

Record Numbers Visit Energy Show 2004

A record number of participants and exhibitors from across Irish industry took part in the Energy Show 2004, which was held in the RDS on May 12th and 13th. Organised by Sustainable Energy Ireland (SEI), the theme of the show this year was "putting Ireland on the path to a lower carbon economy".



Minister Ahern officially opens the Energy Show 2004

According to Sustainable Energy Ireland, this year saw a 30% increase in visitor attendance at the Show, which had over one hundred exhibitors and at which a series of workshops on

renewable and sustainable energy technologies were hosted over two days.

The Show highlighted ways in which Irish business and industry can effectively reduce overall energy demand through energy efficiency measures, and meet a greater proportion of that demand from renewable resources. It also proved to be an excellent opportunity for customers and suppliers of sustainable energy technologies to meet and transact business.

The show was officially opened by Minister for Communications, Marine and Natural Resources, Dermot Ahern, who earlier this year called on industry to improve their energy management as Ireland gears up to reduce CO₂ emissions.

An important element of the Energy Show were the workshops and free briefing sessions. The Bioenergy workshop focused on biomass heating. Energy consultants from Austria and Sweden gave an overview of wood pellet stove and boiler heating for domestic and commercial space heating markets. Karl Heinz Lesch of Conness, outlined the business model of an energy service company (ESCO) in biomass heating.

Energy Show Presentations:

Wind: Grid Integration; the New Planning Guidelines and the Environmental and Economic benefits of wind energy.

The solar workshop focused on Sustainable Buildings and the use of renewable energy in buildings.

The biomass workshop included a presentation from an energy services company on how to

design and implement wood heating for large buildings. Presentations on domestic wood pellet stove and boiler heating.

Presentations from the workshops are available to order from emer.craven@sei.ie

Ground Source Heat Pumps Project Development Seminar

Responding to the huge demand for information from professionals on this proven sustainable heating and cooling solution for buildings, the seminar provided a "crash course" on the main aspects of ground source heat pump project development.



Left to right, Energy show exhibitor Conness pictured with Mr. Paul Kellett, Technical Manager, SEI REIO

A presentation from Karl Mittermayr, from M-Tec Mittermayr (Austria), gave an overview of the Austrian heat pump market, domestic hot water and industrial floor heating systems.

Download presentations from www.sei.ie/reio.htm

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Irish Wood Energy Market Heats Up

The first wood heating installations around the country have started a momentum among potential heat customers and companies interested in getting started in this new business.

Wood heating of large buildings is a significant market in Ireland, as more than half of a building's energy goes on heating alone. Buildings in the residential and service sector (including commercial and public buildings) account for 43% of Ireland's total primary energy requirement. This sector is also the largest electricity user. In a similar sized market such as Austria, 8000 new wood heating systems are installed in the building sector each year.

The residential housing market has an annual energy use of 7 million tonnes of oil equivalent and an annual spend of €1,500 million.

Potential customers in the large buildings sectors (schools, hotels and hospitals) now have the option of choosing high quality, automatic wood heating. Wood fuels are competitive with oil and electricity heating and are a secure and sustainable source for the future.

Automatic wood pellet and wood chip boilers are now providing space heating and hot water at office buildings at Laois Sawmills, Natural Power Supply in Waterford, Coillte in Wicklow and at Camphill Community Centre in Jerpoint, Co Kilkenny.

The Camphill Community at Jerpoint, for people with special needs, looked at replacing their oil boiler with a wood chip boiler that would heat all of the residential buildings on site. The project developed from start to finish in nine months.

Austrian boiler manufacturer, Froling was chosen as the supplier of the 150kW wood chip boiler.



Left to right, pictured in the wood chip boiler house at Camphill's Jerpoint Centre, John O'Connor, Manager Camphill and Aine Carr, SEI

The Camphill boiler house was constructed with adjacent storage for 25 tonnes of wood chip fuel. Dry clean wood shavings from a local joinery are readily available (up to 1 tonne per week).

The boiler can even take fuel with a high moisture content of up to 40% and can easily be adapted to wood pellets. The boiler is fully automatic. The performance and emissions data is monitored remotely and the data is sent by modem to the Froling service department in Austria. Local technical support is available by telephone to the Irish agents, Powertech Ireland who assisted with the installation as part of their training.

The installation was part-funded by Sustainable Energy Ireland's Renewable Energy RD&D programme.

Natural Power Supply Ltd., based in Waterford installed their first Biomass Boiler and Mini District Heating System in December 2003. The boiler installed is a 70kW Binder manufactured in Austria and heats the office complex for 20 staff and an adjacent country house. The boiler can run on pellets or wood chips, and is currently fuelled by short rotation coppice willow chips. This installation was part-funded by Barrow-Nore-Suir Rural Development.

Natural Power Supply's Managing Director, Mr. James Kennedy, said that "Heating offices, *Automatic fuel feed system for wood chip at Natural Power Supply, Waterford*



Clean, dry wood chip fuel used in the boiler at Camphill

schools, hospitals and other buildings with wood chips is now viable in Ireland. With a secure supply of locally grown fuel, the fuel cost will not be affected by increasing world oil prices." In addition to producing and selling fuel from renewable sources to generate heat, Natural Power Supply provides a complete installation package for a range of European wood boilers.

Wood Heating Suppliers

CONNES is an energy service company (ESCO), offering services in the area of sustainable energy and energy efficiency. CONNESS distributes Austrian manufactured wood heating boilers KWB (10-150kW) and pellet stoves from RIKA (2-12kW). A special feature of the RIKA stoves is that they can be switched on remotely by phone.

CONNES has installed a 15kW KWB wood pellet boiler at Laois Sawmills, Portlaoise and a 100 kW KWB pellet/chip heating system at the new headquarters of Griffner-Coillte in Wicklow.

You can now order your wood pellets online at the newly launched website of Galtee Fuels Ltd. www.greenheat.ie, who also offer wood pellet stoves and automatic pellet boilers.

