HEAT ENTREPRENEURSHIP CONCEPT

Heat entrepreneurs industry data on this presentation comes from www.lampoyrittajat.fi

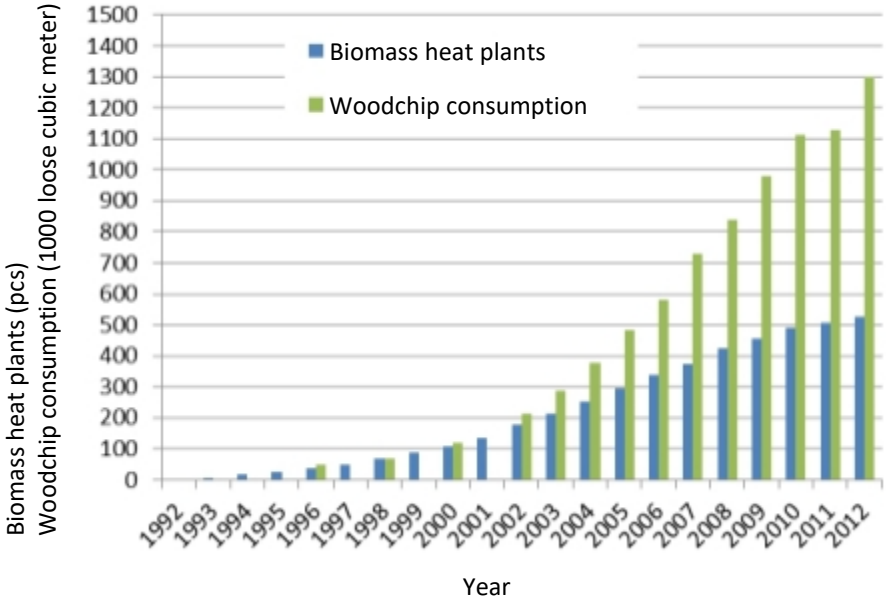
What is heat entrepreneurship ?

A heat entrepreneur will sell energy in the form of heat. In most cases, the heat is transferred to the end customer through a hot water network or hot air ducts.

The heat entrepreneur will invoice the customer for the kWh (or BTU) delivered that are measured with an energy meter.

The heat entrepreneur will take care of the boiler maintenance, the fuel feed, the backup heat source and other related matters. The customer has only to take care of his bills, just like he already does for electricity.

The heat plant can be owned by the heat entrepreneur or the customer depending on the case. In most cases, the heat in produced with woodchips.



History of heat entrepreneurship in Finland

First heat entrepreneurs started in 1992.

In 2013, 310 heat entrepreneurs were running 533 heat plants consuming a total of 1.5 million cubic meters of woodchips. This represents between 7 and 8% of the available woodchips.

This represents 1/3 of the local energy networks and 2/3 of the real estate property connected heating plants.

Total potential is estimated to over 5000 municipal, commercial and industrial sites.

Typical heat entrepreneurs: farmers, forest owners, peat producers…

Average size of the heat plants : 500 kW (1.7 million BTU/hr).

Biggest heat plants 2.5 – 3.5MW, mostly for municipal heat networks and industrial customers.

