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GreenLab



# Vision

In GreenLab, green ambitions become reality in an innovative interaction between public and private actors. Here, new technologies are tested, and wild ideas are developed, and our mantra is that theories must be tested in real-life as quickly as possible so we can assess their potential in the green transition. GreenLab is a frontrunner in creating the maximum effect of renewable energy. Our goal is to get the most out of each valuable electron, to optimize the interaction with other energy sources, and to achieve the greatest possible energy independence so we can solve the complex challenges the world is facing together.

GreenLab's core skill is accelerating innovation, research, and development to a demonstration on a commercial scale. As the next step in GreenLab's development, we are building a roof over the community in the form of an innovation center where the research and education activities that are already well underway can get even better conditions.

### **GreenLab Innovation Center**

The GreenLab Innovation Center will bring together industry, research, education, innovation, public bodies, and citisens in one unifying building, thus increasing the innovation power of GreenLab and the ecosystem around the park.

The center will house a number of workplaces directly related to GreenLab and the Companies in the industrial park, while at the same time functioning as a visitor and experience center for course participants, tourists, and the rest of the curious public.

The GreenLab Innovation Center will be a global beacon for integrated energy solutions, circular economy, and sector integration.

Both by virtue of the activities it contains, its aesthetics, and the way it is experienced. The innovation center will join the area's actors and create a living and dynamic framework in which innovation, dissemination, and big ideas have optimal conditions.

### An iconic, multifunctional house

The center must signal sustainability in both material selection and technical solutions.

It is of the highest priority that the connection between outdoors and indoors becomes as strong as possible. Furthermore, it is important that both the building and outdoor area naturally play together with the overall landscape features of the area.

### We want to create an iconic building that will:

- Which is a gathering point and be in close contact with the industrial park's partners', who see the Innovation Center as an extension of their own facilities. Therefore, the Innovation Center must be designed as a connection point whose design contributes to visitor services, conferences, events, and business tourism, as well as the creation of a strong showcase environment around the companies in the park.
- Act as a beacon for knowledge about green energy technologies and have strong local roots. In this way, the center will strengthen GreenLab's branding value, the cohesion of the park, and the opportunities to develop a GreenLab Academy and act as a clear manifestation of GreenLab's position and value for Skive and the surrounding area.
- Act as a gathering point and focal point for research and innovation both nationally and internationally, thereby increasing the innovative strength among GreenLab's partner companies and in the ecosystem surrounding research results, projects, and daily operations.

Accommodate tomorrow's global education profiles within the green transition, both practical and academic, which will mean more applications for local educational institutions, ensuring that more young people are attracted to the area and that companies in the area have access to qualified labor.

# A national and international research center that promotes a green transition

The GreenLab platform is the result of an ambitious and successful business promotion development project, in which over 502 mDKK has been invested through equity, grants, and site development over a period of 5 years.

In addition, the project has attracted more than DKK 3bDKK in private investments, which means GreenLab can facilitate a speedy upscaling of Danish research in green energy. With several factories and facilities in operation and a focus on access to data, the park is a unique starting point for new mission-driven research and large-scale demonstration of technology of great public value for Denmark as a leading green nation.

In this context, GreenLab also acts as a steppingstone in the development of the future's energy system, energy islands, conversion of ports and CHP plants, etc., and has a close collaboration with, among others, The Danish Energy Agency, EnergiNet, Evida, and the grid companies, as well as the universities and other industrial and energy sector players.

Sector integration is essential to the green transition. We see the integration of research and industry on one platform as the most fruitful solution for driving innovative solutions forward and giving research the best conditions to create measurable results. Results that contribute to Denmark being able to place itself ahead in the green race.



# **About GreenLab**

# A unique green industrial park and frontrunner within PtX, industrial clusters, and circular energy

GreenLab is the green industrial park of the future for companies that contribute to the green transition.

In the industrial park, companies are supplied with green energy, and they are connected by the so-called SymbiosisNet<sup>m</sup> – an intelligent network of energy and data, which enables the companies to share their surplus energy and resources.