Wood briquettes are readily available through garage forecourts and fuel merchants from Czech Direct, a Kerry-based procurement firm. www.czechdirect.ie

Since setting up business last year, Celtic Flame, has seen phenomenal interest in its range of Canadian Enviro wood pellet stoves. Celtic Flame took part in the Spring Homes and Gardens and Self Build shows recently and displayed stoves for room and hot water heating. Celtic Flame also imports wood pellets from Canada. www.celticflame.ie

Further information:
Keep up-to-date on developments in the European wood energy markets, subscribe to "Wood Energy", a quarterly publication at www.itebe.org
Visit www.sei.ie/reio.htm to download a full list of wood heating suppliers

European Policy on Renewable Energy Targets

EU Commission calls for stronger commitment of Member States to achieve the 2010 targets

The EU Commission announced that "only a few member states have until now implemented an attractive framework for renewable energy sources. In view of the meagre results so far the Commission calls on member states to ensure the fulfilment of the 2010 targets by the implementation of appropriate measures. The Commission proposes additional concrete actions at national and Community level."

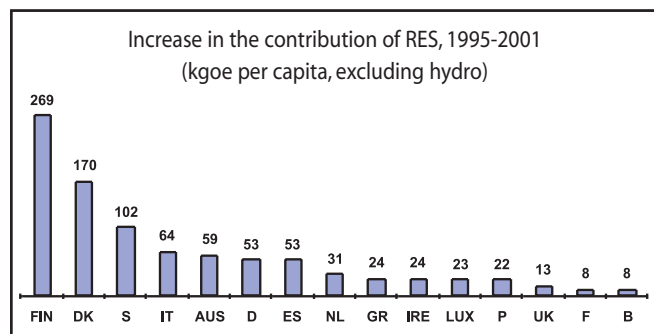
"There is still time for member states to change their policies so that renewable energies can finally take off in Europe", said Vice-President Loyola de Palacio.

- The commission will evaluate national progress to date on the 2010 target for renewable energy
- Only 4 countries (Germany, Denmark, Spain and Finland) are on track to achieve their national targets
- Extra actions on the renewable heat sector are still needed to reach the 12% total energy consumption target
- A target of 20% renewable energy by 2020 will be evaluated
- A strong political declaration together with an ambitious international action plan for the promotion of renewable energies, was announced at the World Renewable Energy Conference, in Bonn in June 2004

Dr. Karl Kellner, Directorate for Energy and Transport at the European Commission, speaking at the Energy Show, Dublin recently, said that progress of renewable energy within the EU has been quite slow. Ireland lags significantly behind countries such as Finland and Denmark with accelerated policies for the deployment of renewable energy (see table 1) Dr. Kellner highlighted the need for more ambitious targets for 2020, the supportive role of policy and the importance of renewable heat from biomass in the overall contribution to renewable energy.

Table 1

Different rates of progress in different countries



For further information:

World Renewable Energy Conference www.renewables2004.de

Read the European Commission report on Ireland's status for renewable energy implementation:

http://europa.eu.int/comm/energy/index_en.html

BIOHEAT II

The Bioheat Programme is a project funded by the EU Commission within the Alterner Programme that is dedicated to developing high quality wood heating projects and promoting the benefits modern wood boilers.

The project looks specifically at heating in large buildings and through the course of the programme has devised activities that will kick-start the market in this country.

Activities include the production and dissemination of brochures, financial support for feasibility studies and part-funded field trips and seminars to be held throughout the project. For details on any of the upcoming seminars and study tours, phone the Bioheat hotline on (023) 29171.

The Bioheat programme has produced two brochures—"Wood fuels for Residential Buildings" and "Sustainable Heat for Public Buildings". For a Bioheat brochure or advice on availability and costs of wood fuel, service providers, equipment suppliers and pilot projects, contact Ann McCarthy on (023) 29171 or log on to the website; www.bioheat.info.



Energy Policies of IEA Countries - Ireland 2003 Review



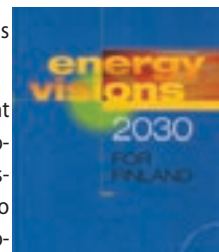
This publication reviews the Irish energy sector, the reform of the electricity and natural gas markets, and efforts to cut greenhouse gas emissions.

Order online at www.iea.org

Energy Visions 2030 for Finland

Hardback, 237 pages, over 140 full colour images, diagrams and tables

Energy Visions 2030 gives an overview of Finland's present energy sector and investigates the future from a technological and techno-economic perspective. Three scenarios—the baseline scenario, the strong energy saving scenario and the ambitious technological development scenario—and conclusions are presented. Order online at www.sei.ie/reio/reiobookshop.html



Renewable Energy –the solution to climate change

This publication offers renewable energy solutions to tackle climate change. It shows how renewable energy is a mainstream energy solution for heating, cooling, electricity and transport. Published by the European Renewable Energy Council (EREC)

Download from www.erec-renewables.org

UK Report On Biomass Highlights Heat: The missing Link In Renewables Policy

The Royal Commission on Environmental Pollution is an independent standing body that advises the UK Government on environmental issues.

It has published a report "Biomass as a Renewable Energy Source" that highlights the importance of renewable heat from biomass and the lack of policy in this area.

"The use of biomass energy has benefits not only for climate change but also offers new opportunities for UK agriculture and forestry and increases the security of the UK's energy supply. The government has recognised this and has attempted to stimulate the sector through a range of policies, but the policies so far have failed to integrate the supply chain and support viable technologies. Biomass energy could make a vital contribution to the UK's targets for combating climate change, but is failing to develop under fractured and misdirected government policies for this important energy source. Our recommendations are directed at remedying this," said Sir Tom Blundell, Chair of the Royal Commission on Environmental Pollution at the launch of the report. Biomass differs from other renewable energy sources in two important respects: it is controllable and it can provide heat as well as electricity.

The report calls for:

- A new renewable heat obligation that would bring encouragement to the generation of heat rather than just electricity.
- The formation of a new government/industry biomass forum.
- Biomass fired Combined Heat and Power (CHP) in all new-build developments.

