

ENERGY UPDATE

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C O N T E N T S

P A G E

1	The Minister Announces.....
2	Energy Efficient Homes for Ireland as Minister Gormley Publishes Draft Building Regulations for New Homes
3	A green energy world is a win-win for Ireland
4 & 5	From Cow to Car - The Future of Fuel
6	Green Cars Zoom into the Irish Fast Lane
7	European Commission to help small and medium-sized companies become Greener
8	SEI Supports Green Business Innovation
9	The Future is Brite
10	Ireland On The Crest Of A Wave
12	The Energy behind the Cloughjordan Ecovillage
14	South Dublin County Council's Sustainable Vision for Clonburris
17	Energy Efficient Passive Houses
18	Ireland Moves Towards Eco Tourism
20	The 2007 Sustainable Energy Awards
21	SEI REIO Free Resources
22	Calendar of Events

The Minister Announces....

Mr. Eamon Ryan, T.D., Minister for Communications, Energy & Natural Resources



Energy Minister Mr. Eamon Ryan recently announced that a national programme to install a new smart electricity meter in every home would begin in 2008. The first phase will begin with the installation of 25,000 smart meters in varied geographic locations.

The roll-out of the programme will be coordinated by the Commission for Energy Regulation (CER) with input from ESB Networks and Sustainable Energy Ireland.

Minister Ryan said: "I have long called for a national smart-metering programme. The commitment is in the Programme for Government and I am delighted to announce its implementation. I intend that nationwide roll-out will be complete in five years.

Currently, people do not know how much electricity they are purchasing at any given time of the day, or at what price. Smart meters have been likened to fuel gauges in cars. It is time that people become aware, through a device in their homes, of the electricity they use and how much it will cost.

Smart meters help customers to manage

their electricity usage much more efficiently and flexibly. They will help us in reducing both our carbon emissions and electricity bills.

Smart meters have many other benefits. These include better methods of selling power back to the national grid for micro-generators. They also equip electricity suppliers with real-time information. Along with more accurate billing for the customer it means that suppliers and customers can work together to manage demand. This will be of great help to electricity customers and suppliers alike.

The Power of One Street families showed us that the smart use of energy helped save each family an average of €500 over six months. The families also reduced their carbon emissions by an average of three tonnes. These are significant savings both for householders' pockets and for the environment.

Every home in Ireland can now be a Power of One home with the installation of these smart meters.

The CER will kick start the programme by publishing the implementation frame-

work for nationwide Smart Metering in a timely and cost effective manner.

All the cost implications and technical installation issues for the national roll-out will be addressed as we set up the pilot programme for the first 25,000 homes.

We will only achieve our energy efficiency targets through concerted and genuinely nationwide action. A smart meter in every home will help us get there."

What is a Smart Meter?

A smart meter is simply a new type of electricity meter, capable of several functions that cannot be carried out by traditional meters. These new features could include the storage and two way communication between supplier and consumer of electricity consumption data by time of use; communication to a visual display which can be easily located in a readily accessible location in a person's home; the ability to record exported units of electricity as well as electricity consumed and the ability to switch between credit and debit modes of operation without the need for manual intervention.



Energy Efficient Homes for Ireland as Minister Gormley Publishes Draft Building Regulations for New Homes

Mr. John Gormley, T.D., Minister for the Environment, Heritage & Local Government recently published draft building regulations under Part L of the building code dealing with energy efficiency for homes. The draft regulations provide for a dramatic improvement in energy efficiency standards in Irish homes. They are aimed at ensuring that new housing stock in Ireland is built to the highest international standards, where they will be cheaper to run and will have a much lower impact on the environment.

Highlights of the draft regulations include:

- A 40% improvement in energy efficiency for new homes in 2008;
- A 40% reduction in CO₂ emissions;
- A mandatory minimum renewable energy requirement in all new homes, for example solar hot water heating systems or biomass systems;
- Mandatory levels of energy efficient fixed light fittings;
- Minimum standards on heating systems to ensure they are highly energy efficient;
- Minimum requirements for heating system controls to minimise energy waste through excessive heating;
- Air tightness testing, to ensure the homes are not leaking heat excessively;
- Guidance on ensuring a minimum quality of workmanship and construction;
- Consumer information on the efficient operation of the homeowner's dwelling as a minimum requirement;
- Commitment in the guidelines to review and improve regulations to 60% in 2010 with the ultimate aim of achieving a zero carbon standard for new houses in the medium to long term;
- New buildings should also be future-proofed to be easily upgraded to higher energy and CO₂ standards in the future;

"The draft regulations are a good day for the consumer and will change forever the way we deal with the housing stock under the building code. These regulations are the first dramatic step in the process of achieving zero carbon housing. The benefit to the consumer in savings on energy costs, as we face into an uncertain future with regard to carbon based fuel costs, will be a huge benefit to homeowners," said Minister Gormley. *"It will also make a significant contribution to Ireland's efforts to reduce greenhouse gas levels."*

"The improvement (40%) is the largest ever to have taken place and the new regulations also link energy efficiency improvements to climate change by requiring a specific reduction in CO₂ emissions. New homes will be required to be built to specifications where they produce on average 40% less CO₂ than current standard new homes," added Minister Gormley.

Commenting on the draft regulations Minister Eamon Ryan T.D., said: *"I very much welcome the new building energy regulations. Through Sustainable Energy Ireland's House of Tomorrow Scheme. Already over 6,000 houses in Ireland have or are being constructed with a 40% improvement in energy efficiency. This shows the demand that exists and how regulation is the next logical step."*

"Minister Gormley and I will be working together on the implementation of these new standards. We need to ensure that we have the installers with the necessary and accredited skill-set to install the renewable energy technologies into all new Irish homes. SEI and Action Renewables have set up a Renewable Energy Installers Academy (REIA) with support from my department. FÁS, in conjunction with SEI, are offering nationally accredited training courses in all of the renewable technologies from October 2007. In addition to the courses available in Dundalk IT, new state-of-the art facilities are soon to open in Ballyfermot, Dublin and Bishopstown, Cork," said Minister Ryan.

"I will continue to ensure that my department provides the necessary support to installers and the building industry in order to meet these challenging requirements," added Minister Ryan.

The draft regulations have been sent to the European Commission for consideration, as required under competition law and are available on the department's website (www.environ.ie) for public consultation.

The Minister may choose to amend parts of the regulations and guidance following this public consultation process. The Minister intends to sign the regulations later this month (December 2007). There will be a phasing-in period for the regulations, as recommended by experts who have worked on them, in order to provide time for the industry to adjust. The intention is that the new rules will apply to all new housing planning applications after 1st July 2008. From 1st July 2009 they will apply to all new homes that have not been substantially completed at that stage, regardless of when planning permission was sought.

"These regulations when finalised and coupled with regulations transposing the EU Directive (2002/91/EC) on the Energy Performance of Buildings which became law in December 2006 provide a very strong base for creating a world class energy efficient housing stock. They will make a significant contribution towards the implementation of our climate change strategy," concluded Minister Gormley.

A green energy world is a win-win for Ireland

Minister welcomes European funding for sustainable energy projects

Energy Minister Eamon Ryan has welcomed the decision by the European Commission to allocate €2.17 million towards sustainable energy projects in Ireland. This funding will be provided to Irish researchers in ocean, wind, geothermal and sustainable transport projects.

This will complement the government's investment of €149 million to Energy Research under the National Development Plan.

Minister Ryan commented:

We know why Ireland needs to develop alternative forms of energy. We need to reduce dependence on foreign energy sources; we need to deal with the ever-rising cost of oil and we need to tackle climate change. Domestically-produced renewable sources will be pivotal to our solutions.

We have such energy natural resources that could make us the Saudi Arabia of ocean and wind energy – and it's all free.

Many of these forms of energy are in the development phase or require much more research to make them viable and enhance their effectiveness. I am pleased, therefore, that the European Commission is going to assist in the necessary R & D to develop these technologies.

The energy world is going green. There is no reason why we cannot be at the centre of this global boom – both benefiting from the new industries while at the same time doing our moral and economic duty to mitigate climate change. It's a clear win-win for Ireland as we face an uncertain energy future.

My job is to alter the 'business as usual' scenario that the International Energy Agency warned us would lead to alarming

consequences. With energy, the only right thinking is long-term thinking. Beginning with R & D, I intend to harness industry, farmers' and Government's willingness to take on the energy challenge.



