



**Lyse**parken

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# Population growth

Growth trend, and estimates next 20 years. The Municipality of Os.





# Lyseparken

Facilitating for future jobs





# **Concept** of Lyseparken

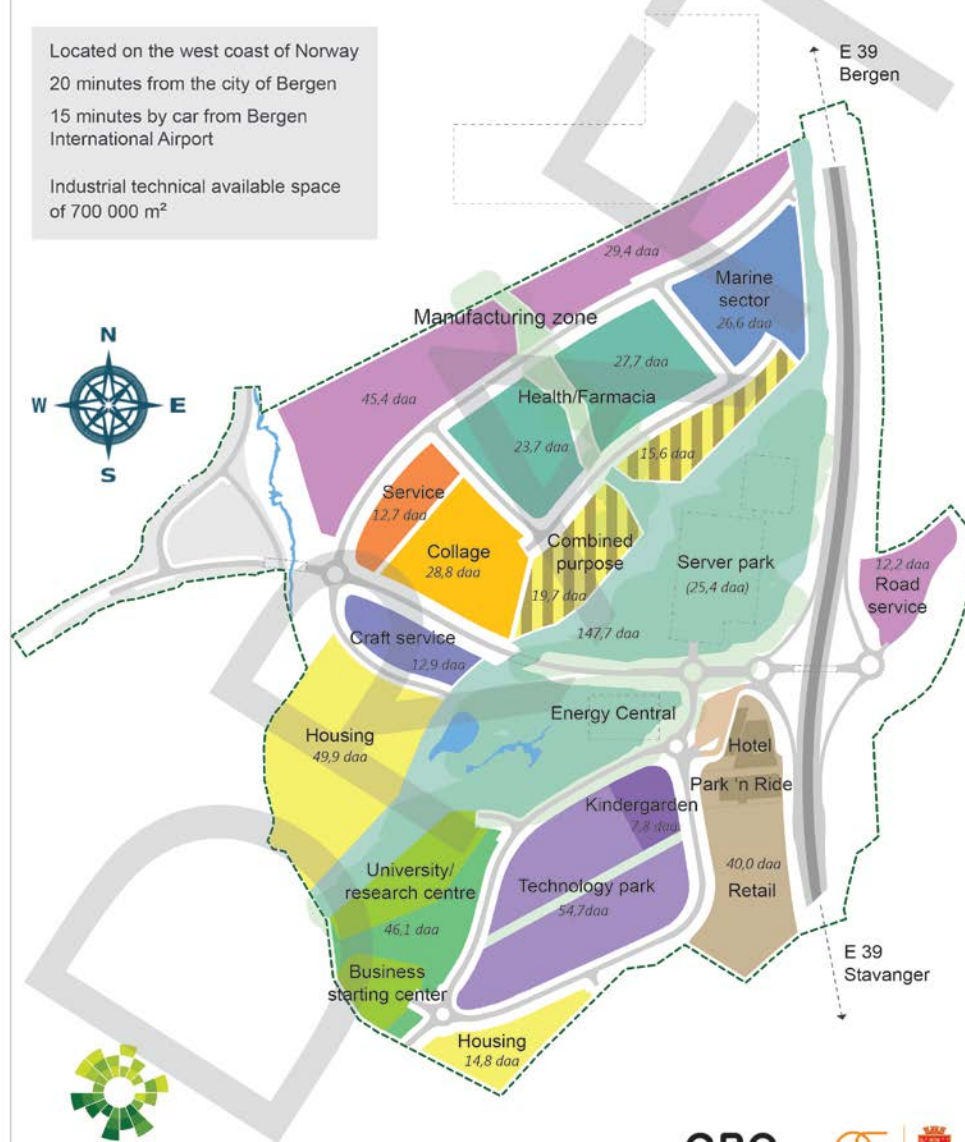


# Lyseparken, industrial cite & park

## MASTERPLAN

Located on the west coast of Norway  
20 minutes from the city of Bergen  
15 minutes by car from Bergen  
International Airport

