

An aerial photograph of a green energy park. In the foreground, a large white wind turbine stands prominently. Behind it, several large industrial buildings and storage tanks are visible. In the background, a long line of wind turbines stretches across a green field under a cloudy sky. The word "GreenLab" is overlaid in the center in a large, white, stylized font. The "Green" part is solid white, while the "Lab" part is made of a white grid pattern.

GreenLab

Green & circular energy park – Technology enabler – National research facility

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GreenLab





Green & circular energy park

- »»» A physical platform
- »»» Own supply of 100% green energy – 80MW wind and solar energy
- »»» Sector integration in practice: Industry coupled with PtX through SymbiosisNet, our coming intelligent grid of energy and data



Technology enabler

- »»» “The perfect host” for technology companies. We provide infrastructure and services that reduce time-to-market
- »»» We introduce the chicken to the egg and create new markets
- »»» Green transition facilitator

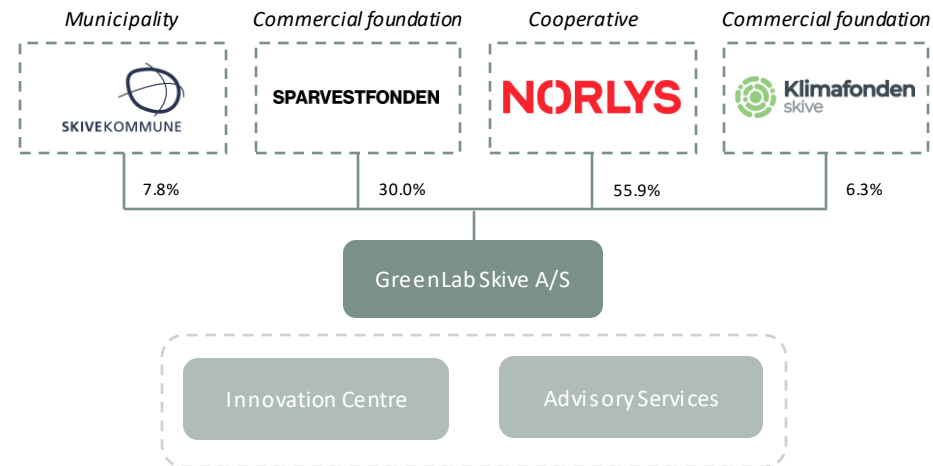


National research facility







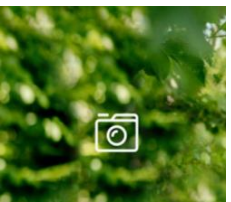
- »»» A center for knowledge and green innovation within intelligent and integrated energy
- »»» Accelerate R&D to commercial scale
- »»» Skill development

Shareholders & governance structure

Ownership structure



Board of Directors

 <p>Gert Vinther Jørgensen Chairman EVP and Group CFO at Norlys</p>	 <p>Anders Vedel Dep. Chairman Chief Scientific Advisor to the management and BoD of Vestas</p>	 <p>Anne Zachariassen Member COO of Aarhus Havn</p>	 <p>Robert Stecher Member Director of strategy and business development at Norlys</p>	 <p>Peter Højsgaard Member Director of Spar Vest Fonden</p>	 <p>Peder Chr. Kirkegaard Member Mayor of Skive Municipality</p>	 <p>Claus Antonisen Nielsen Member Norlys A.m.b.a. board</p>
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The components of a "no waste" ecosystem



GENERATE

We generate sustainable energy for our partners



STORE

The green energy is stored in all its forms:
Electricity, heat, gas and electrofuels



SHARE

The SymbiosisNet™ is an intelligent grid of energy and data that lets our companies share their surplus energy

