

Sixth Alternative Energy Requirement Launch

Minister's timely boost for wind, biomass and hydro is set to have a positive economic and environmental impact on Ireland

Dermot Ahern T.D., Minister for Communications, Marine and Natural Resources has announced details of the Sixth Alternative Energy Requirement (AER VI) competition to deliver over 570 MW's of new renewable generating plant before the end of 2005.

Driven by the clean energy agenda, the Minister has reinforced the Government's commitment to renewable energy and taken the opportunity to introduce some variations to ensure that projects are developed in line with Government targets to increase the contribution of green electricity to the grid by 2005.

The competition will support a country wide range of renewable energy projects including onshore wind energy, offshore wind energy, landfill gas, small scale hydro power plants, anaerobic digestion plants and biomass steam cycle CHP.

Minister Ahern stated: "Realising the full potential of Ireland's vast and largely untapped sources of renewable energy is high on my agenda and AER VI is designed to encourage timely and appropriate development. It is the most comprehensive package offered to date

and I am confident that developers will take up the challenge and help ensure that in the next two years we build three times that built in the previous ten years.



L to R, David Taylor (SEI), Minister Dermot Ahern, Paul Kellett, (SEI)

The Minister added: "I want to emphasise again, my intention is to see the renewables sector grow and attain its true potential, balanced with the continued affordability of electricity. The plan is to follow the launch of AER VI with a public consultation process on future targets and the most appropriate support mechanisms to deliver the target."

An additional 578 MW of new generating plant will:-

- ❑ Secure clean, eco-friendly, indigenous electricity for 500,000 Irish homes;
- ❑ Create 350 new secure long-term jobs in renewable energy equipment operation & maintenance and 1,600 full time construction jobs over the two year building phase;
- ❑ Will prevent the emission of over 2 million tonnes of polluting greenhouse gases every year, contributing emission reductions equivalent to some 16% of our International Kyoto obligation;
- ❑ Reduce Ireland's dependency on imported fossil fuels by more than 4 million barrels of oil every year or 60 million barrels of oil (100 oil tankers) over 15 years (the lifetime of the renewable energy equipment); and
- ❑ Improve Ireland's national trade balance to the tune of 110 million euro a year by redirecting money previously spent on energy imports back into the local Irish economy.

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□ Be worth around €2 billion to the Irish economy over 15 years (the lifetime of the contracts).

The Minister also re-emphasised his commitment to meeting the obligations of the Renewables Directive up to 2010 and the need to consult quickly with all interests about the most suitable support mechanism to bring Ireland to that target. "An evaluation of the AER mechanism is now timely given developments in other European countries". Said the Minister. "I am determined that whatever mechanism we choose will be put into place over the next twelve months or so and that it will be a system that will allow the renewable industry develop apace."

Given the Government's commitment and the Minister's personal interest to developing Ireland's vast renewable energy resources, Minister Ahern has used AER 6 to introduce a number of new initiatives designed to ensure timely development in line with national and international targets.

For example: Indexation (CPI) at 100% will be allowed on the bid price in each case; additionally he has introduced a mechanism to allow front loaded

payments in the early years of the contract and hopes that this innovation will address the equity deficit seen as a major stumbling block by the industry.

In summary the Minister has initiated a competition aimed at:-
Completing the overall target of 500 MW of new electricity generation plant from biomass, hydropower and wind energy in the period 2000-2005, and demonstrating the ability of renewable energy technologies not currently supported by securing additional electricity generation capacity (a) up to 50 MW from offshore wind energy and (b) up to 28 MW from Biomass-CHP.

The targets for the technologies are as follows:

- Wind up to 400 MW reserved to large scale wind;
- Wind up to 85 MW reserved to small-scale wind;
- Wind up to 50 MW reserved to offshore;
- Biomass up to 8 MW;
- Biomass-CHP up to 28 MW;
- Biomass-AD up to 2 MW; and
- Hydro up to 5 MW.

The purchase prices are as follows:
The price cap in each category will be:-

- Large Scale Wind category - 5.216 eurocents per kWh;
- Small Scale Wind category - 5.742 eurocents per kWh;
- Offshore Wind category - 8.4 eurocents per kWh (indicative price cap only);
- Hydro - 7.018 eurocents per kWh;
- Biomass - 6.412 eurocents per kWh;
- Biomass-AD - 7 eurocents per kWh; and
- Biomass-CHP - 7 eurocents per kWh

Please note that Applications shall not be accepted by the Minister before 10.00 hrs local time on 15th April 2003 and shall not be accepted after 17.00 hrs local time on 24th April 2003.