### A technology catalyst and a national research center

GreenLab's ambition is to create new markets for green technologies and companies that want to explore and capitalise on sustainable production and PtX. GreenLab is thus a test center for some of the world's most talented researchers who want to work on an interdisciplinary platform that supports the transition to a circular economy. One example is the fellowship program created in collaboration with VIL-LUM FONDEN, DTU, and Aarhus Institute of Advanced Studies (AIAS). The GreenLab-VILLUM theme-based fellowships seek to enhance interdisciplinary and global collaboration by engaging an interdisciplinary and international group of excellent researchers in theme-based research projects within the scope of GreenLab. Here, International researchers turn theory into practice and use GreenLab's research and innovation platform as a unique accelerator for large-scale operation.

# Value Mediary - GreenLab's DNA

The value of GreenLab is created in the meeting between the players in The GreenLab ecosystem. GreenLab conveys knowledge and opportunities and is ready to solve challenges where the market is not yet mature.

Streen Lab facilitates open innovation by bringing companies, authorities, research, and educational institutions together in a unique development space



- >>> We want to be a positive influence on society, our local area, and individuals
- >>> We expect our partners to inspire and collaborate and set the bar high together
- Our purpose is not only about profit, and we work tirelessly to find ways to utilise the park's surplus resources. Five companies are currently operating on the site, one is about to build a factory, and the PtX platform is already under development with its first test facility. A total value of approximately 3 bDKK has been created on the GreenLab site, which future investors in the Innovation Center can build on further
- >>> Finally, we aim to ensure that the companies in the park are run on 100% renewable energy sources through a direct connection to a wind and solar park, and with the highest possible energy efficiency and thus reduced total energy costs

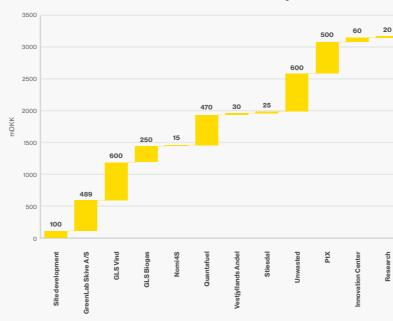
# An ambitious global example with local roots

GreenLab is an ambitious project, and its strong regional roots and the solid effort put into it have created growth, export, and employment.

- Sometimes of the area and also in collaboration with external partners takes responsibility for the training of the future workforce within green energy
- >>> GreenLab is a unique public-private partnership and business promotion project capitalised by, e.g., Norlys, Skive Municipality, the Spar Vest Fonden, and Klimafonden Skive
- The company has received official grants from The Danish Energy Agency, EUDP, EU Green Deal, Interreg ÖKS, Denmark's Business Promotion Board, and others
- Sometimes of the sector of

# 

# **Total investments in the park**







# **GreenLab Innovation Fund**

Having the GreenLab Innovation Center as a beacon for GreenLab has been part of the ambitions since the establishment of GreenLab. The board decided shortly after the capitalisation in 2019 to initiate the development of the concept with the view to transfer the concept to a developer other than GreenLab Skive A/S when the project was sufficiently developed.

The project is now so advanced that there is a need to appoint a developer. GreenLab Skive A/S has prepared a proposal for the establishment of an independent non-profit foundation: The GreenLab Innovation Foundation with the aim that this foundation can assume the developer role for the GreenLab Innovation Center, as well as take on the responsibility for running GreenLab-related research activities.

The plans for establishing the GreenLab Innovation Center have thus now matured to a stage where there is a need to accelerate capitalisation and bring new partners into the project.

The concept work resulted in the first funding being obtained through a contribution of 15% of the construction cost (or up to 30 mDKK) from Spar Vest Fonden and 30 mDKK from Norlys. The contributions are significant milestones for the establishment of the center.