GreenLab

Located at the intersection of national gas and electricity grids

- Existing
- In progress
- Opportunity

GreenLab supply

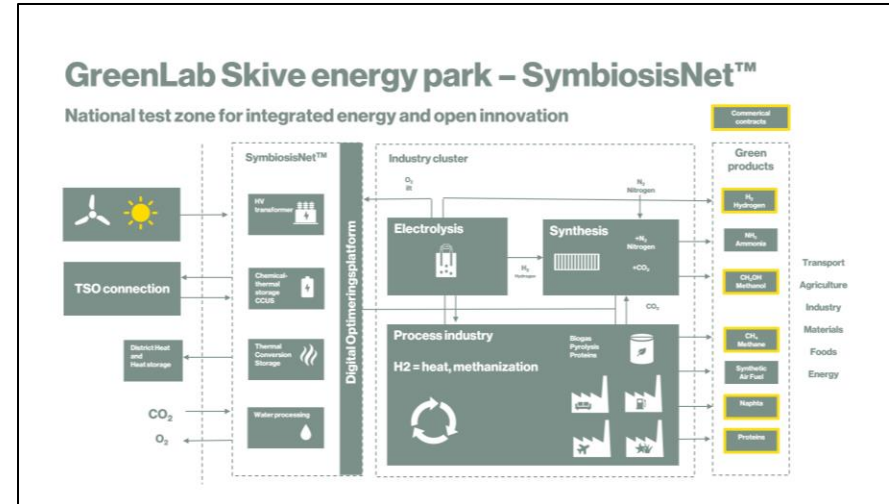
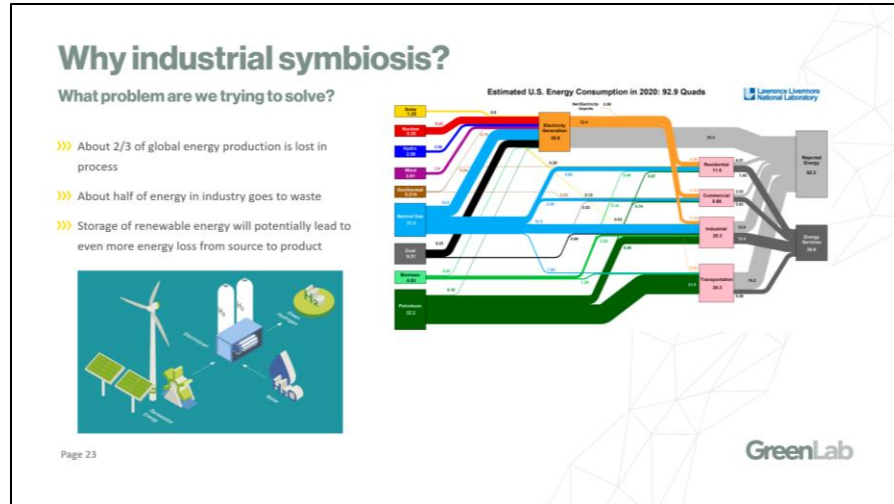
- Power
- Water
- Heat/Steam
- Instrumental Air
- Nitrogen

Shared energy/ressources

- Methanol
- CO₂
- Hydrogen
- Surplus PtX heat for District heating
- Heat



Pilot green and circular industrial cluster - a showcase of tomorrows energy system



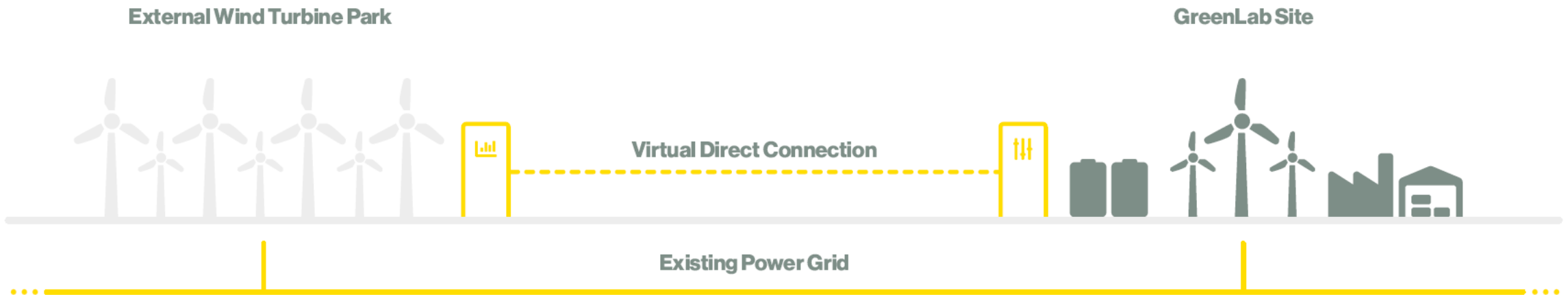
- ››› **Co-location is key** direct connections, test zone- need to alleviate existing electricity infrastructure from bottlenecks.
- ››› **We execute on sector integration and circular economy** optimized utilization of RE through SymbiosisNet
- ››› **We want to make a global impact** The GreenLab model accelerates the green industrial transition through an adaptable, replicable methodology which is designed to scale-up and globalize.

