

**Interreg**

Öresund-Kattegat-Skagerrak  
European Regional Development Fund



EUROPEAN UNION

# *Smart Cities Accelerator*

## **Open Innovation Call:** *Lower forward temperature in district heating*

Open Innovation Day: 1 March 2019

Venue: AF Borgen, Lund, Sweden



# Aim of the Open Innovation Call

The challenges in this Open Innovation Call target how the district heating companies can achieve a lower forward temperature without affecting the end user negatively, thus avoiding an increase of the amount of complaints.

The aim of this call for innovation is to make the district heating companies able to take advantage of the technical solutions that enable a reduced forward temperature.

A key aspect is also to find incentives for the end user to comply with a lower forward temperature.



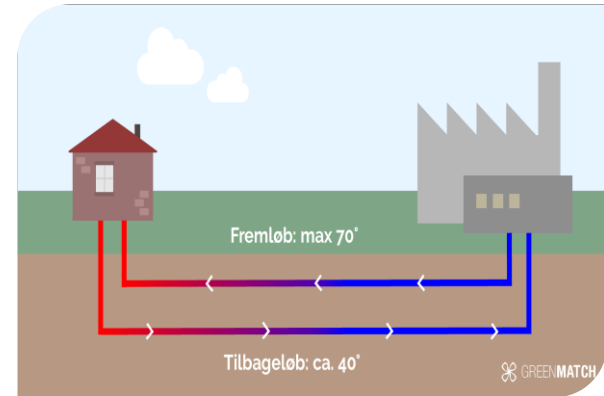
# Outcomes of the Open Innovation Call 1/4

- The Open Innovation Call reached out to a wide range of stakeholders allowing previously unknown companies to pitch their ideas and business proposals
- Five contestants took on the challenge and shared their knowledge of how the problem, identified in the OI, could be addressed
- New ideas and insights about fault detection systems allowing a reduced forward temperature was presented
- The contributions from three contestants was particularly interesting and was therefore invited to the Open Innovation Day; Neogrid, SAM and Tornado



# Outcomes of the Open Innovation Call 2/4

- The day stimulated cross-sectional networking between universities, technical software suppliers, energy companies and municipalities
- Allowed Krafteringen to get a clear picture of available technologies, without doing a time consuming market analysis; Krafteringen identified the problem, the supplier gave a solution. As a consequence previously unknown technologies such as Neogrid was also identified.



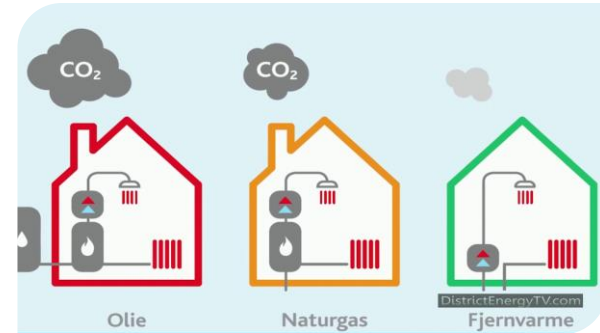
# Outcomes of the Open Innovation Call 3/4

- New partnerships within the field of district heating was initiated
- Knowledge about fault detection systems was shared between stakeholders in the Öresund-region
- The winner, Neogrid Technologies, gave insights in how the problem could be addressed using the latest digital tools
- Two of the finalists, Neogrid and SAM, was invited to Krafringen to talk about future business proposals



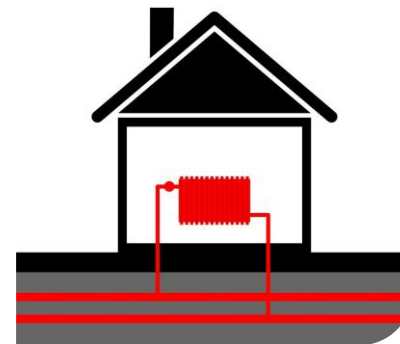
# Outcomes of the Open Innovation Call 4/4

- Neogrid gave a detailed insight in how their smart control system (Preheat), installed in the costumers substation, helps reducing the return temperature in the district heating grid
- Krafringen joined the Vinnova financed project "SAM" as a consequence of the Open Innovation Call. The purpose with the project is:
  - To create an integrated optimization system, optimizing everything from production to substations of the end-users
  - Avoiding sub-optimizations
  - An increased flexibility allowing reduced grid temperatures
  - Reduced demand of expensive peak load boilers



# Organizing partners

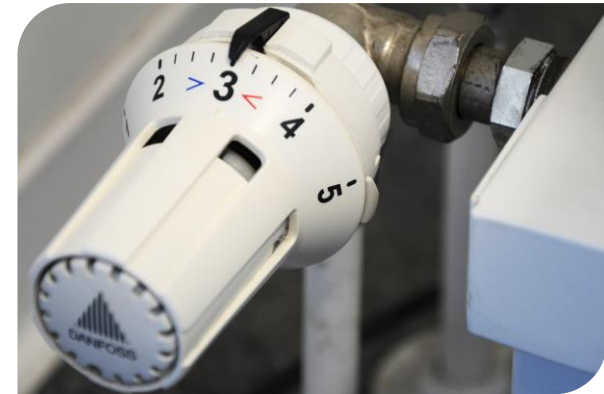
- [Smart Cities Accelerator](#)
- [Kraftringen](#)
- [Høje-Taastrup Fjernvarme a.m.b.a.](#)
- [Technical University of Denmark](#)
- [EIT Climate-KIC](#)
- [Link](#) to call website
- Want to know more? Please contact; [david.edsbacker@kraftringen.se](mailto:david.edsbacker@kraftringen.se)





# Jury

- **Martin Gierow**, Project Manager, Energy Conversion Systems, Krafteringen
- **Carl Dalhammar**, Senior Lecturer, The International Institute for Industrial Environmental Economics, Lund University
- **Morten Kusk**, Operations Manager, Høje-Taastrup Fjernvarme
- **Eja Pedersen**, Researcher, Department of Architecture and the Built Environment, Lund University
- **Dorte Skaarup Østergaard**, Postdoc, Department of Civil Engineering, Technical University of Denmark
- **Sara Månsson**, Doctoral Student, Efficient Energy Systems, Lund University





# Finalists

- PreHEAT; Pierre JC Vogler-Finck, [Neogrid Technologies ApS](#), Denmark (**winner**)
  - Find presentation [here](#)
  - Contact: [www.neogrid.dk](http://www.neogrid.dk), [pvf@neogrid.dk](mailto:pvf@neogrid.dk)
- SAM – Smart Asset Management; Håkan Knutsson, Sweden
  - Find presentation [here](#)
  - Contact: [www.sweheat.com](http://www.sweheat.com), [hakan.knutsson@sweheat.com](mailto:hakan.knutsson@sweheat.com)
- Tornado; Dirk Vanhoudt, Belgium and Christian Johansson, Sweden
  - Find presentation [here](#)
  - Contact: [dirk.vanhoudt@vito.be](mailto:dirk.vanhoudt@vito.be), [cj@noda.se](mailto:cj@noda.se)





See [video](#)  
from Open  
Innovation Day



## Pictures from Open Innovation Day



# Open Innovation

Do you want to know more about Open Innovation?

Check out the white paper with many cases:

*Opening-up the Sustainable City –  
Towards an Open Innovation Framework for Future Low Carbon Cities*





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