Financing Powerfuels Pathways - 9th Sept 2020

Greenlab A/S, Skive, Denmark

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2020

Green industrial park

- A green approach to the industrial business park
- Everything runs on 100% sustainable energy – generated and stored on site
- Companies share their surplus energy through the SymbiosisNet

National research facility

- Testbed for academics who turn theory into practice

Technology enabler

- Market creator for tech- and energy companies looking to explore and capitalise on P2X technologies.

GENERATE

We generate sustainable energy for our partners

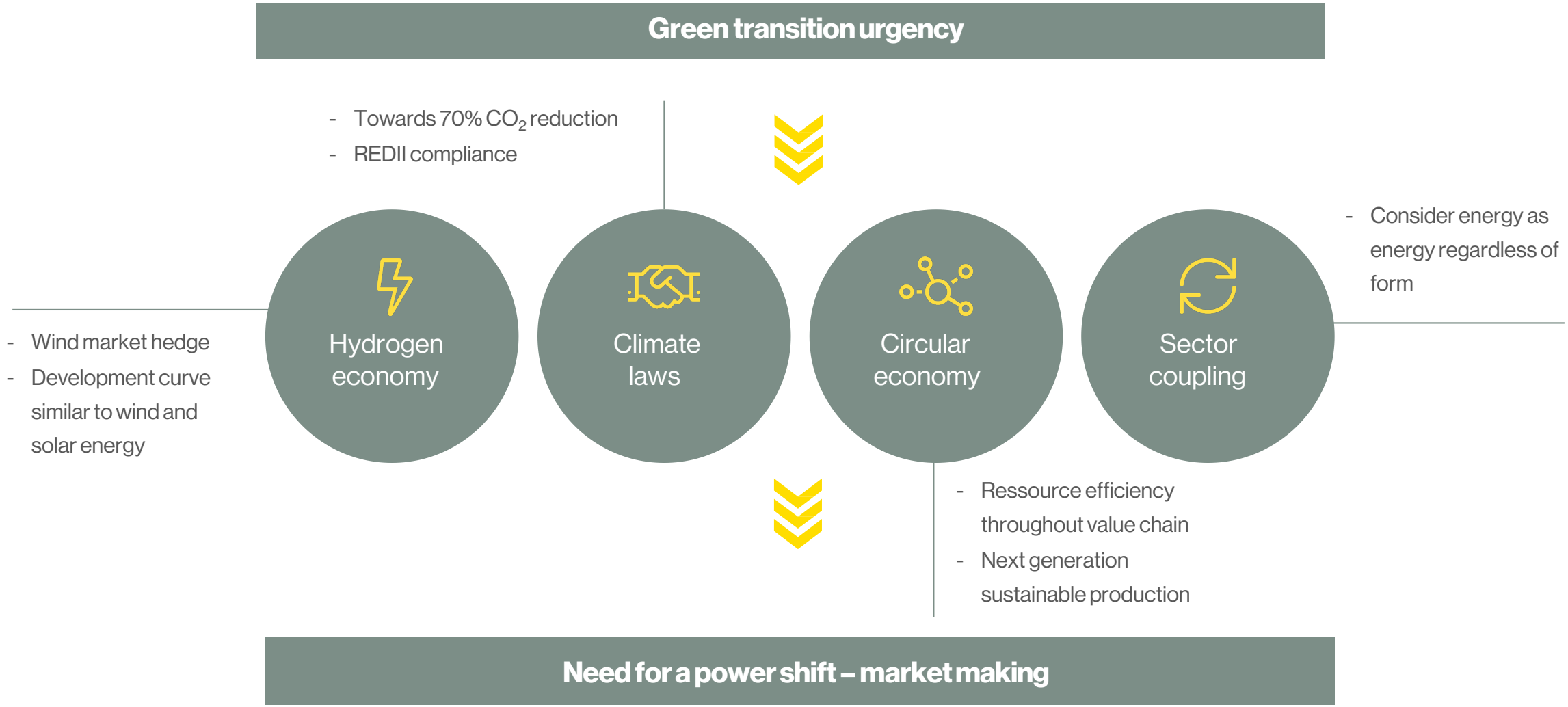