Industrial technical available space  
of 700 000 m<sup>2</sup>



Lyseparken

**NBO**  
PLAN &  
ARKITEKTUR  
08.06.17



INSPIRERER



Lyseparken

# Where do we expect to see the **growth in Norway**?

We believe that the future growth industries in Norway, with the highest growth in number of jobs:

- Bio economy
- Renewable energy
- Health and welfare
- The oceans
- Smart society / Smart city
- Creative industry
- Tourism
- Hyper scale data centers

# Experience from **Silicon Valley**

- Relationships to universities and colleges
- Proximity to industry
- Attract highly trained people from all over the world
- Available land areas
- Steady and lasting support from the political landscape
- Be loyal to the chosen concept

Board member Victor Normann – Professor at NHH

Member of the Board Geir Anton Johansen - Professor and Dean – Høyskolen på Vestlandet



Illustration Lyseparken 2017



REYER & DRAGE

MIGRANT  
urban development

**QBO**  
PLAN &  
ARKITEKTER



Lyseparken



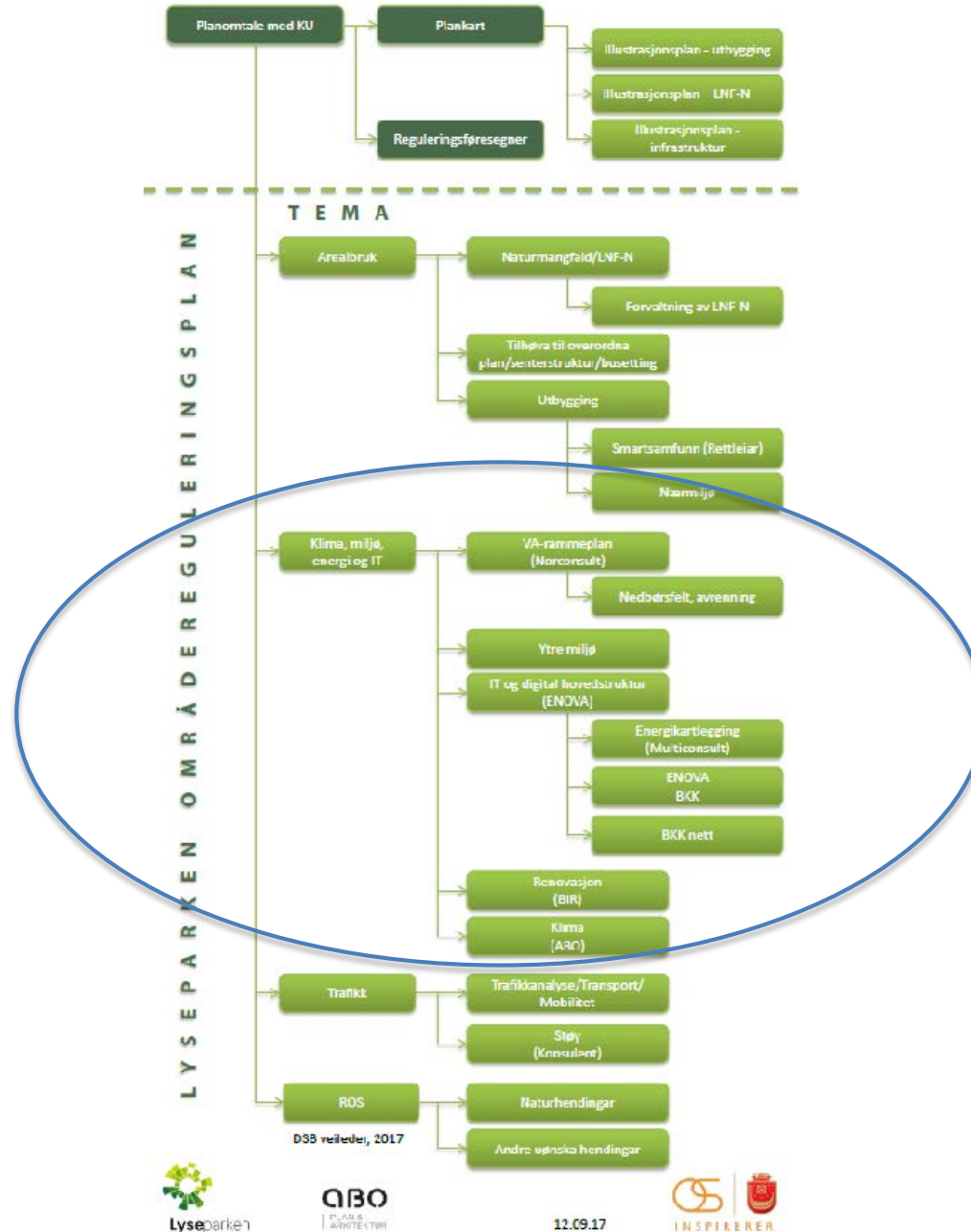


How do we **develop** Lyseparken?



