



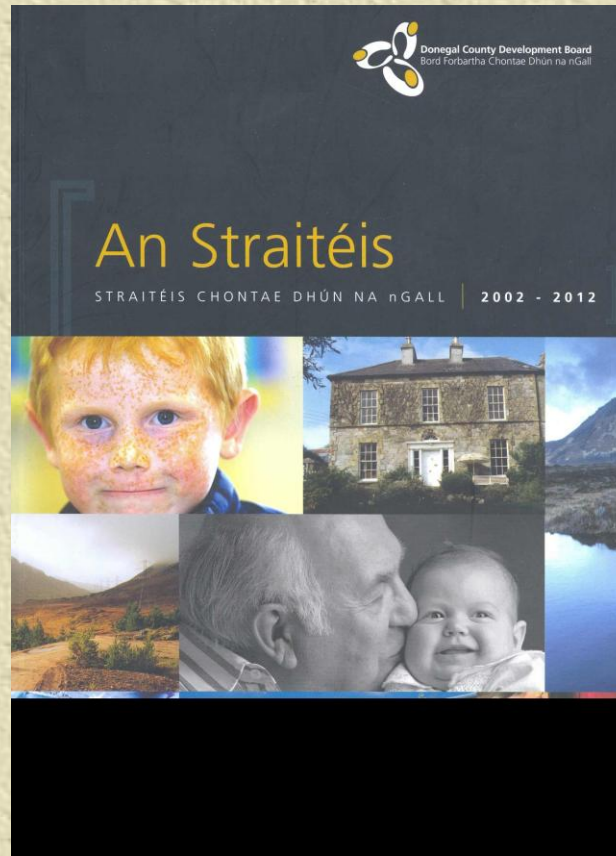
# The Development of a Local Renewable Energy Market in County Donegal

Charles Sweeney  
Donegal County Council  
Tuam, Co Galway  
15 November 2011



# An Straiteis: The Economic, Social and Cultural Strategy for County Donegal 2002-2012

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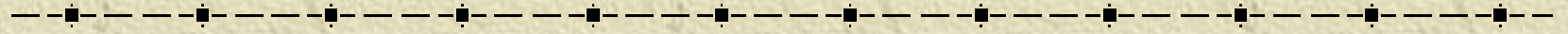


# Priority Action: Development of “Alternative Energy”

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- ✦ To optimise the benefits of Renewable Resources that create the Alternative Energy, that can provide the needs of the present generation, without damaging the interests of future generation.

# The Green Economy



- ✦ Is about improving our security of energy supply by reducing our dependence on imported fossil fuels – greater use of Wind, Ocean, Biomass.
- ✦ Currently spending €240m annually on imported fossil energy.
- ✦ The importance of the centrality of the local community to delivering the green economy.

# Developmental Process (CDB)

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- ✦ Promoted Renewables from zero base – Progress in biomass and wind.
- ✦ Multi agency approach and collaboration to making Donegal a lead region for the green economy.
- ✦ County Development Board
  - ◆ Green Economy Forum
  - ◆ Inter Energy Agency Group
  - ◆ Land Use Group
  - ◆ Sustainable Energy Community Steering Com.

# Forestry

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- ✦ Forests cover 11.9% of Donegal (58,183 hectares) predominantly plantation forests.
  - ✦ 37% are privately owned while Coillte, the semi-state forestry company, owns 63%
  - ✦ over 200,000 tons (over 90%) of timber leaves Donegal unprocessed with little or no added value, as it leaves the forest gate and County Donegal in raw saw log form
  - ✦ to maximise the value of this resource for woodland owners by creating added value through sustainable local employment
  - ✦ Zero history of wood chip energy utilisation in County

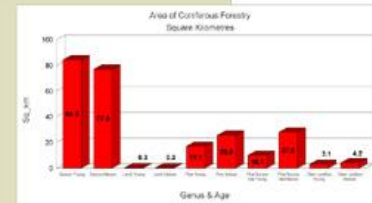
**Coniferous Forestry**  
**Foraois Bhuaircineach**