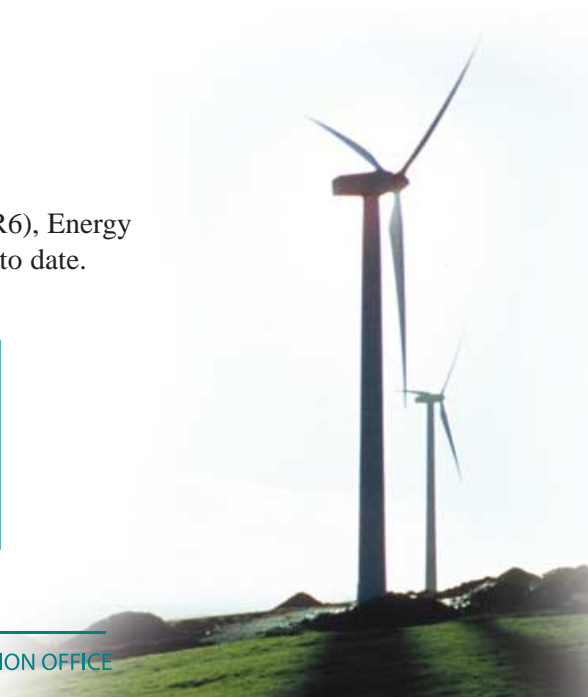
For the full details, terms and conditions please see: <http://www.dcmnr.ie>

How is AER delivering?

Following the launch of the Sixth Alternative Energy Requirement (AER6), Energy Update takes a look at what has been achieved under the AER initiative to date.

Wind power

Scheme*	AER 1	AER 3	AER 5
Launched	1994	1997	2001
Target (MW)	30 MW	90 MW	240 MW
Projects selected	73 MW	137 MW	345 MW
MW built	45 MW	40 MW	Nil to date



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Catching the wave

Recent consultation and studies by Sustainable Energy Ireland and the Marine Institute should indicate whether ocean energy could be part of the next wave of new energy for Ireland, providing not just green electricity but generating viable business opportunities and potential technology exports.

The uninterrupted fury of the North Atlantic, off our west coast, represents a tremendous renewable energy resource: one that is not just among the most favourable in Europe, but possibly the world.

Wave energy is often viewed as one of the more wacky renewable energy technologies. A recent public consultation document published by the Marine Institute and Sustainable Energy Ireland acknowledges that the technology is still some way away from maturity and not in a position to contribute to national renewable energy targets within the Kyoto timeframe of 2008 to 2012.

However, the longer term potential is significant. The consultation document estimates that a 'practicable' resource of up to 6,000 MW could be harnessed using second generation floating devices, moored

offshore. This roughly equates to one and a half times Ireland's current total installed electricity generating capacity of 4,000 MW. In terms of harnessing this vast resource, the document sets out three possible scenarios that Ireland could adopt:

- ❑ **Option one:** Become a technology leader in the field by committing to a significant development programme for ocean wave and tidal energy;
- ❑ **Option two:** Provide the means to utilise the Irish wave resource and develop an exportable core of research excellence; and
- ❑ **Option three:** Maintain a watching brief in the field of wave energy.

Countries with a history of making smart decisions about getting into a new energy technologies early and profiting from technology developed, including France, Denmark and the UK, are all working in this area.

Ireland too has developed some core competencies. Leading groups that have been involved with international projects for a number of years include the Hydraulics and Maritime Research Centre at University

College Cork, Queen's University Belfast Group, and more recently, the Air Turbine Group at the University of Limerick.

In addition, the Department of Electrical Engineering at NUI Maynooth has relevant expertise in software control systems as has the Department of Engineering at Trinity College Dublin in hydraulics and mechanical engineering, and there is a substantial core of industrial experience both in the North and Republic in the areas of specialist engineering, power management and materials manufacturing.

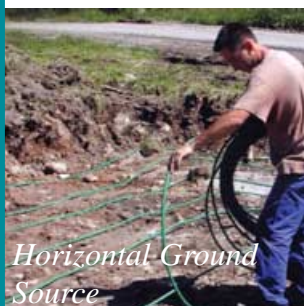
At present, there is no well-established wave energy industry anywhere in the world. But the consultation document argues: "There is potential to create such an industry in Ireland and to construct converters for export - a viable Irish wave energy technology could be achieved with significant investment."

