



DH and social security, the future of small DH areas

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District heat production is based in Finland on business oriented models

International Energy Companies	Strong business, high level knowledge, lot of own capital	High profit demand, Local partnership?
Energy Companies owned by the Municipalities	Strong local connection, Based to municipal decision	Profit demand to owner, municipality
National Ltd Companies	Network with different partners, Interest of growing	Amount of own capital, Achieving local partners
Small local Companies Typical side business,	Using of own machines and raw material	Limited to small scale, Learning by doing
Local Co-operatives	Strong local connection, Wide ownership, Woodchips materials in "own" hands	Locality, Easy to stay in passive owner's role



SMALL SCALE HEAT ENTREPRENEURSHIP IN BIOENERGY BUSINESS

- Energy companies have partly outplaced small DH grids and heat production to the private cooperatives or limited companies
- Heat entrepreneur or a group of entrepreneurs must have raw fuel material in "own" hands i.e. own forests. They get their salary from woodchips and operation and maintenance works in the boiler house.
- The salary from the heat business is only a side-flow. Typically farming is the main income.

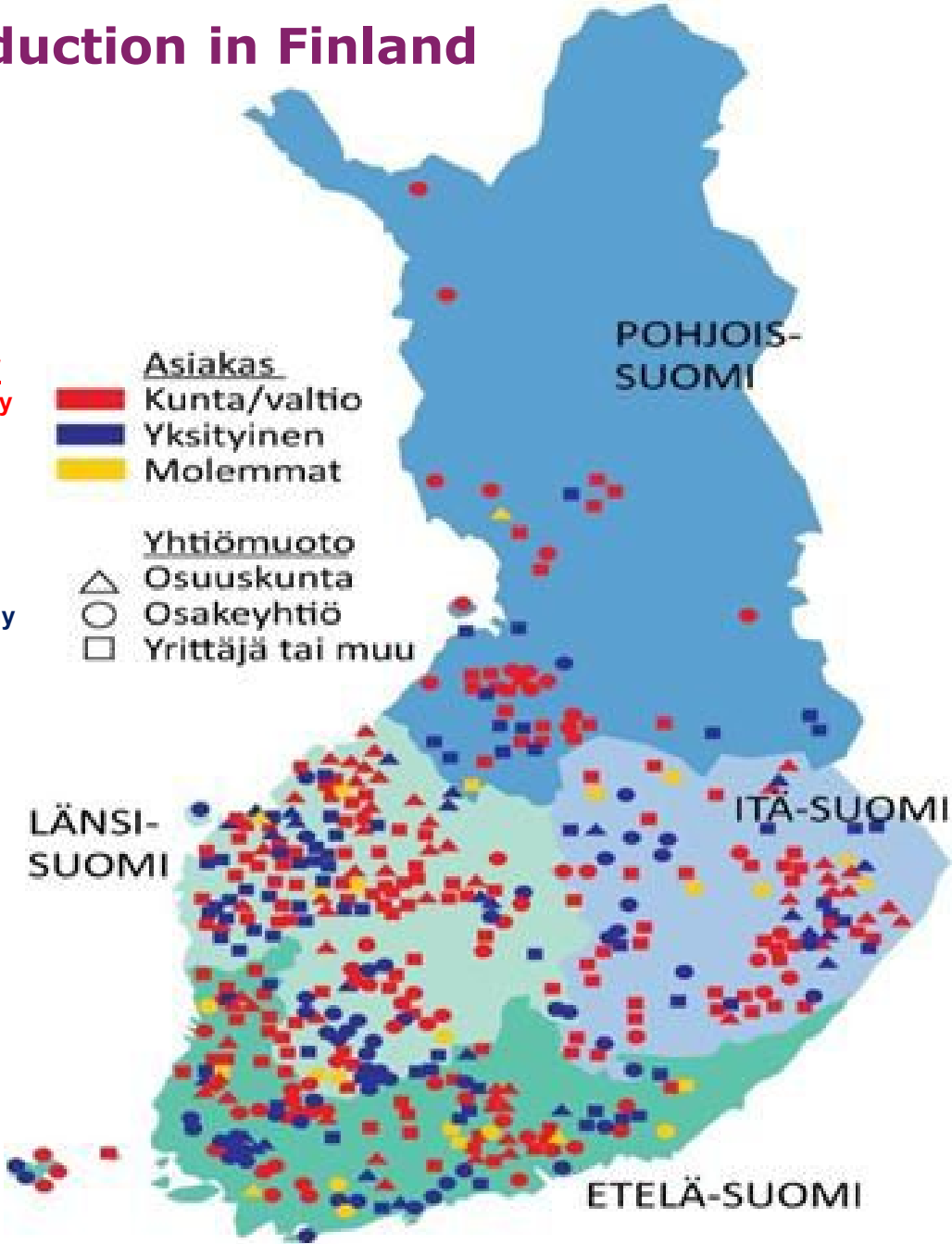
Small scale heat production in Finland

Typical village heated by DH
 < 1000 dwellers
 < 15 heat customers
 Boiler < 600 kW
 Network < 0,5 km
 In Finland 160 entrepreneurs
 with 450 boiler units

