

ALA • TALKKARI

Veljekset Ala-Talkkari Oy

16.5.2017

Perustettu	1955
Omistus	Ala-Talkkarit perheyryitys
Henkilökunta	85 henkilöä
Liikevaihto	11 milj. €/12 kk (2016)
Vienti	n. 50 % lähinnä Pohjoismaat ja Pohjois Eurooppa
Toimitilat	n. 15 000 m ² Lapualla ja n. 3000 m ² Saksan Oebisfeldess



ILK Dresden



Veto Stokerikattilat

- mallit
 - Veto 30 - 990 kW

Veto polttimet 40 - 990 kW



Lämpökeskukset

- valikoima
 - Veto Cont S
 - Veto Cont M
 - Veto Cont L
- laaja kohderyhmä
- valmis kokonaisuus
- tehoalue 60 – (2x990)



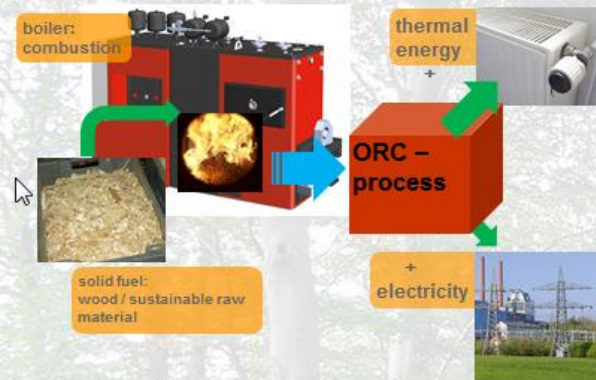
VETO Dynamo projekti

T & K hanke Bio Strom

- pieni CHP laitos biomassalla
 - hyödynnetään ORC prosessia
-
- laaja kohderyhmä
 - valmis kokonaisuus



R&D – project „BioStrom“ – CHP – plant with small power*



Target

Functional biomass – complete system with combined heat and power in micro scale
Application of ORC-technology (organic Rankine cycle) with biomass combustion

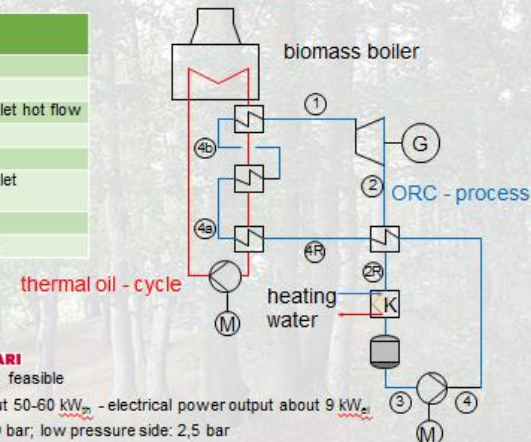
Innovations

- Biomass - boiler & ORC as fixed unit under inclusion of the combustion technology
- Investigation and minimization especially of critical emissions
- P_{el} 5 .. 10 kW
- New biogen fuels beside wood

Sustainable energy sources:

Transfer of the ecological advantages of biomass furnaces to the area of micro - CHP- applications with a power range $< 10 \text{ kW}_{el}$

Process point Nr.	Description
1	expansion inlet
2	expansion outlet
2R	recuperative heat exchanger, outlet hot flow
3	condenser, outlet
4	condensate pump, outlet
4R	recuperative heat exchanger, outlet preheated flow
4a	warming, boiling curve
4b	evaporation, condensation curve



Important results:

- With thermal-oil-boiler of ALA • TALKKARI stable power output of 80 kW on 220°C feasible
- Design points: e.g. thermal power output 50-60 kW_{th} - electrical power output about 9 kW_{el}
- Pressure level: high pressure side: 15,9 bar; low pressure side: 2,5 bar
- Refrigerant: nonflammable, nontoxic
- Filling capacity: 50 liter
- GWP: 1
- Drive pump: piston-membrane-pump
- Special-turbine, DEPRAG; speed: 15.000 rpm
- Economic advantages: coasts of fuel

* R&D-project „BioStrom“, FKZ: MF120105, is sponsored by the EuroNorm GmbH as part of the support program „INNO-KOM-Ost“ of the Bundesministeriums für Wirtschaft und Energie