Heat Pumps – The French Example

by Jan Blanchard

The heat of the sun, the strength of the wind, the infiltration of rain... The ground is exposed to and accumulates these natural energies. To take advantage of these renewable calories, you only need to bury pipes in this natural reservoir. Calories are then transferred to your house through a heat pump. This is what we call geosolar energy.

What does it look like?



The French market

In 1996, 1,500 heat pump systems were sold in France. In 2001, heat pump installations reached 15,000 units in the year, placing France second in the European market behind Sweden.

What happened?

In 1997, EDF (the French electricity board) launched a commercial offer under a heat pump development programme. The marketing name of this offer was "Vivrelec". To qualify for Vivrelec a construction needs to meet a set of high quality requirements in terms of heating solutions as well as thermal insulation.

Market control

The first objective of the heat pump development programme was to ensure that there were sufficient products available in the market place. The reliability of these products had to be guaranteed as well as the quality of their installation. Promotelec as an independent organisation was set up to oversee this quality procedure. The Promotelec label represents the technical requirements of the Vivrelec offer. It certifies the conformity of each construction by systematically examining and controlling each site.

The Promotelec label is a real support from the start to the finish of the construction project.

Communication

In addition, EDF launched a communication campaign for the general public on the benefits of heat pumps. They also supported local actions, organised training and distributed technical guides to installers.

Financial aid

To support the launch of the programme in 1997, a financial incentive equivalent to €15 - €25 per m² floor area was set up. Since June 2001, a quality grant of up to €450 is given depending on the energy performance of the construction. EDF also offers an improvement loan (3 to 4%) to finance the cost of the heating installation.

Also, the government has introduced a tax rebate for the purchase of heat pumps that corresponds to 15% of the equipment cost.

What are the results?

There are more and more reliable products on the market. Innovative technologies such as systems combining active solar energy and geothermal are being commercialised. Since the launch of the Vivrelec offer, the market increased 10 fold and grew by more than 50% between 2000 and 2001

Ecological

Geosolar energy is better for our environment

Comfort

97% of Heat Pump owners are satisfied with their investment

Economical

The average heating cost is €400 a year



Wood chalet with geosolar heat pump in the Drôme region, France.

Geosolar is Available for Everybody, Everywhere.

REIO Resources: Solar Energy and Housing Design



An essential reference on passive solar design in practice:

This two-volume publication demonstrates how available sunshine can be used as part of site planning and architectural design to reduce fuel consumption for heating and to enhance the environment.

Described by Paul Kellett, REIO Technical

Manager, as “one of the most practical and comprehensive reference guide on passive solar design we have seen”, the two volumes are now available from REIO at the discounted price of €29 incl. p&p. For more information and to order your copy, please contact the REIO:
Tel: 023-42193 Fax: 023-29154

Also available to buy online at www.sei.ie

Solar Energy in Ireland is Very Much a Reality

A minute's worth of the sun's light is enough to meet the world's energy needs for more than a year according to Eddie Brennan of the newly established Irish Solar Energy Association.

“The Irish Solar Energy Association (ISEA) is a new solar energy initiative for Ireland and the Renewable Energy Information Office provided the impetus and guidance for establishing the association during its highly successful and informative Solar Energy Conference last June.” added Mr Brennan.

ISEA is a not-for-profit Limited Company with a Board appointed by its members. The current membership consists of businesses and individuals with over 100 years combined experience in the solar energy industry. “We promote the concept of passive solar gain through the promotion of

better house orientation and design, the installation of heat pumps for space heating and cooling, solar thermal panels for hot water and the installation of photovoltaic panels for electricity generation.

Our mission is to promote and assist the development of solar energy in Ireland and our target is that 25,000 households and businesses will be using solar energy by 2008. In short, our vision is that Ireland becomes a leader in embracing solar and all sustainable energy.” said Mr Brennan.

To raise awareness, ISEA plans to conduct a progressive Public Communication and Awareness Campaign over the next five years, designed to inform the public of the benefits of solar power and encourage the Government to provide incentives to install solar systems.

Contacting Or Joining The ISEA

The Irish Solar Energy Association is affiliated to ISME, the Irish Association for Small and Medium Enterprises. The association is currently developing a profession web presence, and until this is up and running, it can be reached through a temporary email address at prsolar@hotmail.com

Private individuals can become ‘Friends of Solar’ for €25. The annual membership fee for sole traders in the industry is €250, and corporate rates range from €500 to €2,500, depending on the size of the company.