# Ongoing processes

## Lyseparken DOKUMENTER



# In flirt with EU





# Subsidies from Enova

the project is lead by BKK



# Local energy resources

Knowledge, survey and identifying

RAPPORT

## Lyseparken næringsområde

OPPDRAAGSGIVER

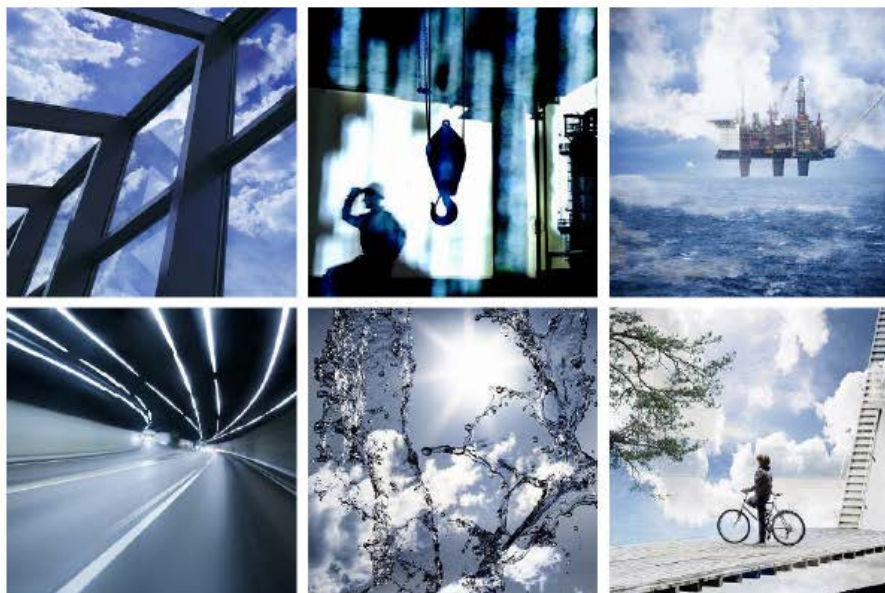
ABO Plan og Arkitektur

EMNE

Kartlegging av energiressurser

DATO / REVISJON: 24. mai 2017 / 00

DOKUMENTKODE: 617221-RIEn-RAP-001



Multiconsult

# Local energy resources

Knowledge, survey and identifying

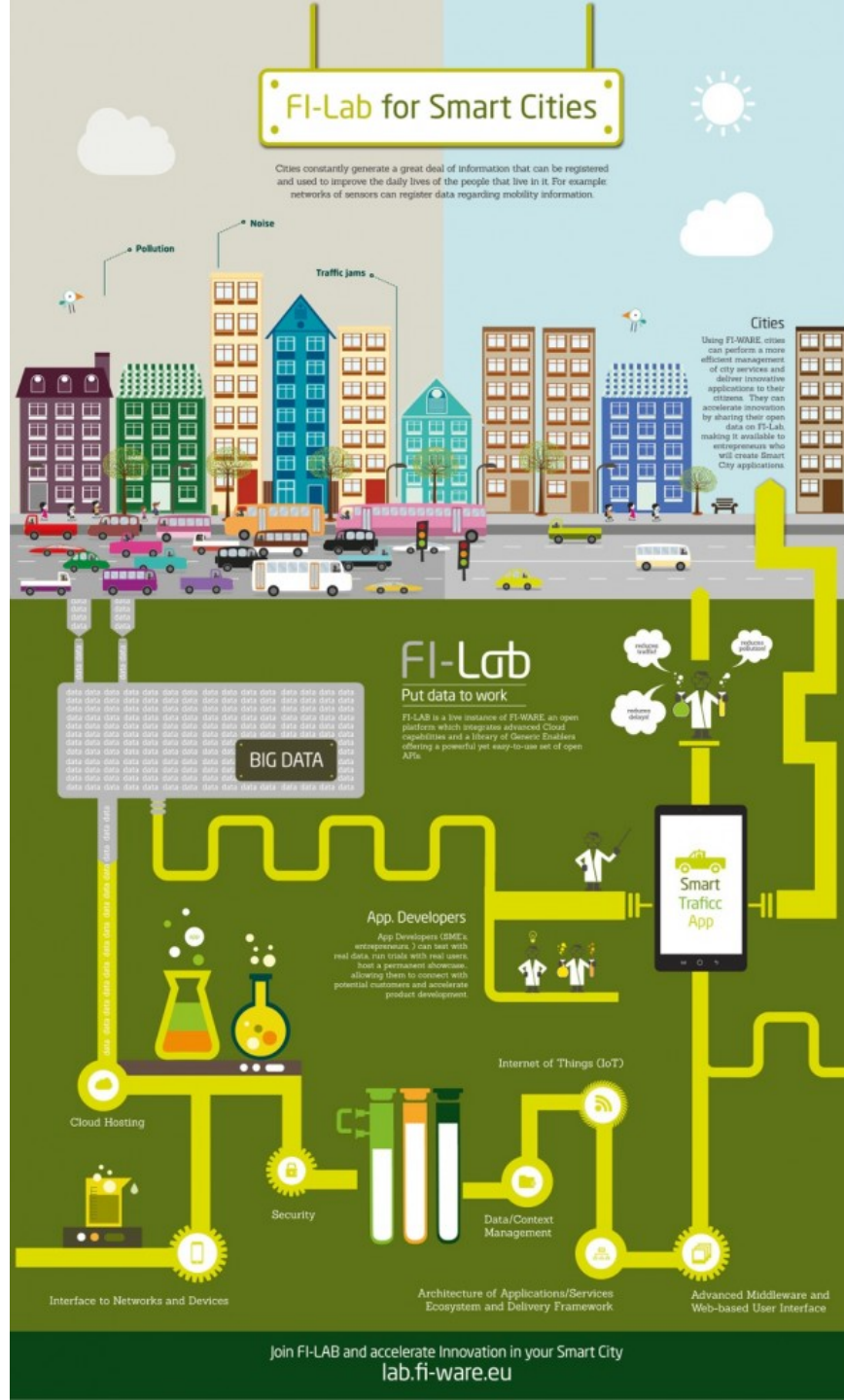
## Results

- Evaluations show relatively **good solar energy resources** in the business sector. Both solar cells and solar collectors can be utilized.
- Due to moderate wind resources, the potential for utilizing **wind energy** in the industrial park is considered **limited**.
- Of thermal energy resources, both **outdoor air, Vindalsvatnet** (a lake) **and thermal resources in the ground** are considered potentially **good solutions**. The conditions in Lyseparken enable the creation of a geothermal energy system for heating and cooling with a lower / middle level effect compared to what is normally measured in Norway.
- The utilization of **Vindalsvatnet** as an energy resource appears to be the most interesting solution. Calculations on water volume, temperature, water supply and evaporation show that Vindalsvatnet can cover the entire heating and cooling needs of a buildingmass corresponding to **600,000 m<sup>2</sup> of office buildings**.



