

NORTH KARELIA  
UNIVERSITY OF APPLIED SCIENCES

# Opportunities for wood energy entrepreneurship

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[www.pkamk.fi](http://www.pkamk.fi)

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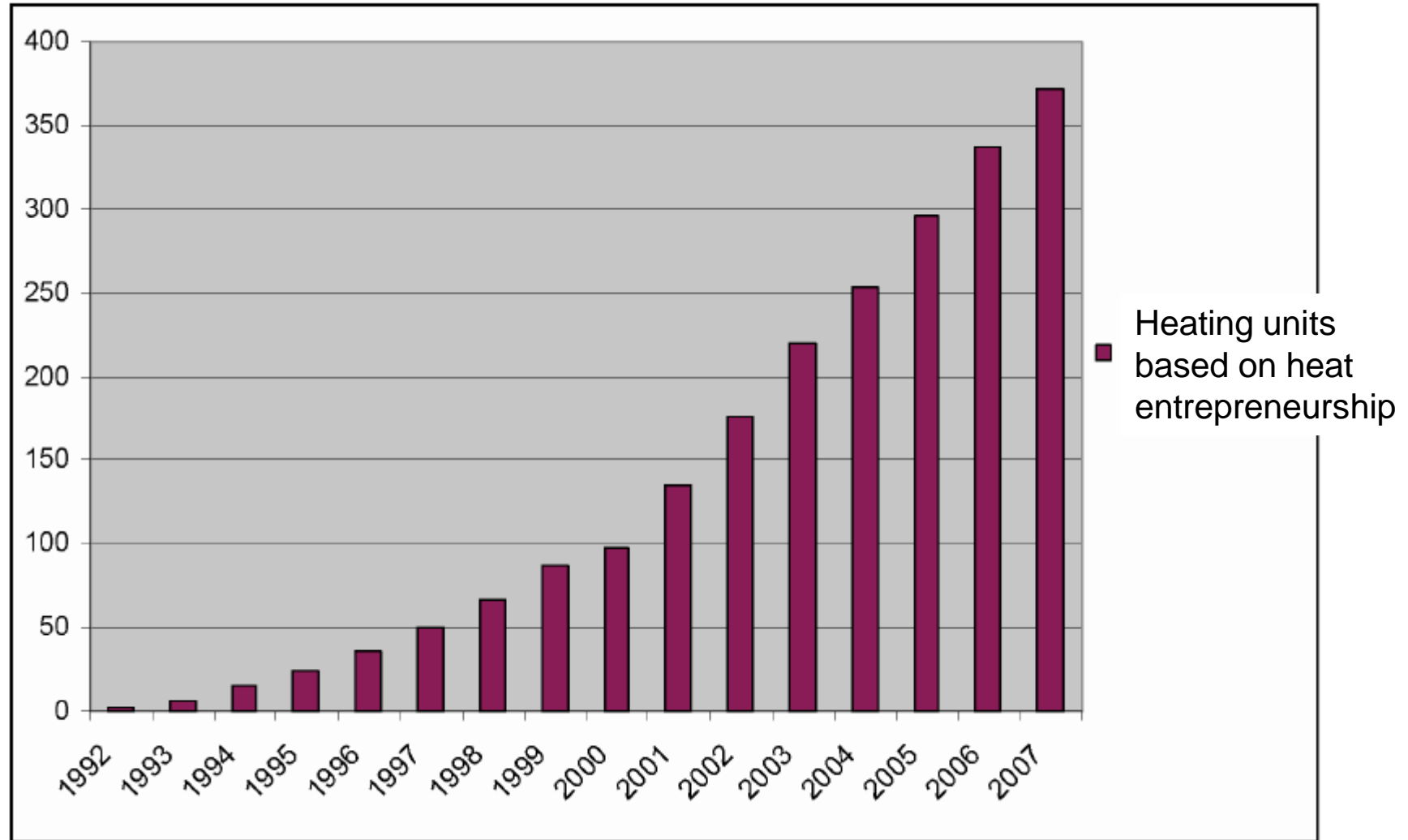
**Wood heat entrepreneurship in Finland**