Donegal County  
Development Board  
*Bord Forbartha*  
*Chondae Dhún na nGall*  
Donegal County Council  
*Comhairle Chondae*  
*Dhún na nGall*

**Map No. 76**

**Coniferous Forestry  
Type**

- Larch
- Other conifers
- Pine
- Pine/Spruce mix
- Spruce

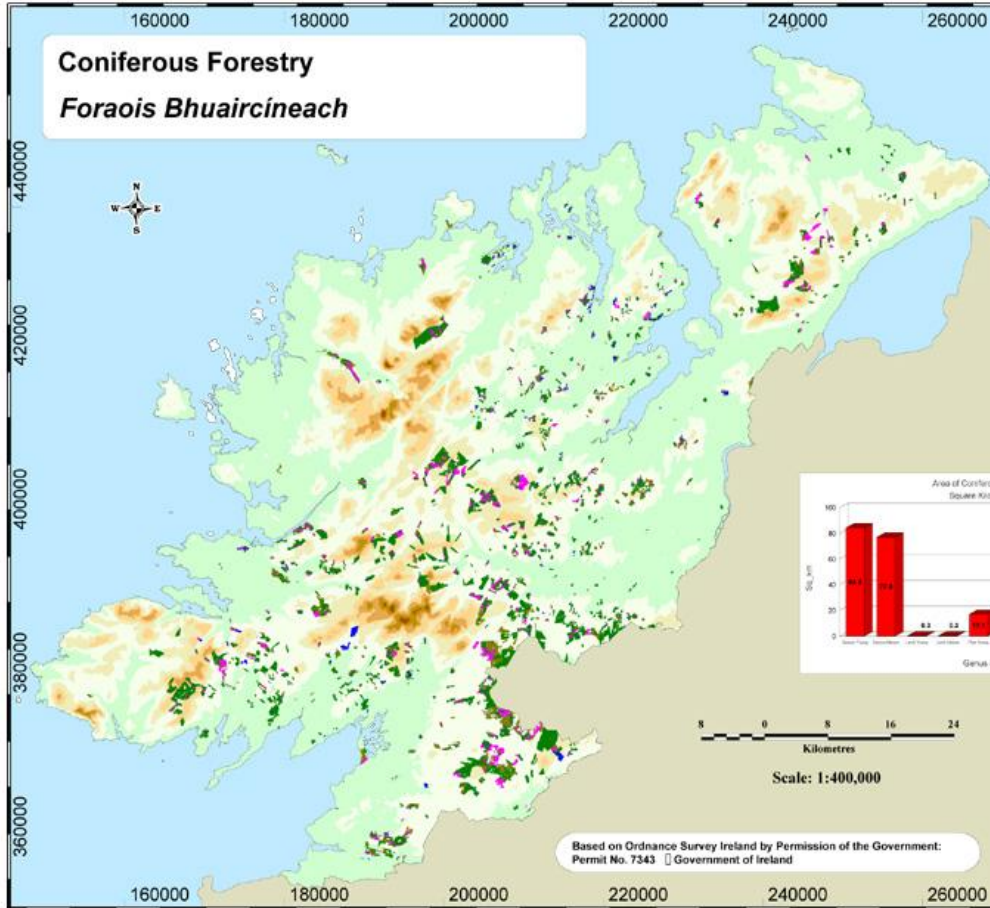


Scale: 1:400,000

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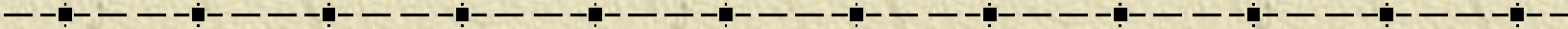
**Sources:**

