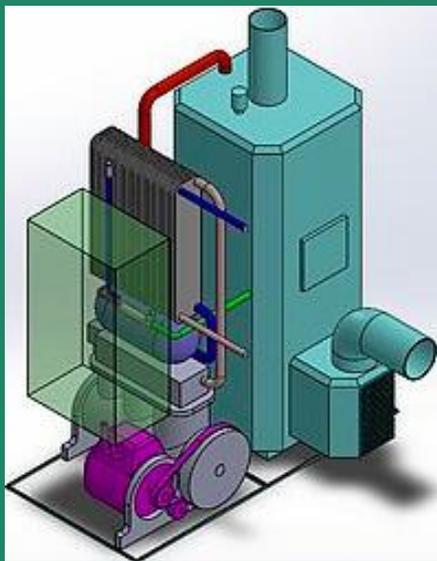




The purpose of the MICRO COMBINED HEAT AND POWER SYSTEM FOR HOUSEHOLDS (H-CHP)-project is to promote the uptake of Combined Heating and Power systems (CHP) in sparsely populated northern regions using solid renewable biomass and gasification methods that will be appropriate for remote households.



MICRO COMBINED HEAT AND POWER SYSTEM FOR HOUSEHOLDS.

The purpose of the project is to promote the uptake of Combined Heating and Power systems (CHP) in sparsely populated northern regions using solid renewable biomass and gasification methods that will be appropriate for remote households. The Northern Periphery Area has abundant natural fuel resources but is subject to a harsher climate than the rest of Europe and these results in the need for increased domestic energy. Attempts to exploit natural energy resources for households have been mixed, and as a result, there is significant fuel poverty in the region. A key component is the high cost of electricity. We propose a new affordable solution that uses local renewable solid biofuel in a small-scale micro CHP system.

Partnership:

University of Oulu
Kerttu Saalasti Institute
Finland

Oulu University of
Applied Sciences
Finland

University of the
Highlands and Islands
Scotland

Tighean Innse Gall
United Kingdom

Energy Action
Ireland

Luleå University of
Technology
Sweden

University of Iceland
Iceland

Duration:

01.08.2018 to 31.07.2020.



The MICRO COMBINED HEAT AND POWER SYSTEM FOR HOUSEHOLDS (H-CHP) project aims to increase energy efficiency and accelerate the adoption of renewable and sustainable energy solutions in sparsely populated regions. The specific focus of the project is on individual rural households in low population density areas with low accessibility to affordable energy.

First Partners Meeting in Oulu



The control room of eco power plant, where staff monitor and control by huge claws the 2 large waste feeder bays that receives municipal waste 24 hours a day.



First photo caption in Iceland

Participants from left: Brian McSharry, Energy Action, Ireland, Christiaan Richter, University of Iceland, Iceland, Rúnar Unnþórsson, University of Iceland, Iceland. Torbjörn Ilar, Luleå University of Technology, Sweden, Alasdair Mcleod, Lews Castle College – UHI, Scotland, Brian Whittington, Tighean Innse Gall, Scotland, Andrew MacKenzie, Lews Castle College – UHI, Scotland, Stewart Wilson, Tighean Innse Gall, Scotland, Markku Korhonen, Oulu University of Applied Sciences, Finland, Jukka Ylikunnari, Oulu University of Applied Sciences, Finland, Markku Kananen, University of Oulu, Finland, Kari Mäntyjärvi, University of Oulu, Finland.



Partners meeting in Reykjavik Iceland in November 2016 to plan and discuss the work packages, meetings for each country and delivery of the H-CHP project. There are 10 partners involved in the project from Finland, Sweden, Iceland, Scotland and Ireland. They are University of Oulu (lead partner), Oulu University of Applied Sciences, Finnish House Owners' Association, all from Finland, University of Iceland, Energy Action, Ireland, Tighean Innse Gall, Lews Castle College- UHI, Pint & Sandwick Trust, The Woodland Trust Scotland, Lulea University of Technology, Sweden.



On the visit to Oulu the H-CHP partners were invited to the Laanila eco power plant that turns waste into electricity and heat, diversifies our production structure and reduces the amount of landfill waste and gas emissions. In 2013, the eco power plant produced 19% of our heat capacity. The waste-to-energy power plant uses approximately 140,000 tonnes of municipal and industrial waste sorted at origin per year. Half of this amount comes from the Oulu region and the remainder from various sources across Northern and Eastern Finland. Municipal waste is mainly mixed combustible household waste. The waste is not treated prior to combustion. The eco power plant also produces steam used in Kemira's industrial processes and for generation of electricity and heat. The power plant is operated and maintained by Laanilan Voima.

