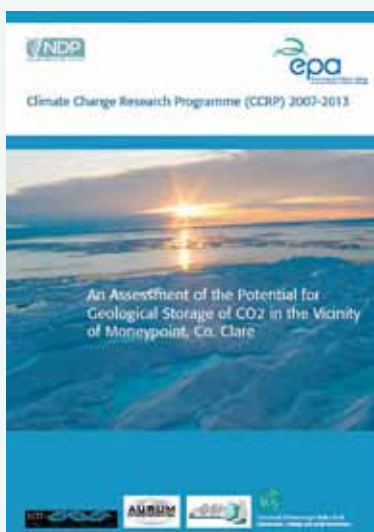
The study, *An assessment of the Potential for Geological Storage of CO₂ in the Vicinity of Moneypoint, Co. Clare*, was funded under the EPA Climate Change Research Programme - with support from the Geological Survey of Ireland.

Carbon dioxide is the most important long-life greenhouse gas implicated in driving climate change. Carbon Capture and Storage (CCS) is widely regarded as being essential if fossil fuels, such as coal and peat, are to be used for future large scale energy production. At European level this technology is already in use, with provision for funding further projects being provided within the EU emission trading scheme.

The costs of CCS increase when the carbon dioxide has to be transported long distances from the generation source to a long term storage location. This research study was targeted at the West Clare region, the location of the Moneypoint power station, one of the largest carbon dioxide emission sources in Ireland.

The study, which involved advanced re-analysis of existing geological data and new drilling investigations in the region, found that the complexity and characteristics of the rocks which underlie West Clare are unsuitable for storing carbon dioxide. The porosity and permeability of the rock would not support such a use, the space available within the rock for carbon dioxide storage is limited and the effort needed to inject carbon dioxide into that space would be prohibitive.

The project findings also have implications for earlier assessments of the potential storage capacity around Ireland, as they suggest that this may be less than originally considered. However further extensive geological studies will be required to confirm this.



The project was funded under the EPA Climate Change Research Programme. It was led by the EPA and GSI and involved SEAI, DCENR, DEHLG and the ESB.

The report is available on the EPA website at www.epa.ie/downloads/pubs/research/climate/.



EPA helps develop network of prevention experts

On 3 June, 2010 the EPA hosted a national conference showcasing waste prevention and resource efficiency programmes being carried out by local authorities as part of the National Waste Prevention Programme. The conference also highlighted the programme's importance in the context of Irish and International waste management policy.

Over the last 4 years, the EPA has funded 17 local authorities working in the Local Authority Prevention Programme. The objectives of the programme are to build capacity in local authorities for the promotion of resource efficiency and waste prevention at a local level, for the benefit of their localities. The conference provided plenty of opportunity for discussion and time to visit the exhibition area, featuring results and case studies from all the participants in the Programme.

Delegates at the conference were told that, based on experience, the key to success is having people with local expertise driving waste prevention at a grassroots level. The EPA's aim is to help to develop a network of prevention experts in Ireland's local authorities that have the expertise and motivation to work with businesses, public organisations and communities, to reduce the volume of waste generated for disposal and for recycling.

The conference heard how local authorities have been successfully demonstrating resource efficiency techniques and the associated savings opportunities, in relation to waste, water and energy, working with local businesses and other organisations, including their own local authority facilities. The programme has successfully demonstrated savings opportunities, techniques and some highlights from the programme so far include:

- More than 2,300 tonnes waste prevented or diverted;
- Over 37,500 m³ water consumption reduced;
- 1,530,000 kWh energy savings;
- €873,000 direct cost savings;
- 1,100 people trained (26 have completed the HETAC Accredited Waste Prevention Course);
- 85 different premises involved in prevention;
- 295 audits conducted.

Projects include waste prevention and resource efficiency in a wide range of sectors including community, commercial and business organisations - such as shopping centres, a regional airport, hospitals, construction, farms, a university, public organisations, pubs and schools.

Best practice case studies and prevention know-how are available for dissemination and implementation throughout the country. A number of guidance booklets aimed at certain sectors are available to download from the EPA website at www.epa.ie or www.lapn.ie, including:

- *Farming the Environment* prevention guide;
- *e-Guide on 7 steps to waste prevention*, including 5 sector specific guides:
 - e-Guide to Effective Construction Waste Management
 - e-Guide to reducing office paper consumption
 - e-Guide to Effective management of shopping centre waste
 - e-Guide to developing an environmental action plan for a regional airport
 - e-Guide to waste prevention in apartment complexes
- *Calling Time on Waste - a prevention guide for publicans*;
- *A guide to improving environmental performance in business*;

Delegates were told that, with the financial difficulties now being faced by Irish businesses, public sector organisations and households generally, the time is ripe for the promotion of resource efficient methods of conducting business and personal activities. The conference provided an opportunity to hear how local authorities are working to encourage these organisations to reduce their consumption of materials, water and energy and to make sure that they are getting the best value from the resources they do use. Promises of potential cost savings from no-cost or low-cost resource efficiency or waste prevention measures need to be clearly demonstrated with case studies from peer organisations before they will be more widely adopted.



Speakers at the conference included Phillipa King (Limerick-Clare-Kerry Regional Waste Management Office), Ray O'Dwyer (Waterford County Council), Laura Burke (EPA Director), Professor John Fitzgerald, (ESRI), Katrijn Siebens (OVAM, Flanders, Belgium) and Dermot Cunningham (Clean Technology Centre, Cork)

The conference also addressed the policy relevance of resource efficiency and waste prevention, in particular the challenges arising out of the implementation of the waste prevention requirements in the new EU Waste Framework Directive. Waste Prevention is to be preferred to any waste management option - do not generate the waste. By not generating waste, we can eliminate the need to handle, transport, treat and dispose of waste. We can also avoid having to pay for these services. The aim is to deliver substantive results on waste prevention and minimisation and integrate a range of initiatives addressing awareness-raising, technical and financial assistance, training and incentive mechanisms.

Videos of the presentations from the day can be viewed on the EPA website. A summary booklet detailing demonstrated successes and further information on the Local Authority Prevention Programme are available on the EPA website at www.lapn.ie and also at www.localprevention.ie.

The programme is one of a whole family of National Waste Prevention Programme projects including Green Business, Green Hospitality Award, Green Healthcare, Packaging Prevention and Green Home.

