Accepted Manuscript

Thermoeconomic analysis of heat and electricity prosumers in residential zeroenergy buildings in Finland

PII: S0360-5442(17)30735-1

DOI: 10.1016/j.energy.2017.04.158

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Reference: EGY 10799

To appear in: Energy

Received Date: 17 October 2016

Revised Date: 12 April 2017

Accepted Date: 30 April 2017

Please cite this article as: Benjamin Manrique Delgado, Sunliang Cao, Ala Hasan, Kai Sirén, Thermoeconomic analysis of heat and electricity prosumers in residential zero-energy buildings in Finland, *Energy* (2017), doi: 10.1016/j.energy.2017.04.158

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Highlights:

- Study of energy, exergy balances and cost-optimality in a Finnish residential nZEB
- Bidirectional energy/exergy exchange with electricity and heat grids is investigated
- Payback periods, levelized energy costs and internal rates of return are calculated
- Positive energy and exergy balances can be achieved, but not cost-optimality
- Export to a heating grid improves the energy balance and has economic potential

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