In addition, VILUM FONDEN made a special grant of 20 mDKK for mission-driven research and building a research organisation with the long-term view of additional fundraising. This forms the background for long-term and larger funding, and the value proposition of the industrial park, the unique research platform, and the SymbiosisNet™ is supported. The need today is greater than ever for test facilities that can quickly turn research into large-scale facilities and make a difference. Greenlab has a unique position here.

To be attractive to a wider range of future donors and foundations, a great emphasis is put on the non-profit purpose of creating innovation in green energy and circular economy.

With that starting point, the initiative has been taken to establish The GreenLab Innovation Foundation as a separate organisation.

The foundation will generally promote research, education, innovation, and communication around a just green transition and circular industrial production and build and operate physical facilities in connection with this.

# The foundation will have two main activities:

- >>> To apply for and pass on public and private research funds for mission-driven, interdisciplinary research and to support such research itself
- >>> To build, own, and operate buildings, test facilities, and other assets that support the purpose

We are happy to forward draft documents of the non-profit foundation deed for The GreenLab Innovation Foundation. GreenLab wants to complete the foundation in cooperation with the foundation's donors.

# The purpose of the foundation

The purpose of the foundation is to facilitate, support, and otherwise contribute to innovation in green energy and circular economy at a local and global level to reduce or eliminate the emission of greenhouse gases.

To fulfill its purpose, the foundation must build – or otherwise acquire the right to – one or more research and innovation centers within green energy and circular energy.

To fulfill this purpose, the foundation can conduct research or support research and innovation activities within the areas. The support can consist of giving researchers, universities, and start-up companies in the areas access to the foundation's facilities.

The foundation must ensure that the activities are of public benefit. Support for start-up companies may thus only be given in the establishment phase and must be conditional on the foundation being granted the right to use the research and development results derived from the support. Trade with companies that are no longer in the establishment phase must take place on market terms.

Draft statues of the foundation can be forwarded upon request.

# **Organisation**

The foundation for GreenLab Innovation is expected to be set up as an independent organisation.

Service agreements with, e.g., the GreenLab

Skive A/S operating organisation are agreed upon between the parties.

Once the foundation is fully capitalised and a board is appointed, a full-time CEO must be hired to drive the establishment of the Innovation Center and its activities.

Additional funding will strengthen the organisation to conduct research and educational activities as well as additional fundraising and events.

# Organisational diagram:

In the prospect's operating budget

Future GreenLab Innovation Fund funding

Existing research funding in GreenLab
Skive A/S

# **Innovation Center Facility**



Site operations/facility manager

Admin

Reception

### acility



Managing Director

**GreenLab Innovation Fund** 

Research

Research Director

**Academy Director** 

**Staff** 

Academy

Research Assistant

Research Assistant

**Project Manager** 

Staff

**Staff** 

**Events** 

\_\_\_

### **Collaboration agreements**

The GreenLab Innovation Foundation must collaborate with GreenLab Skive A/S and the company's potential commercialisation leg "GreenLab Global." As the external development partner in the globalisation of the GreenLab model, GreenLab Global can contribute to the design of research and educational missions and help them achieve commercial scale. The innovation center must function as the center of the innovation environment around GreenLab, be the national and international beacon, and be the locally rooted host.

For GreenLab Skive A/S, it must contribute to future development. Research results must feed directly into the development of SymbiosisNet<sup>™</sup> and the park's green businesses, and educational activities must ensure the future workforce on the site and elsewhere.

GreenLab Global and its partners can also use the innovation center as a showroom and a research and training center to support future projects and other sites.

When the foundation is established, a cooperation agreement must be drawn up between the foundation and, respectively, GreenLab Skive and GreenLab Global, which ensures continued support and reinforcement of the foundation's results and the channeling of global research and education missions back to the foundation.

### **Development costs**

Since the establishment of GreenLab Skive A/S, there has been a separate financial follow-up on costs and hours spent on concept development of the innovation center. Furthermore, a special budget was approved in November 2020 for architectural and consultancy assistance for an Innovation Center concept draft in the form of two inspirational presentations.