Wood Energy Ltd Commission Ireland's Largest Biomass District-Heating Scheme

Wood Energy Ltd recently commissioned its 1,200kW Binder wood boiler at the Charlestown Shopping Centre in Finglas, Dublin. It is the largest wood-fuelled district-heating system in the UK and Ireland. The energy centre provides space and water heating for 284 residential apartments and a variety of retail outlets.

Wood Energy Ltd was selected by Hochtief Facilities Management after they carried out a detailed evaluation of the boilers and companies currently active in the wood heat sector. The unit will run predominantly on pellets, but will have the ability to burn wood chip also. Wood Energy Ltd is currently progressing a number of similar projects which will come to fruition in 2008.

Wood Energy Ltd Business Development Manager for Ireland, Peter Kernohan said: *"This is a very significant step forward in terms of communal heating systems in Ireland, with the very high quality of Binder boilers and the vast experience of Wood Energy Ltd, these systems have the potential to provide low cost, low carbon heating throughout Ireland."*





From Cow to Car - The Future of Fuel

By Brian Donaldson, Maxol

More than ninety years ago Henry Ford said "all the world is waiting for a substitute to petrol". "The day is not far distant when for every one of these barrels of petrol a barrel of ethanol must be substituted". As that day draws ever closer Maxol is pioneering the supply of bio-ethanol to motorists throughout Ireland.

Ethanol, the active alcohol ingredient in beer, wine and spirits, is also produced for vehicles and is usually called bio-ethanol or bio-fuel. In the same way that grapes are made into wine and barley into whiskey, crops and other organic substances can be turned into bio-ethanol to fuel cars, buses and trucks.

Milk is currently the source product in Ireland for Maxol E85, a mixture of 85% ethanol and 15% petrol supplied by Maxol, who are pioneers in Ireland in this field. Maxol purchases bio-ethanol from the Carbery Group in Ballineen, Co. Cork. Manufacturers of cheese and food in-

gredients, Carbery have been producing ethanol for nearly thirty years and in 2005 began supplying Maxol.

The cow to car process is remarkably simple. For use as cheese and food ingredients, Carbery extracts from milk all the proteins, fat, minerals and vitamins leaving behind only lactose in a water solution. When fermented with yeast the lactose produces a 3.5% alcohol solution. This is distilled to create 90% v/v ethanol. One further process is required to convert this into 99.9% strength for use as a fuel. The ethanol is passed over a monoclone bead bed which takes out the excess water giving the desired ethanol strength.

Critics of the move towards alternative fuel such as bio-ethanol often cite environmental degradation and competition for food between cars and people as inevitable consequences of its production. Carbery's process however is not guilty on either score because the cows producing the milk are 90% grass

fed with the balance of their diet being made up of cereals. Carbery derives its ethanol from easily renewable sources and because nearly all of the milk's essential nutrients are extracted before it is converted into ethanol, Carbery cannot easily be accused of taking food from people to feed cars.



Ford, Saab and Volvo have been quick off the mark to back Maxol's environmental initiative introducing flexible fuel vehicles (FFVs) capable of running on both bio-ethanol and petrol. Currently Carbery supplies between 3000 and 4000 tonnes of ethanol annually to Maxol. This is about a third of Carbery's total production. It is estimated that within the next couple of years the demand from Maxol will more than double.

Carbery's Sales & Marketing Manager JJ Walsh warns a quantum leap is required in Ireland's ability to produce ethanol if the country is to meet the target set by the EU Bio-fuels Directive which requires that fuels from renewable sources supply 5.75% of all energy used in transport by the year 2010. Mr. Walsh warns that we will soon need to import bio-fuels and should be setting up the necessary infrastructure now.

From September 2005 Maxol has a network dedicated to distributing E85 to

23 outlets. Details of these sites can be found on Maxol's website www.maxol.ie/E85. A further 23 outlets will be opened by the end of 2008.

The many benefits of E85 include the overall reduction in emissions by 70% on a life cycle basis. In addition the Government has also encouraged those users of fuel flexible vehicles with a 50% reduction in Motor Vehicle VRT Tax and provided the opportunity to re-claim VAT on E85 for commercial use. Furthermore bio-ethanol E85 is around 25% cheaper at the pump than normal petrol.

Not wishing to rest on its laurels Maxol has replaced its regular unleaded petrol with its new E5 grade. This is a blend of 95% petrol and 5% locally produced bio-ethanol from the Carbery Group. By the end of September over 90 retail outlets were distributing E5. For the first time throughout Ireland, drivers of standard petrol powered vehicles were able to avail of this new bio-fuel without risk to

their car manufacturer's warranty.

E5 green fuels is another first for Maxol in the Irish fuels market and is also further evidence of Maxol's commitment to renewable fuels and to helping the Irish government meet bio-fuel consumption targets set out in the EU Directives.

Tom Noonan, Chief Executive of the Maxol Group comments "This move towards ethanol use helps Ireland to meet EU targets. It is a win for consumers who benefit from lower emission fuel at no extra cost, a win for agriculture which can now develop interest in ethanol production and a win for the economy that it can potentially reduce our imports."



Green Cars Zoom into the Irish Fast Lane

Here in Ireland sales of green cars such as hybrids and flexible fuel vehicles have reached new heights, the sale of flexi fuel cars alone increased eleven fold in 2007.

According to recent figures from the Revenue Commission, more than 3,000 eco cars were bought here by the end of October. Revenue figures show 2,345 hybrids were registered between January and October, with a further 903 flexible fuel cars sold. In 2006, a mere 645 hybrids and 73 flexible fuel cars were sold.

Hybrids, such as the Toyota Prius feature a small fuel-efficient petrol engine combined with an electric motor. The electric motor is powered by batteries that recharge while you drive.

Flexible fuel vehicles such as the Ford Focus FFV can run on any mixture of petrol or E85 Bioethanol with no reduction in performance.

The flexibility of the car allows it to run even in areas where bioethanol outlets have not been established. Hybrid and flexible fuel cars are subject to just 50% of vehicle registration tax and according to the motor industry, this has increased their popularity.

Cyril McHugh, Chief executive of the Society of the Irish Motor Industry (SIMI) said: "Car dealers are finding it hard to meet the demand for eco cars. The dealers are trying to get them in as fast as they can but manufacturers are facing big demand world wide. Increases in the use of hybrid and FFV's will take time and already these figures show how greater availability of bioethanol is increasing sales."

The SIMI said Ireland should look to Sweden where 20% of all new cars are either hybrid or FFV.

In Sweden drivers of such cars are given free on street parking, avail of tax breaks and also a scrappage scheme to encourage drivers to dispose of old, less environmentally friendly cars.

Irish Gas Guzzlers to Pay the Price

Luxury cars and SUV's will become more expensive under new tax plans announced by Finance Minister Brian Cowen in the budget.

Minister Cowen has reformed Vehicle Registration Tax (VRT) and made the least green vehicles more expensive. The VRT system will no longer be based on engine size but on carbon emissions. The new system unveiled by Minister Cowen will reward drivers, who choose smaller, more efficient cars and punish those who go for high emission SUV's and luxury saloons.

The lowest rate of VRT – 22.5% applies to all cars under 1400cc although hybrid cars such as the Toyota Prius receive a 50% VRT rebate.

Minister Cowen's new system has eight different emission bands, with VRT rates

ranging from as low as 10% to 40% – this rate would apply to more than 5% of the cars on Irish roads at the moment.

Ministers Receive Keys to Ministerial Prius Cars

Green Party Ministers John Gormley T.D. and Eamon Ryan T.D. have chosen Toyota Prius, European Car of the Year 2005 and the first mass produced hybrid car in the world, as their ministerial cars. John Gormley T.D. and Eamon Ryan T.D., the first Green Party Ministers, have both chosen the Toyota Prius, instead of the traditional ministerial car.

Since 2003 more than 1,200 Prius have been sold in Ireland. Over one million hybrid vehicles have been sold globally over the last decade demonstrating Toyota's commitment to using cutting edge technologies to help reduce CO₂ emissions. The Prius is the intelligent combination of an electric motor and a petrol engine resulting in powerful performance and outstanding fuel efficiency.