Estimation of flow for ungauged catchments

River flow data is essential in order to provide information for the assessment, development and management of water resources and the water-related environment. Whilst Ireland has an extensive hydrometric programme, with approximately 850 gauges, it is impractical to monitor every waterbody. Consequently, there was a need to develop a method to predict flow characteristics for catchments where flow for ungauged catchments - that is, those not directly monitored.

A procedure called "Region of Influence" has been applied to the estimation of river flows in ungauged catchments in Ireland. The method is based on the similarity of the catchment characteristics of sites where flow is monitored, to those of an unmonitored site and has been prepared by the EPA in conjunction with the ESBI and Compass Informatics - as a web-based GIS application. The application can be accessed at <http://193.1.208.39/HydroTool>

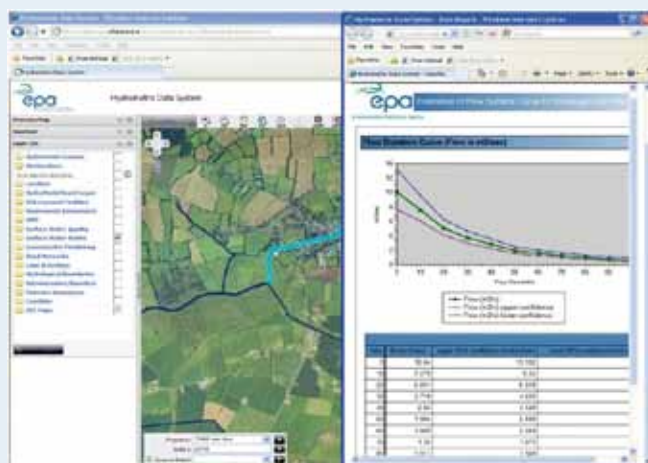
A summary of the flow regime of a catchment in the form of a flow duration curve (FDC) was prepared from 145 hydrometric gauging stations (Local Authority/EPA and OPW hydrometric stations) together with their catchment characteristics. These stations were chosen as they were representative of a wide range of catchment types throughout the country. The FDC summarises the flow regime of a river as a graphical plot of flow against the percentage of time that flow is exceeded.

This application allows the user to select a target site of interest on a river, and to identify the catchment boundary and characteristics such as catchment area, rainfall, stream length, drainage density and slope (the average surface topographic slope across the catchment).

The database of catchment characteristics from the 145 master set of hydrometric gauging stations is queried, and three representative stations are chosen from this master set, whose catchment characteristics are 'closest' to the target site characteristics. The average FDC of this group of three catchments is then calculated and applied to the ungauged catchment area. A seven page report is generated that provides the user with catchment maps, catchment descriptors and the estimated flow duration curve for the target site.

The application is unsuitable for use in catchments that contain a high proportion of conduit karst, limestone geology, lakes, upstream abstractions and regulation of the river flow by dams or sluices, because it is impossible to predict the flow characteristics in such catchments.

This methodology has been applied in studies of abstractions and emissions throughout Ireland for the 2010 River Basin Management Plans.



Screen shot of the Flow Duration Curve Estimation Web Based Application

Waste Water Discharge Licences Issued from 1 April to 31 July 2010

Carlow County Council

Myshall	D0390-01
Palatine	D0391-01

Cavan County Council

Cavan	D0020-01
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Clare County Council

Lisdoonvarna	D0077-01
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Cork County Council Northern Division

Mitchelstown	D0202-01
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Cork County Council Southern Division

Cobh	D0054-01
Ringaskiddy	D0057-01
Passage/Monkstown	D0129-01
Ringaskiddy Village	D0436-01

Cork County Council Western Division

Baltimore	D0296-01
Schull	D0295-01

Donegal County Council

Cardonagh/Malin	D0113-01
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Dublin City Council

Ringsend	D0034-01
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Galway City Council

Galway	D0050-01
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Leitrim County Council

Ballinamore	D0281-01
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Limerick County Council

Croom	D0307-01
Bruree	D0506-01
Adare	D0312-01

Meath County Council

Kells	D0127-01
Athboy	D0124-01

Offaly County Council

Edenderry	D0110-01
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Roscommon County Council

Strokestown	D0228-01
Boyle	D0121-01

Sligo County Council

Ballysadare	D0095-01
Enniscrone	D0102-01

South Tipperary County Council

Ballyclerihan	D0455-01
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Waterford County Council

Ardmore	D0162-01
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Westmeath County Council

Moate	D0097-01
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Wicklow County Council

Bray	D0005-01
Ballinaclash	D0412-01

Communities Awarded for their Efforts in Greening their Homes

An Taisce, in partnership with the EPA, recently awarded 37 *Green Home* flags to communities who completed the *Green Home* programme. The awards ceremony took place in Croke Park to celebrate the participants' success, and acknowledged the efforts of householders to improve environmental actions within the home.

The aim of the *Green Home* programme is to raise environmental awareness and support positive and sustainable environmental actions amongst householders and community groups. Great strides have been made by An Taisce in developing and rolling out the *Green Home* programme which provides every citizen in Ireland with the information they need to play their part in living in a more sustainable way. This in turn will provide a sound foundation for the development of a greener, smarter economy for Ireland.

The programme focuses on:

- waste reduction;
- energy efficiency in the home;
- water conservation and
- the promotion of sustainable travel.

The *Green Home* programme, which builds on the very successful *Green Schools* programme, commenced in November 2006. To date, almost 10,000 families in 65 different communities throughout Ireland have been given the opportunity to participate.

The *Green Home* programme aims to support and advise householders on ways to reduce their impact on the environment, while saving money on household bills. It was also piloted with a number of community groups in Roscommon in 2009 who found the programme helped unite the community - who worked together towards a common purpose of being more environmentally responsible and built further on their strong sense of community.

Continuous monitoring of the programme through the use of surveys has shown a positive shift in environmental behaviour



Representatives from St. Mel's National School Longford receive their green flag

amongst participating householders. Participants are surveyed at the beginning of the programme and again on completion of the programme. The purpose of the survey is to measure and analyse any change in their environmental behaviour and attitudes on completion of the programme. The results are very encouraging:

Energy Efficiency: Householder energy use has been reduced from between 10% to 25%, just by simple measures such as turning the lights off when leaving the room or by unplugging appliances. This measure alone can save households up to 10% in their average electricity bill.

