



Development and promotion of a transparent European Pellets Market
Creation of a European real-time Pellets Atlas

Pellet market country report IRELAND



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April 2009

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This report is available at the pellets@las website at www.pelletsatlas.info

The pellets@las project is supported by the European Commission under the EIE programme (EIE/06/020/SI2.448557). The sole responsibility for the content of this report lies with the authors. It does not necessarily reflect the opinion of the European Communities. The European Commission is not responsible for any use that may be made of the information contained therein.

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1. Summary

The use of pellets in Ireland was virtually unknown until 2006 and the introduction of the [Greener Homes Scheme](#) which in its first phase offered householders 4,200 EUR against the cost of a pellet boiler (against an estimated installed cost from 10,000 EUR). This coupled with high fossil fuel prices generated a rapid increase in the number of pellet installations at a time when there were no domestic pellet producers and the logistics of supply was not set up for the sudden increase in demand. In addition there was a shortage of trained installers to put in the installed systems.

These issues have now been addressed by [Balcas Ltd](#) (who are based in Northern Ireland) improving their logistics (more pellet trucks, a storage depot in Cork, in the southern part of Ireland); the production of pellets within the Republic of Ireland – notably [D Pellet Ltd](#) who started production in the summer of 2008 (with a capacity stated as 75,000) and possibly during 2009 [Timber Pro](#) who have already built up a customer base selling imported Firestixx branded pellets.

The need for more trained installers of pellet systems has been addressed by the establishment of the [Renewable Energy Installer Academy](#), a pilot project funded under the INTERREG programme as a joint initiative of Action Renewables in Northern Ireland and [Sustainable Energy Ireland](#) (SEI) in Republic of Ireland, which was developed in response to the recognition that the lack of trained installers and specifiers is one of the critical barriers to the development of a sustainable renewable energy market.

Pellet consumers in Ireland are in the domestic and commercial sector, with an estimated (2009) 4000 pellet heating systems (boiler and stoves) installed. There is no known use of pellets for the production of electricity, either in a Combined Heat and Power plant, dedicated biomass power plant or co-firing. Ireland has one coal fired power station and three peat powered stations and co-firing is contemplated for each of these in order to meet Ireland's targets for :-

- 33% of Ireland's electricity to come from renewable sources by 2020 (and 15% by 2010) and
- 30% co-firing at Ireland's three state owned peat powered power stations by 2015.

However, it seems unlikely at the present time that pellets, whether wood or mixed biomass sources will be utilised, with the information available suggesting that woodchip and meat and bone might be preferred instead.

SEI estimate that the consumption of pellets in 2007 was 23,667 tonnes based on sales data collected by them. SEI also reports that total imports during 2007 were 24,664 tonnes. Of the 23,667 tonnes sold, 71% was to the domestic sector, the rest to commercial customers.

2. Introduction

The pellet market in Ireland is relatively undeveloped, although there has been a rapid expansion in the number of pellet consumers since 2006, with the launch of two grant separate programmes. The first is the [Greener Homes Scheme](#), launched in 2007 and the second is the [The Renewable Heat Deployment Programme](#) (ReHeat) in 2007. Until 2008 almost all the pellets used in Ireland were imported (although many came from Balcas Ltd, based in Northern Ireland). It has only been since 2008 that a significant domestic pellet producer (D Pellet Ltd) has existed.

It would be fair to assume that all the pellets manufactured within Ireland are used within the domestic market. It would also be fair to assume that almost all pellets in Ireland are used by householders and commercial users such as hotels and leisure centres. It seems unlikely that any pellets are co-fired for the production of electricity in Ireland (which is discussed further in Section 8). No information can be found on the use of wood pellets in a Combined Heat and Power (CHP) plant in Ireland and the existence of such a plant is therefore considered to be unlikely.

In 1900 only 1% of Ireland was covered by forest. State involvement in the development of forestry started at this time and continues to this day with [Coillte](#), (the state owned forestry company), today owning 70% of all Irish forests. Forests now cover over 9% of Ireland, with government grants to private land owners, and the record afforestation programs of the last twenty years, there is now a significant resource for wood energy.

The degree to which this resource is accessible is now being debated in Ireland. Presentations to the Bioenergy 2008 Conference, Athenry, Co Galway June 2008; indicated that much of the private forestry, especially in the west would be difficult to exploit due to poor terrain and infrastructure. Projections as to future demand /supply shortfall indicated problems after 2015, especially if there is increased demand for fuelling electricity generation with biomass; specifically if the EU requirement to fuel peat fired power stations with 30% renewable biomass by 2015 is to be achieved.