**Wood pellet business**

**Conclusions**



## Development of wood heat entrepreneurship in Finland

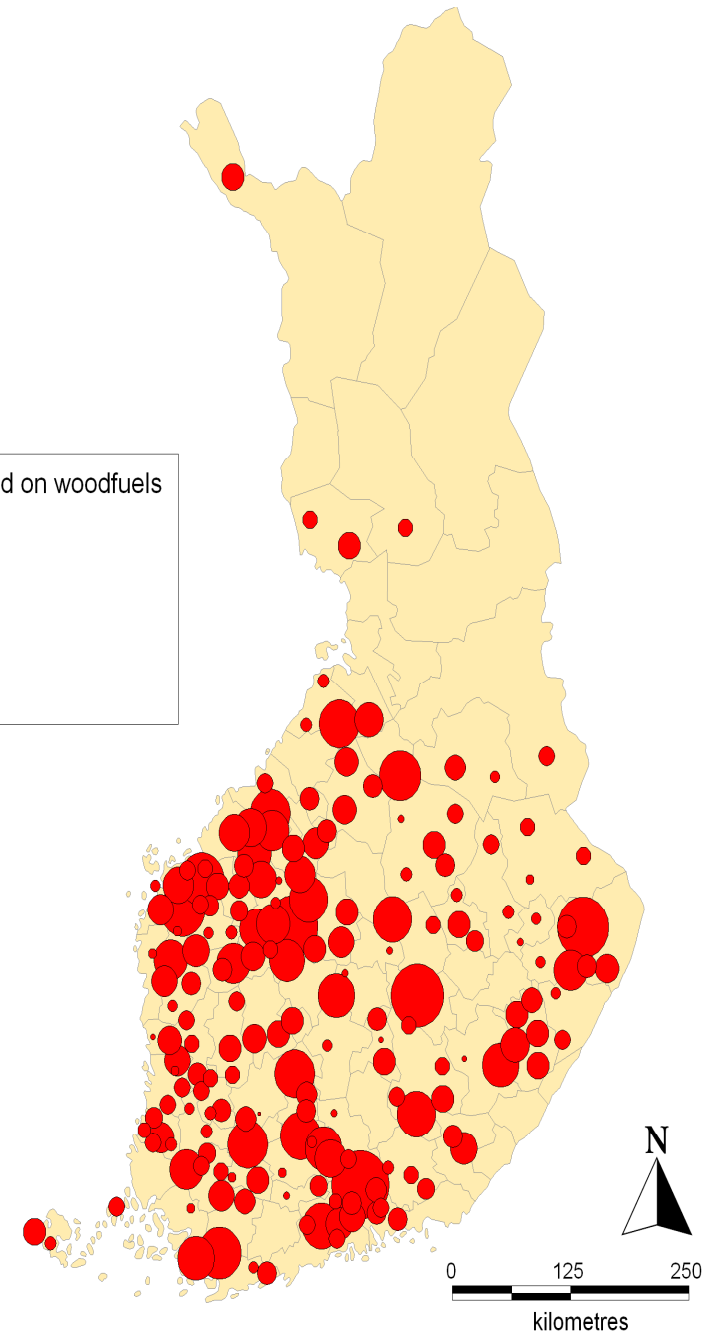
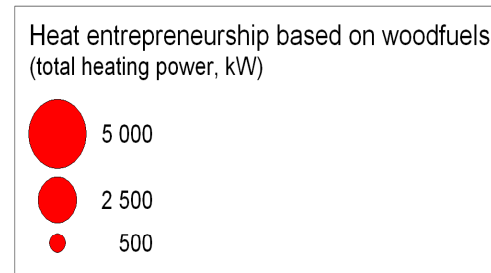


Source: TTS



[www.micre.eu](http://www.micre.eu)

- Heat entrepreneur/enterprise:
  - (a) Single entrepreneur
  - (b) Entrepreneur consortium
  - (c) Company
  - (d) Cooperative
- Development in Finland started in early 1990's
- Currently ~370 heating plants used by local entrepreneurs (195 MW)
- Average size is 520 kW (new 1-2 MW)
- Only 25% is connected to DH network



