

FHP

Flexible Heat and Power, Connecting heat and power networks by harnessing the complexity in distributed thermal flexibility.

731231



Programme:

H2020 Energy

Topic:

LCE-01-2016-2017

Call for proposals:

H2020-LCE-2016-SGS

Duration:

01/11/2016 to 31/10/2019

Funding scheme:

RIA

Total cost:

€3,823,606

EU contribution:

€3,801,998

Coordinator:

VLAAMSE INSTELLING VOOR
TECHNOLOGISCH ONDERZOEK N.V.

Project website:

<http://www.fhp-h2020.eu>

Project description on CORDIS:

http://cordis.europa.eu/project/rcn/206238_en.html

The electricity generated by solar power and wind power varies during the day and night and from day to day. This means that sometimes more power is being generated than is needed so power sources have to be turned off (curtailed). Instead of turning the power off, one possibility is to convert power to heat.

The power-to-heat solutions such as thermal inertia of buildings and thermal storage holds an enormous potential for electric flexibility. Heat pumps, central heating and cooling installations, and forced ventilation systems act as interfaces connecting the thermal storage and building thermal inertia to the electrical distribution grid.

The main objective of the FHP project is to utilise the excess of renewable generation, reduce renewable energy curtailments, and provide services to the distribution system operators and RES producers by using heat pumps, large thermal stores and building thermal inertia. The project plans to test practical prototypes in two different scenarios in the Netherlands and Sweden, representing diverse parts of the European power grid.

The main expected project outputs are: Novel algorithms for heating systems management in complex buildings; Autonomous and self-adapting grid sensitivity characterisation tool supporting grid operators to resolve local voltage problems using distributed flexible resources; Grid Flexible Heat Pump including a generic, standard and cost effective flexibility interface to control it; Better performing model-free building thermal characterisation technology.

By using power to heat solutions FHP aims to increase the share of renewable energy sources in the total electric energy consumption by 22% and shifting 17% of the total electricity demand from day to the night.

Participants:

VITO
TECNALIA
NODA
HONEYWELL
KEAB
ECOVAT
SP

Country:

BE
ES
SE
CZ
SE
NL
SE

EU contribution (in €):

€1,351,348.90
€722,580.85
€389,278.10
€420,597.68
€195,012.64
€422,997.10
€300,182.48