The [Bioenergy Action Plan](#) of 2007 suggests that up to 90,000 hectares of biomass from energy crops would be required to meet the 30% co-firing target. Suggested energy crops include miscanthus, willow, hemp and reed canary grass.

3. History of market development

Before 2006 there was no significant market for wood pellets in Ireland, and no indigenous production of wood pellets. Two significant developments promoted the market in 2006.

Firstly, Balcas, a sawmill and timber products company based in Enniskillen, Northern Ireland, built a combined heat and power plant (CHP), 10MW heat, 3MW electricity, with assistance from the UK government of £3 million. They also built alongside it a pellet production plant with a capacity of 50,000 tons per annum. This was commissioned in 2005 and initially exported pellets to UK power stations for co-firing.

Secondly, the launch of the [Greener Homes Scheme](#) (the Scheme) in 2006 by [Sustainable Energy Ireland \(SEI\)](#); an agency of the Irish government established in 2002 to “promote and assist the development of renewable energy”. Their brief consisted of reducing dependence on fossil fuel, reducing greenhouse gas emissions and encouraging the development of renewable energy technologies. Under the “Greener Homes Scheme”, SEI provided financial assistance to householders in the form of grants to install renewable energy systems.

The scheme was allocated a budget of € 47 million over five years. The total budget was exhausted after 16 months (for Greener Homes Scheme phase 1), as over 17,000 applications were approved. The applications were split between three technologies: biomass 26% (for which a grant of 4,200 EUR was available in Phase I – to householders to switch from gas or oil) heat pumps 26% and solar thermal 48%. The scheme has since been revised twice, in October 2007 Phase II (grant for biomass boiler 3,000 EUR), and July 2008 Phase III (grant for biomass boilers 2,500 EUR), halving available grants and increasing conditions for grant approval. Grants in Phase III are 2,500 EUR for a wood pellet boiler, 800 EUR for a pellet stove and 1,400 for a pellet stove with integral boiler.

Alongside these grants for domestic users there are similar schemes for commercial, industrial, public and community, e.g. [The Renewable Heat Deployment Programme](#), (ReHeat) which was launched in March 2007 (and is again administered by SEI) to provide assistance for the deployment of renewable heating systems in industrial, commercial, public and community premises in Ireland.

The rapid growth in the domestic Irish pellet market in 2006 was (as a result of the grant and the fact that loose pellets were about a half to two thirds of the cost of heating oil) lead to a serious problem in meeting the demand for pellets. Although sufficient pellets were being produced, and imported, the infrastructure for supplying them was not in place. Balcas (based in Northern Ireland with a production capacity of 50,000 tonnes) had 80 new customers for bulk deliveries in one week in October 2006, and with only 2 delivery vehicles, delivery lead times extended to many weeks.

By November 2006 Balcas reported that they had 250 on a waiting list for loose bulk pellets that they were unable to accommodate and that they had put a freeze on new customers until at least the middle of January. Balcas now have a supply network across Ireland (north and south) and a distribution centre at Cork. Loose pellets are sold directly by the company, whilst bagged Balcas Brites are sold through a network of independent distributors. In the Autumn of 2008 Balcas reported that they had 2,500 domestic customers and 100 commercial customers across the whole of Ireland (north and south).

Other companies in Ireland tried to import pellets during the winter of 2006/7, but found this very difficult if not impossible due to a global shortage.

The rapid increase in the domestic pellet market also led to large numbers of different boiler systems being purchased and installed, some with no knowledge or support for the technology, with serious failures due to poor installation, faulty components, and lack of user training. Gerkros and KWB (an Austrian pellet boiler manufacturer), have now installer training schemes, in both the north and south of Ireland.

The rapid expansion of the Irish domestic wood pellet market in 2006 has consequences for the market today. The distribution of bagged pellets had only just been started, but in some areas there was a shortage. This has led to the continuing misconception today that pellet supply is unreliable. All the main suppliers now have sufficient vehicles and stocks and most guarantee delivery within 14 days.