The report states that biomass energy and heat should be supported by the introduction of renewable credits for heat as well as electricity and by positive planning regulations. Biomass energy should be favoured in all new-build and retrofit projects. The assumption should be in favour of biomass energy in all projects; construction companies and councils should have to justify any decision not to adopt this option.

In Ireland, the Biomass Strategy Committee was set up last year by the Department of Marine, Communications and Natural Resources, to consider the policy options and support mechanisms available to Government to stimulate increased use of biomass for energy conversion. Its role is to make specific recommen-

dations for action to increase the penetration of biomass energy in Ireland. The committee will report by the end of 2004.

Renewable Energy Development Group

The Minister for Communications, Marine and Natural Resources, Mr. Dermot Ahern, recently established a Renewable Energy Development Group to report on developing and expanding renewable energy.

The group will report by the end of the year on the following issues:

- The next market support mechanism
- The introduction of net metering – which allows small producers to get benefit for energy supplied into the grid
- Research and development
- Grid Upgrade programme
- Applications backlog
- Wind moratorium

For further information:
[Renewable Energy Development Group www.dcmnr.ie](http://www.dcmnr.ie)
[Royal Commission on Environmental Pollution Report on Biomass at http://www.rcep.org.uk](http://www.rcep.org.uk)

Greenhouse Gas Emission Trends

European Environmental Agency and Sustainable Energy Ireland's latest reports

According to recent projections compiled by the European Environment Agency national measures currently being taken or planned are insufficient to meet EU climate emissions targets. Recent projections show that the European Union and many of its Member States will fail to meet their Kyoto Protocol targets for limiting greenhouse gas emissions on the basis of the domestic policies and measures implemented or planned.

Under the Kyoto Protocol, the 15-nation EU must cut its overall emissions of six greenhouse gases, widely considered to be contributing to global climate change, to 8% below their 1990 levels by the period 2008-2012.

However, the latest projections show that existing domestic policies and measures will reduce the EU's total emissions in 2010 to only 0.5% below 1990 levels, leaving it 7.5% short of the Kyoto target (with Ireland exceeding its agreed limits three-fold).

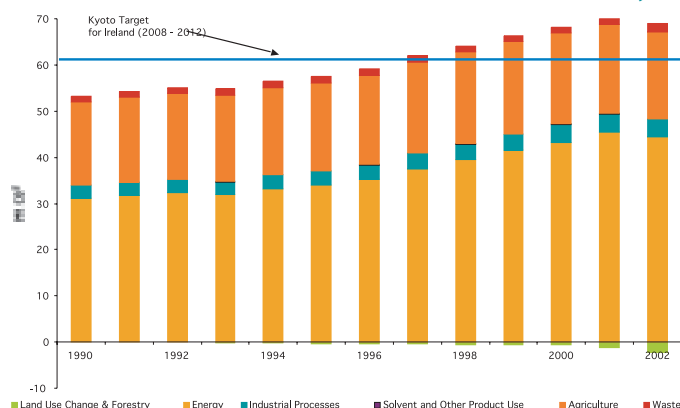
Based on existing domestic policies and measures the projected emissions change in 2010 paints a gloomy picture with Denmark, Spain, Austria and Belgium all exceeding the agreed limits by more than 20% and Ireland's projected figure sitting at 39.8%.

The latest projections are published in the EEA report Greenhouse gas emission trends and projections in Europe 2003.

http://reports.eea.eu.int/environmental_issue_report_2003_36-sum

The "Energy in Ireland 1990-2002" study recently published by SEI, tracks Ireland's energy consumption. Table 2 from the study shows greenhouse gas emissions by source. Over half of emissions are generated by the energy sector which has seen significant growth since 1995. The report is available to download from www.sei.ie

Table 2: Greenhouse Gas Emissions by Source



Sustainable Buildings in Wicklow

Solar and wood heating at Coillte Headquarters



Left to right, pictured in the wood heating boiler house at the recent BIOHEAT site visit, Billy White, Coillte, Peter Sullivan, Griffner Coillte, Karl Heinz Lesch, Conness, Duncan Stewart, Stewart & Sinnott Studio, Aine Carr, SEI, Gehrt Ettl, Conness, Gerry Cunnane, Wind Water Solar and James Kennedy, Natural Power Supply.

The construction for Coillte of a new corporate headquarters at Newtownmountkennedy, Co. Wicklow is now nearing completion. The building was designed by architects Stewart & Sinnott Studio and is being constructed by Griffner Coillte - a new joint venture company which is owned by Coillte and the Austrian timber frame company Griffner Haus which has its manufacturing facilities in Mullingar.

The new two-storey building of approx 16,800 sq ft (including a basement of 4,500 sq ft) will be linked to the current timber frame building which was built in 1996. The existing building was ahead of its time in terms of demonstrating best practice in timber building technology, and the new one builds on this experience and demonstrates best practice in all round sustainable design. The primary building material is timber from sustainable sources and insulation using recycled paper products to levels exceeding current building regulations.

The building is designed with a narrow plan to

encourage natural cross ventilation via opening windows. The windows are designed to have different opening positions to provide trickle / background ventilation in winter, minimal ventilation in spring and autumn and large full opening areas for Summer ventilation. High-level windows are motorised and can provide secure night time cooling in Summer as required. A generous brise-soleil (overhang) has been provided at roof level to minimise high angle summer solar gains whilst allowing the gains from low angle sun to help heat the building in winter. High-level windows in the sloping roof also have inbuilt retractable external blinds to reduce solar gains in summer but without daylight or heat penalty in winter.

The demand for mechanical cooling is therefore removed and in addition the high insulation levels ensure very low heat demands in winter.

The primary heat source is from two arrays of solar thermal panels – a flat plate array and an evacuated heat tube array. The heat will be stored in a large buffer vessel which is topped up as necessary from a wood boiler supplied by the Austrian company KWB. The boiler (which has been sized to allow the current building of 10,000 sq ft to be linked to the system) has a 100kW capacity and is capable of using either wood pellets or wood chips. These systems are located in a purpose-built energy centre that contains full monitoring facilities. It is open to the public for education and demonstration purposes.