Waste reduction: Householders are preventing waste generation by adopting clever shopping habits such as avoiding over packaged goods. The survey results indicate a 10% to 40% increase in home composting.

Water conservation: The *Green Home* 'Water Wise' challenge helped participants to find out ways to conserve and preserve water as a most precious resource.

Sustainable travel: The *Green Home* 'Travel Green from home to school' challenge helped to raise awareness about the social, economic and environmental benefits of more sustainable transport options. Participants took part in a number of initiatives including car pooling, using public transport and walking and cycling family activities.

For further information, or to join the *Green Home* programme, visit www.greenhome.ie or contact the Green Home Team by calling 01 4002218 or email dstewart@eeu.antaisce.org.

Green Flags awarded:

Athlone

- Clonown N.S.

Dublin

- Our Lady of Victories Boys N.S.
- Scoil Aine
- St. Clare's Primary School
- St. Joseph's Boys N.S.
- Scoil Maelruain Senior School

Galway

- Inishbofin N.S.
- Letterfrack N.S.
- St. Brendan's N.S.
- St. Caillins N.S.

Kildare

- Scoil an Linbh Iosa
- Scoil Bhride Naofa

Laois

- S.N. Barr na Sruthan

Longford

- St. Mel's National School
- Tashinny N.S.

Offaly

- S.N. Phadraig
- St. Ciaran's N.S.

Roscommon

- Ballybay Central N.S.
- Camcloon N.S.
- Abbey Boys N.S.
- Cloontuskert N.S.
- Monsignor McCarthy N.S.
- St. Mary's Primary School

Tipperary

- Carrig N.S.
- St. Joseph's Primary School

Waterford

- Whitechurch N.S.
- Aglish N.S.

Wexford

- Mercy Convent School
- Kennedy Park National School

Wicklow

- Delgany National School
- St. Laurence's N.S.
- Carysfort N.S.
- Kilcommon N.S.
- Scoil Naofa Padraig
- St. Joseph's N.S.
- St. Brigid's N.S.

EPA launches 24 hour pilot phonenumber for environmental complaints 1850 365 121

Since June 2010, the Environmental Protection Agency, in cooperation with four local authorities (Dublin City, Cork City, South Tipperary & Donegal), has been running a pilot environmental complaints telephone service designed to make it easier for the public to report such complaints. The pilot line will run in these areas until the end of November 2010.

By calling the 24 hour lo-call telephone number **1850 365 121**, residents of these four local authority areas can report environmental complaints, upon which the local authority, the Gardaí or the EPA will follow up on the information, as appropriate.

During 2009, local authorities in Ireland investigated approximately 60,000 environmental complaints. Approximately 1/6 of these complaints were investigated by the local authorities involved in this pilot. The majority of these complaints relate to waste and litter— however a significant proportion relate to water pollution, noise and other issues (air/odour). This pilot line will now be in a position to accept all of these types of complaints for the four local authority areas participating in the pilot.

Almost 40% of calls received are received outside office hours. The line ensures that there is a person available to take such calls at all times, no matter what time of the day or night. The service will complement current local authority environmental complaint handling procedures.

Since the launch there has been a significant increase in the number of calls for some local authorities, such as Dublin City who noted a five-fold increase in the number of calls on the six week period prior to the launch. The majority of these calls related to waste issues, whilst others related to water, noise and air issues (now included in the scope of the line for the four pilot local authorities). This pilot line is the latest initiative

by the Environmental Enforcement Network which includes the EPA, all local authorities, the Gardaí and the Department of the Environment, Heritage and Local Government.

The system works as follows:

- Calls are answered by a person, round the clock and seven days a week.
- The operators record details of the complaint and pass them on to the coordinator, who forwards them to the appropriate investigating authority.
- During normal business hours (9am-5pm) urgent complaints and information are passed directly to either the relevant local authority, the Gardaí or the EPA. All other complaints are forwarded to the local authority/EPA the following day.
- Outside normal business hours, non-urgent complaints are logged and forwarded to the local authority or the EPA the following working day (or the following Monday).
- Complaints of an urgent nature reported out of hours are reported, through the coordinator, to the Gardaí, the relevant local authority or the EPA, as appropriate.

It is possible to provide information on a confidential basis. However, callers are encouraged to provide their contact details so that the authorities can, if necessary, follow-up with them in relation to the information supplied to assist them with any investigations.

An example of advertising for the Environmental Complaints Line

The line leads on from the successful development of the “*Dump the Dumpers*” line which is designed to encourage reporting of illegal dumping of waste via the same 24-hour lo-call telephone number. The “*Dump the Dumpers*” line operates in all local authority areas and has been in full operation for over three years. While the “*Dump the Dumpers*” line is specifically focussed on illegal waste issues, the current pilot environmental complaints line is not limited to waste issues. Any environmental issue can be reported through this line in the four participating local authority areas during the six month pilot period.

The pilot line also complements the “*See something? Say something!*” environmental complaints campaign which serves to

explain who you should contact and what you can do to help resolve environmental problems (see www.epa.ie).

It is important to remember that members of the public can also contact the local authorities directly with their complaints. However, the new pilot line ensures that - whatever the time of day or night - the caller will reach a person who can take the details of their complaint and pass it on to the relevant people for investigation.

SEE SOMETHING? SAY SOMETHING!

epa Environmental Protection Agency
an independent authority established by the Government of Ireland

Dublin City
Bairé Atha Cliath

If you are out and about and you see an environmental problem like pollution in a river or backyard burning of waste phone the number below and help keep Dublin clean & green.

Please phone the 24 hour National Complaint Line on LoCall:

1850 365 121

Alternatively you may contact your local authority directly as follows:
Dublin City Council
 Customerservices@dublincity.ie Tel: 01 2222222

Prosecutions from 28th February to 31st July 2010

The EPA brought six cases before the District Courts in the period 28 February to 31 July 2010. Two prosecutions were taken under the Waste Management (Waste Electrical and Electronic Equipment) (WEEE) Regulations 2005, as amended; two cases were taken under the Waste Management Acts, as amended and two cases were brought under the Environmental Protection Agency Acts, as amended.

