

Effektiv Energi

Riga, May 27th 2014
General Manager Alexander Foss

Effektiv Energi

Effektiv Energi AS is in its second year of operation, and represents the innovative concept EE+

EE + "Hands on" regulation for hydronic heating systems in buildings – **will be ready for market introduction this autumn.**

Effektiv Energi has initiated a Horizon 2020 project. A consortium with participants from Norway, Lithuania and Sweden will submit an application on June 4th.

The consortium wants to contribute to cost effective improvements of the energy efficiency for the whole value chain of district heating.

Partnership

Effektiv Energi is integrated into the incubator in Hedmark Knowledge Park, in the city of Hamar. Currently, employees are limited to the CEO and Executive Chairman. We have assumptions and ambitions to grow fast.

We are looking for partners who can help to introduce **EE+ "Hands on" regulation** in the local market, and operate a "test base" in Latvia, which can interact with the Horizon 2020 project.

The goal is **through partnership** to build a strong presence in this part of Europe with the extended concept EE+.

Processing of data and regulation of the heating system

Temperatures from inside the building will be logged every 10 minutes.

The outdoor climate are logged and used to improve the regulation.

Our Business model



EE sets up the system, calculates the control criteria, and optimizes active for 3-4 heating seasons with the energy host. Installation data are recorded and there will be prepared a basis for decisions about energy efficient maintenance, conversion or modification.



An energy host assists the owner of buildings during installation and will receive and follow up on complaints from problem apartments/premises, collect facilities data and collaborate with EE for optimization.



A simple extension provides a Web-based operating tool

Effektiv Energi AS



The server forwards the temperatures to the boiler room or substation for each radiator course with shunt / valve engine. The controller returns the flow temperature to the server.

The controller calculates a virtual outdoor temperature and is equipped with a unique algorithm that ensures quality control. The controller will have backup routines in case of communication failure.



A new controller replaces the often outdated instrumentation in the boiler room / substation.

The Horizon 2020 project

The task is to utilize self-learning algorithms to develop an energy-efficient regulation of district heating systems:

- ✓ Enhanced version of **EE+ "Hands on" regulation**
- ✓ **EE+ adaptive control** (for substations)
- ✓ **EE+ "Smart Grid" for district heating**
- ✓ **EE+ Condition Analysis** of water-based energy systems
- ✓ **EE+ Dashboard for Energy Efficiency** (provides access via smartphones, tablets, etc.)
- ✓ **BIM energy calculations** for buildings
- ✓ Regulatory conditions for achieving energy efficiency in district heating sector will be examined.

Participants in the consortium:

SMEs

- ❑ Effektiv Energi (Norway)
- ❑ UAB IRTC (Lithuania)
- ❑ Reng Consulting (Sweden)

SMEs, provides technology

- ❑ Catenda (Norway)
- ❑ RadioCrafts (Norway)

Research institutions

- ❑ Norwegian University of Life Sciences (leader)
- ❑ Gjøvik University College
- ❑ Lithuania Energy Institute
- ❑ Vytautas Magnus University

An important climate initiative

A fast deployment of the EE+ concept helps to significantly reduce energy for heating in existing buildings connected to district heating.

Small investments in equipment makes EE+ an excellent first step, before the necessary total rehabilitation can be financed.

EE+ concept utilizes modern technology to provide service to customers: district heating companies and owners of buildings.

In **Norway** we will build up the service by **Senior Energy Hosts**, there is a desire in Norway that seniors have to contribute to value creation in society beyond retirement date.

In the rest of **Northern Europe** with a large district heating industry and high youth unemployment, we envision that a mobilization of **Junior Energy Hosts** will create jobs and bring valuable results in the fight against the climate change.

Thank you for your attention!