Those who join as corporate members will also be able to tap into other ISME resources. The ISEA can be reached by post at ISME headquarters at 17 Kildare Street, Dublin 2.

German Wind Power Flying High

*Record-breaking year sees German Wind power capacity climb to 12,000 megawatts
A REIO Special with ABO Wind's Stefan Theis*

2002 was a record breaking year for wind energy in Germany with a massive 2,328 wind turbines and 3,247 MW installed, 20% more than the 2,659 MW installed in 2001, the previous record-breaking year.

Wind power is becoming an inherent part of Germany's energy policy and supply. By the end of December 2002, there were some 13,750 turbines with a joint capacity of 12,000 MW installed across the country – 37% more than at the end of 2001. In an average wind year, the installed capacity in Germany can provide about 4% of the country's electricity demand and enough energy for over four million homes or a country the size of Ireland." Said Stefan Theis (ABO Wind).

In Germany, 2002 was not only a record breaking year for wind energy but during August the country was ravaged by storms and floods killing more than 20 people and resulting in damage estimated at over 23 billion euro. Leading environmentalists and climate change specialists concluded that Germany must clean up its energy act or face similar catastrophes demanding the intensified deployment of renewable energy technologies as the way forward.

Gerhard Schroeder the German Chancellor speaking at the Earth Summit in Johannesburg said: "We standby our Kyoto commitments, and invite you all to join us in Bonn to progress the development of renewable energy resources and in this way we can show the world that we in Germany are the trailblazers in developing renewable energy across the world."

"Increased use of wind power is national policy and essential for environmental and climate protection reasons. Clean wind energy also stimulates the labour market and the wind industry now supports some 45,000 jobs. After the car industry, the wind power industry is now the the German steel industry's second largest customer. Wind energy also has a stabilizing factor on the national economy with a high export rate and further export potential.

Considering the otherwise negative developments on the jobs market, this is a very welcome trend." Added Mr Theis.

Looking at the regional breakdown of installed wind power capacity in Germany, the state of Lower Saxony still leads the way with 900 MW newly installed in 2002. At the end of the year, 3,626 turbines (3,325 MW) were up and running there - wind power can now meet nearly 14% of the state's power demand.

Market leader in 2002 was Aurich-based Enercon, which built 34% of the newly installed capacity (28.5% in 2001). Vestas Deutschland GmbH based in Husum follows with a market share of 17.8% (19.5% in 2001), then GE Wind Energy GmbH based in Salzbergen with 13.1% (10.9% in 2001), Nordex AG of Hamburg with 8.7% (10.4% in 2001) and NEG Micon Deutschland GmbH based in Ostenfeld with 8.3% (11.4% in 2001).

Established in 1996, environmentally-friendly planning and realisation of renewable energy projects, particularly wind energy has been ABO Wind's goal since its inception. With markets across Europe, they have developed a comprehensive range of products for all wind farm development.

Call for the 'French' System - Leading Irish Renewables Producers call time on AER

Two years ago, France had less than 100 MW of wind power installed. Given the country's cheap and abundant supply of nuclear energy, it was perhaps not surprising that renewable energy had traditionally been low on the list of national priorities.

Driven by an environmental agenda, things have changed dramatically and the French are now aiming to install an ambitious 5,000 to 10,000 MW of new electricity generating capacity from wind energy by 2010. In addition, 20 to 120 MW new generating capacity is being sought from geothermal energy, 400 to 1,500 MW from bioenergy and 1,000 to 2,000 MW from small-scale hydropower.

Underpinning these challenging targets, France's 'calls for tender' renewables support programme, which was similar to the Irish Alternative Energy Requirement competition, has been abolished and replaced with a 'feed-in' support scheme, which came into effect in May 2001 with 'Decree No. 2001-410.' The Irish Wind Energy Association (IWEA) argues that this is an extremely positive policy for wind energy development and that elements of its approach should be introduced in Ireland.

Essentially, the decree forces the national French electricity company EDF and 'non-nationalised' electricity suppliers, if so requested by a producer, to purchase electricity generated from sources the government wishes to promote and in particular from wind energy.

The caveat is that the obligation applies only to wind farms with a capacity of less than 12 MW and it is subject to the producer not being able to sell the electricity itself to eligible clients "on reasonable economic terms, having regard to the extent which the national market for electricity has been liberalised."