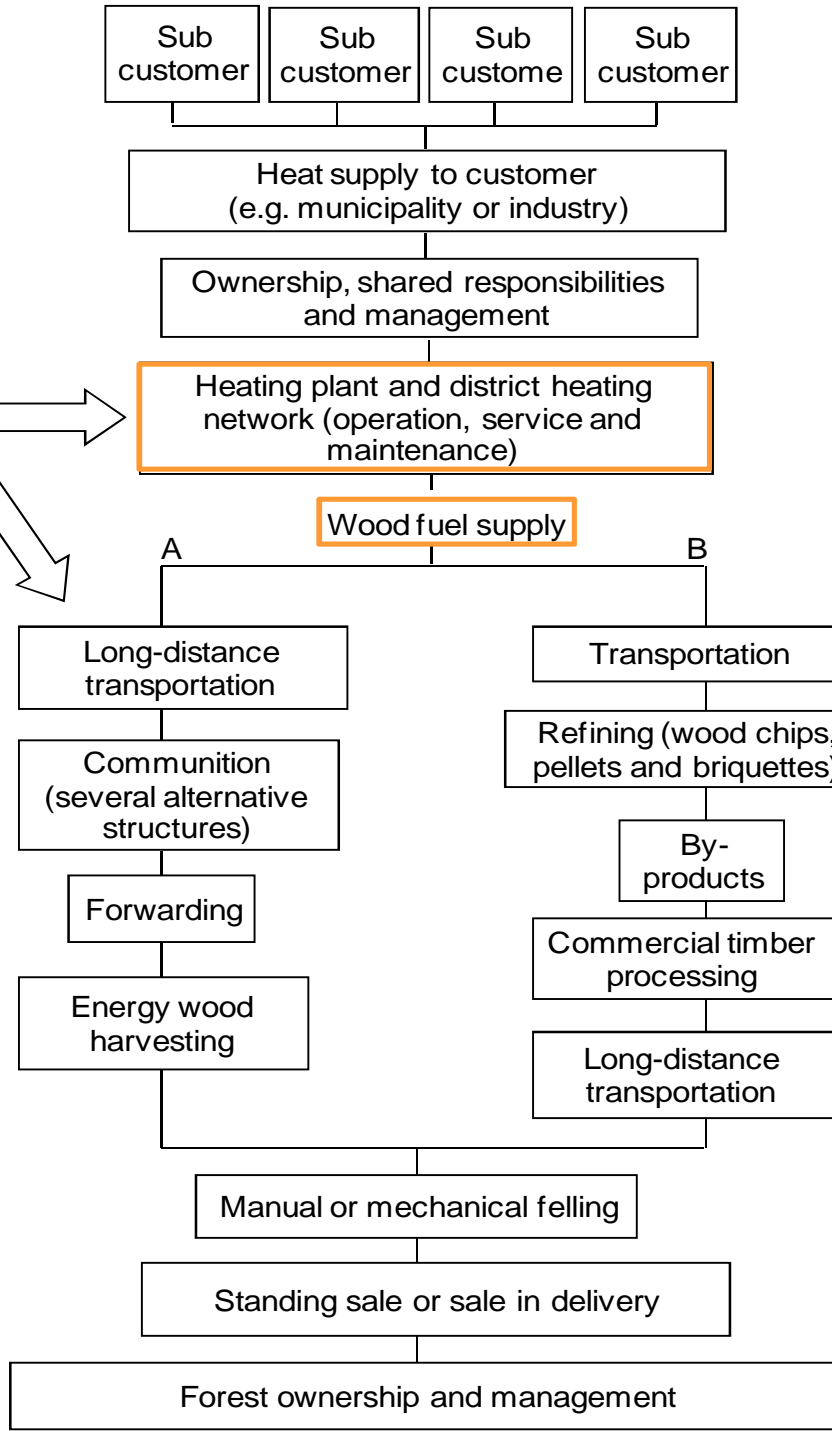


## Investing in heat production

- Investment by customer (municipality /industry)
  - Entrepreneur running the practical operation and maintenance
  - Customer bearing the investment risk
  - In early stage technological and financial risks were bigger
- Investments by entrepreneurs
  - Risks have decreased
- Willingness to invest in bigger biomass DH schemes has increased → economics of scale

# Business Architecture

- Financing and investing
- Own finance
  - Grants
  - ESCo
  - Franchisee
  - Large company network
  - Customer