The installation was part-funded by Sustainable Energy Ireland's Renewable Energy RD&D programme.

Further information:
 Locate a sustainable building architect, search under "Sustainable Building" from the database of the Royal Institute of Architects of Ireland www.riai.ie and www.irish-architecture.com
 EASCA, the Environmental and Sustainable Construction Association www.easca.ie

Solar CD

This resource contains a "best of" selection of presentations, papers and brochures from SEI REIO's solar energy events over the past three years. The CD is an invaluable source of information for professionals and decision makers on:

- solar technologies and their use in Ireland
- policies and regulations supporting the development of solar energy
- tools for implementing solar energy in buildings

To order your free copy, email renewables@reio.ie



RENEWABLE ENERGY IN BUILDINGS

The EU Directive on Energy Performance in Buildings was adopted last year and comes into force in 2006.

The directive covers the following:

- A method of calculating energy performance of buildings
- Minimum standards for energy performance for new buildings and for significant renovations
- Certification systems for energy performance in new and existing buildings and the public display of this information
- Inspection of boilers, heating and cooling systems

The directive involves all residential and commercial buildings.

New buildings must include a technical, environmental and economic feasibility for installing renewable energy.

For further information:
 Contact Paula Rice, SEI email paula.rice@sei.ie

Download a brochure on Better Buildings, use search words "Better Buildings" to locate the brochure on www.managenergy.net or email tren-building-directive@cec.eu.int



Coillte's New Sustainable HQ building



Buildings Surviving Comfortably Without Central Heating!

About 12 years ago, Dr. Wolfgang Feist and a team of researchers built the first experimental passive houses near Darmstadt in Germany. These houses had to be so energy efficient so as not to require central heating. Having proven successful, the concept was refined into a standard and Dr. Feist founded the Passive House Institute to spearhead its development across Europe. Today, there are close to 10,000 Passive Houses built in a wide variety of countries and climates, from Italy to Sweden, as well as an increasing number of public and commercial 'Passive Buildings'.



The first passive supermarket recently opened in Upper Austria.

The Passive House standard requires that the annual heating demand of a building is lower than 15 kWh per m² and per year, about 85% less

than an Irish house built according to the current building regulations. This is achieved by the very high level of insulation and air tightness of the building's envelope and the use of heat recovery ventilation. The residual heating demand can be easily supplied with the incoming fresh air which avoids the need for an expensive central heating system. On average, Passive Houses cost 8% more than conventional houses but provide a much healthier and comfortable living environment.

Having discovered the Passive House concept at REIO's first Solar Conference in Tralee, Irish designer Tomás O'Leary and his wife took a leap of faith and bought a plot in Wicklow to build their future family home as a passive house. After a lot of research and a visit to the Passive House Institute in Darmstadt last winter, they received planning permission in early March and are now erecting what should be the first Passive House in Ireland. According to Tomás, "This is very exciting for us. Even if we are meeting a number of teething problems along the way, it will be fantastic to enjoy the comfort of our passive house next winter."

For further information on passive houses, REIO recommends "CEPHEUS – Living Comfort without Heating", available on its online bookshop at www.sei.ie/reio/reio_bookshop.html, as well as the following websites:

www.passivehouse.com and www.cepheus.de.



Solar Homes Catch the Sun

Reio's latest 8 page booklet on solar architecture

Discover how you can:
Keep your heating bills to a minimum

Enjoy the comfort of a cosy warm home
Create a healthy and ecological living space for you and your family
Download from www.sei.ie/reio.htm



2006 FIFA World Cup in Germany-will be Fuelled by Renewable Energy

Germany is gearing up for the 2006 FIFA World Cup and is looking at ways of using renewable energy to truly energise this world sporting event.

The Energy Agency of the German state of North Rhine Westphalia is targeting sports facilities throughout the region to see how they can cut energy spending and take advantage of renewable energy.

A quarter of Germany's population lives in the region of North Rhineland Westphalia (NRW). The NRW region is an important industrial area and has a long tradition of energy industries with its coal and gas activities. The NRW Energy Agency implements a Renewable Energy Programme that offers free advice and support to renewable energy projects.

Within one year of the start of the programme in 1997, over 3000 jobs were created in renewable energy with sales volumes of over 5 million euro.

NRW is also sport mad. With over 38,000 sport facilities in the region, they are ideal candidates for renewable energy as they need year-round heating, cooling and lighting to create a comfortable training environment. These facilities are high energy users with swimming pools spending up to €200,000 per year on energy. Sports centres and swimming pools use as much electricity per year as 100 houses. By looking at energy efficiency and renewable heating options, such facilities can reduce their energy needs and contribute to climate change targets at local and national levels.

Outdoor swimming pools are ideal for solar energy as the time of year they



are used and the optimal sun light hours coincide. Solar water heating is easy to install, totally reliable and makes economic sense when no additional heating system needs to be added for cold days. This works in most cases since the pool is only used during good weather.

Case example:

"Salt lagoon" outdoor pool at Salzkotten, Germany 460m² solar collectors were installed to give a 280kW maximum heat output. The investment cost was €54,000 and the energy saving per year are €5,100. The project reduces CO₂ emissions by 50 tonnes per year.

GREEN GOAL

The 2006 FIFA World Cup Germany™ will be the world's first major sporting event to have a neutral impact on the global climate thanks to their use of renewable energy. 'Green Goal' initiative addresses four key areas: water, refuse, energy and transport. 'Green Goal' is the first environmental concept developed for a major sporting event to include measurable targets.

Germany's third largest energy supplier, EnBW AG, will supply electricity from renewable sources. <http://fifaworldcup.yahoo.com>

Irish Participation at Wood Heating Training

The BIOHEAT programme funded by the EU Altener programme promotes and supports the development of high quality wood heating. As part of its training and development programme, BIOHEAT organised a training course for wood heating entrepreneurs at the Pichl Forestry School in Austria in February. The training course had 50 participants with 12 from the Republic of Ireland and 6 from Northern Ireland. Attendees are either involved in biomass heating or considering developing a wood heating business. Participants included representatives

from the IFA, boiler suppliers, sawmill sector, local energy agencies and consultants.