Concept development costs to date	
Fime consumption: CEO and Business Development	approx.1mDKK
Expenses: Legal, engineering, architectural assistance, and graphic work	approx. 600 tDKK
n total	approx. 1.6 mDKK

At the end of 2020, the Board of Directors of GreenLab Skive A/S has approved the spending of DKK 2-3m with the expectation that future donors will later cover these costs. In addition, development costs until commissioning and full operation are expected to require an additional approx. 2 mDKK. An operating deficit must also be expected until there is full occupancy during the start-up period. In connection with the establishment of the Foundation for GreenLab Innovation, it is therefore intended that the concept development be transferred from GreenLab Skive A/S to the Foundation for GreenLab Innovation at book value.









# Location

GreenLab is located in mid-western Jutland, approx. 10 km north of the town of Skive by highway A26. Skive is the capital of Skive Municipality. Skive Municipality and has approx. 20,000 inhabitants and there are approx. 45,000 inhabitants in the municipality. Skive Municipality has a considerable share of production, commercial, and entrepreneurial enterprises as well as agriculture and educational institutions.







# LANDSCAPE

# **Visions**

- >>> The GreenLab landscape connects the different areas and actors. Therefore, the landscape concept must help make the area appear as a unity across roads, cadastral boundaries, business types, new and old constructions, etc.
- >>> The landscape's character must be eye-catching, reinforce a green profile for the GreenLab concept, and be so powerful that it is remembered both in the intellectual experience and the nature experience.
- >>> The "Galaxy" should be seen as a comprehensive landscape element in the area, and including this element is relevant for both landscape and building.
- >>> GreenLab has a remarkable way of guiding people. The conveyance of the many partner companies' production apparatus – the synergy between and the content of the site's buildings are staged in an orchestrated sequence, so it is immediately easy to experience what is going on in the GreenLab park
- Sometimes of information and activity areas, also for the body and senses.

# BUILDING

# **GreenLab Innovation Center**

Two inspirational presentations from Arkitema and Meissner & Sigh are available.

# The GreenLab Innovation Center must:

- >>> Be a physical gathering point for the industrial park's companies, who must see the innovation center as an extension of their own facilities
- >>> Be an attractive center for partner companies to set up technical demonstrations, showrooms, and knowledge-sharing activities
- Be a facility for visitor services, conferences, and events for the park's companies, and it must promote business tourism related to the park's businesses and the GreenLab platform
- >>> Function as a focal point for research and innovation nationally and internationally and thus increase the innovation power among GreenLab's partner companies and ecosystem. This should be done both as a physical meeting point, but also a meeting point for knowledge and research activities in a broader sense
- >>> Accommodate tomorrow's education offer within the green transition, both practically and academically and with a global aim
- Strengthen the branding value of the Skive area and GreenLab. The GreenLab Innovation Center must be a green beacon for the international development of and knowledge about green energy and industrial technologies and make GreenLab's position and value clear to the Skive area
- Accommodate entrepreneurship, spin-offs, incubation of R&D results, and other related start-up activities





# Visions for the building

The innovation center building must tie outdoor and indoor areas into one holistic structure. There will be a focus on the intended use of recycled materials, either raw or processed – sustainability is important for the entire thinking around the GreenLab and SymbiosisNet $^{\text{TM}}$ . Biodiversity and innovative solutions concerning water should also be included.

The developer group will have a direct influence on the design of the project. The group will be vital in the entire design and execution process, from concept to commissioning and operation.

The outdoor areas must be experienced as integral parts of the overall green industrial park. They must provide energy and breathing space for all those who spend time in the park. Many activities will probably be conducted outside, and the possibility of being under a roof during the summer months is needed.

