

The Business Modell of Biowin Ltd.

Facilitating heat entrepreneurship in Finland



M.Sc. **Asko Puhakka**
North Karelia University of
Applied Sciences
Wels 25.2.2009



NORTH KARELIA
UNIVERSITY OF APPLIED SCIENCES



Bioenergy in North Karelia University of Applied Sciences

On the energy and environment sector our turnover is about 2.5 MEUR/a and there are 10-12 lecturers and researchers.

Research- and development activities:

- National and international (5) projects
- Heat energy entrepreneurship and business models
- Pellet technology and promoting the use of pellets
- Local economy and regional development
- Cross-border co-operation with Russia
- Co-operation with companies

Education activities:

- International education of wood energy experts
- Education of wood energy advisors
- MSc and BSc (Engineering) in environmental technology



Heat energy entrepreneurship – several stakeholders and challenges

- Municipality / other clients and heat energy entrepreneurs providing the service
- Actors along the raw-material supply-chain
- Requirements of the municipal energy solution
- Multiple objectives: politics, environment, economy, technology
 - ✓ Competition against the economics of scale
 - ✓ Competitive tendering
 - ✓ Profitability calculations
 - ✓ Demands know-how on technology, economics, legislation, negotiation skills etc
- New business models are needed



Heat energy entrepreneurship in Finland

- Small scale business in rural areas; business on woodheat based on local woodfuels.
- Business started in Finland in 1990's and first heated buildings were small village schools.
- Nowadays there are approximately 370 heat plants which are owned by 160 enterprises.
- Total heat power is approximately 180 MW
 - ✓ Produced energy 350 000 MWh/a
 - ✓ Use of bio fuels 550 000 loose-m³/a
 - ✓ Mainly wood chips but also pellets and peat
- Average boiler capacity is 500 kW.



Biowin Ltd, owners and background

- Biowin Ltd. was founded in 2006 in Finland
- The business plan was prepared for 3 years
- Owners:
 - ✓ Four private person and
 - ✓ the Central Union of Agricultural Producers and Forest Owners (MTK)

Background of the owners:

- ✓ Very strong know-how and long-term experience from wood fuel and business (at least 20 years)
- ✓ They are well educated

Common missions:

- ✓ Use renewable wood fuels
- ✓ Promote local entrepreneurship
- ✓ Improve local economy and reduce unemployment
- ✓ Reduce emissions

Biowin Ltd., information

- **Business idea:**

- ✓ Small scale heat energy production and services
- ✓ To build up and promote local energy companies
- ✓ Co-operation with local partners
- ✓ Consulting on energy production

- **Focus of operations:**

- ✓ Size of the heating plants is 0,5 – 2 MW
- ✓ The target is to build up and invest in 20 heat plants by the end of 2010.
- ✓ Investments by the end of year 2009 are about 3,3 milj.€
- ✓ Turnover would be about 750 000 €



Biowin, energy solutions for clients

- ✓ Feasibility studies
- ✓ Technical solutions and acquisition process
- ✓ Business plans and agreements
- ✓ Raw material supply-chain
- ✓ Planning and building of heat plants, pipelines and heating systems
- ✓ Start up use and training for personality
- ✓ Development projects;
Low energy heating systems, Tekes project



It takes only 6 weeks to build up
500 kW heat plant!
Business must be sustainable
on a long term.