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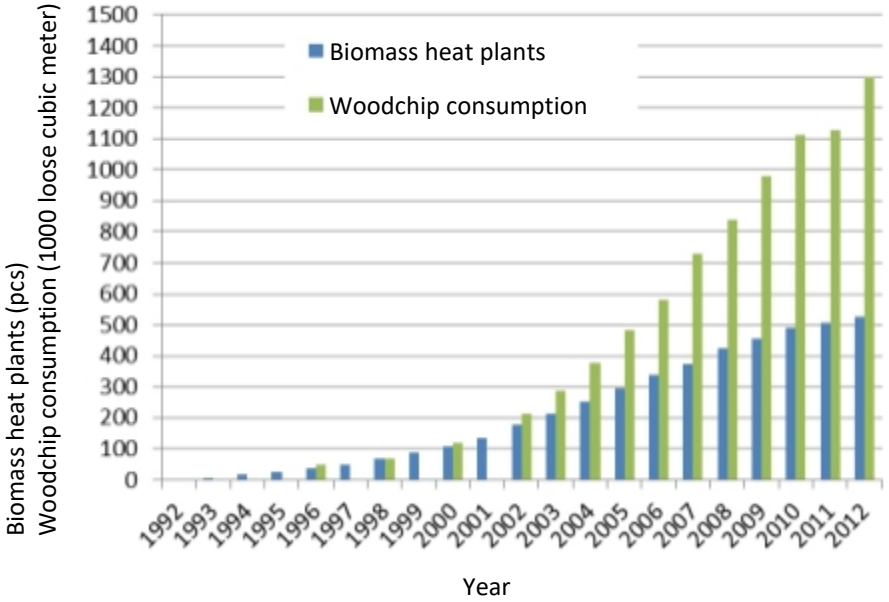

Heat entrepreneurship developed at first as a side-source of livelihood among farmers and forest owners but tends to become more and more an industry of its own.

In 2012, heat entrepreneurs had a combined turnover of 45 million euros and employed directly between 600 and 700 persons.

Heat entrepreneurship has also a positive impact on local economy as the woodchips are always sourced locally.

It has also a positive impact on the environment as each 1MW heat plant replacing fossil fuels will save around 1000 tons of green house gas emissions annually.

Basic economics of heat entrepreneurship

Heating contracts are usually made on a 10 to 15 year contract. This allows the heat entrepreneur to have enough financial security to invest in the heating equipment.

Best practice is to make a contract with an annual indexation of the energy price with an index calculated on at least 3 different variables to decrease the risk. Heat entrepreneurs have the advantage to be able to provide heat with a quite constant price level that is not the case for fossil fuels.

Most of the heating equipment are in the form of containers that allow to easily move the equipment to a new customer if the contract is not renewed or if the heat can be sold to another customer during the summer season (for grain dryers by fall for example).

Usually the annual expenses of the heat entrepreneur are divided as follows:

- 1/3 investment payback
- 1/3 fuel supply
- 1/3 other (salaries, electricity, maintenance…)

In Finland, the heat entrepreneur will usually charge the customer a price between 40 and 75 euros per MWh.

Production cost will vary between 5 and 20 euros per MWh.

This ends up with a profit between 10 and 30% of the turnover.

Fuels used for biomass heat entrepreneurship

Most commonly the woodchips used by biomass heat entrepreneurs are made from what is commonly known as *energy-wood* in Finland.

Energy-wood consists of all the parts of the harvested tree that are not used by the wood industry or the pulp and paper industry. Basically it is all the treetops and branches with a diameter of 1.5 inch or below.

Using this kind of woodchips ensure a good price as there are no competing industries buying the same product.

Säätötuli's bioheat containers are also able to process many other biomass-based solid fuels.

This includes peat, agro-pellets, corn cobs, nutshells, fruit stones, other agricultural residues…

When selecting an alternative fuel, it is important to check the regulatory matters on burning that particular fuel.

Provincial regulations may demand for an extra investment on flue-gas cleaning systems but usually the low-cost of some alternative fuels can end up with a short ROI on that investment.

Peat

Agro-pellets

How to become a heat entrepreneur ?

If you want to study the possibility of becoming a heat entrepreneur, Säätötuli Canada will be happy to assist you and provide you the containerized heating equipment you will need to start your business. Säätötuli was among the pioneers in the manufacturing of biomass heating containers.

For businesses that have access to energy-wood, Säätötuli Canada can also provide the necessary equipment to harvest and chip the wood.

Säätötuli has a 35+ year experience in biomass heating and its owners have over 40 years experience on small scale biomass harvesting and chipping operations in Finland.

With its extensive network of private and institutional partners, Säätötuli Canada can help you on all the aspects of running a profitable biomass heat entrepreneurship, from forest management up to the energy meter. Do not hesitate to contact us.

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THANK YOU