Press release, October 8, 2021

Housing association in Sønderborg can show Europe the way to climate-positive circular communities

Denmark is strongly represented in a new large EU-supported climate project, where through new innovative digital tools the energy systems are integrated locally and thereby save energy. At the same time, the project will strengthen energy renovation efforts across Europe.

Europe's eyes will rest at Sønderborg when the SAB housing association becomes the center of an EU demo project in the next four years. Here, six Danish partners will test new digital solutions and technology for regulating district heating in the homes themselves and locally in the district heating network, as well as connect energy systems to save energy and reduce heat loss in the pipes, for the benefit of the climate.

The demonstration project is part of a new large EU-funded project, ARV, where 35 partners from seven countries will develop and demonstrate energy- and climate-friendly solutions in local urban communities, for the benefit of future generations. The project has received the EU Commission's commitment of 20 million euros (approximately 150 million Danish kroner) from the EU Green Deal, where ARV won in fierce competition with 115 other applications. It is expected that the ARV project will make a significant contribution to the EU's goal of reducing energy in buildings by 50-55% without compromising comfort.

In Sønderborg is pleased because the ARV demonstration project fits perfectly into the municipality's ambitions to connect the energy systems. It will also bring the housing associations to the forefront in the climate area, says Mayor Erik Lauritzen:

“EU projects have for many years provided us with valuable knowledge, international relations, strong university and partner competencies and finances to realize the ProjectZero vision. I am sure this project will be no exception. The Sønderborg area's many leading companies in green technologies and energy-efficient solutions mean that many solutions are being tested in the area to reduce CO2 emissions. It is to our benefit, but also globally, because integrated energy systems make efficient use of the planet's limited resources. "

DTU Build and DTU Compute are experts in the use of data from sensors and artificial intelligence to optimize energy consumption in buildings and exploit the flexibility of the energy grid. In ARV, DTU, together with the other partners, will use digital solutions to predict the temperature demand in the local district heating network based on expected consumption in the buildings. Likewise, the local weather forecast will be used to bring flexibility into play in the energy systems. And the ARV project will be an important element in DTU's continued development of leading digital green solutions, says Professor Henrik Madsen:

"Digital solutions are the key to efficient and scalable technological solutions, which in continuation of a development and testing in Sønderborg with their ProjectZero CO2 version in 2029 will be able to replicate in other smart cities and regions around the world. Thus, the collaboration under the ARV project will contribute to increased green growth in Denmark and accelerate the green transition globally ".

Center Denmark in Fredericia gets a key role in ARV as a European digitization hub. The partners from Norway, the Netherlands, the Czech Republic, Italy, Spain and Denmark have each designated a demonstration city with a project from which to collect energy data. All data will be collected and handled on Center Denmark's digital platform (data lake), where the partners will have access to each other's data.

"New solutions in the green transition, and in ARV, will be data-driven, and it is our role to ensure easy access to this data. Through digital solutions, we will accelerate the green transition towards 100% renewable energy and fulfillment of climate goals. And we see the ARV project as an opportunity for Center Denmark to become a leading EU digitization hub for data management with smart, scalable, climate-friendly solutions, "says director Søren Skov Bording.

The ARV project starts on 1 January 2022 and ends at the end of 2025.

Briefly about the ARV project

- ARV is establishing six demo projects in six cities to explore how to create climate-positive circular communities for the benefit of the climate and current and future generations.
- Through innovative digital tools and the use of data, ARV will connect residents' participation, the buildings and the energy system to take advantage of the flexibility of the energy system.
- ARV must also develop and test energy-efficient and circular solutions for and in the construction industry and provide proposals for guidelines and policy frameworks that will accelerate energy renovations.
- ARV will work with circular economy through automated use of life cycle analysis, LCA, digital logbooks and material banks.
- The solutions must be easy to understand and use for all stakeholders, from manufacturers to end users, just as the solutions must be scalable so that they can be used elsewhere.
- ARV has 35 partners in seven countries; Denmark, Norway, the Netherlands, Italy, the Czech Republic, Belgium and Spain. NTNU, the Norwegian University of Science and Technology, is leading the project.
- Denmark participates with six partners; Sønderborg Municipality represented by the climate partner ProjectZero, SAB - Sønderborg Andelsboligforening, Danfoss A / S, the IT company ENFOR in Holte, the EU Digital Innovation Hub - Center Denmark in Fredericia and DTU with the departments DTU Compute and DTU Byg.
- The ARV project has received a commitment of 20 million euros in support from the EU's Green Deal, approximately 150 million Danish kroner - of which approximately 21.5 million kroner goes to the Danish partners.
- The ARV project is named after the Norwegian word 'arv', which has the same meaning as in Denmark.
- The project starts on 1 January 2022 and ends at the end of 2025.