*Coillte,*  
*Forest Service*  
*Ordnance Survey Ireland.*



# Wind

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- ✦ one of the highest wind resources in Western Europe
  - ✦ County presently accounting for 15.7% of the total capacity from Ireland
  - ✦ 28 windfarms generate 264.34 MW of energy, therefore the highest producing county,
  - ✦ It is envisaged by the Irish Wind Energy Association, in their paper on Jobs and Investment in Irish Wind and Energy, 2009 that by 2020, Donegal's output will exceed 325.5 MW. Therefore if we reach the targets by 2020, there will be approximately 538 jobs supported.
  - ✦ Typically 25-30% of capital investment in renewable energy projects stays in the local economy in the construction, maintenance, financial and legal sectors.



SEAI Wind Atlas Mapping - Windows Internet Explorer provided by DCC IS Section

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Refresh Print Mail News RSS Feeds

Address <http://maps.seai.ie/wind/> Go Links

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### seai SUSTAINABLE ENERGY AUTHORITY OF IRELAND

## Wind Atlas

Select a County ... Enter a Townland Letter ...

Map Layers Legend

#### Mean Wind Speed (m/s)

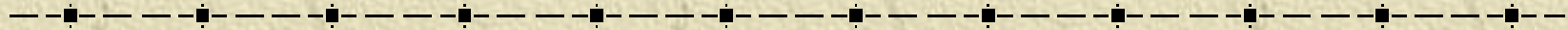
0 - 2.25	6.5 - 6.75	11 - 11.25
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2.75 - 3	7.25 - 7.5	11.75 - 12
3 - 3.25	7.5 - 7.75	12 - 12.25
3.25 - 3.5	7.75 - 8	12.25 - 12.5
3.5 - 3.75	8 - 8.25	12.5 - 12.75
3.75 - 4	8.25 - 8.5	12.75 - 13
4 - 4.25	8.5 - 8.75	13 - 13.25
4.25 - 4.5	8.75 - 9	13.25 - 13.5
4.5 - 4.75	9 - 9.25	13.5 - 13.75
4.75 - 5	9.25 - 9.5	13.75 - 14
5 - 5.25	9.5 - 9.75	14 - 14.25
5.25 - 5.5	9.75 - 10	14.25 - 14.5
5.5 - 5.75	10 - 10.25	14.5 - 14.75
5.75 - 6	10.25 - 10.5	14.75 - 15
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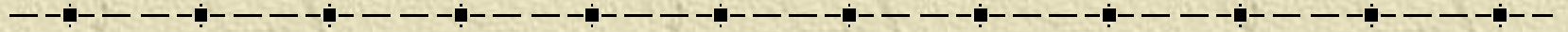
1 : 1733376 System by Compass Informatics © Ordnance Survey Ireland/Government of Ireland Licence number NE 0000510 I

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# Other natural resources



✦ Biomass

✦ Landfill Gas

✦ Biogas

✦ Onshore Wind

✦ Offshore Wind

✦ Ocean Energy

# Biomass Development

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- ✦ To create and enhance existing linkages to promote collaborative partnerships.
  - ✦ To provide information on models of best practice as opportune to adding value to the timber resources of private growers and the creation of community forests.
  - ✦ To develop awareness of best practice, which will hopefully lead to the creation of employment opportunities for local communities and the development of community forests, which will act as a social, environmental and educational resource in the county.
  - ✦ To act as a catalyst in the strengthening of the forestry sector by promoting new opportunities for growth and development.
  - ✦ Examine potential non food use of land (energy crops)

# Forest Link Phase 1

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## ✦ Models of best practice examined were:

- ◆ EU policy development framework
- ◆ Wood energy products, services and supply chain
- ◆ Forest owner groups, co-operatives and marketing networks
- ◆ Support structures for wood industry innovation and entrepreneurship
- ◆ Forest certification for small private forest owners
- ◆ Models of best practice and site visits taken to Austria, Denmark, Finland, Belgium, Sweden and Scotland.