The system works by the producer submitting an official request to the representative of the government in the geographical area where the development is to be located, who will, in turn, issue the producer with a certificate conferring the right to have power it produces purchased under the conditions set out in the decree. The producer and EDF or other supplier will then sign a power purchase agreement for 15 years.

The purchase price is fixed by the French Ministers for Energy and Economy. The tariff currently applying for wind energy is a generous 8.38 euro cent for the first five years, and between 8.38 and 3.05 euro cent for the following 10 years, depending on the wind speed at the site.

If the 'feed-in' regime doesn't result in enough generating capacity to meet France's targets, regulations allow the Minister for Energy to also issue a call for tender and wind farms with a capacity of more than 12 MW would be allowed to bid in such a call.

Not surprisingly, the new rules have led to an influx of investment and a flurry of activity in the previously stagnant French wind energy industry. However, not everyone is happy with the new regime. France's CRE (similar to Ireland's Commission for Energy Regulation) has said that the prices being offered are too high and that there should be a return to the 'call for tender system'.

On the other hand, proponents including the IWEA argue that, at the end of the day, results are what matters and the three European countries - Germany, Spain and Denmark - with a history of supporting renewables through 'feed-in' arrangements, are also the three that have seen the highest levels of wind energy development in recent years.



6th EU Framework Programme for Research, Technology Development and Demonstration Launched

The 6th Framework Programme (FP 6) for Research, Technology Development and Demonstration (RTD), covering the period 2002-2006, was formally launched in December 2002 with the publication of the first Call for Proposals. The specific programme, 'Integrating and Strengthening the European Research Area' includes a number of activities aimed at sustainable energy and transport systems in Europe. Among the specific areas targeted under 'Sustainable development', global change and ecosystems are a priority.

Over €800 million is available for the part-funding of innovative energy technology projects in the fields of renewable energy and energy efficiency and under the programme, which will run to 2006, proposals are sought for partnerships between groups in several countries. Eligible applicants include academic and other research institutions, industry, energy product and systems suppliers, public bodies, and professional and specialist interests.

The first call for proposals under the Sustainable Energy Systems sub-programme of FP6, issued in December 2002, aims to provide €280 million in part-funding of energy research, technical development and demonstration.

The call seeks to support proposals in two categories: those with potential to have an impact in the short to medium term and those with a potential impact in the longer term.

The deadline for proposals under this call is 18 March 2003. However, a second call for proposals is likely to be published in the period June to September 2003.

Sustainable Energy Ireland, as a national contact point for the sustainable energy part of the FP6 programme, is also available to:

- Provide information, orientation and other advice to prospective proposers from Ireland.
- In certain instances, point proposers in the direction of potential international linkages.
- Offer co-funding for Irish participation in EU programmes, subject to such projects meeting our national programme criteria, in the fields of housing, renewable energy, industry and transport.

For further information and assistance, contact Therése Murphy (SEI) on 01 8082068; email therese.murphy@sei.ie or Kevin O'Rourke (SEI) on 01 8082074; email kevin.orourke@sei.ie

First Projects Approved for Funding Under Irish R,D&D Programme

Funding has now been approved for the first projects under Sustainable Energy Ireland's Renewable Energy Research, Development and Demonstration Programme (RERD&D), which was launched last year.

By the end of the year, seven proposals had been approved for financial support comprising three biomass, three wind and one-ground source heat pump projects.

With an indicative budget of €16.25 million, the programme aims to support the development and deployment of energy technologies and skills relevant to Ireland in the medium to long term and strengthen the national capacity to access, develop, and apply international class RD&D.

As well as funding research and development, demonstration of the more innovative technologies will also be supported, as will high quality feasibility studies.

Specifically, the objective of the scheme is to stimulate deployment of renewable energies that are close to market and assess and develop technologies that have prospects for the future. This could include measures to identify the prospective resource; stimulate the development of the technologies; produce implementation plans for those with economic potential; remove barriers to the deployment of renewable energy, and help stimulate an Irish RE industry.

The programme spans the range of renewable energy activities from biomass and wind energy to solar power, ocean wave, small hydropower, ambient heat pumps, geothermal resources, and fuel cells to general renewable energy projects, cross-sectoral initiatives and community schemes.

The breakdown suggests that funding will be strongly focused on the technology areas with the most potential to deliver large volumes of green power. A budget of €6.2 to €10 million has been earmarked for wind energy and biomass, €3.8 to €6.3 million for other renewable energy sources, and €1.2 to €3.8 million for cross-sectoral activities.