Facilitator of green energy use and optimisation: Business model



GreenLab Skive Energy Park

Collaboration with DSO/TSO



System Flexibility Services

Virtual Direct Connection

Granular Certificates of Origin

Sector Integration

Unique regulatory test zone & “The GreenLab Law”

ENERGYWATCH

Utilities Oil & Gas Renewables Cleantech Policy & Trading Danish

Danish government indicates regulatory test zones exempt from law

Siemens Gamesa and Greenlab Skive receive dispensation from Danish power supply legislation and thereby an opportunity to test new technologies. An important step toward ensuring a PtX head-start for Denmark, says the turbine maker.

Further reading

SSE Renewables appoints new managing director

Startside Din virksomhed Om **Indlæg** Job

GreenLab
10.427 følgere
4t

Lad den grønne energi flyde! Ny lovændring gør det nemmere at udnytte lokale sol- og vindressourcer i regulative testzoner som GreenLab.

Vi er glade for at Folketinget i går vedtog en vigtig ændring af elforsyningsloven, som muliggør lokal, kollektiv tarifiering. Det betyder, at GreenLab og andre regulative testzoner i Danmark får lov til permanent at beholde de fordelagtige vilkår, som en midlertidig testzonetilladelse giver. Det gør os i stand til at udnytte lokalt produceret grøn strøm på den mest optimale måde.

Fra i dag er der dermed skabt nye rammer for både tarifierings- og afregningsmodeller og det gør det muligt at teste endnu flere innovative og grønne forretnings- og energimodeller af i praksis.

Der er blevet arbejdet behårdt af partnere og medlemmer i klima-, energi- og forsyningsudvalget, og vi har været glade for en åben og effektiv dialog med politikerne. Vi vil gerne sige et særligt tak til **Signe Munk** og **Anne Paulin**, som har gjort en særlig stor indsats for at realisere ændringen af elforsyningsloven.

Derudover er vi utrolig stolte af, at GreenLab er nævnt som et eksempel direkte i betænkningen. Læs med her: <https://lnkd.in/eKTXTvgn>

[#letscreatepowershift](#) [#greentransitioninaction](#)
[#elforsyningsloven](#)



“

*Today is a great day for the green transition! The national transmission company **Energinet** and **GreenLab** have agreed to establish a Learning Lab to test new energy and supply solutions exploiting GreenLab’s unique test zone cluster environment.*

We will explore new solutions to accelerate sector integration, system flexibility, and data-driven systems and we will challenge the current market models to determine mutual incentives and high social impact for Denmark’s green transition

