



Pomarkku

Energy self-sufficiency through
wood chip burning plants



Municipality of Pomarkku

- 2166 inhabitants
- Over 120 enterprises
- Total area of 332,05 km² of which 30,87 km² lakes and rivers
- Density 7,17 inhabitants / km²
- Rural area
 - Funding available from the [Rural Development Programme for Mainland Finland 2014–2020](#)



Wood chip burning plants

- Decentralized energy generation from small energy sources
- 4 wood chip burning plants with a total capacity of 1,3 MWh
- Owned and built by the town of Pomarkku
- Investments of 800 000 €
- 90 % own funding, 10 % governmental support
- Operated by Pomarkun hakeosuuskunta (co-operative)



Pomarkun hakeosuuskunta (co-operative)

CEO	Mr. Mikko Rajakangas
Board of Directors	6 members chosen annually by the General Meeting
Decision making	General Meeting, one member - one vote
Members	27 members of which 22 active in 2018 Farms and small local enterprises
Incomes	Each member runs the plants in turn and gets compensation for produced energy (100 kW for a shift) - tied to the Consumer Price Index (CPI)
Contractual period	New contract with the town of Pomarkku until the end of 2029



Wood chip burning plants

- 200 kWh (1998) for comprehensive school (lower level)
 - Sports center (2015)
 - New plant of 300 – 500 kWh (2018 – 2019)
- 300 kWh (2001) for comprehensive school (upper level) and upper secondary school
- 300 kWh (2004) for nursing home, service housing, day-care center, one rental apartment building
 - Enlarged to 500 kW for several other buildings (2011)
- 300 kWh (2006) for town hall, fire station, one apartment building, two smaller buildings



Benefits, facts and figures

BENEFITS	FACTS AND FIGURES
Annually low investment costs	Construction divided into several years
Low bureaucracy	No environmental permits required for small plants (in Finland)
Energy self-sufficiency	Plants power 95 % of public buildings in Pomarkku
High efficiency <ul style="list-style-type: none">• Low energy transfer costs• Low amount of waste heat	Short distribution lines - plants located close to energy users
Energy cost savings	120 000 € annually Production approx. 4200 MWh / year 2300 solid m ³ of wood (5700 m ³ of wood chips) = 420000 l fuel oil (10 kWh/l) Income from energy supply to church, apartment buildings etc.



Benefits, facts and figures

BENEFITS	FACTS AND FIGURES
Operational reliability	Operation in local hands: 22 active members of the society take care of the wood chip supply and operation control Each plant is equipped with an oil boiler in case of operation interruptions Automatic operation and emergency control
Low maintenance costs	During the operation, small repairs done by the society Town is responsible for large repairs - mainly in summer time
Employment	Construction work 100 % Finnish Operation of the plants by the co-operative Operation equipment 50 % Finnish
Reduction of CO₂ emissions	135 t / year
Incomes for local forest owners	Total of 2 000 000 € in 20 years 155 000 € in 2017
Improvements in forestry	Wood that is cut down improves the growth and well-being of the forests Wood is collected from an area of 2500 ha