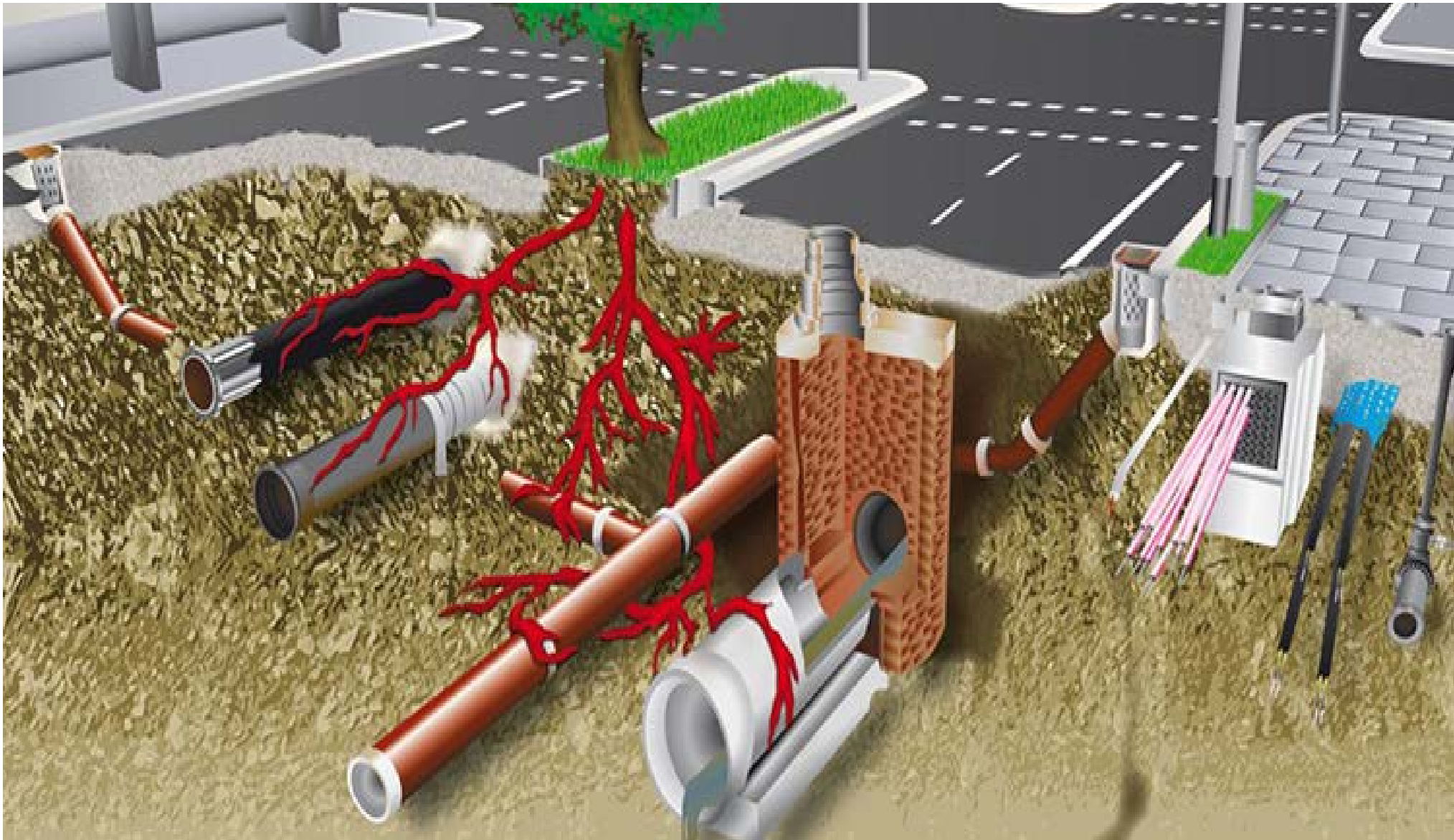
# Up-Side-Down City

Lyseparken

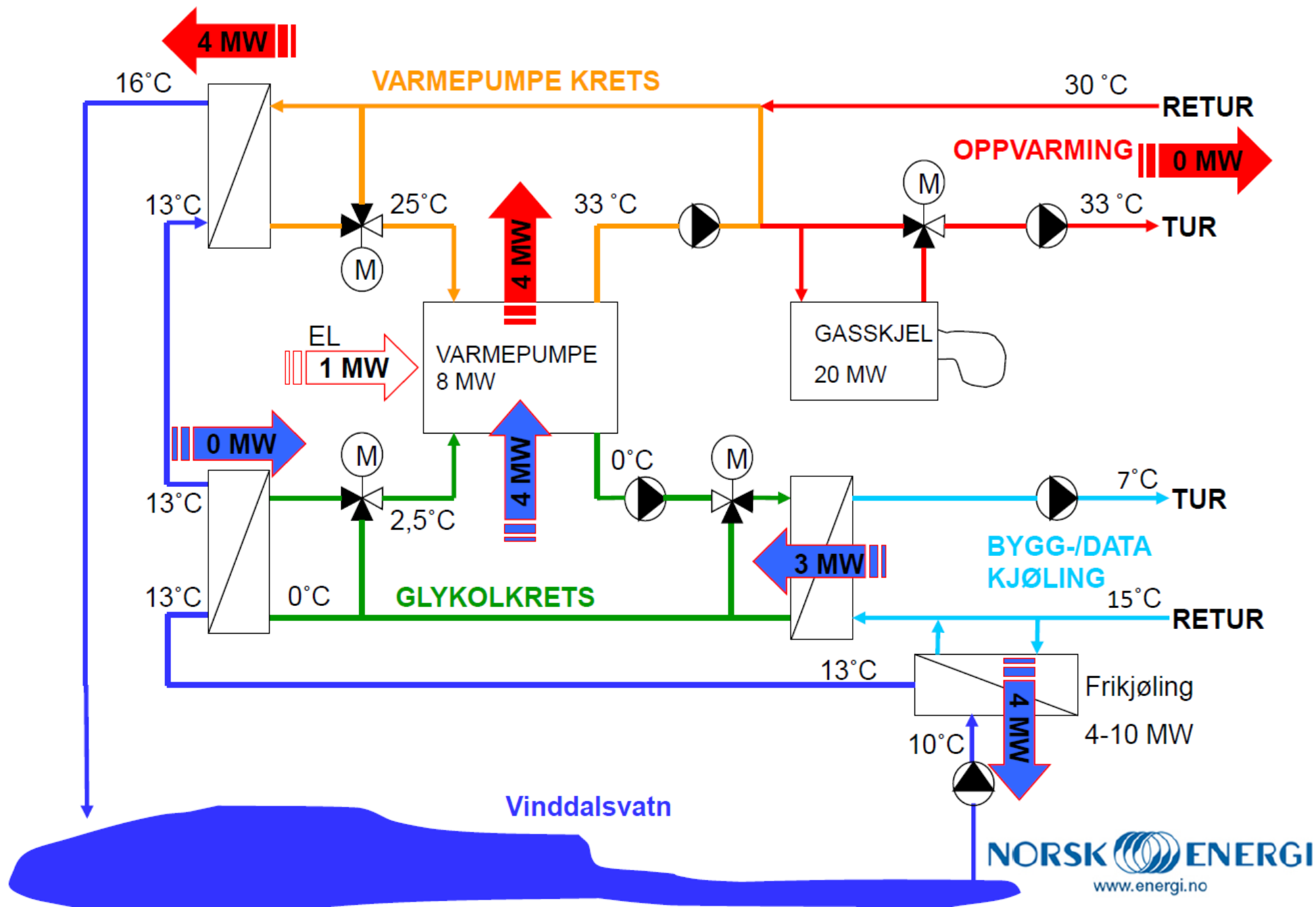


# Planning of all Pipeline Infrastructure in the underground

Coordinated and well planned in relation to what to be built



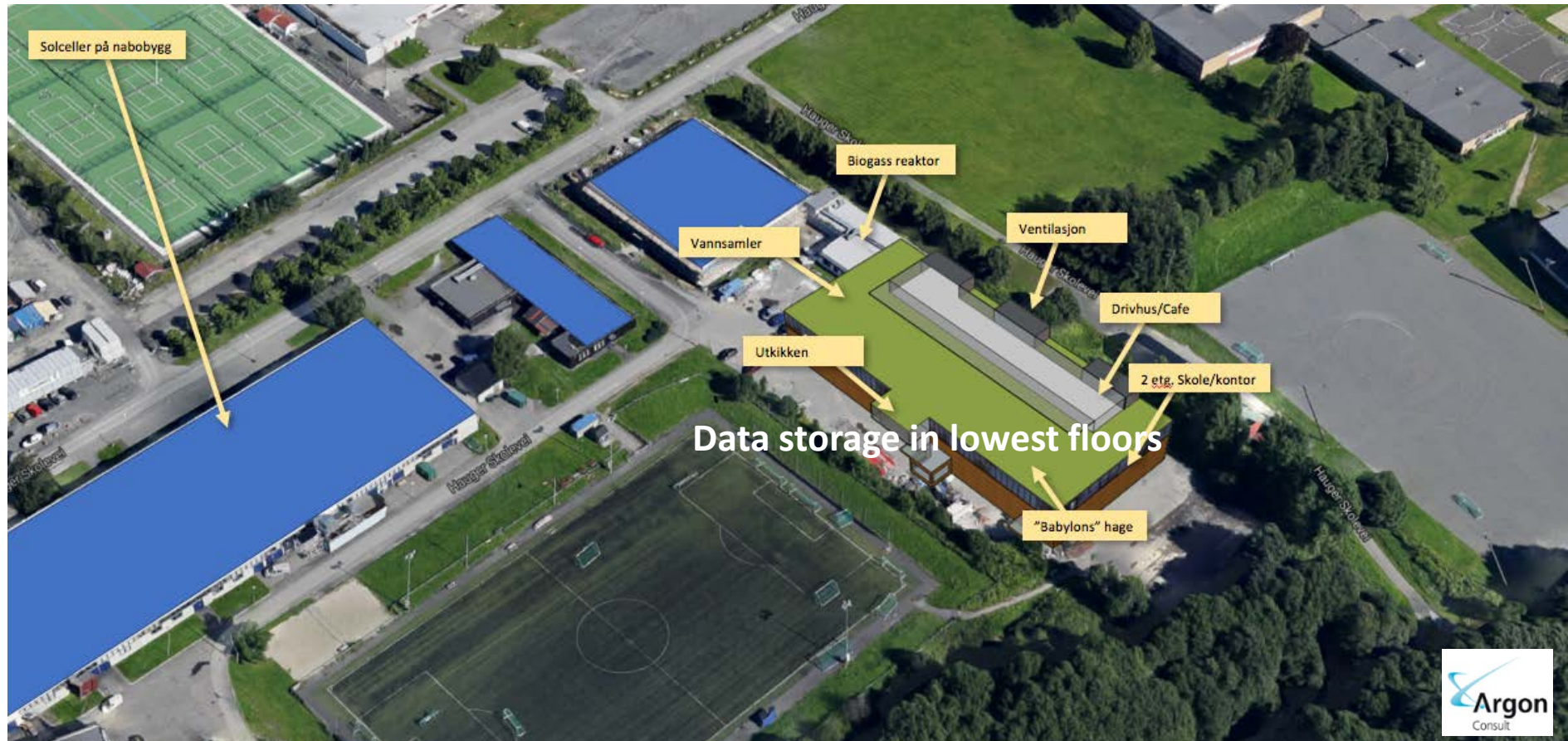
## Summer operations – an example





# Data storage as part of value chain for energy

and integrated collaboration for building optimization





# Lyseparken – location, co-location and building optimization





# **Ambitions** for Lyseparken



# Ambitions of Lyseparken??

- To become a lighthouse for innovations in Norway
- To become energy self-sufficient
- To become a "Smart-City"
- To build a strong brand
- To develop USPs that increase value and attractiveness
- To attract future jobs
- To be attractive to different industry clusters
- To attract national and international businesses



## What does Lyseparken need?

- Knowledge of own energy resources and how these can be utilized / optimized
- Knowledge of future energy solutions
- Access to new technology
- Increased knowledge of "Smart-City" Lighthouse / strategic partners
- Increased knowledge of what future businesses and home buyers needs
- Partners that commercially can operate / own selected solutions
- Achieve its goals

# What can partners get out of the cooperation?

- Possibility to influence the development of an ambitious pilot project
- Take an important position / positioning work
- Marketing and reference value
- Ability to test new technology Increase the skills of business opportunities within the "Smart-City" / Green shift
- Possibility to collaborate with Lyseparken's other partners
- Ability to acquire a new “business leg to stand on”
- ... and, in particular: test commercialization / development of new business models in connection with the green shift