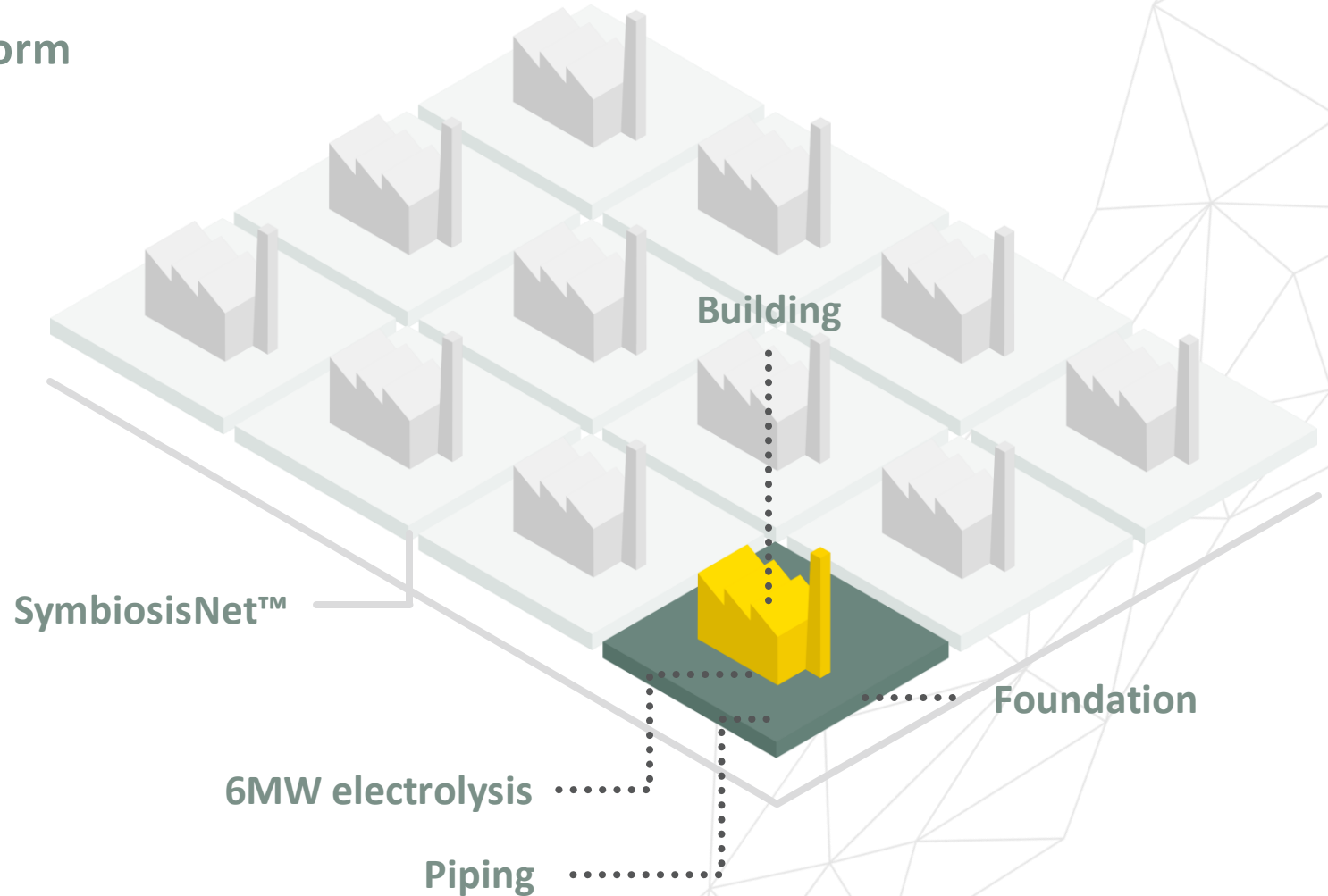


Facility-as-a-Service

A plug-and-play industrial energy platform

Adaptable, Replicable

- ››› A unique hosting environment – full infrastructure provided for green companies
- ››› Open innovation platform with access to green power and the SymbiosisNet™
- ››› Faster time-to-market, lower capex, lower cost of green production
- ››› Full utilization of clean energy



”GreenLab Skive P2X” project

12 MW by Q1 2023 – 10 mio. EUR grant

The main purpose

To demonstrate and develop the entire value chain from an effective interplay between basically known technologies (wind, solar, infrastructure, storage, hydrogen, biogas, methanol) to the valuation and marketing of green fuels, both onsite and offsite. The project contributes to solving the energy storage problem in the electricity system of the future.



GreenHyScale 100 MW

GreenLab

Everfuel

QUANTAFUEL

energy CLUSTER DENMARK

Lhyfe

equinor

H GREEN HYDROGEN SYSTEMS

euroquality

DTU

Imperial College London

SIEMENS Gamesa RENEWABLE ENERGY



THIS PROJECT HAS RECEIVED FUNDING FROM THE EUROPEAN UNION'S HORIZON 2020 RESEARCH AND INNOVATION PROGRAMME UNDER GRANT AGREEMENT NO 101036935

Replicable locally and globally

- »» Regional development and added value to renewable energy sites
- »» Conversion of harbour sites, combined heat and power plants and industrial clusters
- »» Based on know-how and cloud-based "plug-and-play" data driven learning solutions