The aim of the one-week training was to enable the participants to:

- 1) understand in detail how small biomass heating projects can be developed and operated
- 2) develop their own small energy service company as a profitable business
- 3) support and give advice to other local actors, that are interested in starting small energy service businesses with biomass heating

Encouraged by the excellent feedback from the course the BIOHEAT programme plans to arrange a similar seminar for heating designers in autumn at the same venue. Details will be announced in the coming weeks and places will be limited. For further information contact Ms. Ann McCarthy on the BIOHEAT hotline at: 023 29171 or log onto www.bioheat.info.

For a brochure on wood pellet stoves, a buyers guide and a free wood pellet sample, call SEI REIO on 023 42193 or email renewables@reio.ie



Pichl Forestry School.



Farmers stockpile timber to reduce moisture content.



Purpose built wood chip trailer that blows wood chips into a fuel bunker.



Wood chips are blown into fuel bunker.



Inside the boiler house



Dr Christian Rakos with Mr Francis Fanning and Mr Sean Gilbride National Biofuel Ltd. outside Pichel Forestry School.

20% Renewables by 2020

The European Renewable Energy Council (EREC) has shown that new projections indicate that the use of renewable technologies could expand to satisfy 20% of Europe's energy demand by 2020.

Key findings presented at the European Renewable Energy conference organised jointly by the European Commission Berlin in January 2004 were:

- The renewable energy industry has a 10 billion euro yearly turnover
- Renewable Energy contributes 200,000 jobs per year in the EU
- Meeting a 20% target could mean 2 million new jobs in renewable energy for the EU

- Biomass could make up 13% of the 20% target
- Biomass heating will play in a big part in achieving this target
- Currently biomass heating amounts to 43 million tonnes of oil equivalent (toe) per year or 9% of total heat use. This will rise to 100 million toe to meet the 2020 target

Prof. Zervos of EREC outlined the current and target contribution of biomass heating. (see table 3)

The briefing paper "Renewable Energy Target for Europe- 20% by 2020" is available at www.erec-renewables.org

	1995 Eurostat Mtoe	2000 Eurostat Mtoe	2010 Projections Mtoe	2020 Projections Mtoe
Biomass	37	42.9	70	100
Solar Thermal	0.24	0.38	3	24
Geothermal	0.56	0.66	2	4
Total Res Heat	37.8	44.1	75	128
Total heat generation (trends to 2030)	50.1	454.4	491.1	511.6
Share of RES	8.4%	9.7%	15.3%	25.0%

Table 3: Contribution of Renewables to Heat Production (1995-2020)

Wood Pellet Stoves –The Latest Design Item In Irish Homes



Domestic wood pellet stoves are increasingly popular in Ireland as knowledge and experience of this innovative heating technology spreads. Offering the age-old attractions of a log fire with the added benefits of cleanliness, efficiency and automation, these stoves are ideal for heating homes and hot water.

"The wood pellet stove market is growing very, very fast every year by 20 to 30 per cent," says Dietmar Kessler, founder of wood stove producers, Calimax, and President of the European Fireplace Association. "Compared to other countries Ireland's market is now growing very fast."

Based in Austria, one of the leading countries in wood heating, Calimax rigorously researches and develops its products. "Even though the technology is simple the R&D is very long because we are working to very strict standards," he says. Austria's strict emission limits which were introduced in the 1980s were instrumental in pushing wood pellet stove development.

Since then emission efficiencies have risen from around 50 per cent to over 90 per cent for state of the art models, according to Christian Rakos of the Austrian Energy Agency.

Calimax's main markets are Austria, Switzerland, Germany and Scandinavia. In August their fully automatic wood pellet stoves will be available in Ireland.

One supplier already selling wood pellet stoves in Ireland is William Fenton of Fenton Fires, a family business based in Greystones, Co Wicklow. They have been looking at these stoves since first coming across them in the USA about 15 years ago, he says. However it is only in the last 18 months that they have started selling them. "We are primarily selling the continental ones - Extraflame, Cola, Piazzetta - all are Italian made," says Fenton.

One obstacle is the wood pellet supply, as there are currently no Irish producers.

"At the moment we are getting pellets from Welsh Biofuels," says William Fenton.

Gordon Tyrell of Celtic Flame is in a similar position - since October last year he is selling both stoves and wood pellets imported from Canada. He is very positive about the wood pellet business and says that Celtic Flame is already ahead of its three year target.

Customer Adrian Neville is delighted with the Celtic Flame wood pellet stove installed in his family's large living area. "I'm astounded at how little fuel I'm using."

The other big selling point for customers is the low cost of pellet fuel, at five cent per kilowatt hour, it is cheaper than electricity and competitive with other fuels too.

Customers are generally not worried about pellet supply as they have an assured supply from their stove reseller and there are at least two companies in Ireland planning to start production - Balcas in Enniskillen and Clearpower in the Republic.

The quality of both stoves (including their instal-

lation) and of wood pellets is paramount to Ireland's uptake of the technology, say Simon Dick of Clearpower. "Even one bad installation for every 10 good ones would have a negative effect."

Dietmar Kessler of Calimax agrees that high standards are essential, especially in a young growing market like Ireland's.

"We don't want the market to be spoiled by cheap imports. We want to push the market, but not spoil it," he says. "My advice is to go to the dealer, look at the flame, listen to the noise and ask about repairs and supply."

The breakthrough in the market will come as people can call up a fuel merchant and order a supply of wood pellets. This is now available through fuel distributors, Galtee Fuels Ltd and Czech Direct.

Widespread market penetration is getting closer. "I'd be very confident that the market is going to grow. It's very much in its honeymoon," says William Fenton.