## EARNING LOGICS:

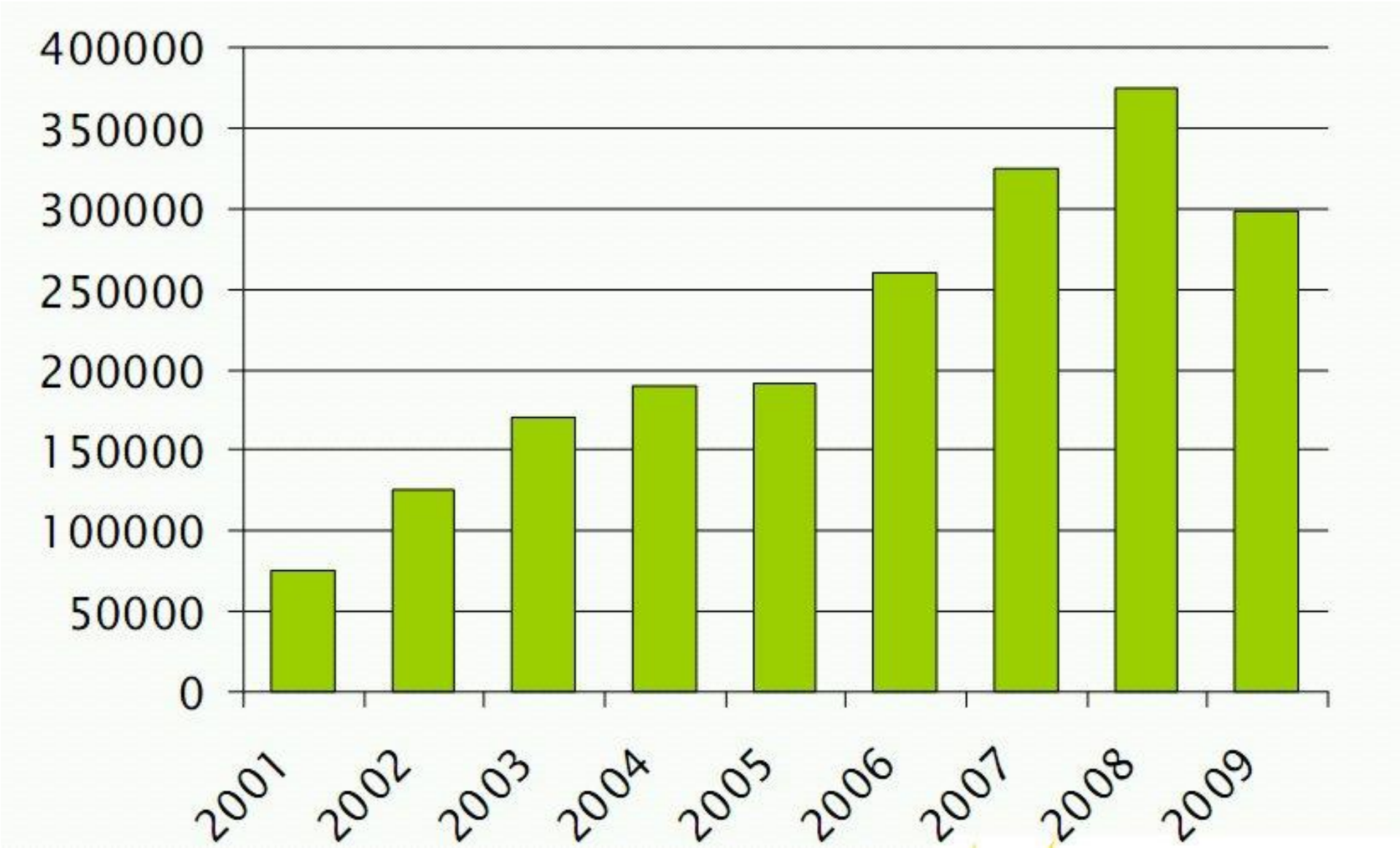
- Second/third party financing
- Safeguarding the markets
- Value added by holistic value chain management
- Complementary partnerships
- Networking and subcontracting



## Defining the ownerships

1. Customer (e.g. municipality) owns the heating plant and network
  - Decision-making and control over the heating service
  - Intermediate (public utility or company) can be used to prevent risk realisation
2. Entrepreneur owns and controls the heating
  - Customer pays only for energy consumed and has no risk in investments
  - Entrepreneur bears the risk, but might be more profitable
3. Customer receives ownership with delay
  - External investor (e.g. servicing company or third party financier)
  - Ownership transfers after investor has received the invested money back
4. External network or concept provider has the ownership
  - Entrepreneur will produce the heat according to contract