STORE

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

SHARE

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

Key market drivers and mega trends

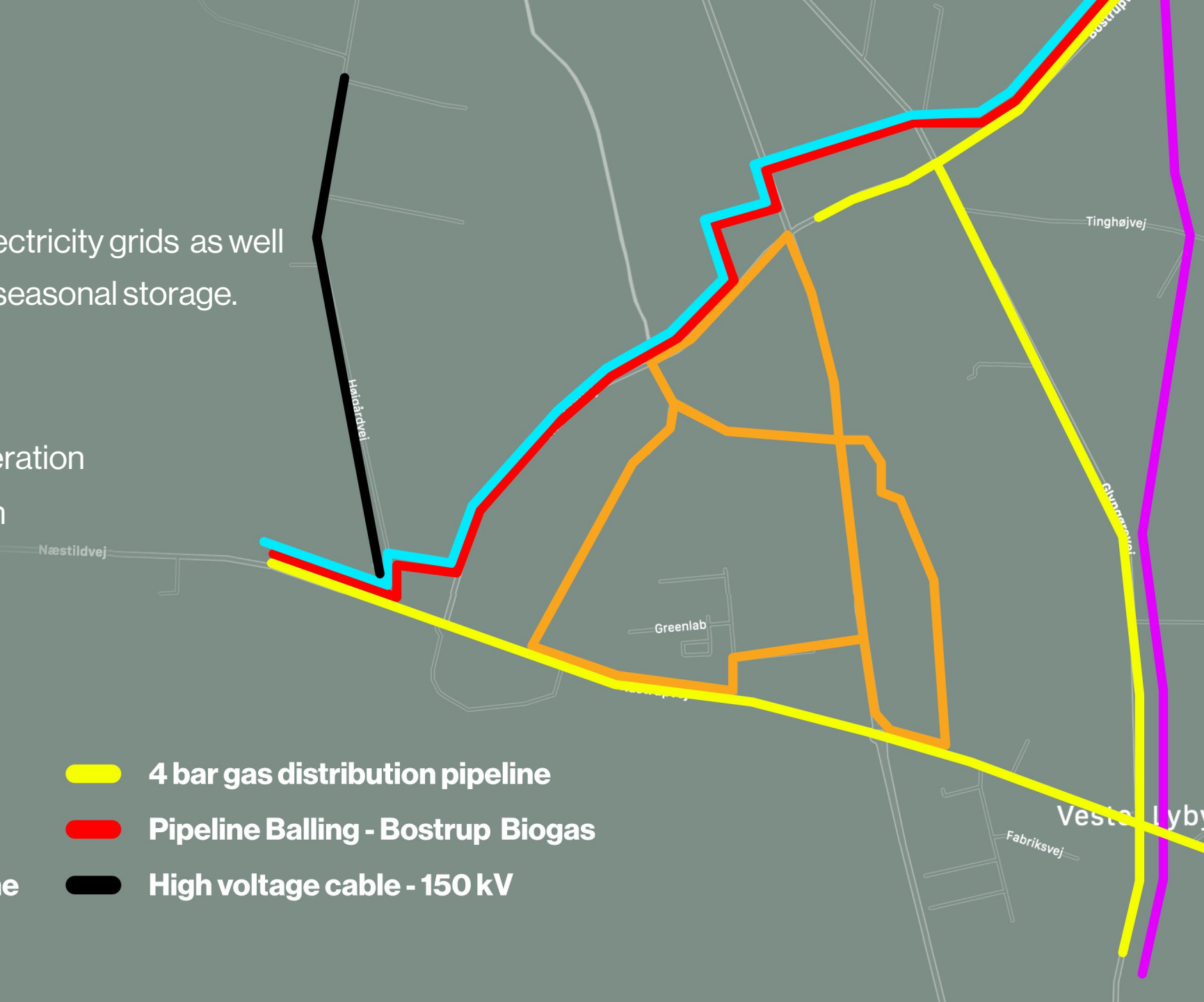


Unique location

We are close to national gas and electricity grids as well as Batum Salt Cavern for potential seasonal storage.

Available on site

- Hydrogen and Methanol generation
- High and Low Pressure steam
- Water Loop



GreenLab areas

District heating pipeline

40 bar gas distribution pipeline

4 bar gas distribution pipeline

Pipeline Balling - Bostrup Biogas

High voltage cable - 150 kV

Virtual site tour 60 HA.

Virtual site tour 60 HA.