### **Principles**

The building, in its physical representation, must contain the following aspects:

- >>> Modular
- >>> Flexible
- >>> Scalable
- >>> Dynamic
- >>> Sustainable
- >>> Playful and unpretentious
- >>> Democratic and Scandinavian and with nature as a partner
- Story and experience design the experience of seeing, touching, and hearing

# The building must encourage behavior and culture supported by the following aspects:

- >>> Authenticity
- >>> Agility and courage
- >>> Welcoming hospitality
- >>> Feeling free and wild
- >>> Diversity and inclusiveness
- >>> Transparency
- >>> Self-organisation democratisation
- >>> Co-creation and cross-disciplinary communities



# **Timeline**

The goal is to secure the necessary funding for the construction of GreenLab Innovation Center during 2023, so actual planning can begin at the end of 2023.

A detailed project schedule will be drawn up in collaboration with the project team (management contractors), investors, and other stakeholders (developer group)





Execution

2025

Construction development
Contracting
Handover

Contracting
Handover

Contracting
Cont

# **Activities in the innovation center**

GreenLab Innovation Center will be a vibrant house for business, research, and education, as well as for association and club activities and for communication activities.

In the spring of 2020, a needs assessment was conducted with a broad group of GreenLab's stake-holders. 24 semi-structured online interviews have been conducted based on the areas defined below. The need for facilities and activities has been examined.

The center will be the framework for the interaction between network activity, knowledge, hard work, and initiative and will bridge the industrial park and the local community.

### Planned activities:

- >>> Office facilities and common areas with the possibility of informal meetings and knowledge sharing
- >>> Incubation environment that can create spin-offs and synergy between the park's players
- >>> World-class research within green transition and missions that GreenLab will facilitate as a frontrunner
- >>> Education platform where specialists and professionals get upgraded skills in green energy technologies, PtX, bioeconomy, and circular industry
- >>> Courses, events, and larger gatherings
- School and visitor service that gives everyone access to knowledge about green technology and future energy solutions and provides an understanding of the green transformation of society.
  +40,000 visitors are expected annually
- >>> Information and activities that activate activities across cultures and generations

### Already underway

In 2021, GreenLab entered a collaboration with the Technical University of Denmark (DTU), and a DTU sign was put up in GreenLab.

DTU thus inaugurated GreenLab as a new national research center and is helping to pave the way for a completely new research environment on GreenLab Skive's platform. Since then, GreenLab has made cooperation agreements with all the Technical Universities in Denmark

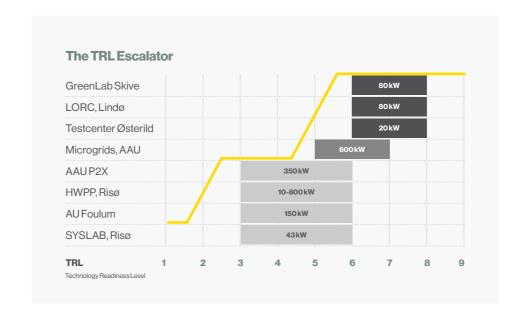
**Figure 1:** The interaction between network activity, knowledge, hard work, and initiative with a bridge to the industrial park and the local community.



"First of all, I am delighted that we continue to work together for a green transition, which is one of our most important causes. Next, I look forward to DTU being able to bring our research to the whole country with this collaboration. With the collaboration, DTU's researchers and students get a unique opportunity to carry out projects of great scientific quality. They can also test, optimise, and demonstrate innovative solutions at a scale that can inspire the implementation of future energy systems. In this way, DTU brings its research into the real world."

- Anders Bjarkley, Head of the Technical University of Denmark

GreenLab is regarded as the large-scale platform in line with Lindø Offshore Renewables Center (LORC) when the energy system of the future needs to be tested.



### Permanent regulatory test zone

In May 2021, the Danish Energy Agency appointed GreenLab in Skive as a regulatory test zone. In the regulatory test zone, the Danish authorities grant GreenLab full exemption from the Electricity Supply Act for a minimum of ten years. It enables GreenLab's industrial park to explore new methods in the field of energy. In the future, GreenLab can test innovative business models or new technology that have so far encountered barriers in the current electricity supply legislation. This gives GreenLab a unique position in the field of research and innovation.