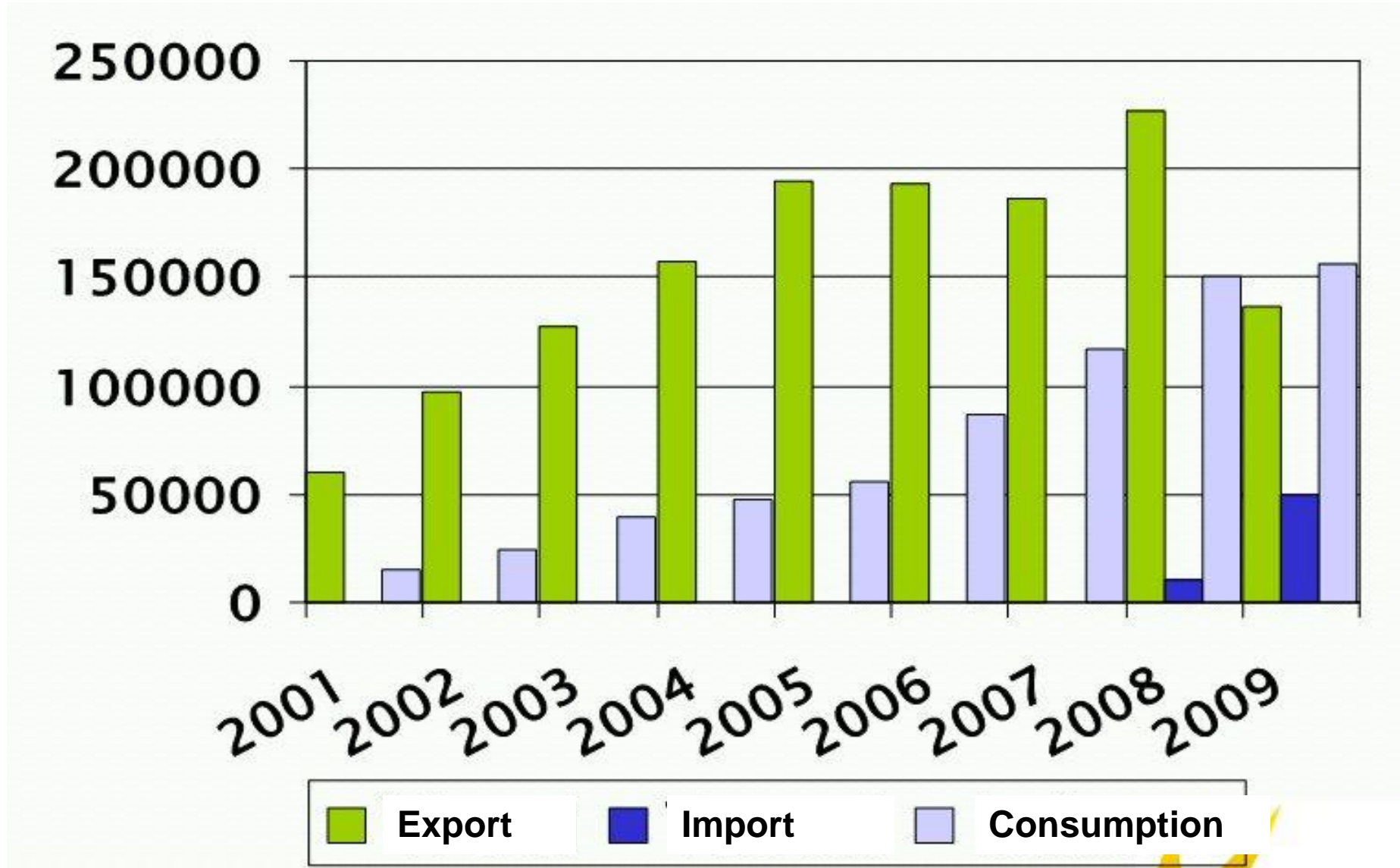
### Production of wood pellets in Finland 2001-2009



Source: Finnish Pelletenergy Association (SPE), [www.pellettienergia.fi](http://www.pellettienergia.fi)