**MINISTRY OF FOREIGN AFFAIRS
OF DENMARK**
The Trade Council



GreenLab



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION



GLOBAL PROGRAMME
HYDROGEN IN INDUSTRY



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION



GLOBAL PROGRAMME
HYDROGEN IN INDUSTRY



**GREEN HYDROGEN
INDUSTRIAL CLUSTERS
GUIDELINES**

The GreenLab Principles

01 Positive community effect

02 Competitive Advantage

03 Mutual incentives

04 Sustainability

05 Continuous learning and development


06 Global frontrunner: Show it, don't tell it

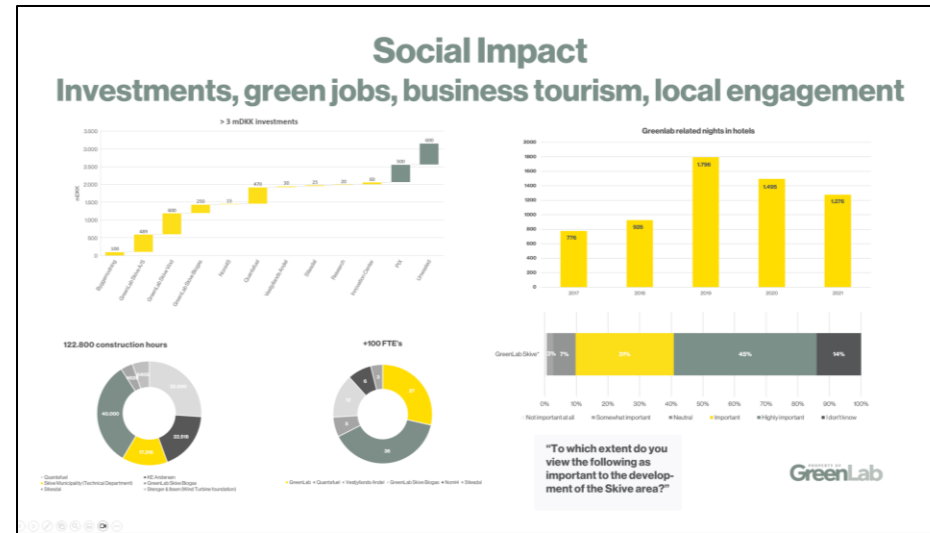
We work for a just green transition

A just transition

Rural areas play a key role and can become a growth engine

- » Sustainable energy can only be produced large-scale in rural areas
- » That constitutes a window of opportunity for these areas
- » Done right, the local community can benefit greatly from rural green development
- » Job creation, industrial development, business tourism





» **We create local green growth** GreenLab Skive as living proof

» **Our green and circular cluster model is replicable global** it is important to find the niches where the biggest difference can be made locally – that's what we call "sources and uses of energy" and specialize in.

» **We excel at Public Private Partnerships** New types of collaborations are necessary to change the energy system, and we believe in and excel at strong connections between public and private players.

GreenLab Research Missions

VILLUM FONDEN



01

Development of the design manual for the green industrial clusters of the future

02

Successful optimization between fluctuations in renewable energy, consumption flexibility with industry and infrastructure costs for storage and conversions

03

Demonstration of valuable sector integrations that can show the way to scalable initiatives for industry in the rest of society