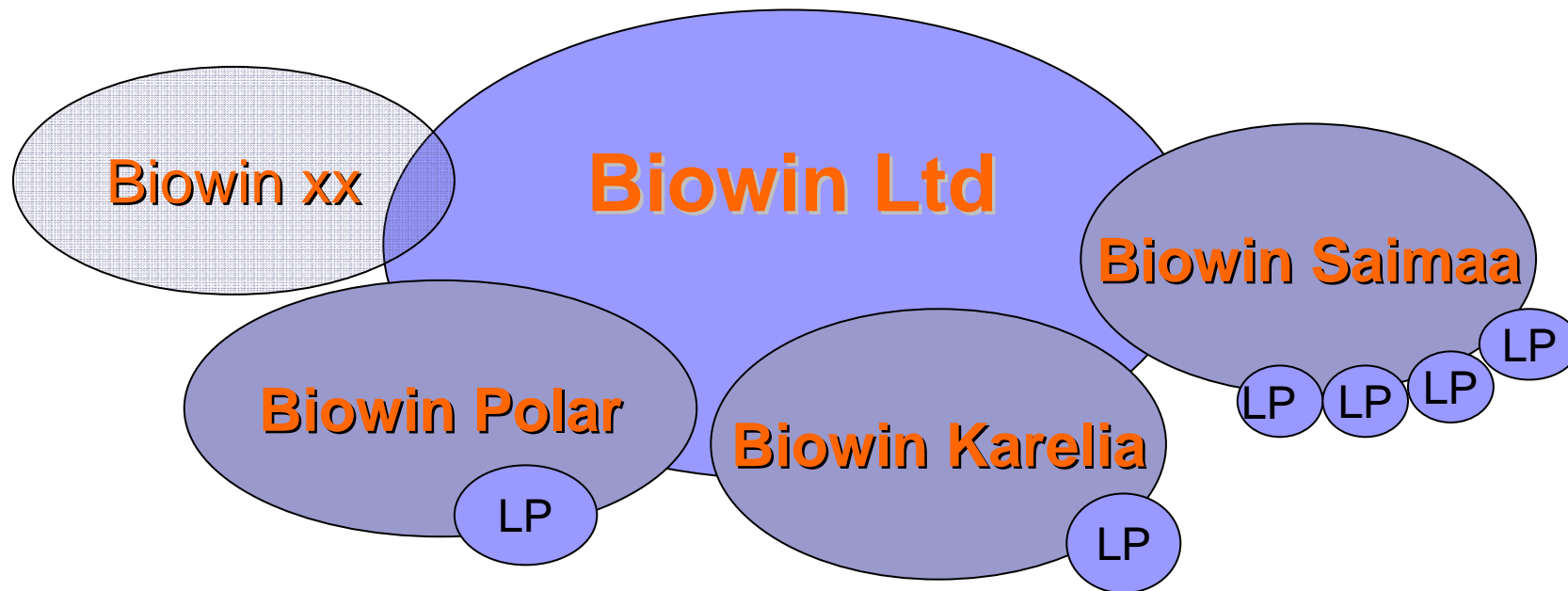
Biowin Sahalahti
Puumala 500 kW





Biowin Ltd., co-operations

- ✓ Partnership together with local enterprises is really a new and good business model.
- ✓ Local Partners can join local Biowin Company to own boilers and joint-operate.
- ✓ Public acquisition processes are very demanding for small and starting companies.





BIOWIN Group

Heating Plants owned by Biowin Ltd.:

- Hailuoto municipality 700 kW + heating net
- Blue White Resort, Tervo 500 kW
- Blue White Resort, Puumala 500 kW