## Export, import and consumption of wood pellets in Finland 2001-2009

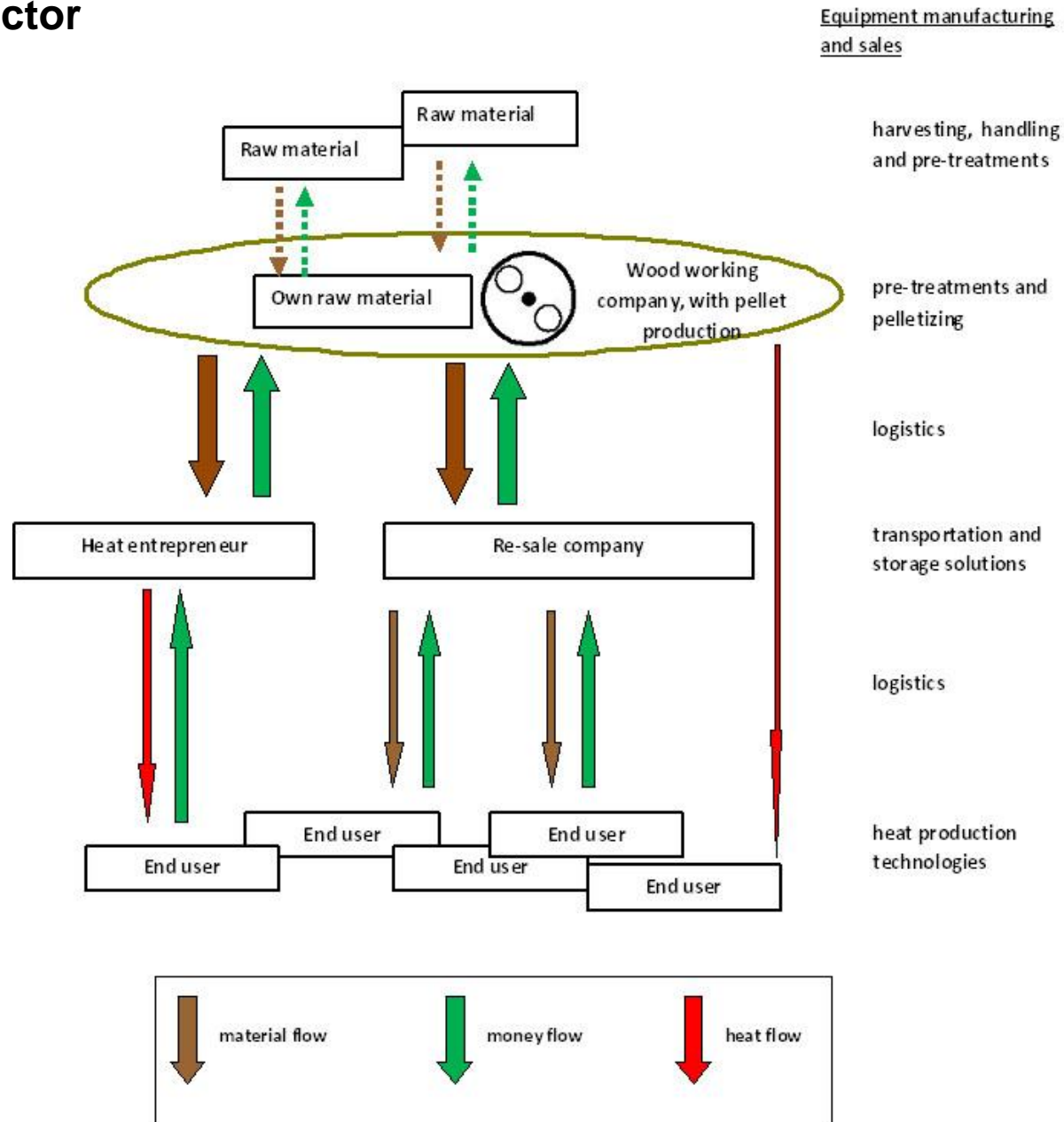


Source: Finnish Pelletenergy Association (SPE), [www.pellettienergia.fi](http://www.pellettienergia.fi)



Source: Alakangas et.al. 2007. Biomass fuel trade in Finland, Summary report. EUBIONET2-project. VTT

