



AIEA Presentation

Wood pellets heating systems



Introduction to the AIEA

- ✓ 16 Local Energy Agencies in Ireland, including 3 in Northern Ireland.
- ✓ Association of Irish Energy Agencies (AIEA) formed in November 1998.



Central Aim of the AIEA

- ✓ The overall common aim of the constituent member of the Association is to promote renewable energy, energy efficiency and the rational use of energy, to improve the quality of the environment and to contribute to sustainable development.



Mission Statement:

“The Association of Irish Energy Agencies (AIEA) is an All-Ireland body assisting the development and implementation of energy policy and best practice in an impartial and effective manner at local, national and EU level, through its own actions and by strengthening the capabilities of its members”

Structure of the AIEA

The AIEA is a self-governing organisation, which provides both a critical mass and a sense of continuity for its constituent member energy agencies. It can also provide a coherent and coordinated voice at local, national and European levels

Current officers include

- ✓ Chairman
- ✓ Secretariat
- ✓ Treasurer
- ✓ PR Team
- ✓ Training Officer



Local Energy Agency Activities

- ✓ Energy awareness and dissemination to the general public
- ✓ Energy management services to the Local Authorities
- ✓ Involvement in Local, National and European Energy Projects
- ✓ Sustainable energy training
- ✓ Energy Policy Development

SEANCE Project



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ASSOCIATION of IRISH ENERGY AGENCIES



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Wood Pellet Systems

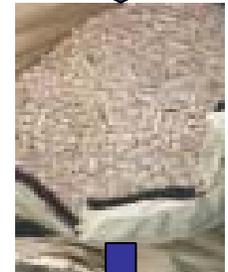
Renewable energy heating systems

- ✓ *What are wood pellets?*
- ✓ *How can wood pellets heat my home?*
- ✓ *Pellet storage*
- ✓ *Pellet stoves and boilers*
- ✓ *Maintenance and operation*



What are wood pellets?

- ✓ Wood pellets are made from sawdust, compressed into uniform diameter (6-8mm) pellets to be burned in heating appliances. They are a clean, renewable, standardised fuel and allow for easy handling and storage.
- ✓ Wood pellets should conform to European Quality standards for pellets as defined in – CEN/TC 14961
- ✓ One tonne of pellets contains the same amount of energy as 500 litres of oil and has a volume of 1.8m³.

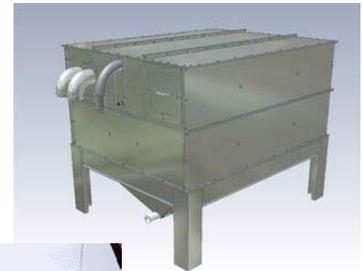


How can wood pellets heat my home?

- ✓ Rather than burning wood in open fires, efficient stoves and boilers are used to burn wood pellets.
- ✓ For pellet heaters with integrated boilers and outdoor pellet boilers, a building is plumbed the same as if an oil or gas boiler is being installed and they are connected similarly. They can be used for both radiator and underfloor heating systems.

Pellet storage

- ✓ Pellets can be bought in bulk (min. 3 tonne at present) and stored in a pellet hopper. The minimum recommended hopper size is 3.5 - 4 tonne or approx. 2x2x2m volume.
- ✓ Alternatively, pellets can be bought in bags of 10 - 20kg and used to refill a room heater.



Pellet stoves and boilers

- ✓ Wood pellet stoves and boilers should conform to the European Standard for solid fuel appliances as defined in EN 303. They usually have efficiencies of 90% and above.

- ✓ Pellet stove and insert room heaters
- ✓ Pellet stove room heaters (with water heating)
- ✓ Pellet boilers

Pellet stove and insert room heaters

- ✓ Pellet stove room heaters are stand alone units, which can also be built into existing fireplaces.
- ✓ These usually range in size from 3kW - 10kW - sufficient to heat up to 100m² in a well insulated building. They are particularly suited to open plan areas.
- ✓ Room heaters are fed manually with bagged pellets, with one fill lasting approx. 3-4 days



Pellet stove room heaters (with water heating)

- ✓ Pellet stove room heaters with integrated boilers look and are fed similar to room heaters.
- ✓ The major difference is that only a small proportion of the heat is emitted to the room (10-30%), with the remainder used to heat water in a backboiler or central heating system.
- ✓ Pellet stove room heaters with integrated boilers usually range in size from 8kW - 15kW - sufficient to heat a large room plus an additional 6-8 radiators as well as domestic hot water.



Pellet boilers

- ✓ Outdoor pellet boilers range in size from 15 kW to >50kW, sufficient to provide heating and domestic hot water for most houses.
- ✓ Modern pellet boilers employ electrical ignition and the pellet fuel is delivered automatically from the hopper through an auger.
- ✓ For correct operation and maximum efficiency, a hot water buffer store/mixing valve should be installed with the system. A standard 125mm insulated chimney and flue draught stabiliser is also recommended.



Pellet boilers

- ✓ Pellet boilers can be located in a purpose built boiler house or garage. They can also be placed outdoors if housed in an insulated weather casing.
- ✓ Some systems are delivered in self-contained boiler houses incorporating the boiler, fuel store and hot water storage tank. These are often integrated with a solar thermal system to provide hot water.



Maintenance and operation

- ✓ Most pellet systems incorporate computer controls meaning that they can start-up and shut down automatically and modulate continuously according to heat requirements. Most also have a self-cleaning combustion chamber.
- ✓ Ash from wood pellets is minimal (<0.5%) and needs to be removed from the boiler once every 3 - 4 weeks. As with an oil or gas boiler, servicing of the pellet stove or boiler once a year is recommended.



Thank you for your time

For more information on the AIEA or your local energy agency

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