European Commission to help small and medium-sized companies become Greener

Helping small and medium-sized companies use energy and resources efficiently is the aim of a recently published Commission Communication. It does this by providing a legal framework and measures that reinforce existing policies and initiatives in line with the particular characteristics of smaller companies. To this end the Communication proposes to create a programme to help small and medium-sized companies implement European environmental legislation. The programme will channel financial resources towards support networks, simplify access to environmental management systems, and promote greater awareness of environmental issues among these companies.

European Commissioner for the Environment Stavros Dimas said: "To successfully tackle the environmental challenges we face and to achieve our targets on greenhouse emissions, renewable energy and energy efficiency, all European companies must be on board. Small and medium-sized companies are an integral part of Europe's economy and it is therefore vital that they play their part in making the European economy more sustainable."

Small and medium-sized companies and the environment

Individual small and medium-sized enterprises (SMEs) employ less than 250 people, but the European Union's 23 million SMEs as a whole represent about 99% of all EU enterprises and 57% of the Union's total economic added value. Being responsible for such a large percentage of the EU economy's turnover the impact of SMEs on the environment is significant.

Many companies are not aware of the impact their activities have on the environment and a majority actually think that their activities have little or no impact. SMEs also tend to believe that they are complying with legislation unless told otherwise. Under such circumstances the activities of SMEs may pose significant health and safety risks to workers as well as a threat to the environment.

And by not integrating environmental considerations into their economic activities SMEs could lose out also on the economic benefits presented by better environmental management and eco-innovation.

Environmental Compliance Assistance Programme

The Environmental Compliance Assistance Programme proposed by the Commission is a set of measures that aim to help SMEs minimise the environmental impact of their activities and to facilitate compliance with existing legislation. The Programme intends to reduce the burden of compliance by designing instruments and policies to integrate environmental concerns into the core of SME activities.

The measures presented in the Communication also cover the dissemination of information specifically targeted for SMEs, promoting support networks, and training activities that build local environmental expertise.

Funding for the Programme's measures will come from LIFE+ funds (€5 million for 2007-13) with additional funds to be made available through the Competitiveness and Innovation frame-

work Programme (CIP) and the Structural Funds.

A website providing information on EU environmental policy for SMEs is now available in seven languages and guides on energy efficiency, air emissions, soil and water and waste are planned. A handbook on funding opportunities will also be published.

The new network replacing the Euro Info Centre Network in support of business and innovation will participate in implementing the Programme from 2008. This and other SME support networks will play an important role in helping SMEs translate European environmental policies into operational measures.

For further information: <http://www.ec.europa.eu/environment/sme>

SEI Supports Green Business Innovation

New support scheme launched for ventures in sustainable energy sector

Sustainable Energy Ireland (SEI) recently launched the Incubator Programme for emerging green business opportunities in the sustainable energy sector. The Programme is intended to encourage innovation in the sustainable energy sector, by supporting new small ventures focusing on clean energy technologies and services in Ireland. The development of innovative new businesses in the sustainable energy sector has been identified as a key priority by the Government and the programme is part of SEI's work to support this.

The Programme has been designed to help new businesses bridge the financing gaps that often hamper the growth of small companies. Venture support is available towards incubation fees and activities including the development and mentoring of management and training.

Under the first phase of the programme SEI has awarded financial supports to four sustainable energy companies.

These are:

- **Renewable Power Generation** which develops and operates wind powered electricity generation plants on industrial sites and resells the electricity back to the site owner.
- **AirEn Services Ltd** which is engaged in the development of alternative uses for on site wind generated electricity such as CCTV camera systems for remote sites with no electrical supply, GPS monitoring equipment for freight containers, lighting for public spaces and motor-ways etc.
- **ApEnvEcon** which provides technical advisory services in environmental economic analysis,

energy and environmental modeling, policy instruments, policy analysis and evaluation, and in the areas of sustainable energy use, transportation, air quality, and climate change.

- **Eirzyme** which has developed a proprietary enzyme technology, offering the potential to make the production of ethanol from renewable biomass feedstock's commercially viable.

Minister for Communications, Energy and Natural Resources, Eamon Ryan T.D., is committed to ensuring Ireland becomes the centre of a global "green energy boom" by encouraging an energy industry in Ireland in order to create the jobs of tomorrow. Commenting on the launch of the Incubator Programme, Minister Ryan said, "Encouraging investment and new employment in the sustainable energy sector is a key priority for Government. The Sustainable Energy Incubator Programme will help new Irish businesses establish themselves in these high-growth markets. This kind of approach is very important for delivering future economic growth in Ireland."

SEI has identified five areas to be prioritised within the programme, including Bioenergy, Ocean Energy, (Industrial or Commercial), Energy Efficiency, 'Smart' Buildings and Sustainable Transport.



The Future is Brite



Minister Eamon Ryan T.D. with Richard Smith (Balcas Business Manager) at the launch of the new Balcas depot in Cork.

Balcas, the Enniskillen based timber miller and pellet manufacturer, is leading the way with their new environmentally friendly fuel, brites (wood pellets) which are helping to reduce carbon emissions into the atmosphere and the company has just announced the opening of their brites depot in Ringaskiddy, Cork.

This new development will mark the second for the company in Ireland in addition to their existing Enniskillen plant and Kildare MDF unit. The new depot will ensure Balcas can satisfy the increased demand for brites pellets which are becoming a more popular way to heat homes and businesses throughout Ireland, by safeguarding customers and ensuring safety of supply.

“Given Ireland’s dependency on imported oil, which is increasingly price volatile, consumers are beginning to look for less expensive and more secure sources of energy. As demonstrated through the successful uptake of SEI’s Greener Homes Scheme, wood based fuels in the shape of wood pellets and chips are coming very much to the fore as one solution. The continued development of a wood fuel industry has major economic and strategic benefits for Ireland and the opening of the new Balcas distribution depot is encouraging news – creating and sustaining rural jobs, reducing our dependence on fossil fuel imports and reducing CO₂ whilst fuelling Ireland’s future” said **David Taylor** (CEO, SEI).

brites are a natural, wood based fuel which are either manufactured in Fermanagh, or imported from German mills operating to the same European quality standards. They are currently responsible for heating over 1,900 homes, as well as a wide variety of businesses including hotels, nursing homes, schools, leisure centres, theatres, fire-stations and a prison.

In addition to the opening of their new Cork depot, which holds an 8,000 tonne stock of brites, Balcas recently launched a new system to enable customers to order online at www.brites.eu and have their supply delivered straight to their door.

Wood Pellet Plant for Kilkenny

In response to the growing demand for wood pellets from consumers across the commercial, industrial, private and residential sectors the South Kilkenny based company D Pellet owned by Larry and Sorcha Doyle is set to become the first wood pellet manufacturing plant in southern Ireland.

The production facility is approximately 40,000 square feet on a seven acre site. Once planning was granted the company started to source equipment; the onsite log handling equipment has been manufactured locally by SFL

Engineering (Callan, Co Kilkenny, the de-barker, chipper, screen and furnace are from North America, the grinders and pellet mills from Germany, with other equipment supplied by Tim Crowley Limited (Cork). The log handling equipment has been manufactured by SFL Engineering in Callan with other equipment supplied by Tim Crowley Limited (Cork). All the conveyance and storage equipment has been manufactured by Roto Spiral Limited who together with Terra Watch Limited are also investors in the production facility.

According to Mr. Larry Doyle:

“We plan to use forestry thinnings as the main source of raw materials. At the moment forestry thinnings are expensive but we see prices levelling out due to the increased availability of raw material. National statistics indicate a very large increase in the availability of raw material over the next five to seven years due to the implementation of the afforestation programme started in early 1990’s.

We are currently working to finalise contracts with growers, harvesters and haulage companies to ensure a reliable supply of raw material. By August 2008 we aim to have a stock in hand of 20,000 tonnes of raw material together with at least 5,000 tonnes of pellet in both bulk and bagged form.

With regard to the distribution network we will have a number of trucks on the road specifically for bulk wood pellet delivery. The trucks will have high pressure pumping system and also the capacity to extract dust from the bulk storage areas. Our proximity to logistics company Brennan Transport means that bagged pellets can be delivered nationwide at short notice – helping to keep fuel costs down. We are also in negotiation with retail chains to establish service contracts for bagged pellets to sell direct to homeowners, other potential clients include schools, hotels, and large commercial users”

Ireland On The Crest Of A Wave

Following the first test site ever to have two prototype devices successfully producing electricity from the ocean, Ireland has become a world leader in sustainable wave power technology.