### The first funds for mission-driven research have been brought home

Shortly after entering the DTU collaboration in June 2021, VILLUM FONDEN granted 20 mDKK over three years to support a research collaboration between GreenLab and a number of technical universities led by DTU. GreenLab also entered into bilateral agreements with Aarhus University, Aalborg University and the University of Southern Denmark. The collaboration will support mission-driven research on the GreenLab platform, provide smart green energy solutions for Denmark and the rest of the world, and strengthen the possibility of developing and demonstrating future energy systems.

"We are marking a new major step in the collaboration between DTU and GreenLab. We will create an inspiring environment for students, researchers, and companies who work together to speed up the green transition. With a new national research and demonstration platform in GreenLab, our researchers and students get unique access to test, develop, optimise, and demonstrate projects within energy optimisation and storage. The collaboration will allow our students close contact with companies and experts from all over the country. Furthermore, I hope that the research activities will become steppingstones to larger national and international projects that can solve some of the sustainability challenges that not only Denmark but the whole world is facing."

# - Anders Bjarkley, Head of the Technical University of Denmark

With the VILLUM grant, GreenLab was able to employ Research Director Ebbe Kruse Vestergaard and Industrial Sustainability Specialist, Eoghan Rattigan. DTU employed Leon Aahave Uhd to administer VILLUM FONDEN's grant and the GreenLab collaboration 50% of his time. VILLUM FONDEN has approved funding for two additional positions that will handle additional funding activity and coordination.

12 research projects have started on the grant, and more are coming. Some of the world's best researchers collaborate with ambitious businesses in interdisciplinary, applied research projects. Our focus is mainly on, but not limited to, energy technologies, Power-to-X, bio-economy, sector integration, circular economy, and eco-industrial cluster development.

### Case: Flex-PtX

PtX is a fundamental prerequisite for sector coupling between the electricity system and energy-intensive sectors. This project aims to evaluate the feasibility of PtX-production facilities to participate in electricity markets through flexible operations. The specific focus is on the potential conflict between fuel (X) production and operational cost.

### Case: EnergyRocks

The EnergyRocks project examines how to transform surplus electricity from wind into heat and then store it in a rock bed. The purpose is to decarbonise heat processes in industrial heating at GreenLab. More specifically, the research team wants to develop a design for a rock bed thermal energy storage for a 40 MW heating process.

# **Development of new knowledge**

# **Learning partnership with Energinet**

GreenLab and Energinet - the state's independent company that owns and develops the electricity and gas network in Denmark - have joined forces in a ground-breaking learning partnership that aims to generate new knowledge on a range of topics relating to energy systems and the green transition. The collaboration combines Energinet's unique knowledge of energy systems and security of supply with GreenLab's innovative platform and test zone. The focus will primarily be on a Data Ecosystem for Sector Integration and Market Flexibility.

"It is a core task for Energinet to contribute to the green transformation of energy systems. For the next phase of the transition, it will be central to enable physical and digital sector coupling in order to ensure that we transition to an energy system that is green but also secure and efficient. We must challenge the existing market models and become able to optimise them so that they deliver the flexibility that the energy system of the future requires. We expect this collaboration to contribute to that".

# - Søren Dupont, Senior Vice President at Energinet.

Other themes that the collaboration will work on are better balancing the electricity grid, more efficient use of energy and energy savings, as well as traceability and certification of energy flows.

### **Education**

In addition to joint research activities, there is also a collaboration with universities in the field of education. GreenLab is a sought-after collaboration partner for project courses for students from all the country's higher education institutions. In the spring semester of 2022 alone, two bachelor and five-semester projects have been completed across the four universities with technical educations.

With their launch of Residential Colleges, DTU has started the debate on how to create good research and study environments throughout the country with a particular focus on the areas where there may be job opportunities for the students and collaboration opportunities for the researchers. Because of GreenLab, Skive Municipality has been mentioned in DTU's relocation strategy as one of the few municipalities that will first try Residential Colleges. The municipality is therefore making plans for attractive student housing areas and an environment for "life after the end of the workday." This cooperation is



expected to lead to a drastic scaling in the number of students who want to have a temporary residence and workplace in the area around GreenLab. Since DTU has invited the other Danish universities to join the journey, the needs will only increase over the coming years.