Origin and ownership structure
a truly collaborative public-private-partnership

2008

Skive appointed "Energy city"
Establishment of EnergiByen Skive

2010

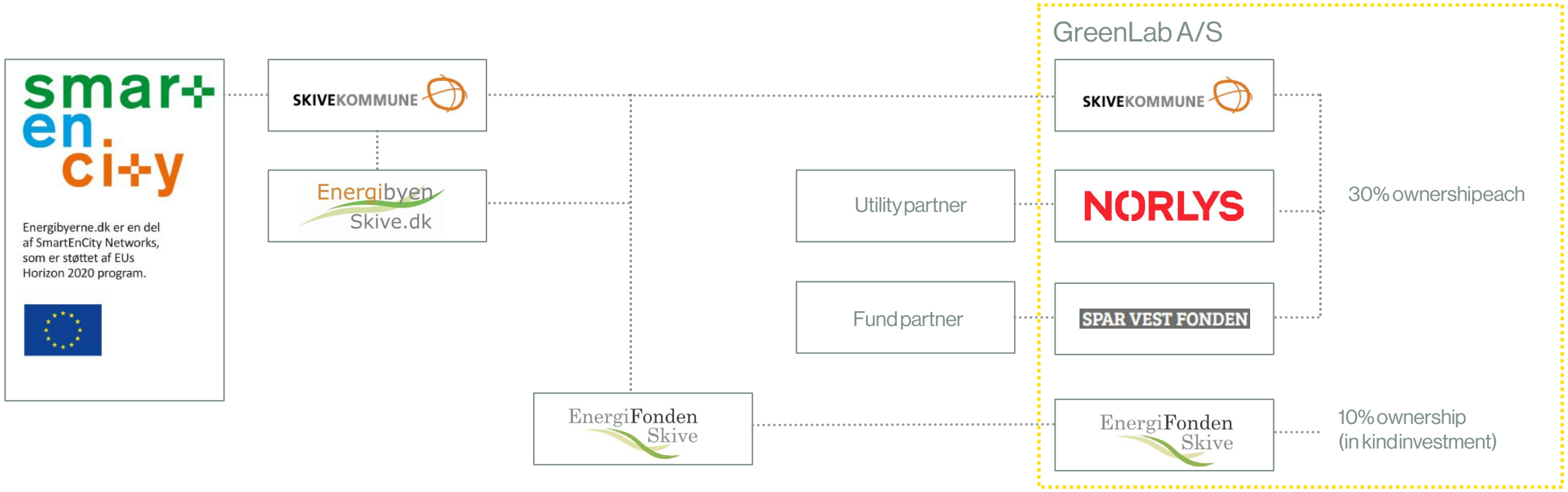
Energifonden Skive established to support regional growth