The Ocean Energy Test Site, which was established in Galway Bay by the Marine Institute and Sustainable Energy Ireland (SEI) as a facility for developers of wave energy devices in 2005. It is situated on the north side of Galway Bay, 1 mile east of An Spideal. It is 37 hectares in area and lies in 21-24 metres of water.

The site was selected because of its suitability for testing scale prototype devices and is marked by navigation markers on four corners to avoid conflict with shipping. The two scale prototype devices currently operating there have been created by Wavebob Ltd of Maynooth and Ocean Energy Ltd of Cork and are both performing well.

Wavebob (pictured below) was the first scale prototype to be installed on the site in 2006, having already gone through a rigorous process of theoretical modeling followed by small-scale prototype testing in wave tanks. Some of this testing was performed at the Hydraulics and Maritime Research Centre, UCC. The quarter scale model was built in Belfast's Harland & Wolfe Shipyard and was part-funded by SEI. The device is in two parts—a circular floating collar and a cylindrical float that rises and falls within the collar—generating electricity from the motion of a central column.

This was followed on New Year's Day 2007 by the half scale OE Buoy which employs a floating oscillating water column system to generate electricity. This device converts wave energy into mechanical energy as water pumps air through a turbine.

"Now that these tests have proved successful, the next step is to investigate a site where full-scale prototypes can be tested," said Dr. Peter Heffernan, CEO of the Marine Institute. "It is an honour for the Marine Institute and SEI to facilitate this pioneering work and our hats go off to the two companies—Ocean Energy and Wavebob—who have made the bold step into this new frontier. We will be giving them as much assistance as we possibly can to take Ireland forward as a world leader in wave power technology."

Development of sustainable energy from the oceans is one of the pillars of the national pro-

gramme Sea Change - A Marine Knowledge, Research and Innovation Strategy for Ireland 2007-2013 - which is managed by the Marine Institute.

Marine Institute Welcomes EU Maritime Policy Paper

Dr. Peter Heffernan, welcomed the EU Commission's Blue Paper - 'An Integrated Maritime Policy for the European Union.'

The paper represents the Commission's response to the year-long public consultation process on the Maritime Green Paper. Co-ordination of this consultation in Ireland was undertaken by the Marine Institute through a specially dedicated website and a public workshop on behalf of an interdepartmental committee.

"The Commission had clearly listened to and responded positively to the many constructive suggestions regarding the role of science and technology from the Member States and the European Marine Science Community," said Dr Heffernan. "I particularly welcome the commitment of the Commission to address the key recommendations of the Aberdeen Declaration—a consensus statement from the European Marine Science Community made earlier this year—outlining how marine science and technology could contribute to the social and economic opportunities offered by the global market economy and to addressing major challenges such as those posed by global climate change."

At the public workshop held in Dublin earlier this year as part of the consultation process in support of the EU Green Paper, EU Commissioner for Maritime Affairs Dr. Joe Borg praised Ireland as "an invaluable contributor to the debates on European science policy.



"Ireland is consistently cited in global benchmarking studies as a model for best practice in innovation in the knowledge economy," he said.

The EU Blue Paper confirms the Commission's commitment to:

Present in 2008 a comprehensive European Strategy for Marine Research;

Support research to predict, mitigate and adapt to the effects of climate change on maritime activities, the marine environment, coastal zones and islands;

Support a dialogue and partnership approach between the scientific community, industry and policy makers;

Take steps in 2008 towards the creation of a European Marine Observation and Data Network, and promote the multi-dimensional mapping of Member States' waters;

Establish a mechanism to document the real value of Europe's maritime economy and its socio-economic impact.

Ireland already has an integrated marine research policy in **"Sea Change – A Marine Knowledge, Research and Innovation Strategy for Ireland 2007 – 2013"**, which aims to drive the development of the marine sector as a dynamic element of Ireland's knowledge economy.

For a PDF copy of the new EU Blue Paper and further information, please see: http://ec.europa.eu/maritimeaffairs/index_en.html

To learn more about Sea Change, please see www.marine.ie/home/SeaChange



The Energy behind the Cloughjordan Ecovillage

By Duncan J Martin, Sustainable Projects Ireland Ltd.

Ireland's first ecovillage is taking shape! After a decade of planning and design, the infrastructure is now nearing completion. The first homes should be complete by autumn 2008 and the remainder in 2009.

The developer, Sustainable Projects Ireland Ltd, (SPIL) is a not-for-profit company, a registered charity, owned by its members. Its primary objective is to create an alternative model for future development, as an educational resource for all. SPIL is selling serviced sites with OPP, subject to the building standards set by its Ecological Charter. However, SPIL is not the builder. Members will design and build their own homes (mostly on a contract basis, although some will self-build). Thus, housing types, heating systems etc will be diverse – but all under a common monitoring umbrella. This will be an invaluable source of comparative data.

SPIL's aims include the demonstration of energy-efficient building and 100% renewable energy. It has been rewarded with a maximum grant under SEI's House of Tomorrow programme and a major award under the EC's Concerto programme. The latter funds community-based demonstration projects integrating RE supply in balance with the efficient use of energy. This project, entitled SERVE (Sustainable Energy for the Rural Village Environment); will receive a total grant of €4,100,000.

Seven of the 12 partners in the SERVE team are Irish: SPIL, North Tipperary County Council (NTCC), Tipperary Institute, Tipperary Energy Agency, Renewable Energy Management Systems (REMS), Surface Power Technologies Ltd and Circa Group. SPIL is a major beneficiary but the two largest work packages, led by NTCC, will fund the upgrading of existing buildings in the area around Cloughjordan. This will



create a region of excellence in building energy use, as a model for the island of Ireland.

The ecovillage will be heated by Ireland's most extensive District Heating System (DHS) to date. Connection to it is mandatory and the capital cost is included in site prices. Thus, the unit cost of heat will be relatively low, minimising the risk of low uptake or usage. Designed by Renewable Energy Management Systems (REMS), the DHS is powered by two 'Cabinfire' 500kW wood-chip boilers in an 'Energy cabin' boiler-house package, backed up by 520m² of ground-mounted, flat-plate, Okotech solar panels, all located at the north east corner of the site. The latter will provide most of the summer hot water demand, so that the system can operate year-round without frequent firing of the boilers outside the 'heating season'. Consequently, no home will need an immersion heater, electric shower or roof-top solar (thermal) panels.

The DHS main runs at low temperatures to reduce losses: 800C supply; 500C return. Each building has a heat meter and a heat exchanger, which transfers heat to a secondary circuit feeding an 800L stratified storage tank. Domestic hot water is drawn from the top of this tank and the central heating supply from below. SPIL recommends under floor

heating in bathrooms and kitchens, with wall heating in other rooms – and no supplementary heating. (Some members nevertheless want enclosed wood stoves. Monitoring will show if these are ever used)

The DHS will be operated by a not-for-profit service company, owned and run by residents. Fuel will be sourced initially from regional scrap wood sources but SPIL has long-term plans to use forestry wastes or coppiced wood. (Pellets could also be burned, as a back-up fuel.) Storage space for fuel is not restrictive, as SPIL is building on only one third of its land.

The development comprises 133 dwellings, which include terraced, semi-detached and detached houses, plus apartments, live-work (retail/office) units and four community buildings, master-planned by Solearth. The layout is medium density, because shorter distances reduce DHS losses and also the embodied energy in roads and services.

SPIL's Ecological Charter stipulates passive solar design and limits hot water and space heating to 70 kWh/ m².yr. However, some members are planning near-passive houses. The Charter's more modest target was designed to accommodate members planning to use simple building materials with low embodied energy, such as log, cob or



hemp-lime. The Charter also sets minimum standards of 4% day lighting and 1-5 air changes per hour, which might be met by passive means or mechanical heat recovery ventilation. State-of-the-art control systems are recommended and will feed data to a central monitoring unit.

Renewable electricity supply is also planned, initially from off-site but in due course by on-site generation. One of SERVE's work packages will investigate the best system. All the available options will be considered, including distributed micro-generation, probably based on roof-mounted photovoltaic panels.