In addition to the educational collaboration with the universities. GreenLab also collaborates with Skive College and Aarhus Maskinmesterskole on education and further training of the future workforce within the industries housed in GreenLab's green industrial park. This includes, i.e., system integration, wind industry, and high voltage training. The mutual cooperative relationship between the institutions consists partly of the use of GreenLab's industrial park as a test case for educational purposes (like the project opportunities that are used with university students) and partly in the collection of knowledge about future competence needs, which thus provides relevant feedback to the educational institutions.

The close ties also provide good opportunities for rapidly recruiting new graduates to the park's companies. As an educational institution, Skive College has specifically expressed wishes that part of the education to become, i.e., supply operator, could take place at GreenLab, and the institution is thus an obvious tenant in the Innovation Centre.

# Socio-economic effects

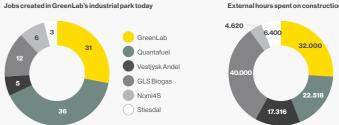
The GreenLab concept is an example of a just green transition based on the best possible utilisation of the earth's resources in effective interaction between stakeholders that bring the highest possible value to all parties in the symbiosis. An investment in the Innovation Center construction helps to promote value creation.

### Value creation

- >>> Increased innovation power among GreenLab's partner companies, which are in dialogue with and close to research results, projects, and operating processes
- >>> Attract new knowledge, both practical and academic, to the ecosystem around GreenLab, which can accelerate product and business development for GreenLab's partners and customers
- >>> Strengthened recruitment power for GreenLab, partner companies, and secondary businesses
- ))) Increased activity in and around GreenLab, which creates growth in secondary business areas, including the service industry in and around the Skive area
- ))) Increased application to local education ensures that more young people stay in the area and that companies in the area have access to qualified labor
- ))) Increased branding value the building is a clear manifestation of GreenLab's position and value for Skive and its surroundings
- >>> Increased job creation in the region and the creation of a green business growth adventure

Skive Municipality and the stakeholders around GreenLab have created a strong foundation for growth. There is building development for approx. 100 mDKK and 489 mDKK have been invested in equity and grants over five years. On that basis, more than 3 bDKK has been made in private investments in the park. Today, approx. 95 full-time positions have been created, and approximately 300 more are expected based on the current pipeline.

# **Local impact: Green job opportunities**



Total: Approximately 95 full-time positions

# Upcoming projects that will create local jobs: GreenLab Skive P2X 24 MW (approx. 36 full-time positions)

GLS Biogas

Total: approximately 122,854 hours (focus on local businesses)

Stenger & Ibsen

Upcoming projects employing local companies GreenLab Skive P2X

Green HyScale (100MW)

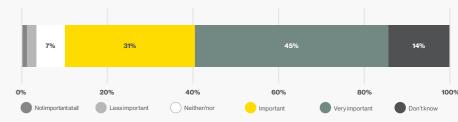
# **Local impact: Business tourism**

GreenLab works to integrate business initiatives that ensure a future influx of visitors to the Skive region



# This is how important GreenLab is, according to the citisens of Skive

"To what extent do you see the following as important elements for the positive development of the Skive region?"



# Rental income and range in construction and operating costs

A realistic benchmark evaluation of the cost of a 50 tDKK/year workplace has been carried out. The innovation center is comparable to the cost of one office space in university towns in Jutland, which is slightly higher than the average office rental in the surrounding towns.

The construction costs as well as the operating costs are not fixed, which is why the expected range is illustrated below.

Range in construction costs			
mDKK	Low	Medium	High
Construction estimate	172	215	303

Range in operating costs, estimate			
tDKK/året	Low	Medium	High
Operating costs	3.720	5.034	6.040

At 50% let, the operating and maintenance costs will drop to 3 mDKK. The innovation center is assumed to be financed by donations. If the Innovation Center is to be partially loan-financed, interest and installments must be added to the loan. If the capital investment is financed with a 10% loan with a term of 20 years and an interest rate of 2%, then interest and installments amount to 1.5 mDKK per year.