For further information please contact Graham Brennan, Renewable Energy RD&D Programme Manager, Sustainable Energy Ireland, Glasnevin, Dublin 9. Tel 01 8082539; Email graham.brennan@sei.ie



WHEN THE WELLS RUN DRY

Ireland set to pay a high price for over reliance on imported coal, gas and in particular oil

Ireland has the most energy import dependent economy in Europe; its addiction to imported fossil fuels stands at over 90% and costs over 100 million euro every week, that is not sustainable, and neither are the supplies of coal, gas and in particular oil.

Ireland's love, hate relationship with oil has seen its consumption rise from 4.9 million tonnes in 1991 to 8.7 million tonnes in 2001 and is set to be further tested as some experts claim that global supplies of crude oil will peak as early as 2010 and then start to decline, giving rise to an era of soaring energy prices and economic upheaval. We have already seen oil prices double in the last 12 months and the on-going feud in Iraq (home to the second largest oil reserve in the world) has left many observers speculating over the future availability and price of oil.

Any disruption to the availability of oil would have major impacts not only on the Americans as the largest consumers of energy; however, given our addiction to oil in that it fuels over 50% of our economy, any prolonged price increase or war in the Middle East would have serious consequences for Ireland.

Based on oil prices at the start of 2003 our annual oil bill (excluding taxes) is over €2 billion, with oil prices reaching their highest level since 1991.

Energy is vital to a modern economy and is fundamental to almost everything we do - we need energy to heat and light our homes, to help us travel and to power our businesses. We expect it to be available whenever we want it, to be affordable, safe and environmentally sustainable.

Even if oil was the cleanest source of energy its days would be numbered; burning it for energy threatens our very existence and relying on it threatens our economy. We need to address the threat of climate change and reduce our over reliance on fuel imports and with these challenges will come new opportunities to develop and create new high-tech businesses in developing environmentally sustainable, reliable and affordable sources of energy.

Oil Consumption in Million Tonnes 1991-2001											Change 2001 over 1991	
Million tonnes	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	
Republic of Ireland	4.9	5.1	5.1	5.6	5.7	6.0	6.6	7.4	8.3	8.2	8.7	78%

Campaign for Take-off Presents 2002 Awards



RENEWABLE ENERGY FOR EUROPE
Campaign for Take-Off

The European Campaign for Take-Off of Renewable Energies held its 2002 Awards ceremony a Salamanca, Spain recently.

The Awards are designed to reward efforts and innovation made in promoting renewable energy and to showcase successful projects and initiatives all over Europe.

The members of the jury highlighted that Renewable Energy Partnership programmes – of which there are over 80 signed up with the European Commission – (including REIO) entered the competition that constituted ambitious and exemplary initiatives in a European context. A selection of Award winners included:-

- ❑ Gold medal and best regional renewable partnership – Energy 21 the energy action plan for Upper Austria
- ❑ Best national renewable energy partnership – Campagne pour le decollage des sources d'energie renouvelables – Ademe (France)

- ❑ Best renewable energy partnership – Renewable Energy Sources and rational use of energy – the City of Munich
- ❑ 100 communities for 100% renewable energy – Sustainable Energy in Action in Powys, Powys County Council, Wales

Vice-President of the European Commission Loyola de Palacio said: "The European Union is making steady progress in legislating in favour of renewables, be it with the Renewables Directive, now being implemented by Member States, with the energy efficiency in Buildings Directive, adopted in record time, or with the biofuels Directive on which discussions are progressing. The Vice-President added that he was thrilled to see that on the ground innovative renewables projects being implemented throughout the European Union.

The REIO entry included a submission on the work of the office including its role is assisting the development of renewable projects in line with national policy. Visit: http://europa.eu.int/comm/energy/en/renewable/idae_site/index.html

Wood Pellets - Turning Wood Waste into Profits

In Austria, the market for wood pellet boilers has exploded in the last five years - in 1997 over 400 wood pellet boilers were sold, whereas in 2001 this figure was almost 5,000.

The market potential for wood pellets in Ireland is considerable owing to the ready availability of sawdust, the raw material used to make pellets, from the mechanical forest industry. Moreover, while the current level of forestry cover is 9%, this is projected to increase to 17% by 2035, which will produce an associated growth in the mechanical forestry industry and subsequently the quantity of wood residues available for the production of refined wood fuels. Wood pellets offer a high level of user convenience for domestic and commercial heating. They have a high energy density and can be used in automatic firing systems.