EPA Prosecutes Quipman Ireland Limited

On 8th March 2010 Quipman Ireland Limited, Unit 8, Westlink Business Park, Old Mallow Road, Cork, was prosecuted by the EPA in relation to six offences under the Waste Management (Waste Electrical and Electronic Equipment) (WEEE) Regulations 2005, as amended.

At Cork District Court Judge Leo Malone heard the case and the company admitted breaching the Regulations by:

- Placing electrical and electronic equipment on the market at a time when the company was not registered as a producer of such equipment.
- Failing to apply to the producer registration body for registration or renewal of registration.
- Failing to declare the quantities, by weight or number of units, of electrical and electronic equipment placed on the market.

Fines totalling €1,500 were imposed for three offences, with the three other offences taken into consideration. Costs totalling €3,500 were awarded to the EPA.

EPA Prosecutes Wallace Recycling Limited

On the 11th March 2010 at Mullingar District Court, Wallace Recycling Limited pleaded guilty to three charges brought by the EPA in relation to offences under the Waste Management Acts 1996 to 2008 for breaches of its Waste Licence (Reg. No. W0197-01).

The Company admitted breaching conditions of its Licence by:

Charge 1

(occurred on the 5th November 2008):

- (i) Failing to maintain records of all nuisance inspections.
- (ii) Failing to install and provide adequate measures for the control of odour and dust emissions.
- (iii) Failing to install an odour management system.
- (iv) Failing to clean the floor of the waste transfer building on a daily basis.
- (v) Carrying on waste processing outside the waste transfer building.
- (vi) Storing waste in an area other than a designated area protected against spillage and leachate run off.
- (vii) Failing to maintain records.

Charge 2

(occurred on the 22nd January 2009):

- (i) Failing to maintain records of all nuisance inspections.
- (ii) Carrying on waste processing outside the waste transfer building.
- (iii) Failing to maintain records.
- (iv) Failing to provide and maintain an impermeable concrete surface in all areas of the facility.

Charge 3 (occurred on the 6th March 2009):

- (i) Failing to maintain records of all nuisance inspections.
- (ii) Carrying on waste processing outside the waste transfer building.
- (iii) Failing to maintain records.
- (iv) Failing to provide and maintain an impermeable concrete surface in all areas of the facility.

On hearing details of the offences from an EPA Inspector, Judge John Neilan imposed fines of €3,000 and awarded EPA costs of €2,516.

This prosecution was taken following an audit and two site inspections carried out by inspectors from the EPA's Office of Environmental Enforcement.

EPA Prosecutes William Reynolds & Sons Limited

On 19th April 2010 William Reynolds & Sons Limited, Meetinghouse Street, Raphoe, Co Donegal, was prosecuted by the EPA in relation to three offences under the Waste Management (Waste Electrical and Electronic Equipment) (WEEE) Regulations 2005, as amended.

The Defendant was accused of:

- Placing electrical and electronic equipment on the market at a time when the company was not registered as a producer of such equipment.
- Failing to apply to the producer registration body for registration or renewal of registration.
- Failing to declare the quantities, by weight or number of units, of electrical and electronic equipment placed on the market.

At Letterkenny District Court, Judge Seamus Hughes heard details of the offences and imposed fines totalling €450 for the three offences. Costs totalling €3,000 were awarded to the EPA.

EPA Prosecutes AIBP Limited t/a AIBP Waterford

On the 7th May 2010 at Waterford District Court, AIBP Limited t/a AIBP Waterford pleaded guilty to three charges brought by the EPA in relation to offences under the Environmental Protection Agency Acts 1992 and 2007 for breaches of its IPPC Licence (Reg. No. PO205-01).

The Company admitted breaching conditions of its Licence by:

- Failing to notify the Agency as soon as practicable of the occurrence of an emission on the 16th March 2009, which had the potential for environmental contamination of surface water or ground water and posed an environmental threat to air and land.
- Permitting emissions to water which were of environmental significance and were not specified emissions.
- Failing to have records of an incident that occurred on 16th March 2009 available for inspection by the Agency.

On hearing details of the offences, Judge Kennedy imposed fines of €1,000 on each of the first two charges and took the third charge into consideration. EPA costs of €5,923 were also awarded.

This prosecution was taken following a number of site inspections carried out by inspectors from the EPA's Office of Environmental Enforcement.

EPA Prosecutes Greenstar Holdings Limited

On 9th June 2010 at Navan District Court, the EPA took a prosecution against Greenstar Holdings Limited for offences under the Waste Management Acts 1996 to 2010 for breaches of its Waste Licence (Reg. No. W0146-01).

Greenstar Holdings Limited admitted breaching conditions of its Licence by failing to ensure that the activities on the site were carried out in a manner such that emissions did not result in significant impairment of, or significant interference with, the environment beyond the facility boundary.

On hearing details of the offences, Judge Fitzpatrick imposed a fine of €500 and awarded EPA costs of €13,747.50.

This prosecution was taken following a number of site inspections carried out by inspectors from the Office of Environmental Enforcement.

EPA Prosecutes Mr. Padraig Kiernan

On the 28th June 2010 at Edenderry District Court, Mr. Padraig Kiernan pleaded guilty to a charge brought by the EPA in relation to an offence under the Environmental Protection Agency Act 1992 and 2003 (as amended) for breaches of his IPPC Licence (Reg. No. PO681-01).

Mr. Padraig Kiernan pleaded guilty to failing to carry out and submit to the Agency an Energy Audit as required by a condition of his IPPC Licence.

On hearing details of the offence, Judge Clyne imposed no fine and awarded EPA costs of €2,488.25. As costs were paid on the day Judge Clyne struck out the charge.

This prosecution was taken following a site inspection carried out by inspectors from the Office of Environmental Enforcement on 24th July 2009.

Splash - online bathing water quality information on your local bathing area

Throughout the summer, the EPA online bathing water quality website "*Splash*" (www.bathingwater.ie) provides the public with the latest bathing water quality results, as provided by the local authorities, for the 131 designated bathing areas around Ireland.



Anyone setting out for the beach can now check out the latest water quality status of their favourite bathing spot by logging on to *Splash*. This user friendly website also provides a description of the beach, aerial and ordinary photography, details of blue flag status and lifeguard availability, as well as current weather and tidal information.

In addition, the *Splash* website also provides information on the water quality status of the 131 designated bathing areas for the 2009 bathing season, and their compliance history from 2003 onwards.