Further information:
Download a wood pellet stove brochure and REIO's buyers guide for a checklist of items to guide you in your purchase of pellet heating:
www.sei.ie/reio.htm

Pellet stoves – an exciting bioenergy opportunity for Ireland

- Low investment cost
- Suitable for mild climate
- Pleasant design
- Simple logistics
- Available with hot water heating & automatic feeding

SEI's Renewable Energy Information Office was honoured with the European Commission's Campaign for Take-off award for the Best National Renewable Energy Partnership in 2003.

Pictured from left to right, receiving Campaign for Take-off Award in Berlin are: David Taylor, CEO SEI, Paul Kellett, Technical Manager, SEI REIO and Guenther Hanreich, DG Energy and Transport, European Commission



Action Renewables Northern Ireland



Andy McCrea, Action Renewables at the launch of the outdoor poster campaign across Northern Ireland

Launched in June 2003 Action Renewables is an exciting new Northern Ireland based initiative to stimulate awareness of energy use and promote renewable energy. Action Renewables provides an expert information and hand-holding service to help deliver renewable energy projects.

The joint venture between the Department of Enterprise Trade and Investment and the Viridian Group, promotes awareness through advertising and travelling road shows. Despite being the "new kid" on the energy block Action Renewables has already made a significant difference; work has begun to develop Renewable Energy Action plans for each county.

Last December Action Renewables presented a workshop for renewable energy installers of solar water heating panels, solar photovoltaic panels, ground source heat pumps and wind turbines. They also established the Renewable

Energy Awards to recognise innovative projects that make a real contribution to the sustainable use of renewable energy in Northern Ireland.

A range of literature has been developed and Action Renewables has supported several renewable energy schemes including the Solar Smart programme. This offers grants to home and business owners who get their 'hot water from solar panels.

Education is integral to the success of the programme. Launched in February 2004 the Action Renewables educational programme is coordinated by the charity group, Bryson House. A province-wide programme, it is open to all primary schools in Northern Ireland and comes with supporting material and resources.

On the education programme - Dr. Andy McCrea, Director of Action Renewables said: "Young people are the future, so it is crucial that they understand the impact of climate change and the role that renewable energy plays in today's environment. This educational programme provides an excellent opportunity for all primary school children to learn about renewable energy sources such as wind and solar power and what climate change actually means."

Primary schools in Northern Ireland are already going down the road of renewables, the majority of its 2,000 schools have signed up for green electricity generated by Energia's wind farms.

Action Renewables is now set to cross a new

frontier and potentially enter every home in Northern Ireland with the TV Campaign 'Take it for Granted'. This dynamic and punchy advertisement will demonstrate the link between increasing electricity consumption and global warming. It also highlights Northern Ireland's many opportunities to generate electricity from renewable energy sources.

The advertisement was developed with significant input from various focus groups. Commenting on the ad Dr McCrea said: " We hope this advertisement will help us meet our aims of raising awareness of renewable energy and to win the hearts and minds of influencers and opinion formers."

Another important development in Northern Ireland is the first wood pellet production due to commence later this year at the Balcas sawmill in Enniskillen. Having a secure supply of wood fuel will enable the wood heating market to grow on both sides of the border.

Co-operation on all-island energy has been encouraged by Mr. Dermot Ahern T.D., Minister for Communications, Marine and Natural Resources. Joint action on renewables and the consideration of an all-island biomass policy are in progress.

For further information on the work of Action Renewables log onto:
www.actionrenewables.org
Wood pellet manufacturer
www.balcas.com

Bioenergy Opportunities For Irish Agriculture Seminar

Over 70 delegates from the agri-sector attended a briefing session on "Bioenergy Opportunities for Irish Agriculture" as part of this year's Energy Show free briefings. The session highlighted the employment and business opportunities for local biomass heating operations. Prospects exist for agri-co-operatives who have access to biomass resources (forestry and agri-residues such as straw and spent mushroom compost) as well as the ability to produce energy crops. Many agri businesses have experience of animal feed production as well as an extensive network of members and retail outlets. Dr. Sip de Vries, from the European farming and agri-co-op body, COPA COGECA, outlined the options for farmers in heat only and combined heat and power production. The real benefits for farmers are when they manage not only the biomass production but the actual delivery of the heat or power. Many successful examples of such energy services co-operatives exist throughout Europe and are a very interesting proposition for the future of Irish agriculture.

Download presentations from the briefing session from www.sei.ie/reio.htm

How Austria's First Pellet Producer got Started

Sawmill company, Umdash was Austria's first pellet producer and saw how the market developed first as an export market and then as a home market. In the early 1990s, the Austrian stove manufacturer, RIKA, was exporting 10,000 pellet stoves per year to the USA because there were no pellets in Europe. Umdasch decided to import pellets into Austria. From 1993-1995 they imported pellets from the US, the Netherlands and Sweden. In 1994 the company began to investigate market development in Austria. They registered a brand name for wood pellets. They consulted the 50 wood boiler manufacturers on the options for wood pellet heating. The KWB and Okofen boiler companies responded positively and were first to develop pellet boilers. Umdasch began wood pellet production of 1 tonne per hour in 1995. In 1997 Umdasch invited other pellet and boiler manufacturers to a meeting to form the Austrian Pellet Club which to this day promotes pellet heating and implements quality standards. The company stresses the importance of standards, R&D of quality equipment and the co-operation that took place between boiler firms, energy consultants, research institutions and government for the development of the pellet market in Austria.

European Wood Pellet Conference 2004

The European Wood Pellet Conference held in Austria in March indicated a very positive future for the global wood pellet industry with an estimated annual market potential of 4-5 million tonnes and tens of thousands of new wood pellet heating installations.

You realize what a big business sustainable energy is, when such an event can attract 800 exhibitors - 50 of which presented pellet technology and services. Irish pellet technology manufacturers, stove retailers and energy consultants attended the show to make new business contacts in this fast developing sector in Ireland.



Wood pellet and wood chip boilers at the European Wood Pellet Conference and exhibition, Austria

Worldwide Wood Pellet Markets

Presentations were given on the main pellets markets in Austria, Germany, North America, Sweden and Denmark.