2015

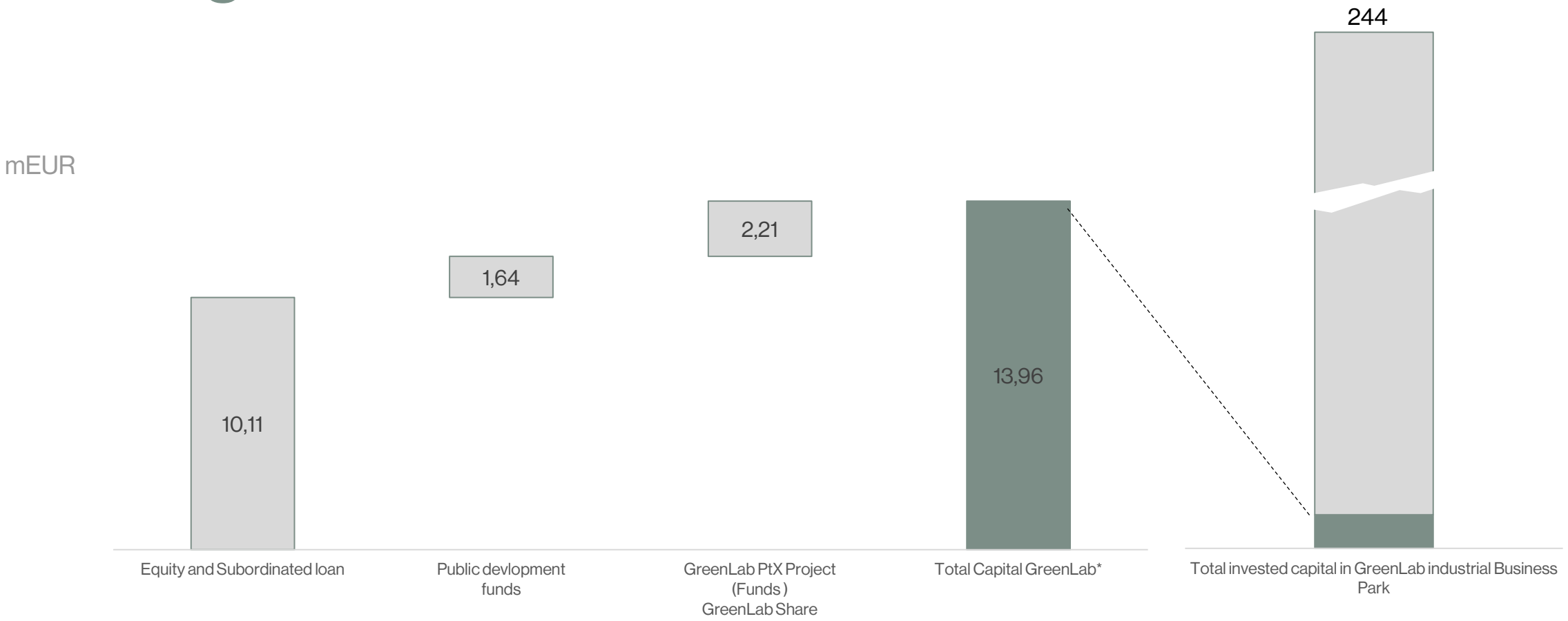
Development project GreenLab Skive masterplan

2019

Capitalization of GreenLab A/S



Funding sources



The total impact of GreenLab as a regional development initiative is currently estimated at 244mEUR (excl. inv. in “GreenLab Skive PtX”

Industrial park investors

GREENLAB skive Biogas	QUANTAFUEL	Danish Marine Protein Green Bio Value	GREENLAB skive Vind	nomi 4s RESSOURCE·CENTER
GreenLab Skive Biogas Holdingselskab A/S Local private investors GREENLAB skive Biogas Leverandørselskab 50 local farmers e·on	Quantafuel AS (Norway) Local private investors KIRKBI BASF We create chemistry DANMARKS GRØNNE INVESTERINGSFOND	Local farmers Vestjyllands Andel	EnergiFonden Skive EUROWIND ENERGY A/S	SKIVEKOMMUNE Lemvig Kommune STRUER KOMMUNE HOLSTEBRO KOMMUNE
40m EUR	67mEUR	10m EUR	120mEUR	7mEUR

The GreenLab Business Domains

1. **Industrial Park**
   600,000m2 green industrial zone with 80MW "behind the meter" energy

2. **SymbiosisNet™**
   Unique heat, power and gas network for exchange of surplus energy

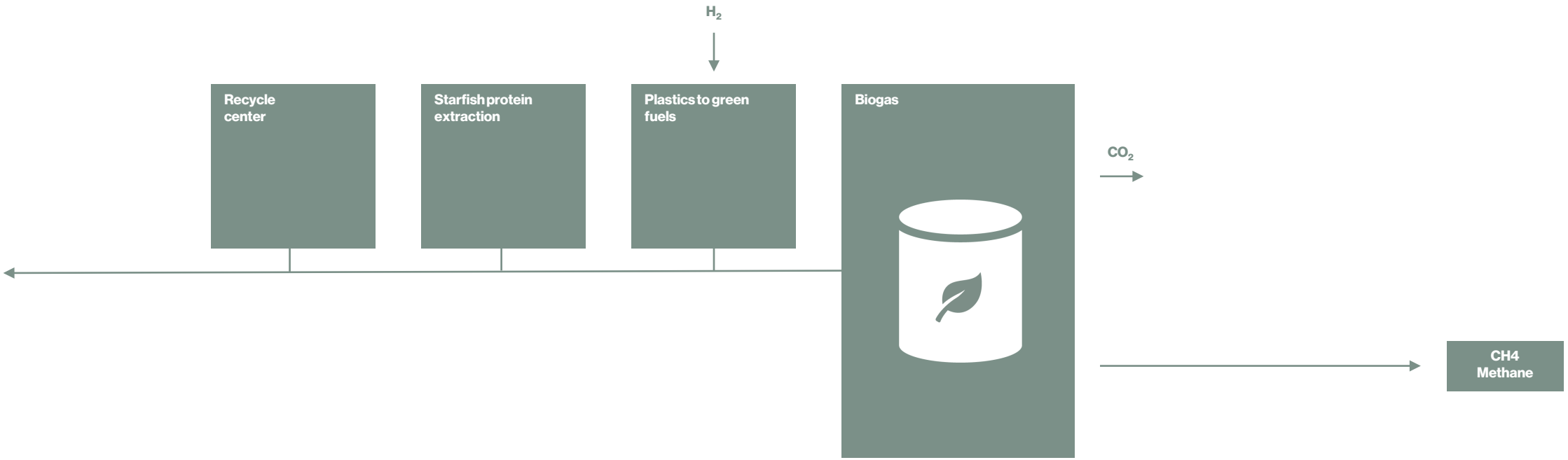
3. **Knowledge Center**
   Creating and delivering new competencies and know-how