Briefly about the Danish partners - with contact information

ProjectZero

ProjectZero is a public-private partnership that catalyzes and facilitates Sønderborg's ambitious climate ambition to become CO2-neutral in 2029 through the transformation of the energy system, and at the same time create new skills and green jobs. In ARV, ProjectZero is the project coordinator for the activities in the demonstration project in Sønderborg. ProjectZero will contribute with experience to climate-friendly urban areas and framework conditions and with communication and dissemination. It is expected that the developed solutions within digitization and streamlining of district heating systems in buildings will contribute to Sønderborg's climate goal, and that they can be extended to other cities and regions.

Contact: Adm. Director Peter Rathje, M: +45 4040 8636, e-mail: peter.rathje@projectzero.dk

Sønderborg Andelsboligforening

Sønderborg Andelsboligforening (SAB) is a non-profit, independent and private social housing association owned by its residents (tenants). In the ARV demonstration project, the partners will work with better control of district heating in 432 public housing (Dept. 22 - Kløvermarken / Hvedemarken) and the district heating network locally. Along the way, SAB will be in close dialogue with the citizens, and the housing association will disseminate the results to other social housing companies in Europe.

Contact: Technical Manager Brian Juhler Larsen, M: +45 7345 6517, e-mail: bsjl@salus-bolig.dk

Danfoss A / S

Danfoss is headquartered in Sønderborg, and is Denmark's largest privately owned industrial company 28,000 employees serving customers in more than 100 countries. In ARV, Danfoss will demonstrate 4th generation district heating, including low-temperature district heating, by focusing on the district heating itself and the domestic hot water. Using small heat pumps from Danfoss, the partners will develop and demonstrate new heating automation in the individual apartments' radiator systems and new automation for reducing the return temperature in the technical rooms. A low return temperature has an impact on the efficiency and economy of the district heating system, and thus has a positive effect on the climate.

Contact: R&D Director Hans Høje Christensen, M: +45, e-mail: hhc@danfoss.com

DTU

DTU Byg and DTU Compute are experts in the use of data from sensors and artificial intelligence to optimize energy consumption in buildings and utilize the flexibility of the energy network. Together with the other partners, DTU will develop and use digital solutions to predict the temperature needs of the local district heating network, depending on expected consumption in the buildings and the local weather forecast, thereby bringing the flexibility of the energy systems into play.

Contact: Professor at DTU Compute Henrik Madsen, M: +45 2083 4304, e-mail: hmad@dtu.dk

ENFOR

The IT company ENFOR in Holte is the market leader in energy forecasts and optimization solutions for the energy sector. In ARV, ENFOR will implement and test intelligent methods to predict the need for district heating. ENFOR's solutions use data from weather stations located locally in the area and the region, including weather forecasts from various meteorological services. The tool will give district heating operators better opportunity to control heat production optimally, while the software solutions take into account other relevant parameters such as the price of electricity and the production of green energy from solar and wind. Contact: CEO Mikkel Westenholz, M: +45 2777 2783, e-mail: miw@enfor.dk

EU Digital Innovation Hub (EUDIH) - operated by Center Denmark in Fredericia

EUDIH is an independent organization working to promote the development of digitally integrated energy systems to facilitate society's transition to 100% renewable energy and reduce environmental impact through digitization and sectoral coupling. In ARV, EUDIH will demonstrate digital infrastructure for optimizing energy consumption in buildings and the local area using digital tools (AI). The hub will also collect all data from ARV's six demo projects across supply sources on a single platform, where they can be used by all ARV's partners.

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