Splash allows the public and visitors to Ireland to make informed choices about where to bathe. Check out the *Splash* website for information about your local bathing area at www.bathingwater.ie.

The Quality of Ireland's Bathing Waters

The quality of Ireland's bathing waters in 2009 remained high, with 93% of designated bathing areas meeting the minimum EU mandatory standards and achieving sufficient water quality status. The proportion of bathing areas of sufficient water quality remained unchanged compared to the previous season. In addition, 82% of bathing areas met the higher guideline standards and achieved good water quality status, a 4% increase compared to the previous bathing season.

A total of 131 designated bathing areas, comprising 122 seawater and 9 freshwater, were monitored throughout the 2009 bathing season. The results of samples analysed were assessed for compliance with two sets of EU standards:

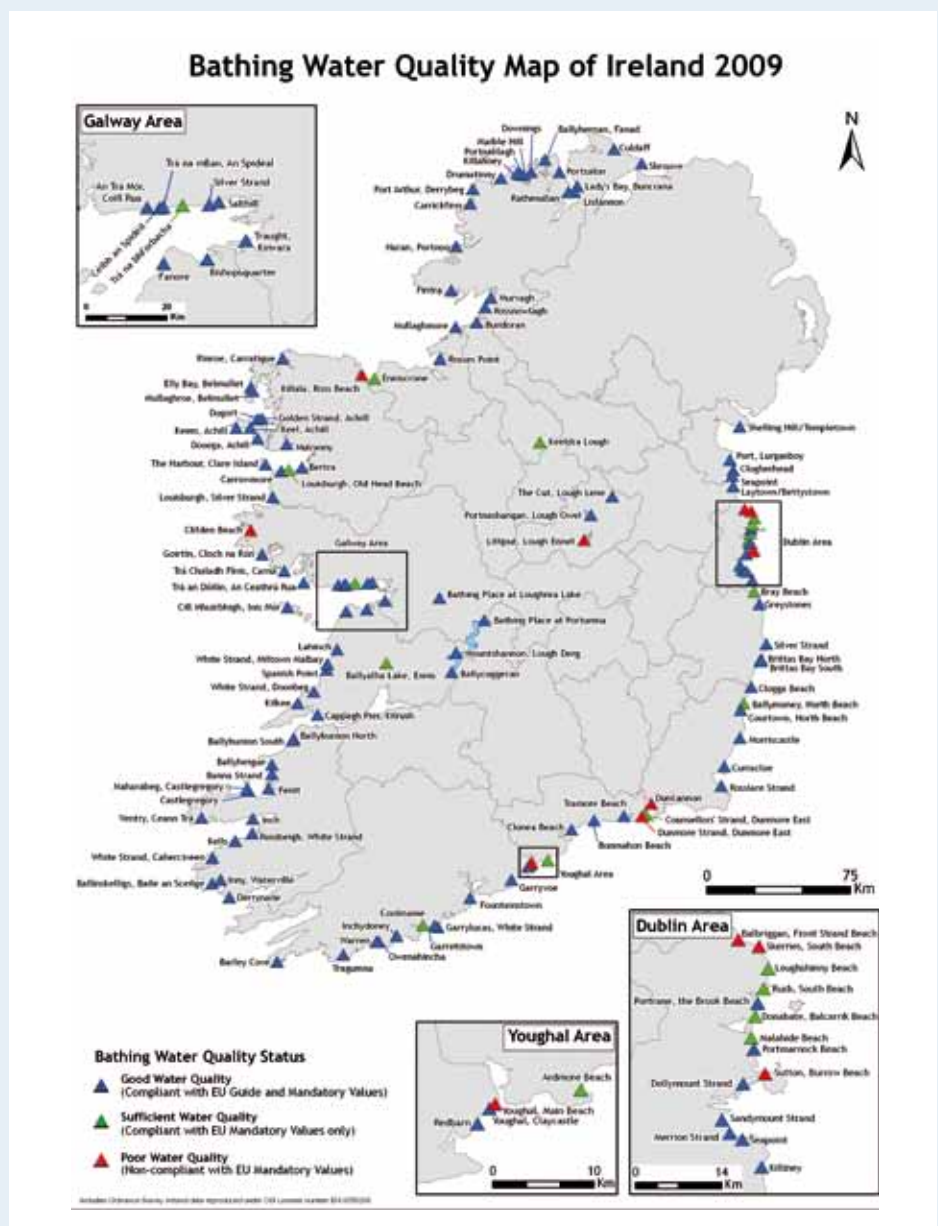
1. the minimum EU mandatory values and
2. the stricter EU guide values.

The bathing areas are classified as follows:

- Compliant with guide and mandatory values achieves **good** water quality status.
- Compliant with mandatory values only achieves **sufficient** water quality status.
- Non compliant with mandatory values results in **poor** water quality status.

The key findings from the EPA's summary report *The Quality of Bathing Water in Ireland – An Overview for the Year 2009* show:

- 122 of the 131 designated bathing areas (93%) complied with the mandatory standards and thus achieved at least **sufficient** water quality status.
- 108 of the 131 (82%) bathing areas complied with the much stricter EU guideline standards and thus achieved **good** water status.
- 9 of the 131 bathing areas (7%) failed to comply with the minimum mandatory standards and were classified as having **poor** quality status. These bathing areas were: Balbriggan Front Strand, Skerries South Beach, Sutton Burrow Beach (Dublin Fingal); Clifden Beach (Galway); Dunmore Strand Dunmore East (Waterford); Duncannon (Wexford); Killall Ross Beach (Mayo); Youghal Main Beach (Cork) and Lilliput, Lough Ennel (Westmeath).



- Seven local authorities achieved good water status at all their bathing areas. These were: Donegal, Dun Laoghaire/Rathdown, Kerry, Louth and Meath County Councils, and Dublin and Galway City Councils.
- The water quality status of 27 bathing areas changed between 2008 and 2009, with improvements in water quality at 17 bathing areas and deteriorations in water quality at ten bathing areas.

While the overall level of bathing water quality remains acceptable, a small number of bathing areas are consistently classified as

poor. Adequate measures, including the provision of appropriate waste water treatment facilities, are required if these bathing areas are to comply with EU standards. Furthermore, given the higher rainfall in recent summers, measures need to be taken to minimise its effects on bathing waters.