AARHUS UNIVERSITY

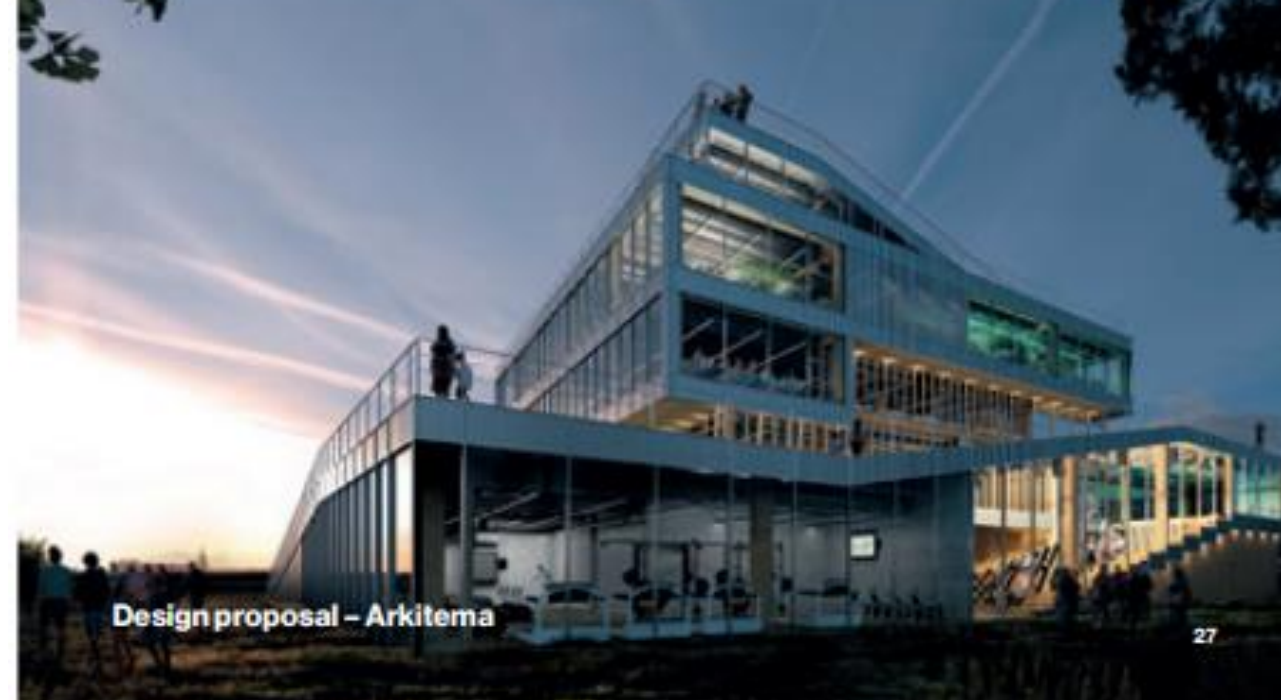


AALBORG UNIVERSITET

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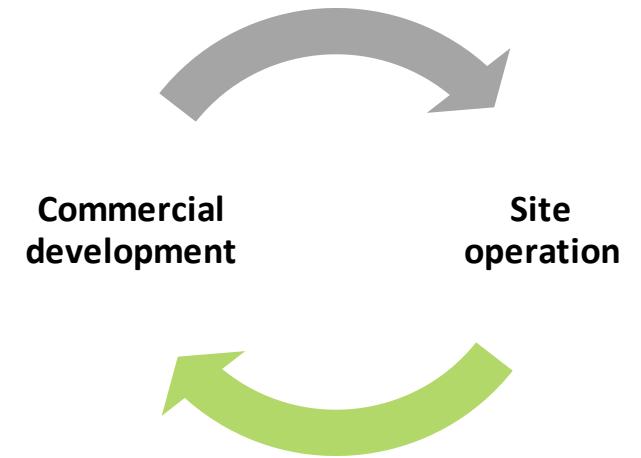
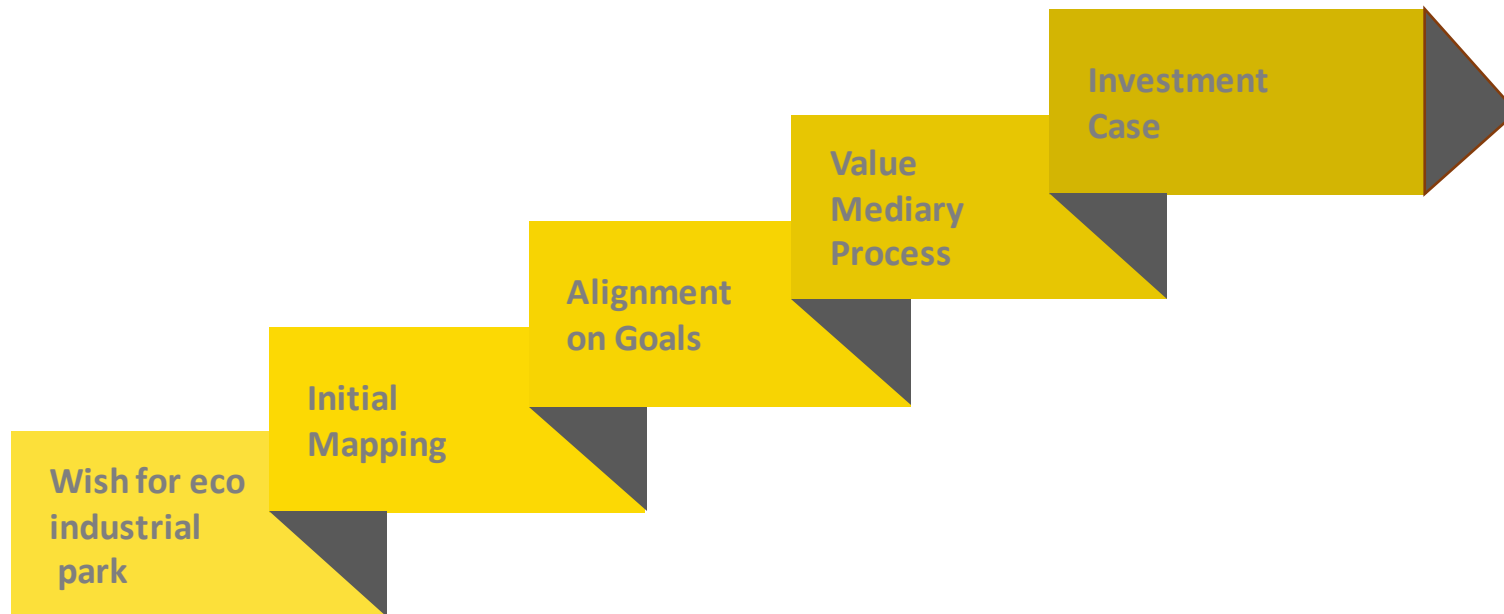
Innovation Center on its way