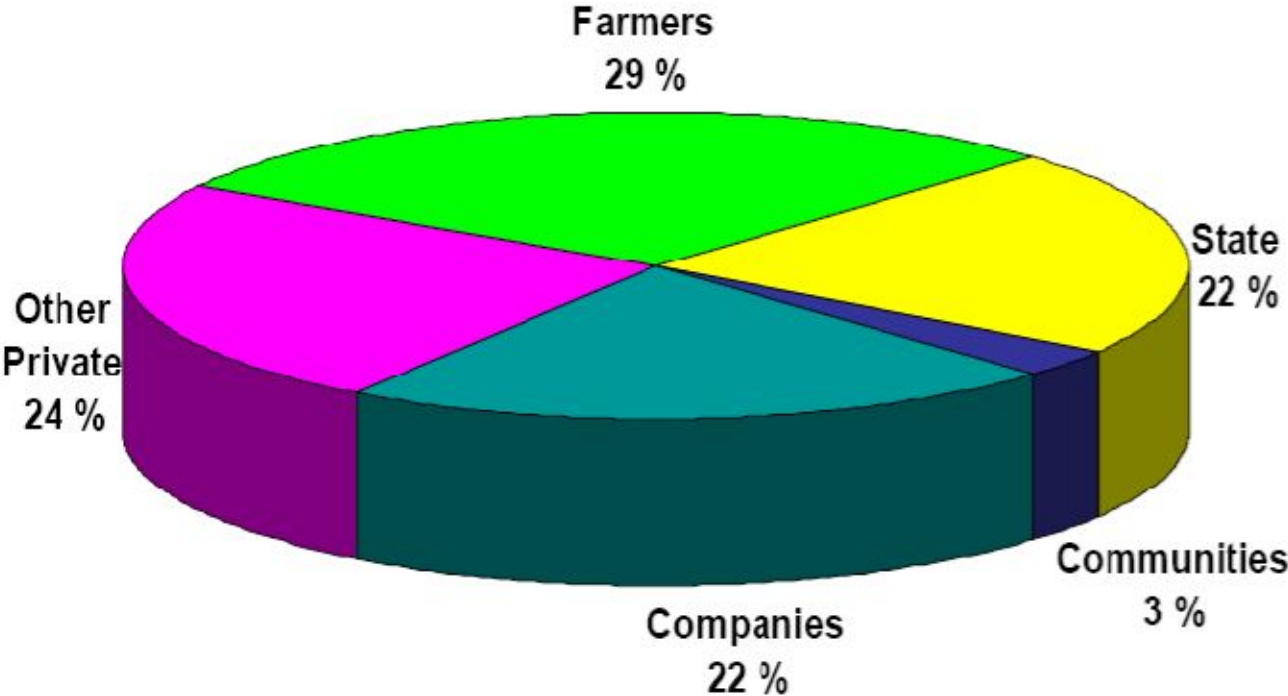
Customer
 Municipality
 Private
 Both

Corporate form
 Cooperative
 Limited company
 Entrepreneur

- Asiakas**
- Kunta/valtio
 - Yksityinen
 - Molemmat
- Yhtiömuoto**
- ▲ Osuuskunta
 - Osakeyhtiö
 - Yrittäjä tai muu



OWNERSHIP OF FOREST LAND IN FINLAND



222 000 private non-industrial forest owners

HEAT ENTREPRENEURSHIP INCREASES IN FINLAND

- First plants were established in 1992
- At the beginning the boiler houses were mainly owned by the municipalities
- Cooperative or limited companies now about 55 %,
- Entrepreneur or group of entrepreneurs 45 %
- 2009 management objects were about 450 boilers, which are owned by 160 enterprises.
 - Mean capacity about 550 kW
 - Mainly wood chips but also pellets, briquettes and peat
 - Mean consumption of forest chips 2100 loose m³/a
 - Biggest plants are 2,5-3,5 MW
 - Mainly the customers are public houses and industrial sites
 - Total use of energy wood over 1 million loose m³

HOW DOES THE HEAT ENTREPRENEURSHIP (HE) WORK ?

- **HE is small scale district heating business**
- **The entrepreneur takes care of the heat production**
- **The boiler and the production facilities can be owned by the entrepreneur or by the customer or the municipality**
- **HE supplies the fuel and looks after the feeding system and the boiler operation and maintenance**
- **Billing is based on entrance fee, basic fee and energy fee. Municipality can take care of customer billing**
- **• Customers prefer stability of energy costs**

District heating companies' distribution function according their mean DH selling prices 2009 (inc.VAT)