Table 1: Development of the pellet market since 2005

Year	Total production capacity [tonnes/year]	Total production [tonnes/year]	Consumption [tonnes/year]
2008	77,500	17000 (estimate)	30000 (estimate)
2007	2,500	2,000 (estimate)	23,667*
2006	0	0	10,000 (estimate)
2005	0	0	0

*The consumption figure of 23,667 tonnes for 2007 is based on sales data collected by SEI. SEI also reports that total imports during 2007 were 24,664 tonnes. Of the 23,667 tonnes sold, 71% was to the domestic sector, the rest to commercial customers.

4. Pellet production

The first producer of pellets in the Republic (South) of Ireland (in 2007 with a production capacity of 2,500 tonnes p.a.) was Irish Woodpellets Ltd, a small scale operation near Tuam Co. Galway; built on a former mushroom farm. The owner, Brendan Tiernay, buys in sawdust from local sawmills and dries it. He has a single pellet press. Pellets are bagged (10kg and 16kg) for sale at the gate to local customers. Irish Woodpellets Ltd see their market continuing to be local and small scale for the time being.

The first large scale manufacturer of pellets in Ireland was [D Pellet Ltd](#) based near Kilkenny on the site of parent company Roto Spiral which became operational in the summer of 2008. With three pellet presses and a reported production capacity of 75,000 tonnes (estimated utilisation in 2008 15,000 tonnes) D Pellet Ltd supplies both loose (minimum 3 tonnes) and 15kg bagged pellets to a wide range of customers. D Pellet Ltd compare the quality of their pellets favourably to pellets produced to the Austrian ÖNORM 7135 and the German DINPlus standards and publish a test result on their [website](#) (they do not however make any formal claim to have a certificate proving that they meet either of these two existing standards and a search of the website for both certification bodies does not reveal the existence of a certificate for the company).

D Pellet Ltd buy in the raw material for their pellets in the form of softwood logs, (thinnings), which are stacked for initial drying and then debarked and chipped before processing into pellets. The company states that they see the commercial market as the mainstay of their business

[Timber Pro](#), based near Kells, Co. Meath, have been a large scale importer of wood pellets sold under the Firestixx brand. They deliver in bulk with 3 dedicated vehicles, and in bags. Their website states that they have now started production in Ireland (thought to have happened during 2009). The pellets are marketed under the Firestixx brand (which are manufactured to meet quality standards DIN 51731 and ÖNORM 7135). The raw material is stated to be wood from Irish forests or from short rotation willow. No information is available as to the capacity or the utilisation of that capacity.

There are many other companies importing or distributing wood pellets in Ireland, for example Kedco, Co Cork, and Leinster Pellets, Co Wicklow.

There is no separate pellet trade association in Ireland. Instead their interests are represented by the [Irish Bioenergy Association](#).

Table 2: Production of wood pellets 2008 based on the size of the pellets plants.

Size of pellets plants	Production capacity 2008 [tonnes/year]	Total production 2008 [tonnes/year]	Number of pellets plants 2008	Utilisation rate 2008 [%]
small-scale (< 30000 tonnes/year)	2,500	Not know	1	Not known
medium-scale (30000 – 70000 tonnes/year)	0	0	0	0
large-scale (> 70000 tonnes/year)	75,000	15,000 (estimate)	1	20%

5. Pellet trade and logistics

No information is available in relation to the quantity of pellets stored and the storage capacities of the pellet manufacturers in Ireland. Balcas Ltd who have a manufacturing plant in Northern Ireland have a pellet storage depot at Ringaskiddy, in County Co Cork which is reported to have opened toward the end of 2007 and have a storage capacity of 8,000 tonnes. It is from this depot that Balcas are able to supply most of their customers in the Republic of Ireland.

Balcas also supply their bagged *Brites* through a number of independent retailers. Their website provides a [map](#) which shows just how extensive that network is.

It is unlikely, given the number of producers in Ireland and the local demand that pellets are exported from Ireland. During 2007, data collected as part of the Pellets@las project showed that the largest importer of pellets into Ireland was Latvia (3,500 tonnes); followed by Finland (2000 tonnes); Canada (1023 tonnes), Germany (330 tonnes); Sweden (30 tonnes) and France (25 tonnes).

6. Pellet consumption

Total annual consumption of pellets in Ireland for 2008 is estimated at 30,000 tonnes. The largest producer in Ireland (D Pellet Ltd) compare the quality of their pellets favourably to the Austrian ÖNORM 7135 and the German DINPlus standards. However, it seems likely that neither of the manufacturers of pellets in Ireland hold a formal certificate externally verifying the quality of their pellets (as at May 2009).