Wood Pellets

- ❑ made from sawdust, wood wastes and forest residues
- ❑ better for the environment - no harmful greenhouse gas emissions
- ❑ easy to transport and store
- ❑ high energy density
- ❑ a wood pellet burner can be used to replace an oil burner in an existing oil heating system
- ❑ can eliminate problem of wood waste disposal

Socio-economic benefits of wood pellet projects

It is estimated that a 50,000 tonne wood pellet production facility will provide 24 new jobs in fuel supply, operation and maintenance and save €12 million in oil imports and 84,000 tonnes of CO₂ emissions per annum.

Quality Assurance

Successful development of an Irish market for wood pellets relies on production of high quality pellets so as to ensure reliability and customer satisfaction. The European Committee for Standardisation (CEN) standards for solid biofuel specifications and classes (the result of integrating and optimising several existing standards in EU countries) will be adopted here in Ireland. Likewise, certification of wood pellet stoves and boilers will assure development of heating systems of the highest quality,

which will encourage customers to change over to wood pellet heating systems.

A comprehensive EU Thermie report on 'Wood Pellets in Europe - State of the Art, Technologies, Activities & Markets' is available to download from the following website:

[http://www.eva.wsr.ac.at/\(en\)/publ/erneuerbare.htm](http://www.eva.wsr.ac.at/(en)/publ/erneuerbare.htm)

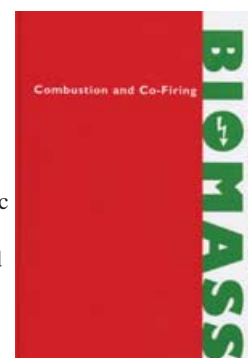
See also www.bioheat.info



Wood pellet boiler

Biomass Combustion and Co-firing Handbook

This recently published handbook comes highly recommended by the Renewable Energy Information Office. Essential information regarding the basic principles of technologies, and fuel supply chains, as well as environmental and economic considerations, is provided for biomass-to-energy applications ranging in size from domestic to industrial scale. The authors identify the importance of, and subsequently methods of, optimising combustion technology in order to reduce costs, increase fuel flexibility, reduce emissions and increase efficiency for heat and power applications. Available to order for €39 (incl. P&P) from the Renewable Energy Information Office Tel: 023 42193 Fax: 023 29154 E-mail: renewables@reio.ie or online from www.sei.ie/reio.htm



New Wood Energy Publications from REIO

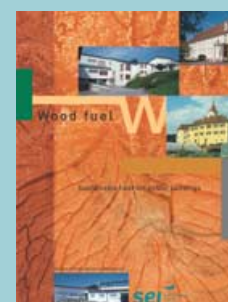
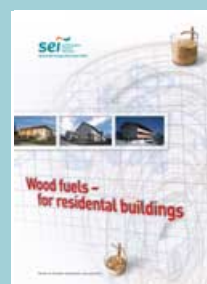
Copies of REIO's two wood heating brochures

- Sustainable Heat for Public Buildings** and
- Wood Fuels for Residential Buildings**,

produced as a result of the EU Bioheat project and based on Austrian experiences and practices are available to download at: www.sei.ie/reio.htm

Hard copies can also be ordered from REIO.

E-mail: renewables@reio.ie Tel: 023 29146



Renewables in Johannesburg

Whilst renewables were high on the agenda at the Johannesburg World Summit on Sustainable Development last September no firm targets were set despite strong campaigning by the European Union.

Europe's call for an increase of one per cent in the contribution of renewables energy sources to world total primary energy consumption by 2010 and a Brazilian call for a target of 10 per cent by 2010 were rejected in the face of heavy opposition, particularly from the USA, Japan and the OPEC countries. Instead of setting definite targets and compliance dates, ministers agreed to an international action plan containing the far more ambiguous objective of bringing about a "substantial increase" in renewables "with a sense of

urgency". The rejection of targets for renewable energy use was accompanied by an agreement to back non-renewable "cleaner fossil fuel technologies" and to improve access to "reliable and affordable energy services."

In the final phase of the summit, the European Union submitted a declaration of like-minded countries pledging firmer commitments to renewable energies. This commits the signatory states to definite objectives at global, regional and national level, with clear schedules, for the increased use of renewables. Besides the EU, supporters included a large number of other countries such as Egypt, Argentina, Brazil, Chile, New Zealand, Norway, Poland, Switzerland, and the Czech Republic.