4. **BioValue**
   Expanding the value of biomass through linked extraction and energy systems

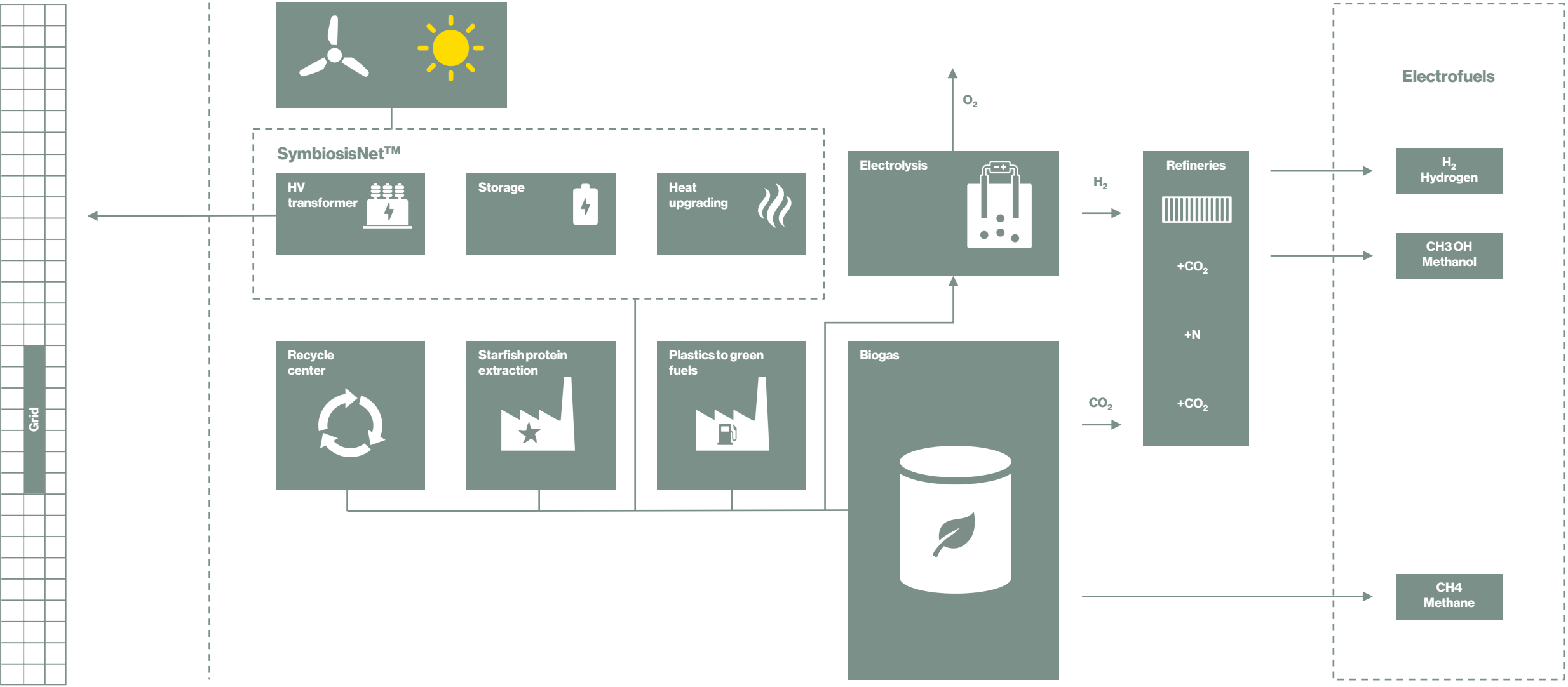
5. **P2X**
   Scale-up of green fuels production for transport, agriculture, industry and storage