The EPA's summary report *The Quality of Bathing Water in Ireland – An Overview for the Year 2009*, along with a map of the quality of Ireland's bathing waters, are available on the EPA website at www.epa.ie/downloads/pubs/water/bathing/.

IPPC Licences issued from 1 April to 31 July 2010

Food and Drink:

Bailieboro Foods Limited and Bailie Foods Limited
Lear, Baileborough,
Co Cavan
P0406-3

Western Brand Group Limited
Knock Road, Ballyhaunis,
Co Mayo
P0831-01

Ballon Meats Limited
Raheen, Ballon,
Co Carlow
P0846-01

Intensive Agriculture:

Future Pigs Limited
Gorteen Lower, Nurney,
Co Kildare
P0420-02

Knockhall Farms
Knockhall, Rooskey,
Co Roscommon
P0705-02

Mr. Sean Brady
Hyde Park Pig Farm,
Oldtown, Hyde Park, Killucan,
Co Westmeath
P0874-01

Mr. Laurence Denn
Affane, Cappoquin,
Co Waterford
P0894-01

Mr. Mark O'Connor
Kilclogher, Cappagh,
Co Waterford
P0895-01

Mr. Liam O'Connell
Killathy, Ballyhooly, Mallow,
Co Cork
P0896-01

Michael O'Connor
Glenbeg, Dungarvan,
Co Waterford
P0897-01

Mr. John O'Connor
Carrigeen, Cappoquin,
Co Waterford
P0906-01

P.J. Veale Jnr.
Cluttahinna, Cappoquin,
Co Waterford
P0907-01

Mr. Michael Meehan
Rossarell and Donagh
Glaslough,
Co Monaghan
P0909-01

Mrs. Bernice Renaghan
Shanemullagh, Clontibret,
Co Monaghan
P0910-01

Mr. Eugene Lannon (Bernies Farm)
Bekan (Bernies Farm),
Ballyhaunis, Co Mayo
P0911-01

Mr. Eugene Lannon (Hunts Farm)
Bekan, Ballyhaunis,
Co Mayo
P0912-01

Surface Coatings:

Johnson & Johnson Vision Care (Ireland) Limited, trading as Viskaton Ireland
National Technology Park,
Plassey, Limerick
P0818-02

Metals:

Honeywell International Technologies Limited
Ballinasagh,
Waterford Industrial Estate
Cork Road,
Waterford
P0525-03

GMO Consents Issued from 1 April 2010 to 31 July 2010

Professor Michael Keane
Animal Research Facility
Conway Institute of Biomolecular & Biomedical Sciences
University College Dublin
Belfield, Dublin 4
G0350-01

Dr. Andre Toulouse
Biosciences Institute
University College Cork
College Road, Cork
G0352-01

Cell Biology Laboratory
Biosciences Institute
University College Cork
G0354-01

Department of Biochemistry
Biosciences Institute
University College Cork
G0355-01

Dr. Robert Ryan
Biomerit Research Centre
Department of Microbiology
BioSciences Institute
University College Cork
G0356-01

Dr. Max Dow
Biomerit Research Centre
Department of Microbiology
BioSciences Institute
University College Cork
G0357-01

School of Biomolecular & Biomedical Science
University College Dublin
Conway Institute, Belfield, Dublin 4
G0358-01

Charles River Laboratories
Carrentila, Ballina, Co. Mayo
G0359-01

Dr Peter Crowley
School of Chemistry
National University of Ireland Galway
G0360-01

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GMO Consents Issued from 1 April 2010 to 31 July 2010

Prof Mani Ramaswami
Institute of Neuroscience
Lloyd Building, Trinity College
G0361-01

Prof Kingston Mills
School of Biochemistry & Immunology
Trinity College
G0363-01

School of Biochemistry & Immunology
Trinity College
G0364-01

Biochemistry Department
Biosciences Institute, University College Cork
G0365-01

Centre for the Research in Vascular Biology
University College Cork
G0366-01

Dr. Kieran Meade
Molecular Biology Laboratory
Animal Bioscience Dept
Teagasc Grange, Dunsany, Co. Meath
G0367-01

Institute of Neuroscience
Lloyd Building, Trinity College
G0368-01

Dr. Marion Butler
Cell Signalling Laboratory
Institute of Immunology
Department of Biology
Biosciences Building, NUI Maynooth
G0369-01

Dr. Steve Kerrigan
Cardiovascular Infection Group
Molecular & Cellular Therapeutics
Royal College of Surgeons in Ireland
Dublin 2
G0370-01

Dr. Leonie Young
Tissue Culture Lab
Dept of Surgery, York House,
123 St. Stephen's Green, Dublin 2
G0371-01

Dr. Karen Keeshan
Dept. Of Biochemistry
University College Cork
G0373-01

Dr. Sinead Waters
Molecular Biology Laboratory
Teagasc Grange, Dunsany, County Meath
G0374-01

Prof. Abhay Pandit
Dept. of Mechanical & Biomedical
Engineering
National University of Ireland Galway
G0381-01

EPA Advisory Committee



The members of the EPA Advisory Committee pictured (left to right) are: Cllr Brian Meaney; Ms. Evelyn Moorkens; Mr. Brendan Dunford; Dr Mary Kelly, EPA Director General; Mr. Brian Buckley; Ms. Eanna Ni Lamhna; Dr. Elizabeth Cullen; Mr. Vincent Cleary; Dr. Shirley Gallagher; Professor John Sweeney.

Missing from photo:
Professor Margaret O' Mahony and
Mr. David Ball

The Executive Board of the Environmental Protection Agency is assisted by an Advisory Committee of twelve members, nominated by prescribed organisations and appointed by the Minister for the Environment, Heritage and Local Government. The Director General of the EPA is, ex officio, a member and Chairperson of the Committee.

The Advisory Committee has a wide range of advisory functions under the EPA Act, including making recommendations to the EPA, or the Minister for the Environment, Heritage and Local Government, relating to the functions of the EPA. The EPA Advisory Committee is appointed for a three-year term and meets quarterly.

The first meeting of the 5th EPA Advisory Committee took place at EPA Headquarters, Wexford on Thursday 25th March 2010.

How Wexford Festival Opera is becoming green.

