

New research grant to create green industrial parks

Three new research projects to develop solutions for the creation of optimal green industrial park.

GreenLab Skive is home to the world's first green industrial park and is going to work together with DTU and other technical universities to develop and demonstrate methods that will help solve the challenges posed by climate change that Denmark and the wider world face.

Three new research projects will now be tasked with developing solutions that will enable industrial businesses of the future to obtain energy from sustainable sources, to be based in clusters, and to share surplus resources.

The funding comes from a grant of DKK 20 million, which VILLUM FONDEN granted last year to boost a new national research and demonstration platform, managed day-to-day by GreenLab and DTU. The research projects constitute the second round of the donation.

Ebbe Kruse Vestergaard is Research Director at GreenLab, and he explains:

“At GreenLab, we have defined a range of goals that serve as general guiding stars for the research projects run by GreenLab. These pertain to three different things. Firstly, which design principles are required for a green industrial cluster. Secondly, how best to operate a green industrial cluster that faces the obstacles associated with fluctuating energy flows, infrastructure, energy storage, etc. And thirdly, how we can best demonstrate the value of sector coupling—specifically the idea of thinking about energy across traditional silos.”

“Together with researchers and collaborative partners, we are constantly identifying challenges and obstacles that we face as we seek to fulfil these goals, and it is these challenges that inform the research strands in each round of funding.”

Optimised electricity grid and dynamic CO2 emissions

In an applicant field encompassing fifteen projects, three made it through the eye of the needle with the assessment committee, which includes representatives from DTU, the University of Southern Denmark, Aarhus University, Aalborg University, and GreenLab. All three of the new research projects have their own, respective purposes.

The first project comes from DTU and relates to developing a tool to design a living-lab electricity grid for an industrial cluster such as GreenLab. The project focuses on optimizing the electricity grid that connects businesses in a green industrial park to green electricity and energy stores respectively.

The second project comes from Aalborg University and will develop green industrial parks based on an analysis of scientific literature and case studies. The project will also provide recommendations for ways to further develop GreenLab Skive.

The third project comes from Aarhus University and will investigate how to strike the right balance between investments in green technology and the return on investments for the green transition. This will be done through the use of open-source energy system software, which investigates the interaction between energy prices and GreenLab Skive's dynamic CO2 emissions.

“Combined with private funds, regional initiatives and business, this grant enables the universities to help inspire others around the world to build green industrial parks, thereby helping to solve some of the great societal challenges of our era,” says DTU President Anders Bjarklev.

“Furthermore, the projects will provide our researchers and students with unique access to testing, developing, optimizing, and demonstrating energy optimization and storage projects.” In addition to DTU, Aalborg University, Aarhus University, and the University of Southern Denmark are also part of the collaboration. The next and final application round will be announced on GreenLab's website www.greenlab.dk and on LinkedIn in the autumn of 2022.

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Project 2: Design and replication principles for curated eco-industrial parks, AAU

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Project 3: Creating an economically efficient green production bubble, AU

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About GreenLab

GreenLab is an industrial, green business park, a catalyst for technology and a national research centre for renewable energy. Here, the green solutions of the future are developed in collaboration with leading national and international partners. The aim is to export GreenLab's model of technology and collaboration to the rest of the world. Let's create a power shift!

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