Smart metering is planned and householders will be encouraged to design for low maximum demand, voluntary agreements are under consideration not to install tumble dryers, immersion heaters or electric showers or space heating. Cooking is a matter of personal choice. Electric induction is recommended but some members favour bottled gas.

SPI's low-energy holistic design approach extends to:

- ▶ **community-based waste management** (*with a composting/recycle centre for every 40 homes*)
- ▶ **on-site sewage treatment** (*based on septic tanks and reed beds, with on-site use of waste sludges*)
- ▶ **promoting home-based or local work** (*of the 60 eco-villagers already relocated in Cloughjordan, only a handful commute to work*)
- ▶ **promoting public transport** (*Cloughjordan's station on the Limerick-Nenagh-Dublin line is already seeing more use*)
- ▶ **discouraging car ownership and use** (*the community will soon benefit from Ireland's only Car Share system, to be established by a local company, Mendes Ltd, with the aid of EC PRO.MOTION funding*)



South Dublin County Council's Sustainable Vision for Clonburris By Fionnula Lennon

South Dublin County Council has a big vision for the proposed new urban district at Clonburris. It believes that Clonburris should be developed as a highly sustainable new urban district that will be an exemplar of best practice in sustainable development, setting new standards for environmental urban expansion, place-making and urban design, in effect, a place that has the potential to be an eco-district.

This is an ambitious vision, however, the Council is convinced that the conditions are right to plan and deliver a highly sustainable new urban development in this location at this time. These conditions include the major public

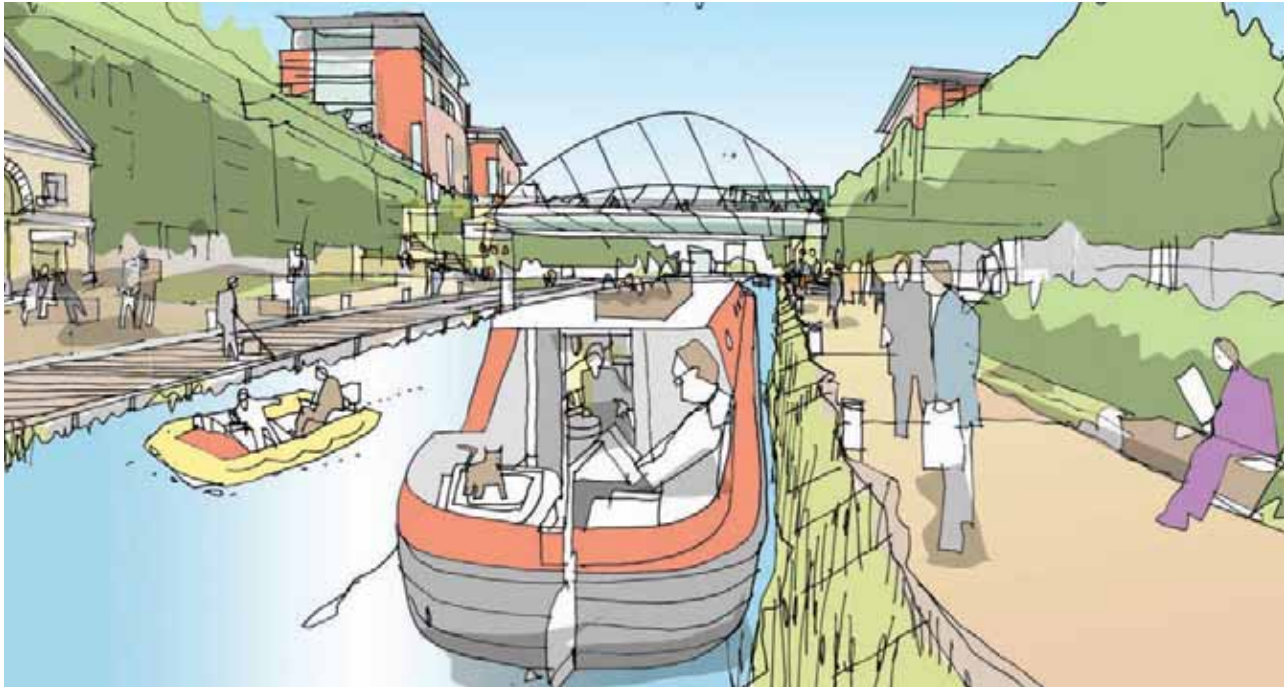
transport improvements planned and underway for the area, the significant scale of the development area, the aim of the National Climate Change Strategy to effect a positive change in Ireland's contribution to climate change through sustainable development, and the demand from the public for places to live and work that are attractive, accessible by public transport, and have facilities to meet day-to-day needs.

Clonburris is located in the northern part of South Dublin County and covers some 265 hectares (655 acres) straddling the Grand Canal, the Dublin-Kildare Rail Line and strategic roads including the Outer Ring Road and Fonthill Road. The

area is zoned for development in the South Dublin County Development Plan 2004-2010 and is in multiple ownerships - both private and public. Some two-thirds of the area was designated as a Strategic Development Zone in July 2006.

The Clonburris area will benefit significantly from the Government's programme for delivering major public transport infrastructure in the Greater Dublin area. The upgrading of the Kildare Rail Line to four tracks with new rail stations at Fonthill Road and Kishoge, the provision of the orbital Metro West line linking Tallaght to Dublin Airport with a Metro stop in Clonburris, and the





proposed city centre interconnector tunnel which, when operational, will facilitate direct and fast commuter links from Clonburris into the heart of the city and beyond, will effectively make Clonburris one of the best connected sites outside Dublin City Centre in terms of public transport.

The draft Clonburris Plan, prepared by the Council with input from consultants, sets out a comprehensive and strategic framework for the whole of the Clonburris area. The Plan comprises both a Planning Scheme for the area designated as a SDZ and a Local Area Plan for the remainder of the area. The Plan proposes a significant scale of development in this new district including up to 16,000 new homes with supporting educational, community, civic and recreational facilities, a large district centre with substantial retail floor space and up to 180,000m² employment and business floor space. The development of the new district will be phased to take place in tandem with delivery of major public transport projects - the Dublin-Kildare rail line improvements and new rail stations, Metro West and the city centre inter-connector, all of which will be underpinned by improved local bus

services. This is a long term project, one that will potentially take 15-20 years to fully deliver.

To ensure an integrated approach to sustainable development and environmental performance, the Council has set out a three-pronged approach in the draft Plan. Firstly, the Master Plan for the new district is based on providing a good mix of homes, shops, offices, business opportunities, leisure, recreational and community facilities and organises the structure of the place so that residents and visitors are able to make sustainable choices about how they travel, live, work and recreate. Secondly, the inclusion of an Infrastructure and Phasing Scheme as part of the Plan will ensure that the facilities and infrastructure needed to support the new community in making sustainable choices in areas such as travel and recycling are delivered in tandem with development. Thirdly, in terms of the individual components that make up the district, a Sustainability Toolkit will drive forward better and more efficient design of the buildings, streets and spaces resulting in improved quality in terms of cost, whole life performance, energy performance and waste management.

The Clonburris Sustainability Toolkit has been developed as a user friendly resource to guide the sustainable design of the new district and address the key sustainability objectives of the Clonburris Plan - to achieve high levels of environmental performance at the construction and occupation phases of development, to optimise the conditions for improving quality of life, and to achieve a successful strategy for carbon reduction.

The main components of the Toolkit are an Environmental Database that will contain environmental information on aspects of the existing site and strategic context to provide baseline information to inform the development of specific strategies and measures and provide a baseline against which the sustainable performance of Clonburris can be measured; Sustainability Indicators which are a comprehensive list of targets to guide the environmental performance of development; and a Sustainability Management and Appraisal Process which sets out a system of management, review and monitoring of the environmental targets.

The sustainability indicators have been derived from a combination of Best

Practice standards in Ireland and Europe, as well as a report commissioned from Delap and Waller Ecoco by the South Dublin County Council and supported by the Department of the Environment, Heritage and Local Government, on setting sustainable energy targets for new buildings in the Irish context. There are a total of 14 indicators, each backed up by a set of measurable targets. Indicators address a range of potential impacts across the new development at design, construction and post-occupation stages. These include the areas of energy, drainage, ecology, transport, water, recycling, community resources and environmental management.