Wexford Festival Opera, in conjunction with the Environmental Protection Agency's National Waste Prevention Programme, have undertaken a project to create one of the first environmentally friendly festivals of its type in Ireland. The Festival has been a major event in Wexford for almost 60 years, bringing in over 100,000 visitors to the area. The aim of the project is to make the Festival, and the community supporting it, more sustainable.

A green programme has been developed involving businesses from all sectors - who supply goods and services to the Festival - striving to achieve a green accreditation, in the form of the Green Hospitality Eco-label or the Econcertive "Eco-cert". Both of these labels are EPA recognised environmental management programmes for small businesses. If the participant businesses can reduce water and energy use, and cut the amount of waste they produce, they will assist in reducing the environmental impact of the Wexford Festival Opera. Of course, these measures can save significant amounts of money for the businesses as well.

It is hoped that, through this project, Wexford can move towards becoming a 'green destination' and promote itself as being more sustainable for future visitors and businesses.

To date, more than 30 businesses around County Wexford have signed up to the green programme. A list of all members can be found by visiting www.wexfordopera.com/green.

It is well known locally that the success of the Wexford Festival Opera is due, in no small part, to the wonderful group of Volunteers involved. So, needless to say, they have also been asked to play their part, by participating in An Taisce's *Green Home* Programme.

This Programme will help the Volunteers to find out how they can make their homes greener by reducing water usage, waste generation and energy consumption, and also save money on their household bills.



Of course, visitors to Wexford, residents of Wexford, and employees of Wexford's green businesses are also invited to participate in the *Green Home* Programme. Joining is simple and most importantly it's **FREE**. Just log onto www.greenhome.ie and click 'Join In'. To help us monitor participation in Wexford we ask that you choose the 'Wexford Festival Opera' group when registering. For assistance feel free to contact Dorothy Stewart on 01-4002218 or dstewart@ecu.antaisce.org.

The participating businesses will be listed in a "Green Trail" flyer, and we invite visitors to support these businesses and make their own Opera Experience a more environmentally friendly one.

During the Festival don't forget to try some of the "Green Dishes" - which will be produced by project participants, utilising local, seasonal produce and designed to minimise waste.

Keep an eye on the website www.wexfordopera.com/green for more details on the Greening of the Wexford Festival Opera.



Photo by Paddy Donovan

The Water Framework Directive Management Plans

After ten years of preparatory work, the implementation of the Water Framework Directive (WFD) has reached a critical moment, with the publication of management plans to achieve the objectives of the directive.

These objectives are to:

- **Prevent** further deterioration of waterbodies and to **protect** "high status" where it exists.
- **Restore** the status of waterbodies with the aim of achieving good surface water status and good groundwater status by 2015*.
- **Prevent deterioration** in existing ecological, chemical and hydromorphological status.

(*There are provisions for less stringent and deferred objectives.)

Following public consultation by the local authorities in each River Basin District (RBD), seven management plans have been prepared - one for each River Basin District. The management plans were developed to:

- a) establish environmental objectives for all waterbodies and
- b) establish a programme of measures to achieve those objectives.



For the purpose of implementing the WFD the island of Ireland is considered as one region.

For management purposes the island has been divided into eight RBDs.

Four wholly in Ireland:

- Eastern RBD
- South Eastern RBD
- South Western RBD
- Western RBD

Three cross-border or International RBDs:

- North western IRBD
- Shannon IRBD
- Neagh Bann IRBD and one wholly in Northern Ireland
- North Eastern RBD

In 2004-2005 the EPA oversaw an exercise to establish the Characterisation of each RBD and carry out:

- an analysis of its characteristics;
- a review of the impact of human activity on the status of surface and groundwaters and
- An economic analysis of water use.

These data, particularly those arising from the review of the impact of human activity on water quality, were used to prepare a representative and risk-based WFD monitoring programme, which the EPA published in 2006. This programme selected the surface and groundwater bodies to be examined, set out the frequency of the chemical and biological quality elements to be examined and clarified who would be responsible for examining them.

The monitoring programme commenced in January 2007 and the first monitoring cycle ended in December 2009. The output from this monitoring exercise was an interim status assessment for all waters in Ireland.

The status assessment formed the basis for the RBD management plans as it determined which of the above objectives was appropriate for each waterbody and the measure or action required to achieve the objective within the timeframe set out in the plan.

The Regulation transposing the WFD into Irish law required the EPA to give a report to the Minister for the Environment, Heritage and Local Government in relation to the programme of measures and the management plans and to indicate the amendments (if any) which the EPA consider ought to be made.

A cross office team comprised of EPA staff was set up to carry out the review of the plans and measures. Having assessed all seven plans, and relevant ancillary documents, the committee submitted its report to the Minister for the Environment, Heritage and Local Government, following EPA Board input and approval.

Conclusions

The EPA review group concluded that the measures and management plans were adequate and that the objectives set out in the plans can be achieved by the full implementation of the measures. Thus, no amendments to the measures were recommended. It was our view however, that measures required to deal with some national issues - such as the protection of high status waterbodies and the restoration of historic mines - still remain to be developed. Hence, the effectiveness of these measures could not be commented on. A number of non-major issues relating to the measures were identified and will be drawn to the attention of the RBDs.

It is the view of the EPA that all seven plans should provide greater clarity on the future governance of the RBDs and be amended to include:

- i Clear governance arrangements for the implementation of the measures.
- ii The creation of a regulatory forum with a specific remit to prepare action plans on cross cutting issues such as research, licensing, conservation and resource use.
- iii A management structure that will oversee, coordinate, manage, and report the implementation of the Plans.
- iv A more integrated and structured regional and national approach in bringing the Plans to fruition, particularly in relation to the protection of high status waterbodies and including:
 - a Integrated regional planning at RBD level, to resolve the conflict between meeting development needs and protecting the environment.
 - b Integrated investigations to eliminate the pressures causing unfavourable conservation status at protected aquatic sites.
 - c Integration of groundwater and surface waterbodies to ensure an effective approach to water management.
 - d Integration of the monitoring requirements of EU Directives and Regulations, particularly in the area of transitional and coastal waters.
 - e Regional management structures to develop shared services and deliver infrastructure.
- v Structures for an effective and integrated farm inspection and enforcement regime.
- vi National co-ordination of research to address WFD.
- vii A regional governance structure to allow the prioritisation for upgrading waste water treatment plants, not specified in the Water Services Investment Programme.
- viii Compilation of a register of water infrastructure operatives and their competency with a view to delivering a training and coaching plan.
- ix Development of structures for better co-ordination of data generation, collection, management and transmission are required between all bodies.