Pellet price data has been collected quarterly by SEI since April 2005 (for bulk deliveries) and January 2006 for bagged pellets. Both historical and the most recent quarterly data is published on their [website](#).

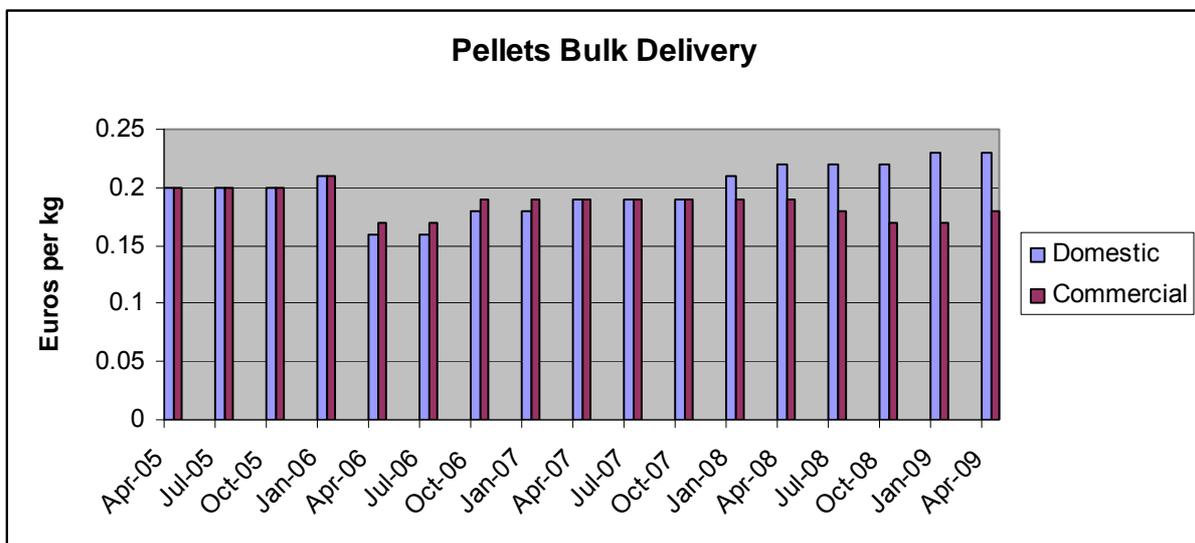


Figure 1: Price of Pellets Bulk Delivery in Ireland as collected by SEI

It is notable here that although there were problems in obtaining pellets during the winter of 2006/07 this did not seem to adversely affect the price. What is also notable is the gap between the price paid by domestic and commercial consumers, perhaps a sign that the commercial users that have starting using pellets since the introduction of ReHeat in 2007 have consumed pellets in higher quantities and have therefore been able to negotiate lower prices.