The construction cost is estimated at	215 mDKK
I ne construction cost is estimated at	215 MUKK

The construction cost of 215 mDKK includes construction site and construction worker expenses, consultant and client expenses, and unforeseen expenses. This corresponds to a construction cost of DKK 46t/m<sup>2</sup>. The financing is assumed via donations from various foundations etc.

# **Operating economy**

Annual operating budget (mDKK)	100% occupancy	75% occupancy	50% occupancy
Annual operating costs are estimated to	5,0	4,2	3,1
Annual rental income is estimated at	5,5	4,2	2,8
Expected operating profit	0,5	0	0,3

The break-even for covering the operating and maintenance costs is at an occupancy of approx. 75%. The annual operating budget is estimated at 5.0 mDKK, of which 1 mDKK. is the maintenance of the building and outside areas. The operating budget includes costs for electricity, hot water, daily renovation, cleaning, window cleaning, operation of areas, and cleaning.

This is covered via annual rental income of 5.5 mDKK from the rental of 1,260 m<sup>2</sup> of office space, as well as canteen operation and rental of meeting and conference rooms, which gives an expected operating profit of 0.5 mDKK per year.

Rental income from canteen operations and rental of meeting and conference rooms is budgeted at 10% of the total rental income.

The rental income includes shared services and reception.

Rental income for letting office space in the Innovation Center		
Rental income per m² is estimated at	DKK 3.9 t/m²/year	
A workplace of 12 m <sup>2</sup> costs	47 tDKK/year	

# **Construction investment forecast** Fundraising

Two draft proposals have been prepared for the GreenLab Innovation Center on the basis of a presentation about the expected scope of activity in the center. Based on the draft proposals, COWI has subsequently estimated a construction sum for the two project proposals. The two presentations are

Construction financing*	Meissner	Arkitema
Construction worker expenses	180.859.884	130.036.341
Construction site expenses	18.085.988	13.003.634
Consultant expenses	46.752.280	31.468.795
Unforeseeable expenses	44.464.403	31.754.874
Developer's expenses	12.767.152	9.075.600
Total fixed assets in total	302.929.708	215.339.244

Based on the information above, the goal is to raise 300 mDKK for the construction of the GreenLab Innovation Center, its furnishing, and for carrying out associated construction work.

\* Figures are based on prices in spring 2022, and general price increases are to be expected

In December 2021, GreenLab Skive A/S received a commitment from Spar Vest Fonden for a donation to The Foundation for GreenLab Innovation dedicated to the construction of the GreenLab Innovation Center. This donation amounts to 15% of the construction cost but no more than DKK 30 mDKK. On behalf of the Foundation for GreenLab Innovation, GreenLab Skive A/S is finding additional donors for the Foundation for GreenLab Innovation and the GreenLab Innovation Center.

Both donations from foundations and others who want to get involved in GreenLab as well as passive donations, are wanted. Fundraising is expected to be closed during 2022.

There are no obligations regarding the two draft proposals, and it is GreenLab Skive A/S' intention that the Foundation for GreenLab Innovation be established and take on the role of developer and be responsible for whether work is to be continued with one of the two draft proposals, or whether an actual architectural competition is conducted.

# **Tenants and income streams**

The goal is that the Foundation for GreenLab Innovation must be self-supporting, concerning the operation of the building. A large number of local, national, and international stakeholders have indicated their interest in participating in the center, and several have acknowledged this in Letters of Intent (LOI) or Frameworks For Action (FFA). The next step is to convert these into contracts and reservations of m<sup>2</sup>.

# Sources of income:

- >>> Office rental, incubation, and fly-in seats
- >>> Shared facilities (canteen, reception, meeting rooms)
- Showroom and business tourism (visitor service, etc.)
- >>> Sale of intellectual property rights in the long term
- >>> Events & courses

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