PELLETime – Solutions for competitive pellet production in medium size enterprises

PELLETime develops an accessible package of tools to design sustainable pellet supply chains, thereby promoting the role of local entrepreneurs in utilising local renewable energy resources and supporting the energy self-sufficiency of northern peripheral regions.

The small scale production of pellets currently faces both technological limitations, as well as lack of knowledge. PELLETime addresses those challenges by offering a holistic approach for SMEs reaching from identification and estimation of available resources, raw material procurement, the design of the entire pellet production process to the final product.

PELLETime encourages sustainable expansion of the raw material resource, and carries out awareness raising and information dissemination to facilitate market development.

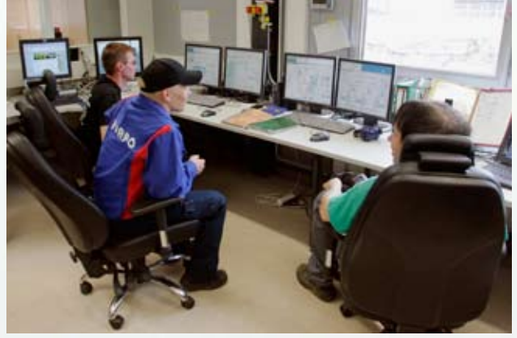
Project Consortium

PELLETime has partners from Finland, Sweden, Scotland and Iceland.

Project is coordinated by the North Karelia University of Applied Sciences, Finland. Partnership includes Finnish Forest Research Institute, Joensuu Regional Development Centre (Finland), University of Kuopio (Finland), Oulu University of Applied Sciences (Finland), Highland Birchwoods (Scotland), Swedish University of Agricultural Sciences, Herads- and Austurslandskogar (Iceland) and Icelandic Forest Service.

Project includes associate partners of Vapo Corporation Ltd. (Finland), Biottori Ltd. (Finland), Pakaslahti Ltd. (Finland), M. Pappinen Ltd. (Finland), JPK-Tuote Ltd. (Finland), Konepaja Antti Ranta Ltd. (Finland) and National Farmers Union Scotland.

PELLETime will involve wide beneficiary from pellets sector. Companies across the northern periphery are invited to discuss potential of cooperating and involvement as associate partners.



PELLETime themes

Broadening of the raw material base
PELLETime will identify current and forthcoming availability of both existing raw materials and alternative raw materials of pellets. Geographical Information Systems (GIS) analysis will identify any bottlenecks arising from fluctuations in existing raw material supply.

Regional markets will also be analysed to highlight areas where these bottlenecks could become a significant constraint on market development.

The project will examine the potential of several agricultural and short rotation forestry crops, thus developing best practice guidance on the landscape, biodiversity and hydrological dimensions of management.

Material handling and logistics
Handling, logistics and innovative techniques for matching variable raw materials to different end user requirements will be modelled and a cost-calculator will be developed to allow SMEs to assess the feasibility of local pellet production.

In Iceland, PELLETime will provide expertise for developing local forest inventories and management plans.

Pelletizing trials and fuel analysis
Potential new raw materials and mixtures of raw materials will be pelletized and tested in terms of fuel quality, calorific value and emissions. The results obtained will form the basis to a best practice guidance document on utilisation of different raw materials and mixtures in small and medium scale pellet production.

PELLETime will carry out two rounds of pelletizing trials and test 12 samples of alternative raw materials, such as short rotational coppices, whole tree chips and even logging residues from final fellings.

Advisory, consultation and study tours
PELLETime will organise open days for the end-users of pellets. Project will also carry out a range of advisory and consultation services, including business and technical advisory. Study tours will be organised for exchanging experiences and transferring best practices to the northern peripheral areas.

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PELLETime

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Pellet production and trading

Pellets are a cylindrical shape fuel product with a diameter of 6 to 10 mm and a length of 5 to 40 mm. They are usually produced of milled wood materials, such as cutter shavings, saw dust and grinding dust. However, pellets can be produced of various materials, like agro biomasses or forest chips.

The production process comprises milling, drying of the raw material (for moist biomass), pelletising, cooling, fine separation and packaging or storing. In Europe, about 6 million tons of wood pellets are produced annually. End-uses are in large scale co-firing, municipal heating plants, household boilers (from 5 to 50 kW) and non-fuel uses.

Quality creates business opportunities

Pellets are produced in different qualities: first class pellets are most suitable for small scale end-use in households and bulk pellets can be channelled to the large scale power plants.

Small scale producers have most promising business opportunities in production of first class pellets to the local markets. Production is often co-located with other wood processing as production requires steady flow of raw materials, such as dry saw dust and cutter shavings.

Broadening of the raw material base of pellets could create new business opportunities and improve the competitiveness of existing production both in small and large scale.

Aimo Kortteen Konepaja Oy, Ylivieska
Finnish MurskaBioPellet is a modular pellet production unit for saw mills, furniture factories or cattle feed production. The small scale pelletiser has the capacity of 350 kg/h.

Skellefteå Kraft Ab, Hedesbyn plant
Hedesbyn bioenergy combine in Skellefteå (57 MWth and 34 MWe) produces annually 120 000 tons of wood pellets both for small and large scale end-users.

MurskaBioPellets Pelletizer

Skellefteå Kraft Ab, Hedesbyn plant

PELLETime

The Northern Periphery Programme 2007 - 2013

The Northern Periphery Programme 2007 - 2013 is part of the European Commission's European Territorial Cooperation objective. The period 2007-2013 has a special focus on developing new and innovative products and services through transnational co-operation.

www.northernperiphery.eu

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