- »»» 20 mDKK from VILLUM FONDEN for mission driven research
- »»» Collaboration with four Danish technical universities
- »»» International, interdisciplinary Fellowship Program with Aarhus Institute of Advanced Studies
- »»» 60 mDKK from Spar Vest Fonden and Norlys for Innovation Center – fundraising ongoing
- »»» GreenLab Innovation Foundation established



Advisory: Overall Approach

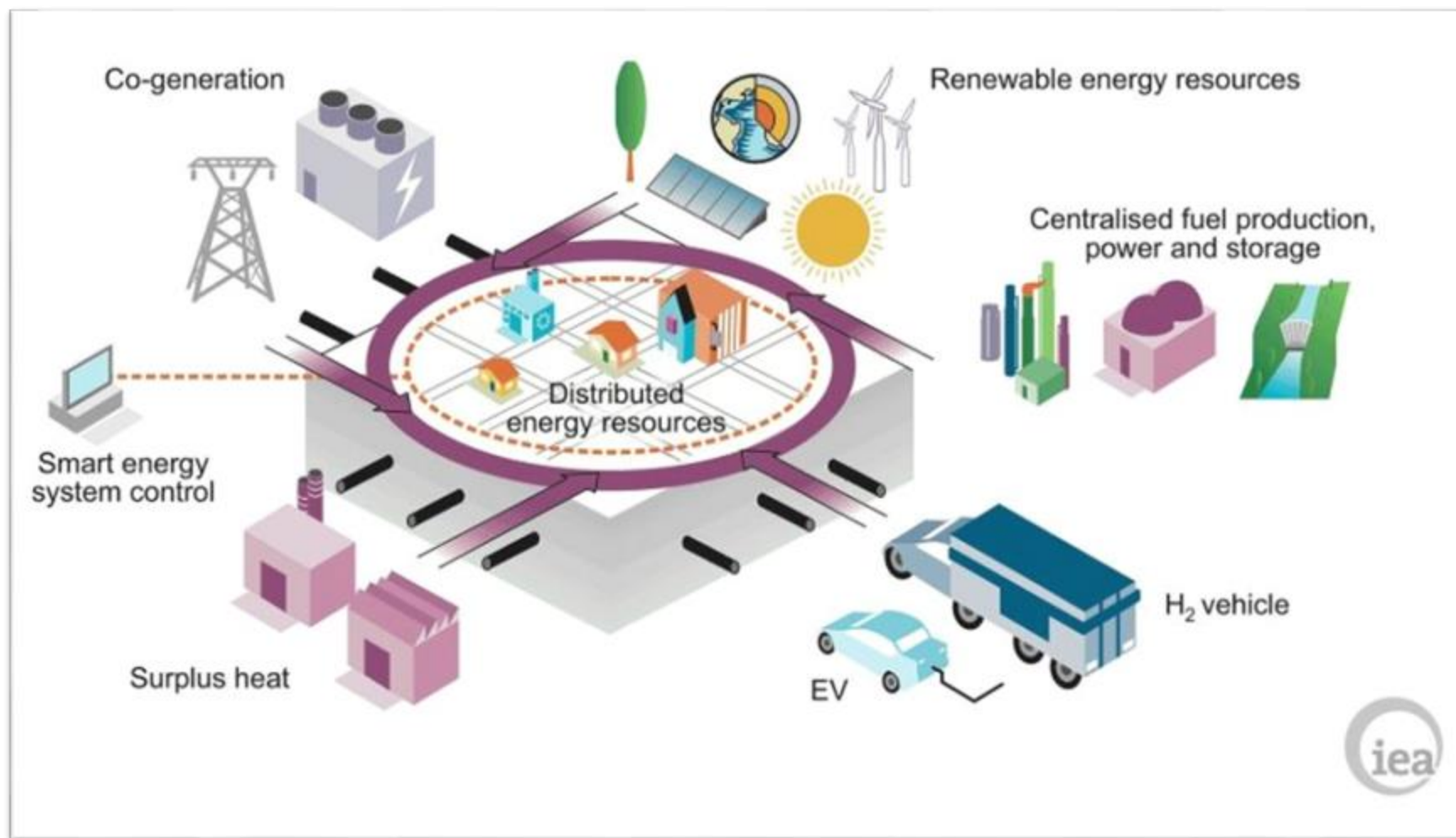
Overall approach deducted based on experiences from GreenLab Skive and Masdar City etc.