In the area of energy, indicators have been developed to reduce carbon emissions, support the use of renewable/low emission energy sources, and promote passive energy design. Specific targets include the establishment of an Energy Services Company to facilitate a district-wide approach to energy production and distribution; provision of integrated energy/heating systems at district, neighbourhood and block scale; a requirement that renewable energy generation on site should cover a minimum of 30% of total space and water heating energy needs; that the design and construction of all residential units should achieve a minimum Building Energy Rating of A3, while non-residential buildings are required to achieve a 60% improvement over current Building Regulations; and reservation of space along key streets to facilitate the distribution network for district or neighbourhood energy systems.

The Toolkit is not prescriptive on how the targets and indicators should be met. Rather, it recognises that there are various combinations of measures that could be put in place to meet the targets, and that given the long term nature of this project in combination with evolving improvements in technology, that the measures available to address the targets will change over time. The scale of the development at Clonburris is such that there will be significant benefits to addressing the issue of energy efficiency at district level initially, hence there is a



requirement in the Plan to develop a Clonburris Sustainable Energy Strategy to establish the most appropriate methods of meeting the renewable energy targets which could include incorporation of the principles of passive solar planning and design, the use of photovoltaic systems, solar thermal collectors, ground thermal energy storage, etc.

In the area of materials and building fabric, indicators have been derived to encourage the use of materials that reduce the impact on the environment taking account of their full life cycle, and to promote the responsible sourcing of construction materials. Specific targets include achieving an 'A' rating from the BRE's Green Guide for Housing Specification for 80% by area of residential units; 40% of timber and timber products to be from sustainable sources with a full chain of custody certification; the use of insulating materials that do not have a global warming potential (GWP) of 5 or more in either manufacture or composition; a minimum of 30% of materials to be used in construction to be recycled or reused in accordance with WRAP1 definitions; and the application of PassivHaus design principles to a minimum of 5% of all new buildings in each neighbourhood.

A strategic approach to the implementation of the Sustainability Toolkit will be critical to the delivery of truly sustainable development at Clonburris. This will require landowners and developers to work in partnership with the Council and

in co-operation with each other. The Council proposes the establishment of a Clonburris Sustainability Management and Appraisal Committee. This Committee will monitor compliance with the sustainability indicators and work with landowners and developers to secure continuous improvement in design through a 'check-and-challenge' process as part of the Sustainability Management and Appraisal Process.

The Council undertook a major public consultation exercise on the draft Plan between August and October 2007 during which over 800 submissions were made. A report on the submissions and recommendations for potential changes to the draft Plan will be presented to South Dublin County Councillors for consideration and decision before the end of this year. Potentially the SDZ Planning Scheme element of the Plan may then be appealed to An Bord Pleanála. In any event, it is likely that the ultimate decision on the draft Plan will be made next year.

The Council is committed to setting in place a Plan for the sustainable development of the lands at Clonburris and believes that when approved, the Clonburris Plan will set a new benchmark for the development of highly sustainable urban districts in Ireland.

Energy Efficient Passive Houses

SEI Launch Passive House Guidelines

Following the introduction of new legislation, most notably the European Community Directive on the Energy Performance of Buildings and the recent announcement of the intent to regulate and require the use of renewable energy systems in new buildings, we are seeing the emergence of extraordinary standards of energy performance for building construction in Ireland, as well as a rapid increase in the uptake of renewable energy technologies for building services.

Ireland is facing a number of serious challenges including rising energy costs and meeting our emissions obligations under the Kyoto protocol. These and other factors have given rise to a fundamental rethink in the way we design, construct and operate buildings. As we move forward, it is becoming clear that building 'green' has evolved and is fast becoming the preferred choice, providing high quality, high efficiency, dynamic and cost effective solutions for consumers and businesses. The passive house is the ultimate low energy building. The passive house standard is recognised in Europe as the most advanced in terms of energy performance of buildings and going forward the European Commission is set on implementing the passive house standard and also on setting more stringent requirements for the refurbishment of existing buildings.

Today, the passive house offers one of the most desirable technological and economical solutions for comfortable living and working. It can be applied to new and existing buildings in the commercial, industrial, public and residential sectors. With close to 10,000 passive houses built in Europe, this well proven and tested innovative standard is now attracting significant interest in Ireland with pioneers like MosArt and Scandinavian Homes leading an emerging movement in the construction industry.

In response to the need to educate professionals and their clients on how to design, specify and construct passive houses and facilitate the further development of this standard here in Ireland SEI REIO commissioned MosArt and UCD's Energy Research Group to develop the first in a series of passive house guidelines. The 'Guidelines for the Design and Construction of Irish Passive Dwellings' launched by Minister Eamon Ryan at See the Light 2007 focuses on new build semi-detached houses and cover both conventional block construction and timber frame construction methods. They will ultimately become part of a suite of guidelines to cover, for example, renofit, multiple dwellings, non-residential buildings, extensions, renovations etc.

The guidelines cover the rationale and definition of the passive house standard, how to design and specify a passive house along with, construction options, associated services, cost considerations and lifestyle issues. SEI hopes they will be useful in increasing awareness and understanding of the key principles and techniques in designing, constructing and operating the ultimate low energy building – the passive house.



To order a free copy please email:
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PASSIVE HOUSE CONFERENCE AND STUDY TOUR 2008

Sustainable Energy Ireland's Renewable Energy Information Office (SEI REIO) will be hosting an official Irish delegation and study tour to the 12th International Passive House Conference, at the Exhibition centre, Nuremberg on 11-12 April 2008

The group will participate in the two-day conference – a unique event with a series of simultaneous conference and specialist symposiums delivered by experts leading the passive house movement across Europe. The conference is supported by a comprehensive technology exhibition (entrance to the exhibition is free for all registered delegates) with leading passive house product suppliers show-casing the very latest technology innovation and intelligent solutions for old and new buildings.

The group will then embark on a series of excursions hosted by the Passive House Institute to visit a number of passive house installations in the domestic, commercial and public sectors.

The study tour will be of particular interest to architects, the building industry, housing professionals, specialist advisors, policy makers, designers, consultants interested in environmentally responsible design and construction of buildings, local authority planners, housing and building departments, housing associations, contractors and building product suppliers/manufacturers interested in achieving the highest levels of energy performance and/or exploiting the major new commercial and strategic business opportunities.

For further details Email
renewables@reio.ie

Green Warning

Europe's biggest travel company has given warning that it will pull out of destinations and withdraw from hotels that fail to comply with its environmental standards.

"In five years we want minimum standards in all our hotels " said Dermot Blastland, managing director for TUI UK and Ireland which carries 30 million passengers a year across Europe to 200 destinations. *" We will not feature hotels that do not comply."* He said that he expects other companies to follow the lead, as customer demand drives the move to more sustainable travel and accommodation.

Mr Blastland said: *" A recent TUI passenger survey found that over half of respondents would opt for a holiday with a low impact on the environment if given the choice, and three quarters favored holidays offering a fair deal to local people."*

Before its merger with the TUI brand the tour operator First Choice, under Mr Blastland's leadership made one of the travel industries strongest commitments to protecting the environment.

In addition to donating to the Travel Foundation, a charity that supports sustainable tourism projects, last year it introduced an "opt out" carbon offset scheme for all holidays it sells. Under the scheme, adults pay £1 and children 50p on every holiday sold, unless they request otherwise, to offset their share of the carbon emissions from their flight. First Choice matches all donations.

Ireland Moves Towards Eco Tourism

The hospitality industry is not thought of as being particularly green — huge heating, air conditioning and lighting demands make for massive energy consumption. Life in today's world is critically dependant on the availability of a secure supply of energy in a convenient form so the threat of depleting oil resources has the potential to change the world as we know it.

As concern over rising energy prices continues to grow so does the number of Irish hotels and guest houses embracing environmentally-friendly technologies. The use of alternative and renewable energy sources says a lot about the environmental commitment of a particular property's owner or operator. The following is just a brief snapshot of the growing number of hotels and guest houses that are speaking out against global warming and the use of fossil energies by embracing renewable sources of energy such as solar, geothermal and biomass.

Founded in 1895, **Kelly's Resort Hotel and Spa** in Rosslare, Co Wexford is one of Ireland's top four-star resort hotels. Facilities include 117 bedrooms and suites, three restaurants, two bars, an aqua club and fitness centre with two indoor swimming pools, steam room, sauna and outdoor canadian hot tub. The hotel complex also incorporates a 15,000 sq ft (1400 m²) building housing the "Sea Spa" complex containing various pools and treatment rooms.