One market we don't often hear about is the US market. John Swaan, CEO of Canadian pellet producer, Pellet Flame, outlined the steady domestic market in the US (760,000 tonnes/year) in a market that has no incentives, competes with subsidized gas and has no bulk delivery of wood pellets.

Christiane Egger from the Upper Austrian Energy Agency presented the region's pellet market. In Upper Austria, renewable energy sources provide 30% of the primary energy consumption, of which 14% is biomass. That high market penetration was achieved by a clear energy strategy and the implementation of an energy action plan over the last number of years. The Upper Austrian Energy Agency is responsible for implementing this action plan.

The wood pellets market in Upper Austria

Biomass-based heating systems accounted for 40% of the heating installations in newly built detached homes in 2001 in Upper Austria. There

are over 13,200 wood chip installations and 200 biomass district heating networks in operation. However the wood pellets market penetration itself was remarkable over the last few years:

- Over 3,000 wood pellet central heating systems are in operation in Upper Austria (2001)
- Ten fold increase in pellet production in Austria from 2,500 tonnes in 1995 to 250,000 tonnes in 2003
- 10 large producers of wood pellets in Austria
- 30 producers of wood pellets boilers and stoves in Upper Austria

European Wood Pellet Conference and exhibition, Austria

Ms. Egger highlighted the importance of supporting both the "supply side" (pellets and boiler suppliers) and the "demand side" (building owners) for the successful development of a pellet market. The challenge for a successful market take-off is that several factors have to be established at the same time: the production and supply of pellets and boilers, services companies to install and maintain the systems as well as customers willing to buy and use a pellet heating system.

Creating Demand

Providing information to potential users of pellet heating systems is critical to creating demand and awareness.

Supporting the supply side

Plumbers and installers of systems need to be convinced of the new technology as they are important influencers in the decision making process, and they require training on the maintenance and installation of wood heating equipment. Another issue flagged by Ms. Egger was the security and quality of fuel supply that needs to be guaranteed from the start. And finally transport and distribution logistics that are easy to access for customers need to be established.

The better these requirements are met right from the beginning, the quicker market development can take place.

The pellets programme of Upper Austria

The high market penetration was achieved by a clear energy strategy and the implementation of an energy action plan, which includes the following:



Information and awareness raising activities: Operation of an energy hotline (9,000 enquiries per year), energy advice service (10,000 energy advice sessions per year), an energy exhibition on Renewable Energy and Energy Efficiency.

- Subsidies: Support payment for the installation of new biomass boilers, for boiler exchange and for replacing old oil storage tanks with wood pellets storage.
- Training & education: Training programme for installers and for energy advisors
- R&D & quality control: Regional energy R&D programme with an annual budget of 2 million Euro supported 49 projects, 82 companies, as well as market studies.

Denmark-Europe's largest consumer of wood pellets

Danish power generation company, Energy E2 owns 17 Combined Heat and Power plants in the range of 3-72MW. It uses 130,000 tonnes of straw pellets and 300,000 tonnes of wood pellets per year at two of its plants. It produces the pellets at the Junckers wood floor factory where only 20% of the wood is used in production. Farmers within a 100 km radius, deliver 300,000 tonnes of straw bales.

Mr. Jeppe Bjerg of the Danish energy consultancy Force, reports that while markets for pellets in Denmark have traditionally been concentrated in the district heating and industrial heating plants, now pellets are now being used by power plants.

This makes Denmark the largest European consumer of pellets. It will soon exceed 800,000 tonnes per year with a new pellet CHP plant that needs a further 300,000 tonnes per year. Irish companies planning biomass pellet production can count on an attractive export potential to Denmark.

Ireland's Reaction To The World Energy Crisis

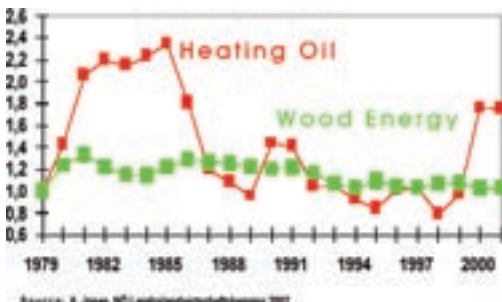
By Dr. Colin Campbell

Few would disagree that you have to find oil before you can produce it. So, the discovery record of the past is the key to forecasting future production. To obtain a valid discovery record it is necessary not only to sum past production and reserves, which in effect are estimates of future production from known fields, but also backdate revisions. This is at the heart of the misunderstanding, because the oil companies traditionally under-reported the size of their finds to smooth their asset base and cover any temporary set back or disappointment.



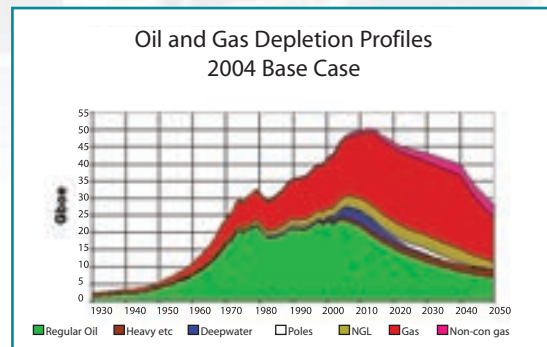
Those days are now over, as confirmed by the furore in financial circles from Shell's recent decision to downsize its reserves by 20%. In reality, discovery has been in decline since 1964, despite a worldwide search always aimed at the biggest and best prospects and despite all the great technological advances. The World has been using more than it found since 1981, now consuming more than four barrels for every one it finds. While there are many confusing details about percentage recovery and definition, these two essential facts deliver the bald and uncomfortable conclusion that production must also start its terminal decline within the next few years. We are not about to run out, having about as much left as we have used so far, but we do face a long terminal decline to eventual exhaustion far in the future. Accordingly, the World comes to the end of a 150-year period in history when a growing and abundant supply of cheap oil-based energy fuelled economic growth and prosperity. "Business as usual" is coming to an end, meaning that new imaginative strategies are called for to make up the balance.

Ireland faces this challenge like every other country. The sooner it recognises the need for new policy initiatives, the better placed it will be, even if the transition is difficult. If it succeeds, it will reap competitive and commercial advantage over countries that continue to bury their heads in the sand.