Model County Abundant with Green Entrepreneurs

Wexford's business community highlighted its green credentials at the recent Wexford Business Awards, sponsored by the Environmental Protection Agency, Wexford Chamber and Wexford County Enterprise Board. The awards, held on 23rd June in Whites Hotel, Wexford, provided a great opportunity for the EPA to work with Wexford Chamber and the Wexford County Enterprise Board in promoting good environmental practice by businesses in Wexford.

Chevron Training, winner of this year's *Business of the Year* award, has a commitment to providing the training and essential skills needed to help Ireland's workforces re-train and up-skill in response to changing work demands. Chevron Training, an Enniscorthy based company providing FETAC accredited courses, also won *Best Training Company of the Year* Award.

The awards, with a special focus on businesses implementing green initiatives, asked each applicant to answer the question 'What measures does the business take to protect the environment and make Wexford a Green County?' It is important that as businesses strive to remain competitive and market focused that they do not neglect their care of duty to the environment.

Almost 300 business people attended the gala dinner and awards ceremony to celebrate the quality, entrepreneurialism,

diversity and talent of Wexford's thriving business community. The awards featured 10 categories ranging from Best Business Website, Best Training Company to Green Business of the Year Award. It is evident that Wexford is rich with business leaders and green minded entrepreneurs who are innovative in their approach to addressing challenges and achieving success.

The EPA, through their association with the awards, sought to simply communicate with businesses that green business is good business. Businesses have an opportunity to play a leading role in protecting the environment while, at the same time, reducing operating costs and improving operational efficiencies. Throughout the promotion of the awards all businesses - regardless of size or sector - were encouraged to adopt green policies to positively impact the bottom line.

In line with global trends, increasing numbers of Wexford based businesses are moving towards more green modes of operation. In these lean times businesses are focused on delivering higher levels of efficiency and innovation. Increasingly this means looking at the environmental impact of the business in terms of minimising energy and water consumption and producing less waste.

Each category award winner was presented with a bespoke stainless steel trophy designed, engineered and produced by Kent Stainless, Ardavan, Wexford.



Winners of the Business of the Year Award - Chevron Training - picture with Matt Crowe and Annette Cahalane of the EPA.

Award Winners

Green Business of the Year Award sponsored by Chevron Training:

- Green Biofuels Ltd.
- Runner up: Danone Nutricia.

Best Business Website of the Year Award sponsored by DoneDeal.ie:

- www.thepurplepatch.ie
- Runner up: All in One Marquee & Leisure Hire.

Tourism Amenity of the Year Award sponsored by SelfCatering.ie:

- Wexford Arts Centre
- Runner up: Talbot Hotel Wexford.

Retail Business of the Year Award sponsored by Wexford Insurances:

- Sports Savers
- Runner up: Pettitts SuperValu.

New Business of the Year Award sponsored by South East Business & Innovation Centre:

- Sonru.
- Runner up: justgo.ie

Best Training Company of the Year Award sponsored by Propel Media:

- Chevron Training
- Runner up: Genesis Business College.

Best Large Business of the Year Award sponsored by Waters Technologies:

- Roche Logistics
- Runner up: Celtic Linen Ltd.

Best Community Endeavour of the Year Award sponsored by Kent Stainless:

- Bui Bolg
- Runner up: Forest Park Leisure Centre.

Best Local Marketing Campaign of the Year sponsored by Co Wexford Businesses Initiative Skillnet:

- Pet Vet
- Joint Runner up: Trudie's Catering Kitchen and Sheridan Insurances.

Wexford County Enterprise Board Small Business Award:

- DoneDeal.ie
- Runner up: Daralinn Training & Consultancy.

The EPA is a great place to work!



EPA staff pictured at the Annual Best Workplaces Awards Ceremony.

The Environmental Protection Agency (EPA) has been named as winner of the Best Public Sector Award for 2010 by the *Great Places to Work Institute*. In addition, the EPA was ranked as being one of the top 40 workplaces in Ireland and was placed 16th in the medium to large (250+ employees) company category. The award winners were announced at the Annual Best Workplaces in Ireland 2010 Awards Ceremony held earlier this year. The awards recognise organisations that make an exceptional commitment to becoming a great place to work.

The *Great Places to Work Institute* commented that EPA employees are highly engaged and have high levels of trust in management – which is what makes the EPA stand out from many other public sector bodies. The *Great*

Places to Work awards put a premium on trust between management and employees - as this is one of the main contributors to overall staff morale in an organisation.

The EPA is staffed by a highly motivated group of professionals who are deeply committed to the work that they do – protecting the environment. One of our key goals is to recruit and retain the best people and we place a very high value on team work and communications, as well as the technical and administrative skills needed to do the specialised and rewarding work that we do.

Assessment for the *Great Places to Work* awards is based on a comprehensive culture audit of each organisation combined with the results of surveys completed by employees. In the EPA, over 80% of employees completed the confidential survey - which is returned directly to the *Great Places to Work Institute*. The EPA scored highly in all parts of the process highlighting the fact that, even in the current economic climate, the EPA has managed to keep morale high within the organisation.

For the full list of the Best Workplaces in Ireland 2010 log onto www.greatplacetowork.ie.

EPA Voted in top 100 leading graduate employers

In 2010, for the third year running, the EPA was again voted one of the top 100 leading graduate employers. Each year *Gradireland* compile the official list of Ireland's leading graduate employers.

Over 1,000 companies are nominated and voted for by nearly 20,000 students from every University and IT in Ireland. The EPA was ranked in the elite top 10% of companies in Ireland that the graduate class of 2010 would like to work for, which is a considerable achievement in what is considered the largest survey of student and graduate opinion in Ireland.

The EPA has a positive attitude towards student placements and encourages and

facilitates students seeking work experience where possible. In considering applications the EPA takes account of both the interests of the student and the EPA having regard to the relevance of the work experience to the student's course of studies and the suitability of the student's training and experience. During 2010, as part of its twelve-week Student Placement Programme, the EPA placed 32 students in its headquarters and regional offices.



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