By late 2005 it was clear that Kelly's Resort Hotel was facing a number of challenges in terms of managing and budgeting its heating costs. When considering converting to a woodchip-fuelled system, Managing Director Bill Kelly had two key objectives in mind:

- ▶ The need to reduce costs;
- ▶ A desire to significantly improve the environmental impact of operations at the hotel.

The solution was to install a woodchip boiler that was sized to meet the base heat load for the site with two of the existing 150 kW oil boilers remaining in place to meet additional demand. In the new configuration, the 350 kW woodchip fuelled boiler acts as the lead boiler. The two remaining boilers only become operational if the wood chip boiler is offline or if additional heat is required during peak loads in extremely cold weather.

Bill Kelly estimates that the water-heating bills for the hotel have been reduced by over 50% as a result of switching to woodchip, which has been an extremely positive experience for his business. The hotel managed to reduce its carbon emissions by 252 tonnes in 2006 compared with 2005 emissions. The total investment was around €105,000; taking into account a grant of over €26,000 from SEI under the ReHeat programme Kelly's Resort Hotel expect the project to pay for itself in three years.

The **Brooklodge**, Macreddin, County Wicklow, found rising fossil fuel costs the perfect reason to invest in a sustainable future and has installed a geothermal heat pump and wood chip boiler.

Killarney's Lake Hotel has installed a geothermal heat pump and solar collectors for hot water. Offering a pay back of 10 years and annual savings of €15,000 **Bewleys Hotel Dublin Airport** installed the largest solar array in Ireland.



The 56 solar panels or 308m² of collector area provides up to 40% of the hotel's hot water requirement and a reduction of 46 tonnes of CO₂ emissions.

The **Ballinahinch Hotel** took the Energy Cabin route with a dual wood and solar installation. Two 150 kW wood pellet boilers are supported by 24 m² of solar panels. Wood and solar are a winning combination for one of Ireland's most innovative environmental heating system refurbishment projects at the **Inchydoney Island Lodge and Spa**, Clonakilty, West Cork. The 80m² solar array heats water for the hotel's seawater swimming and thalassotherapy pool whilst three 150 kW fully-automatic wood pellet boilers supply hot water for radiators, showers, air handling systems etc. in the hotel.



Installation of Solar Panels at Inchydoney Island Lodge & Spa.

The **Coosan cottage guesthouse in Athlone** offer's all the luxuries associated with a well designed and well thought out building. However, this award winning eco guesthouse provides all requirements for the discerning guest at no detrimental impact to the environment. The guesthouse installed a heat recovery ventilation system, is warmed by a 30kw KWB wood pellet boiler and is connected to Airtricity for green electricity.

The Gartan Outdoor Education Centre, Church Hill, Letterkenny offers a range of residential and non-residential water-sport and mountaineering courses. It installed an automatic boiler fuelled by willow chip to heat a new boathouse building.

At the time of going to press 10 other hotels including the Beechwood Lodge, Villa Rose Hotel, Deebert House Hotel, The Gateway Hotel, East End Hotel, Amber Springs Hotel, Abbey Manor and Monrat Destination Spa have all installed biomass boilers with the support of SEI funding via the ReHeat Programme.

Casesy's of Baltimore and Concreggan Hill Hostel have installed solar systems. Over 10 more hotels including the Mount Juliet Estate and Dromoland Castle have

had grant applications approved with plans to install either wood, solar or geothermal systems.

The **Westport Woods Hotel**, part of the Brian McEniff Group, is the major success story of the Greening Irish Hotels programme.

General Manager Michael Lennon has dramatically cut costs through an extensive and impressive array of green initiatives, which have also added handsomely to the hotel's reputation as an eco friendly operator.

The journey towards green commenced five years ago when the hotel embarked on the SO14001 process and today the Westport Woods endeavour's to reduce costs and aid the environment through a range of activities including:

- ▶ Switching to CFL light bulbs;
- ▶ Installing 24 hour time clocks managing lighting and electrical metres (reduced total kilo watts used from 152m in 2004 to 1.33m in 2006);
- ▶ By installing six inches of insulation in the roof – the hotel now switches the heating off in March;
- ▶ Installing a biomass boiler;

Roganstown Golf and County Club, Swords, Co. Dublin is Ireland's first carbon neutral hotel. The 550 kW boiler one of the largest to be installed in Ireland heats the entire hotel. The hotel's Managing Director, Ian McGuinness commented: "We're delighted to be playing our part in reducing emissions, but installing a wood chip boiler also makes economic sense. There's a lot of uncertainty about both the supply and price of fossil fuels, and wood chip is about half the price of heating oil or LPG without the fluctuations. Because it's 'carbon neutral', wood fuel will not be subject to carbon taxes which are likely to be introduced at some point and while the capital outlay was quite high, that was partly offset by government grants. We believe that wood fuel is definitely the way forward."



Above: Joe Corr (Green party and Cathoirleach Fingal County Council), Trevor Sargent (Green party), John Heffernan (Clearpower) and Ian McGuinness (Roganstown)

The 2007 Sustainable Energy Awards

Sustainable Energy Ireland (SEI) recently hosted the 2007 Sustainable Energy Awards gala dinner in Dublin's Crown Plaza Hotel.

Inchydoney Lodge & Spa, Diageo and Pfizer Ireland Pharmaceuticals were among the eight winners of the awards, which included entries from organisations in both the Republic and Northern Ireland. Now in their eleventh year, the highly coveted awards, are organised by SEI and sponsored by ESB Customer Supply.

In response to an increasing level of interest from smaller companies, a new award category 'Energy Efficiency Project in a Small and Medium Enterprise' was included for the first time this year. This new category recorded the highest number of nominations across all of the categories.

Companies participating in the awards recorded an average energy savings of 7% equating to overall cost savings of €23 million. The equivalent to 211,000 tonnes of CO₂ have also been removed from the atmosphere which is similar to taking 77,000 new cars off Irish roads.

Minister for Communications, Energy and Natural Resources, Eamon Ryan T.D. presented the awards, said "It is very encouraging to see such vigor and enthusiasm among the organisations participating in these awards. I'm aware that many of these organisations have entered in the past and have long-established programmes in place in the area of energy efficiency.

"However, it is the smaller companies - the SMEs - which also account for a proportion of Ireland's CO₂ output, that I am particularly encouraged to see represented so well in these awards. Energy management practices are not just the preserve of large industry with dedicated resources and teams, but a commercial imperative for enterprises of all shapes and sizes."

Inchydoney Lodge & Spa - which secures 37% of its energy from a renewable resource - won the Award for Renewable Energy Project. The hotel developed a combination of solar panels, wood pellet boiler and heat recovery system, which will reduce the hotel's annual fuel bill by over €50,000 and save annual emissions of 424 tonnes of CO₂. In 2006, energy consumption decreased by 8.7%, despite an increase in the hotel's activity.

Martin Corkery, Pfizer Ireland Pharmaceuticals' Energy Team Leader, based in Loughbeg, was awarded the prestigious title of Energy Manager of the Year. The judges acknowledged Mr Corkery's long and distinguished track record in energy management, including his role in Pfizer's recent certification to IS 393 - the Irish Energy Management Standard. In 2006, eleven major energy-saving projects were undertaken at Pfizer Loughbeg under Martin's supervision. These and other projects contributed to the achievement of IS 393 resulting in a CO₂ reduction of 2,254 tonnes for the site.

David Taylor, Chief Executive, SEI said "These Awards are an important reminder of the achievements of business in Ireland at a time when energy and climate change are high on the political agenda across Europe. We now have tangible evidence that the level of savings achieved by companies involved in our large industry programmes - such as LIEN and IS 393 - are also possible in their smaller counterparts. This year, SEI will have worked with almost 1000 businesses of all sizes and in all sectors - all striving to reduce energy costs and, in so doing, enhance their competitiveness and the growth prospects of the economy."

Brid Horan, Executive Director of ESB Customer Supply, said "Energy efficiency is now a crucial aspect of the energy debate. There is an onus on all suppliers to actively promote an energy-saving culture. The Sustainable Energy Awards

have never been more important - they stimulate and encourage energy savings initiatives that can become part and parcel of every business strategy."