Ireland's needs are relatively modest in world terms, so that imaginative projects for sustainable energy could do much to make up the shortfall of declining oil and gas supply. Solar panels can capture radiant heat, even on cloudy days. Windmills can capture energy from the Atlantic gales. Tidal rotors can capture energy from massive water flows. Heat-pumps can concentrate low-level ambient heat like a refrigerator in reverse. Small scale hydro-electric schemes can supply villages. Farmers can grow energy crops to be transformed into wood pellets, forming a promising new solid fuel.

Above all, we must learn to be much more efficient with the energy we use at home, in the office, the farm or factory. Traffic jams waste a monumental



Source: Colin Campbell

amount of energy. This new direction needs to be a central theme of government policy. It is by no means a hopeless situation. There are many solutions, but finding large new deposits of oil in an empty cupboard will not be one of them.

Dr. Colin Campbell worked as a geologist for Oxford University, Texaco, British Petroleum and Amoco. He is the Convener and Editor of the Association for the Study of Peak Oil and a Trustee of the Oil Depletion Analysis Center in London.

His 1997 book "The Coming Oil Crisis" is published by Multi-Science Publishing Co. & Petroconsultants. Dr. Campbell lives in Ballydehob, Co. Cork

*Further information: www.peakoil.net
For the latest on developments in renewable energies all over the world, with background information interviews and reports, subscribe to six yearly issues of "New Energy" magazine at <http://www.wind-energie.de/>*

With the increasing role of renewable energies, comprehensive information is becoming more and more important for everybody involved in them. New Energy is the official magazine of the European Renewable Energies Federation EREF, a federation of associations from EU member states, that are active in the field of energy from renewable sources.



Action you can Take on Climate Change and Save a Small Fortune

None of us can avoid the reality that oil and energy prices are on the way up. We see it at the petrol pump, we hear warnings of further increases from the electricity and gas companies and we will face it in our heating bill next Winter. Being smart with our use of energy in the home and using A rated energy efficient appliances is a first step.

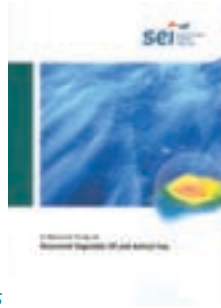
There are also many renewable energy options available when we are choosing how to heat our home or buildings. Wood and solar heating can provide comfortable space and hot water heating and beats the cost of turning on an electric immersion or oil boiler. For your free solar heating information pack and buyers guide call the REIO helpline at 023 42193 or email renewables@reio.ie

New Publications

Recovered Vegetable Oil Resource Study conducted by Clearpower Ltd on behalf of Sustainable Energy Ireland

This study addresses the use of animal fats (tallow) and recovered waste vegetable oil (RVO) for renewable energy. The study quantifies the current and potential future supply of tallow and RVO, assesses the current and future demand, and evaluates the scale and availability of any surplus for fuel.

Download a copy of the study and a presentation from: www.sei.ie/publications



What Future for Wind Farms in Ireland?

For the latest on wind energy development in Ireland, see the "Planning Update" Spring 2004 issue. Features a review of the "Energy from Fresh Air 2003" conference, new wind farm planning guidelines, policy consultation, wind atlas for Ireland, attitudes to wind development and an overview of Danish wind energy development.

Download from www.sei.ie/reio.htm



Costs & Benefits of Embedded Generation Conducted by PB Power on behalf of Sustainable Energy Ireland

This study involved a comprehensive technical, financial and economic cost benefit analysis of the impacts of generation connected to the distribution system in Ireland. The study identified the main categories of costs and benefits which might accrue from the connection of generation to the distribution system and proposed a methodology for the analysis of these. It examined commercial and technical arrangements that might be put in place which would minimise costs and maximise benefits and the impacts which these might have upon electricity suppliers, the Transmission System Operator (TSO), the Distribution System Operator (DSO), the embedded generator and the electricity consumer.

Download a copy of the report at: www.sei.ie/publications

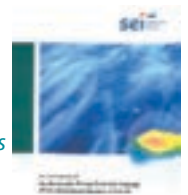
Impacts on Reserve of Increased Wind Penetration. Conducted by Ilex, UCD and Queens University on behalf of Sustainable Energy Ireland

This study is a detailed technical and economic analysis of the impacts of increased wind penetration on the operation of and provision for electricity system operating reserves in the Irish context. The study examined the pre-defined scenarios of 650MW additional wind generating capacity in 2006 and both 1000MW and 1500MW additional wind capacity in 2010. The study report provides a quantification of the impacts in terms of actual fuel saved, cost of reserves and displaced CO2 emissions.

Download a copy of the report at: www.sei.ie/publications

An Assessment of the Renewable Energy Resource Potential of Dry Agricultural Residues conducted by RPS-MCOS Ltd on behalf of Sustainable Energy Ireland

Dry agricultural residues (straw, poultry litter and spend mushroom compost) present opportunities for renewable energy production in Ireland. This study examines the practical resource they represent for heat, power and transport solutions. Download report study presentations and a copy of the report at: www.sei.ie/publications



Recommended Events for 2004

SEPTEMBER 19-25

Energy Awareness Week
Nationwide
www.sei.ie

OCTOBER 7-8

SEI & COFORD Co-host
Wood Energy Conference 2004
Includes Exhibition and Site Visits
Rochestown Park Hotel, Cork
Contact: biomass@reio.ie

OCTOBER 14

IWEA Autumn Conference
Arklow Bay Hotel, Arklow
Co. Wicklow
www.iwea.com

AUTUMN 2004

Bioheat Wood Energy Training
Austria
www.bioheat.info

NOVEMBER 4-6

Plan Expo
RDS, Dublin
www.expo-events.com

NOVEMBER 10-11

IWWE
Irish Water Waste & Environment Exhibition
& Renewable Energy workshops
www.environment-ireland.com

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Tel: 023 42193 Fax: 023 29154
Email: renewables@reio.ie
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