Ireland Significantly Above Kyoto target

The European Union as a whole is making progress towards meeting its commitment to reduce greenhouse gas emissions in line with the Kyoto protocol. However, Ireland is significantly above its agreed target, according to figures published by Eurostat, the statistics division of the European Commission, to coincide with the Johannesburg summit.

The figures show that by 1999 the EU as a whole had reduced its greenhouse gas emissions by 4 per cent on 1990 levels. This compared reasonably well with the EU's overall Kyoto target to reduce emissions by 8 per cent on 1990 levels over the period 2008 to 2012.

In contrast, by 1999, Ireland's greenhouse gas emissions were up by a huge 22 per cent on 1990 levels. This is significantly above Ireland's individual Kyoto target to stabilise emissions at 13 per cent above 1990 levels by 2008 to 2012.

Of the 15 EU countries, only Portugal and Spain had higher increases than Ireland and action urgently needs to be stepped up in increasing the share of renewables in the overall energy mix and in implementing a range of other carbon dioxide abatement strategies.

Greenhouse gas emissions – 1999	
Luxembourg	56
Germany	81
United Kingdom	86
Finland	99
France	100
Sweden	102
Austria	103
Belgium	103
Denmark	104
Italy	104
Netherlands	107
Greece	117
Ireland	122
Portugal	123
Spain	124

(Total greenhouse gas emissions. Index 1990 = 100, based on Mio. tonnes carbon dioxide equivalent)

Best of Web: Wind Energy



Irish Wind Energy Association:	www.iwea.com
European Wind Energy Association:	www.ewea.org
American Wind Energy Association:	www.awea.org
Wind Power Monthly:	www.wpm.com
Danish Wind Turbine Manufacturers Association: Risø (Danish research group):	www.windpower.dk www.risoe.dk

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We have also introduced Conference Booking online where interested parties can browse and book places for REIO conferences and events through the secure ordering system.

Diary Listings

Ireland

March 26 – 27, 2003. Irish Water, Waste & Environment Exhibition. RDS Dublin.
Visit: www.environment-ireland.com

April 10 – 11, 2003. Irish Wind Energy Association Annual Conference. Cork
Visit: www.iwea.com

June 19 – 20, 2003. See the Light - Solar Conference and Study Tour. Botanical Gardens. Dublin.
Contact: renewables@reio.ie

July 9, 2003. An Evening with Renewables. Waterford REIO hosted event on wind, solar, geosolar, hydro and biomass energy.
Contact: renewables@reio.ie

July 10 – 11, 2003. White Coal - Wood Conference & Study Tour. Johnstown Castle, Wexford.
Contact: renewables@reio.ie

September 2 - 5, 2003. REIO Annual Wood Energy Study Tour. Jyväskylä, Finland.
Contact: renewables@reio.ie

September 21- 27, 2003. Energy Awareness Week. Events nationwide.
Contact: renewables@reio.ie

November 13-14, 2003. Energy from Fresh Air 2003 Wind Energy Conference & Study Tour. TBC. REIO's annual wind conference and study tour organised in association with IPI & RTPI.
Contact: renewables@reio.ie

Overseas

March 31- April 11, 2003. 12th International Course on the Implementation of Wind Energy. Netherlands.
Contact: i.bakker@ecn.nl

May 12 - 16, 2003. 3rd World PV Conference. Osaka, Japan.
Visit: www.cc.tuat.ac.jp

May 13 – 15, 2003. Sustain: The World Sustainable Energy Exhibition and Conference. Amsterdam, Netherlands.
Visit: www.sustain2003.com

May 21, 2003. All Energy Opportunities Conference and Exhibition. Aberdeen.
Visit: www.all-energy.co.uk

May 25 – 30, 2003. European Geothermal Conference 2003. Szeged, Hungary.
Visit: www.diamond-congress.hu/egc2003

May 26 – 28, 2003. Renewable Energy Sources for Islands, Tourism and Water Desalination International Conference. Crete, Greece.
Visit: www.erec-renewables.org

June 14 – 19, 2003. ISES Solar World Congress 2003. Goteborg, Sweden.
Visit: www.congrex.com/ises2003

June 16 - 22, 2003. European Wind Energy Conference & Exhibition. Madrid.
Visit: www.ewea.org

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