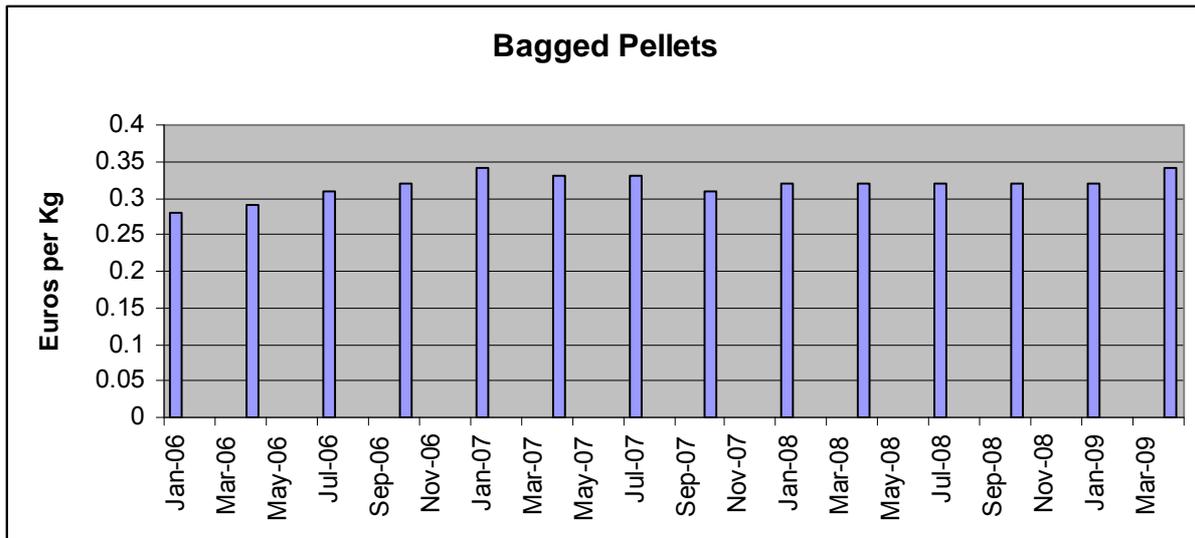


Figure 2: Price of Bagged Pellets in Ireland (sold to domestic customers) collected by SEI

As stated earlier, pellets are consumed by domestic and commercial consumers. They are not consumed on a large scale for the generation of electricity, either in a dedicated biomass plant or through co-firing. In January 2008 the Irish Examiner reported that 2,500 homes and business were using pellets for heating. Over 2,400 biomass boilers and stoves (mostly wood pellets) have been installed with the benefit of grants under the Greener Homes Scheme. By the end of March 2009 130 [biomass projects](#) had been installed, in hotels, schools, and industry, some as large as 2 MW under the ReHeat Programme. As not all these biomass systems will be pellet installations (some will be woodchip), 2,500 pellet heating systems by the start of 2008 was probably a fairly accurate figure.

Statistics from the Greener Homes Scheme to February 2009 suggests that there maybe have been a substantial increase on this figure during the course of 2008. SEI reported on their website (May 2009) that they had received 26,352 applications for grants under the Greener Homes Scheme. Of these 23% (by volume) were for biomass (a total of 6,061). Their website also breaks down the number of systems [installed by county](#) and the number of [applications approved by county](#).

[Gerkros](#) is the only Irish manufacturer of wood pellet boilers. The company is an established oil boiler manufacturer, which has diversified into manufacturing wood pellet boilers, similar to Swedish models. They claim to have 50% of the pellet boiler market in Ireland. [Kerry Biofuels](#) state on their website that Gerkros have installed 1,700 boilers 'to date'. Some of these installations could be in the UK, as Gerkros fairly recently opened a UK office.

On the basis of this information it is estimated (as at May 2009) that there is a total in the region of 4000 pellet stoves and boilers installed in Ireland to date.

Wood pellet boilers are expensive. According to SEI a typical domestic installation will cost between 10,000 EUR and 16,000 EUR (against which a Greener Homes Scheme Grant Phase III grant of 2,500 EUR is available). This is about three times the cost of an equivalent oil or gas boiler. This is borne out by prices quoted by Kerry Biofuels on their website (May 2009). It gives a cost of a Gerkros boiler (not including installation) from 5,360 EUR for a 20kW boiler and 6,830 EUR for a 15kW

self cleaning boiler. On top of this Kerry Biofuels give an estimated cost of 450 EUR for installation, 350 EUR for pipework and from 1,450 EUR for a buffer tank, if needed.

In addition to the Greener Homes Scheme and ReHeat, the Irish Government allocated € 65 million over the period 2006 to 2010 to “launch several innovative grant schemes relating to biofuels, combined heat and power, biomass commercial heaters and domestic renewable heat grants”. An indicative allocation of € 11M was made for a CHP programme to run in the 2006 to 2010 time frame.

Administered by SEI, the [CHP Deployment Programme](#) provides grant support to assist the deployment of small-scale (<1MWe) fossil fired CHP and biomass (anaerobic digestion (AD) and wood residue) CHP systems. It supersedes the Combined Heat and Power RD&D Programme.

At present the Programme includes feasibility studies, to assist investigation into the application of CHP across all size ranges and technologies and investment grant support for small-scale fossil fired CHP with a capacity $\geq 50\text{kWe}$ and $< 1\text{MWe}$.

7. Mixed biomass pellets

With a high dependence on imported fossil fuels for the production of electricity (approximately 90%- said to be the highest in Europe) and stretching targets for the production of electricity (and energy generally) from renewable energy in Ireland there is a desire to look at non fossil fuel alternatives, particularly those that can be home grown. However, it would appear that the wood pellet market has yet to reach its full potential in terms of the use of available raw materials and that it is unlikely that other sources of biomass for the production of pellets will be looked at until the existing wood fuel resource has been more fully realised. Straw is one material that could be used for the production of MBP but there are concerns about its physical effect on plant and in relation to costs, with large fluctuations due to weather related variations in supply and the level of demand from other sectors, particularly animal bedding.