# Example of business opportunities in wood pellet sector



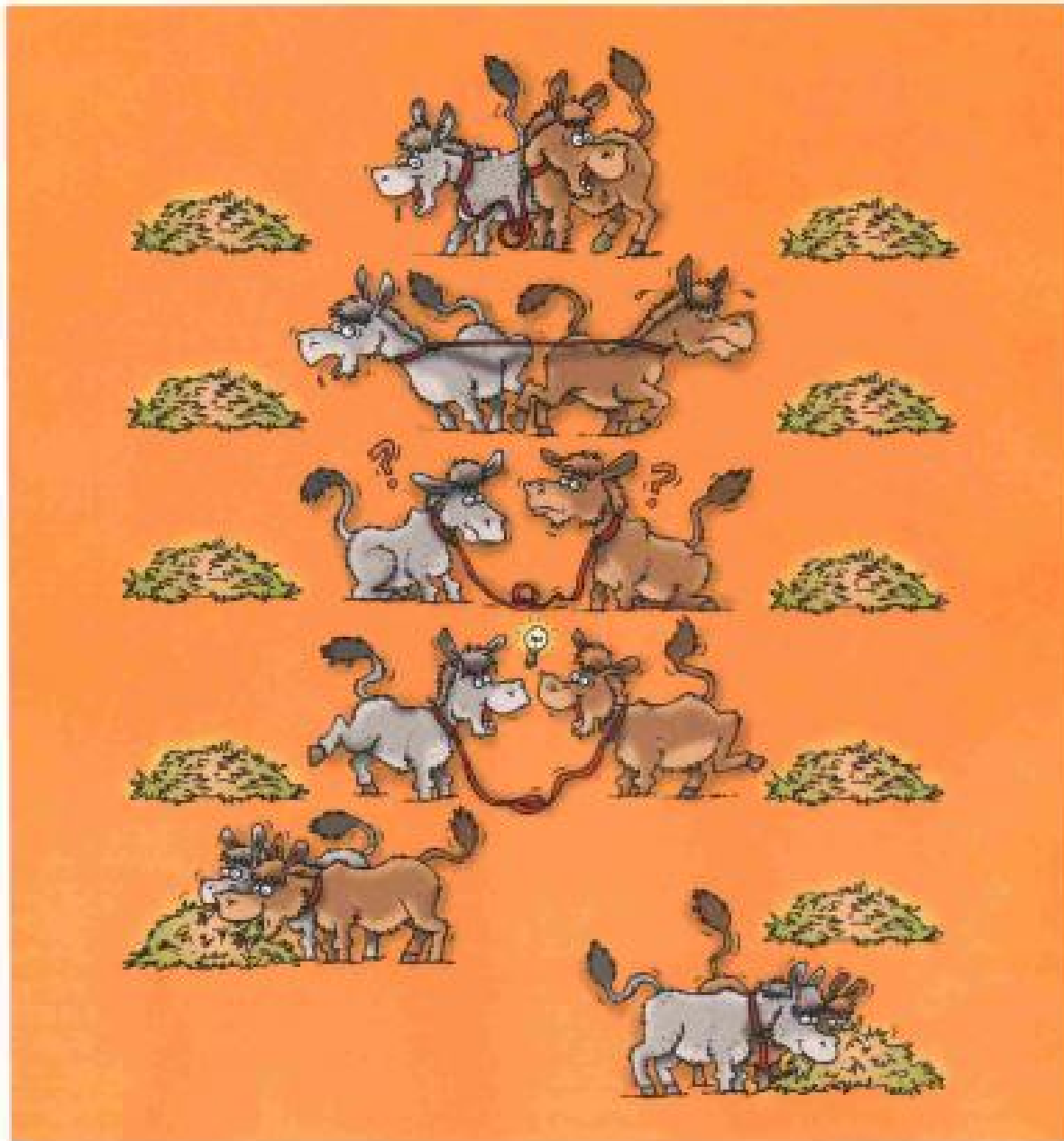
# Conclusions

Wood heat entrepreneurship in bigger scale has been a success in Finland

- providing "easy heat" for customers
- strong local and regional economical impact
- growing towards wider selection of services via more refined fuels, like dried wood chips, pellets and briquettes

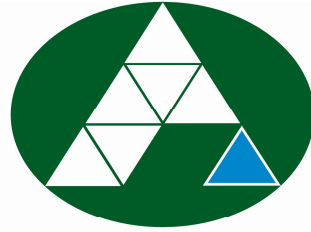
Wood energy business is already global with fuels, but heat production will remain local

- own resources and long contracts ensure steady business
- networking with other local entrepreneurs brings multiple benefits; investments are devided, local reliability, chances for bigger business (network company)



Pirros: Thomas Lindberg

**Thank you for Your attention!**



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