Cat C: Renewable Energy Project Pictured: Brid Horan, Executive Director of ESB Customer Supply and Group Services, Minister for Communications, Energy and Natural Resources, Mr. Eamon Ryan T.D, Denis Dempsey, Maintenance Manager, Inchydoney Lodge & Spa and David Taylor, Chief Executive, SEI.

Awards Winners

Category A

Energy Efficiency project in a Small and Medium Enterprise - *Spring Grove Services, Millfield.*

Category B

Energy Efficiency project in a Large Enterprise - *Boliden Tara Mines*

Category C

Renewable Energy Project - *The Lodge & Spa at Inchydoney Island*

Category D

Energy Awareness Campaign - *Pacific-Care International Ltd.*

Category E

Energy Service or Supply Company - *Eirdata Environmental Services Ltd.*

Category F

Excellence in Building Design or Specification - *the Department of Education and Science*

Category G

Coordinated Energy Management Program - *Diageo St James's Gate Brewery*

Category H

Energy Manager of the Year - *Martin Corkery, Pfizer Ireland*

SEI REIO

Free Resources

ENERGY UPDATE
WINTER - SPRING 2008

Solar CD

Developed to assist students, professionals and decision-makers in getting to know more about solar and wood energy technologies, better understanding issues related to the development of renewable heating in Ireland and acquiring the confidence and tools to apply renewable heating technologies in their projects.



Procurement Guidelines

Compiled to assist designers, planners, architects, heating engineers and other professionals in preparing tender specifications for the purchase of solar thermal system equipment and services. The guidelines detail the specific features, design standards and components that are considered essential for achieving reliable and cost effective performance.



Biomass CD

This updated compilation CD provides a comprehensive overview on a range of bioenergy technologies and resources including wood heating, anaerobic digestion, liquid biofuels and landfill gas recovery.



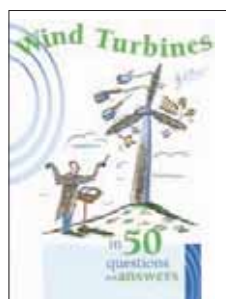
Bioenergy News

SEI REIO's annual bioenergy publication. Contains articles on the Government's Bioenergy Action Plan, SEI's Reheat Deployment Programme, Anaerobic Digestion in Ireland, Renewable Energy from Agriculture & Forestry, District Heating Systems, the European Pellet Market, Environmental Regulation of Wood Materials for Energy Production, Potential of Private Sector Wood Supply etc.



Wind Turbines in 50 Questions & Answers

Designed to help answer basic queries about wind energy such as where does wind energy come from, how does a wind turbine work, how efficient are wind turbines etc.



To order any of the above please send an e-mail with your request to renewables@reio.ie.

The following publications are available to purchase from the SEI REIO Resource Centre

- Building Sustainable Energy Systems - Swedish Experiences
- Energy and the Environment in the European Union
- Energy Visions 2030 for Finland
- Handbook of Renewable Energies in the European Union
- Renewable Energy Success Stories
- Solar Energy & Housing Design – The Essential Reference Guide
- Wind Power in View
- Wood Fuels Basic Information Pack

Technical Resources

- New Passive House Planning Package 2007
- T*SOL

New Publications for 2008

- Planning and Installing Solar Thermal Systems: A Guide for Installers, Architects and Engineers (Planning and Installing)'
- Planning and Installing Bioenergy Systems: A Guide for Installers, Architects and Engineers (Planning and Installing)'
- Solar Thermal Systems, Successful Planning & Construction
- Photovoltaics for Professionals, Solar Electric Systems Marketing, Design and Installation

These and other resources can be purchased at our online resource centre at www.sei.ie/resourcecentre

SEI REIO
RESOURCE CENTRE



Energy Show 2008 Moves to RDS Main Hall

Mark your diaries! The Energy Show 2008 is on Wednesday 16th and Thursday 17th April. The show, presented by SEI, will once again take place at the RDS in Dublin and this year will move to the larger venue of the Main Hall. RDS. Exhibition space is selling up fast with additional capacity already being added to bring the total exhibition area to 2000m².

The event is Ireland's biggest annual business showcase for the sustainable energy sector. Approximately 150 Irish and international manufacturers and suppliers of renewable and energy efficiency technologies will exhibit at the event which is expected to see 3000 professionals attend over the two days. In addition to the exhibition, a seminar programme on sustainable energy topics will be held over the two days. For further details on this or to book exhibition space, visit www.sei.ie/energyshow

Times: Wednesday 16th April 8.30am to 6pm
Thursday 17th April 9am to 5pm

Renewable Energy Installer Academy (REIA)

After the success of the courses for the heating technologies, development work is nearing completion on the courses for Wind and Photovoltaic technologies. Courses will be available for Wind in South West Regional College Omagh and PV in North West Regional College Derry.

The three-day courses will be accredited by City & Guilds and cover a range of theoretical and practical aspects of the technologies and include an examination and assessment at the end of the course. Anyone interested in attending the courses can reserve a place by contacting Action Renewables on 028 9073 7866. Participants should note that places are allocated on a first come first served basis and on the basis of meeting the course pre-requisites which are a practicing electrician with appropriate qualification relating to electrical installation such as NVQ Level 3 and knowledge of the IEE Wiring Regulations, inspection and testing.

The Irish Water Waste & Environment Show 2008



The Irish Water Waste & Environment Show (IWWE) takes place at the RDS, Dublin 5 - 6 March 2008.

Over 200 leading suppliers and manufacturers will be showcasing the latest innovation, technologies and services for water treatment, SuDS, monitoring, energy and environmental compliance, making it an ideal one-stop-shop for environmental managers and consultants, facilities managers, energy consultants, landowners, the pharma-chem and food sectors, Local Authority Engineers.

The two-day event includes an extensive seminar programme with Sustainable Energy Ireland, RIAI, Dublin City Council and Engineers Ireland all presenting seminars. The co-located waste exhibition IRWM features free CPD seminars run by CIWM Ireland focusing on legislation and new technologies in the waste sector.

Entry to the events is FREE and all visitors who register in advance will receive a FREE lunch at the show. For more information or to register to attend please visit the website at: www.environment-ireland.com

12th International Conference on Passive Houses 2008

11 - 13 April 2008, Exhibition Centre, Nuremberg

Sustainable Energy Ireland's Renewable Energy Information Office (SEI REIO) in association with the German Irish Chamber of Trade and Commerce are hosting a study tour to this major event. With just 40 places available early booking is recommended to avoid disappointment.

The group will travel as an official Irish delegation to Nuremberg and participate in the 12th International Passive House Conference. This unique event combines a professional and comprehensive two-day conference programme offering specialist symposiums delivered by experts leading the passive house movement across Europe and a day of technical site visits to passive house buildings in the commercial, public and residential sectors.

To register your interest in the study tour please email: renewables@reio.ie

For further details on the conference: www.passivhaustagung.de

RECOMMENDED EVENTS 2008

16-19 January 2008

Central European Biomass Conference
Graz, Austria
www.biomasseverband.at

7-10 February 2008

Bioenergy World Europe 2008
Verona, Italy
www.bioenergy-world.com

28 February 2008

BWEA Marine 08
Edinburgh, UK
www.bwea.com/marine

5-6 March 2008

Irish Water Waste & Environment Show
RDS, Dublin
www.environment-ireland.com

12-13 March 2008

World Biofuels Markets Congress
Brussels, Belgium
www.worldbiofuelsmarkets.com

31 March - 3 April 2008

European Wind Energy Conference and Exhibition 2008 (EWEC 2008)
Brussels, Belgium
www.ewec2008.info

16-17 April 2008

The 2008 Energy Show
RDS, Dublin
www.sei.ie

21-22 May 2008

All-Energy & H208 2008
Aberdeen, UK
www.all-energy.co.uk

27-29 May 2008

World Bioenergy 2008
Jönköping, Sweden
www.elmia.se/worldbioenergy

29-30 May 2008

4th European PV-Hybrid and Mini-Grid Conference
Athens, Greece
www.ottl.de

4 June 2008

BWEA Offshore 08
London, UK
www.bwea.com/offshore

12-14 June 2008

Intersolar
Munich, Germany
www.intersolar.de

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