Visiting Community Forests in Finland (April, 2005)



At the EU Parliament Brussels, Belgium 2004



Energy Wood Chipping Systems, Denmark Research Trip, March 2005



Wood Chip Storage & Boiler house Denmark



Minister for Agriculture & Food, Mary Coughlan TD and Minister of State with responsibility for forestry, John Brown TD, pictured with members of Donegal Forestry Forum and Donegal County Manager Michael McLoone at the Forest Link Conference in October 2005.

# Forest Link Phase 2 2006–2008

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Funded by Donegal County Council and the Department of Agriculture Fisheries and Food. The aim:

- ✦ To implement the lessons learned during phase 1 of the project and establish a wood fuel sector in County Donegal.

# Major Achievements

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- ✦ The installation of 15 wood fuel energy systems currently operational in County Donegal.
- ✦ The establishment of a supply chain co-operative (Donegal Woodland Owners Society Ltd)

# Forest Link Phase 2 installations

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- ◆ Innishowen Gateway Hotel
- ◆ Villa Rose Hotel Main Street Ballybofey
- ◆ Mount Errigal Hotel Ballyraine Letterkenny
- ◆ St Colmcille National School Greencastle Inishowen
- ◆ Raddisson SAS Hotel Letterkenny
- ◆ The Great Northern Hotel Bundoran
- ◆ Cherrymore Wholesale Kitchens Donegal Town
- ◆ Mevagh Dive Centre, Milford Road Carrigart Letterkenny
- ◆ Udaras na Gaeltachta Bunbeg Gweedore
- ◆ Jacksons Hotel Ballybofey
- ◆ Lough Eske Castle Donegal Town
- ◆ Gartan Outdoor Education Centre Churchill
- ◆ Aura Leisure Centre Sallaghagrane Letterkenny
- ◆ Regional Cultural Centre Port Road Letterkenny
- ◆ Abbey Vocational School Donegal Town

# Supply Chain

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- ✦ The Donegal Woodland Owners Society Ltd (DWOSL) is a wood fuel supply co-operative which supports and promotes sustainable forest management and timber marketing.
- ✦ To date the Society has over 140 members who between them own approximately 10,000 acres of woodland located in Co. Donegal.
- ✦ Eco-Wood Energy Systems –(wood chippers and delivery service)
- ✦ Imperative Energy Ltd, (providing a turnkey solution for Abbey Vocational School.)
- ✦ Balcas Northern Ireland deliveries of Wood Pellets (and offering maintenance of Burners.)

# Forest Link Promotion

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Wood Chip Boiler at Solis Lough Eske Castle Hotel, Donegal Town



# Current Development – Support from W.D.C.

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- ✦ A review of the effectiveness of the 15 installations in County Donegal during the Forest Link programme Phases.
- ✦ To carry out technical surveys of all public buildings in the ownership of County Development Board partners to assess their suitability for conversion to wood fuel energy from existing supplies.
- ✦ Assistance to implement a programme of conversions from oil to wood fuel among CDB partners.

# Review of Wood Energy Installations 2003 - 2010

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- ✦ Of the surveyed sites, six installations were rated as well functioning.
- ✦ With six of the remaining systems rated as best practice installations.
- ✦ hotel installations rated highly by the user and from a technical perspective include:
  - ◆ **Solas Lough Eske Castle, Donegal Town**
  - ◆ **Villa Rose Hotel, Ballyboffey**
  - ◆ **Great Northern Hotel, Bundoran**

# Public Buildings surveyed

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RASLRES report progressing a group of buildings under an Energy Services Contract (ESCO). The report covers the following 13 buildings:

- ✦ Letterkenny Hospital,
- ✦ St Josephs Hospital,
- ✦ Bundoran Waterworld,
- ✦ Donegal town PSC,
- ✦ House,
- ✦ Ballyshannon Lesiure Centre,
- ✦ FAS offices Letterkenny,
- ✦ Letterkenny I.T. (LYIT),
- ✦ Sligo Hospital,
- ✦ Donegal Hospital,
- ✦ Letterkenny PSC,
- ✦ Lifford County
- ✦ Dungloe PSC,
- ✦ Carndonagh PSC,
- ✦ Rockhill House.