Biowin Polar

- Muonio municipality 2 MW, heating net

Biowin Karelia

- Kontiolahti 500 kW, School

Biowin Saimaa

- Taipalsaari, municipality, 700 kW

Biowin / Brofta

- 4 Heating Plants 250-500 kW

Biowin Ltd., planning and construction of heat plants



- Lay-out
- Infrastructure
- Fit in to the cultural landscape



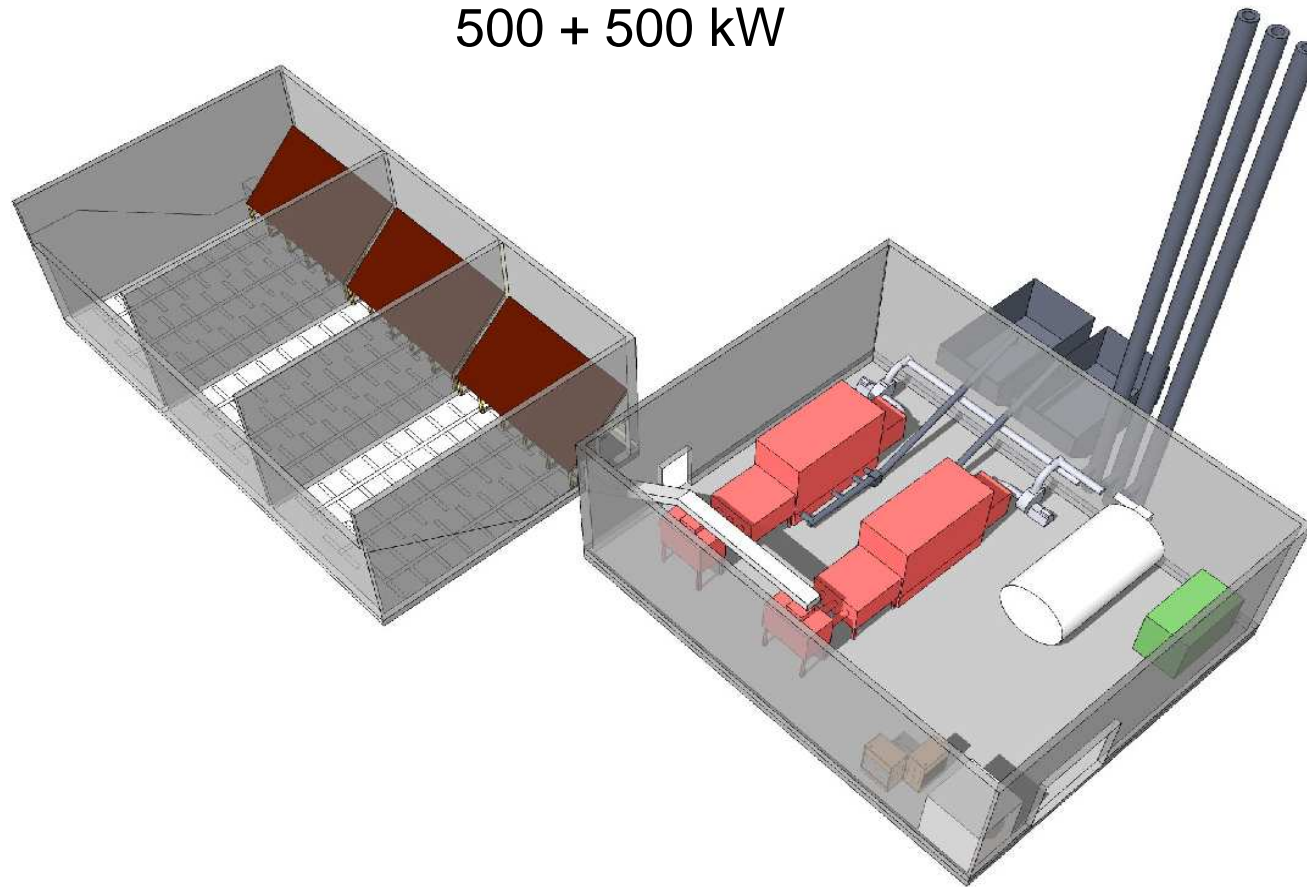
Biowin Ltd, modelling





Biowin Ltd., technology

Expandable Solutions
500 + 500 kW





Biowin Ltd, results

Implementation to the existing buildings



Biowin Ltd, results



Design and construction of the heating plant to fit in to the cultural landscapes of Finland.



Biowin Ltd, contacts

We are interested on international co-operation

- Planning and implementation of the heat plants
Managing Director Tapani Brofeldt
Mobile: +358 440 512 512
Email: tapani.brofeldt@biowin.fi
www.biowin.fi
- Development projects and co-operation
Asko Puhakka
Mobile +358 500 674 676
Email: asko.puhakka@pkamk.fi