Underlying GreenLab step model



What's in scope



Reference cases



Contextual analysis and opportunities

- 10 companies
- +25 opportunities
- 4 Prioritized cases
- Strategic narrative



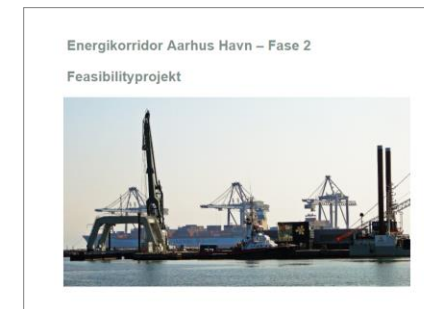
Context based strategic inspiration

- Mapped regional opportunities
- Sketched strategic positions
- Facilitated management and board workshop



Context based strategic aspiration and short-term wins

- 8 companies
- +30 opportunities
- 4 soft feasibility studies
- Strategic narrative



Feasibility Study

- 11 companies
- 2 cases
- 1 deep-dive feasibility analysis

GREENLAB SUMMIT 2023

A GLOBAL OUTLOOK ON THE FUTURE OF ENERGY

Wednesday, November 8, 2023

GreenLab Summit is where we invite the brightest minds to exchange ideas, inspire each other, and learn from the latest research and pioneer projects. This year, the event will be bigger than ever.

- »» KEYNOTES
- »» DEEP DIVES
- »» EXPERT PANELS
- »» GREEN TECHNOLOGY EXHIBITION
- »» NETWORKING DINNER
- »» SITE TOUR





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Frits Krejberg



Kirsten Skov Mark



Bo Tang Sørensen



Jakob H. Mogensen



Jonas V. K. Nielsen



Camilla Knudsgaard



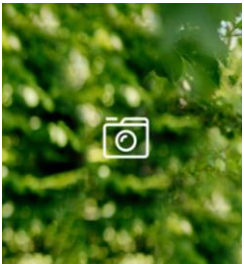
Camilla Høegh Nicollet



Hanne Torp Brodersen



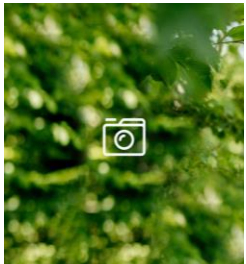
Mathias Damgaard Mørch



Stinne Langhoff



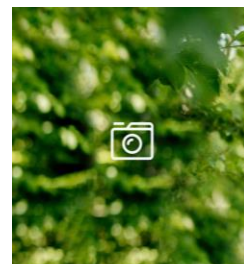
Astrid Skifter Madsen



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Philip Hørup



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The GreenLab Team

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An aerial photograph of a wind farm in a green, rolling landscape. In the foreground, a large white wind turbine blade is visible, extending from the bottom right towards the center. The rest of the farm, with many other turbines, stretches into the distance under a dramatic, cloudy sky. The text "LET'S CREATE A POWER SHIFT" is overlaid in the center.

**LET'S CREATE
A POWER SHIFT**

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