# Further Public Sector Wood Energy Projects

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- ✦ LYIT are working on a plan to identify a suitable site for potential biomass installation. They are also interested in going to market to seek expressions of Interest from potential ESCO parties.
- ✦ HSE are also looking at using Biomass to heat some of their Community Hospitals.

# Rockhill House, Letterkenny

recently purchased by Donegal County Council

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**Was an Irish Army Barracks, until it was forced to close down, due to the poor economic situation in 2008. Rockhill House is a Registered Protected Structure. It is a two storey neo classical house built c1853 incorporating the fabric of an earlier c1760 house within. Incorporates the house, outbuildings and aprox 25 acres of land including forestry (17 acres).**



# Rochhill House

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- ✦ To be used for Community based projects.
- ✦ To be capable of providing an income stream from House Out-buildings and Land.
- ✦ Also to be used for ceremonial purposes.
- ✦ Will pose considerable challenges.

## County Council PSC's & Rockhill House

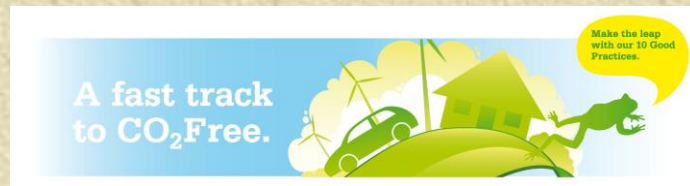
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- ✦ Currently using Oil heating.
- ✦ Rapidly increasing oil costs and carbon taxes are creating both the opportunity and cost benefits required to change to a more environmentally sustainable fuel.
- ✦ Fiscal constraints - leading to ESCO's being the most probable option for Biomass installations.
- ✦ Marginal cost benefit and storage and access problems at **some small sites** suggesting wood gasification to be a better option in some cases over wood chip or wood pellet.

# Other Renewables Initiatives

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- ✦ LYIT campus in Killybegs – designed to become a centre of excellence for Renewable Energy.
- ✦ Ideally placed for wind energy training in the maintenance of the wind turbine infrastructure that currently exists and in the potential development of offshore wind resources.
  - ◆ BZEE Accredited training provider – Certificate to Degree level training for Wind Energy Service Technicians/Engineers
  - ◆ Wind Turbine Training- for training at height



## ✦ CO2 FREE Project –

- ✦ Cooperating 2 Foster Renewables and Energy and Energy Efficiency

- ✦ Non Food Use of Land

- ✦ Renewable Energy Lighting-Pilot project

- ✦ Sustainable Energy Community

- ✦ REN NET

# Substantial market development since 2003

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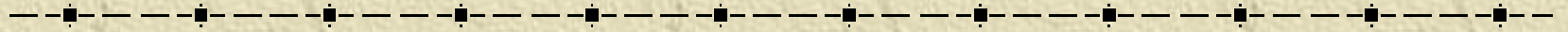
## ✦ Phase 1 involved 15 installations - 4.4MW

- ◆ Average Burner size 300kW
- ◆ 45% savings on running costs over oil @ time of installation
- ◆ Carbon savings 4565 tonne CO<sub>2</sub> Per annum

## ✦ Phase 2 involves 13 installations – 1.4MW

- ◆ Feasibility study done on 8, average size 180kW
- ◆ gives 70% savings on running costs over oil due to increasing cost of oil
- ◆ Carbon savings 1454 tonne CO<sub>2</sub> per annum

# Continued.....



- ✦ Stakeholder collaboration was vital
- ✦ Team leading through the CDB
- ✦ Use of local and natural resources
- ✦ First mover advantage
- ✦ Local Champions

# Go raibh maith agaibh