Currently, there is no known production or use of MBP in Ireland.

8. Legal framework & Policy

Under the EU's Renewable Energy Directive Ireland has a target of 16% target for the utilisation of renewable energy (with existing use at approximately 3%). In addition the Irish Energy White Paper of March 2007 provides:

- A target for 33% of Ireland's electricity to come from renewable sources by 2020 (and 15% by 2010).
- 30% co-firing at Ireland's three state owned peat powered power stations by 2015.
- A target of 5% of all heat to come from renewable energy sources by 2010 and 12% by 2020

The three peat powered power stations in question are Shannonbridge (150 MW); Lanesboro/Lough Ree (100MW) and Edenderry and between them they burn 3 m tonnes of peat p.a. Edenderry Power's website states that the station was granted planning permission in 2007 to co-fire 140,000 tonnes of woodchip and 60,000 tonnes of meat and bone meal p.a.

The Energy White Paper of 2007 also provided that co firing should commence at Ireland's only coal fired plant, Moneypoint, by 2010. Moneypoint is a 915 MW plant which is capable of meeting 40% of Ireland's demand for electricity (making it the largest electricity generating power station in Ireland). Its state owner, the Energy Supply Board (ESB), are to undertake a feasibility study as to how this co-firing could work.

Currently, the energy consumed in Ireland is primarily achieved by the combustion of fossil fuels. Ireland's only indigenous fossil fuel is peat; all other fossil fuels (91%, a growth of 50% since 1990) are imported. 54% of this imported energy comes from oil. 38% of domestic properties are heated using oil (Energy in Ireland 1990 -2007). The potential for a reduction in Green House Gas emissions by switching from oil to biomass heating (wood pellets or wood chips) is therefore large.

The boiler or stove flue (chimney) must comply with Building Regulations. Some things to look for would be:

It is above the eaves line by about 1metre or 600 mm if coming out near the roof apex.

- It is twin walled and insulated.
- It has a cowl or hood on top to help prevent down draught.
- It should be separated from any combustible material.

9. Projections on future developments

As outlined earlier in this overview, pellets are already being produced in Ireland from forest thinnings and short rotation coppice as well as the more traditional raw material, sawdust. As stated in the Introduction there is some debate about how much of the existing forestry resource can be used due to issues around access. However, it seems likely that with the current emphasis on an increase in the use of renewable energy, that there will be an increase in the use of forestry residues. However, it also seems likely that in the main that these residues will be co-fired as woodchip rather than converting them into pellets, a step which is unlikely to be necessary.

Currently, the price of bagged pellets in Ireland (as evident from the data collected through the Pellets@las project) is on the high side compared with much of the rest of Europe (e.g. Austria, Germany), although it is similar to the price of bagged pellets in the UK. It seems likely that as the pellet market in Ireland increases in scale – both in terms of the number of users, quantity sold and number of domestic producers that these prices will fall more into line with countries with more established pellet markets. It seems unlikely, given the existence of domestic pellet production and improved infrastructure that there will be a repeat of the shortages experienced during the winter of 2006/7.

10. Summary and conclusions

With loose pellets being a cheaper way to heat domestic and commercial properties than all other fuels, including gas (where available) interest in pellet in the Irish Republic is likely to remain high, provided any lingering concerns about security of supply can be overcome.

The cost of the pellet boiler or stove is a limiting factor. Historically, the Greener Homes Scheme made available a grant to householders that could potentially meet almost half the cost of having a pellet boiler installed. This led to an explosion in demand during 2006 that neither the manufacturers, installers or pellet producers were ready for, causing problems both in the quality of installation (now addressed by the development of the [Renewable Energy Installer Academy](#)) and the availability of pellets.

Unlike the UK, it seems that pellets in Ireland, whether wood or mixed biomass will be used for co-firing, although co-firing of woody materials in Ireland's three peat powered power stations and one coal fired power station (Moneypoint) is proposed. It seems likely that other sources of biomass will be used before pellets.

Although the author is unable to find any evidence of pellets being used for CHP in Ireland, it is thought that this is a likely development, particularly if located on a site where space for storage or the number of deliveries would be an issue. The CHP Deployment Programme should help encourage this development.