6. **MECO**
   Multiple Energy Carrier Optimization software ensures the most value for the least cost from "prognoses to product"

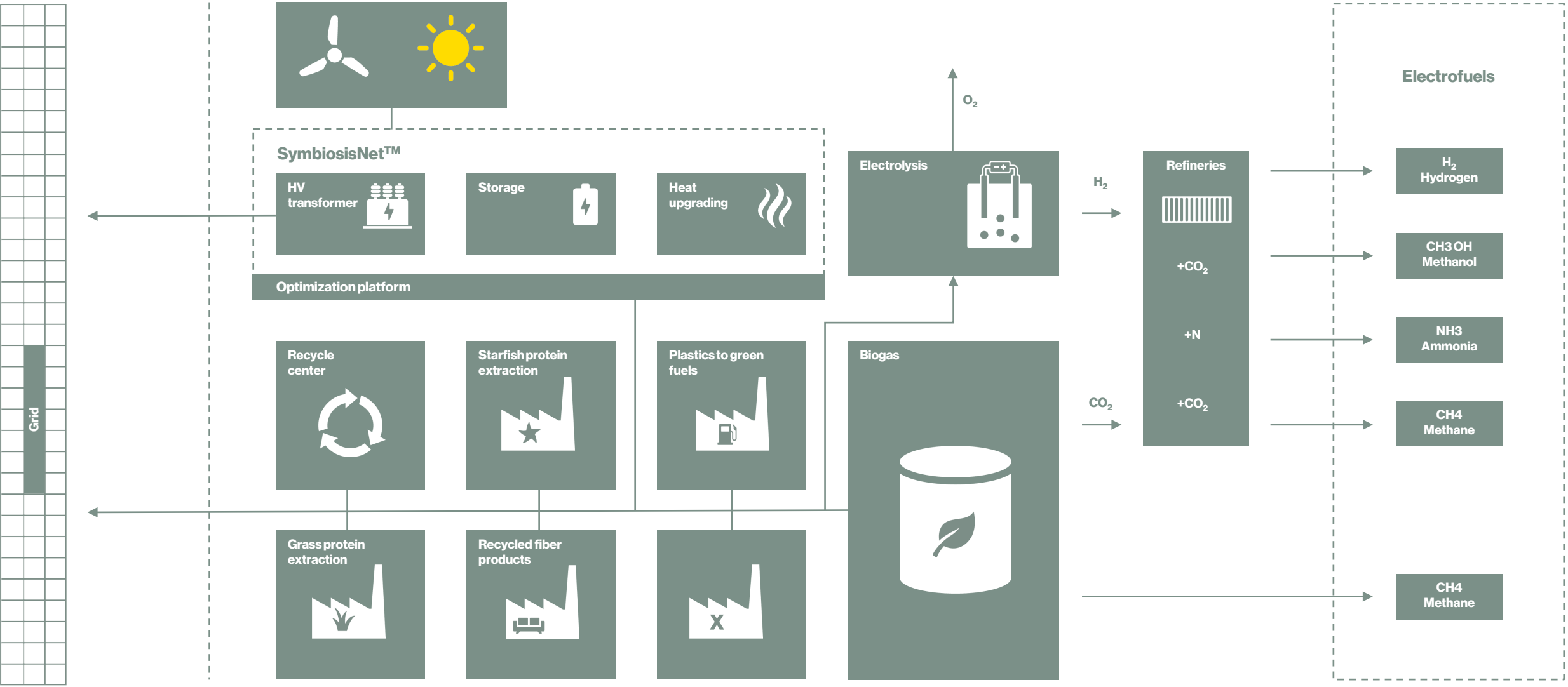
Current operations 2020



P2X production 2022



Optimization, industrial scale-up and eletrofuels



Why the GreenLab platform accelerates investment in Powerfuels

Reducing investment uncertainty

- Reduced ”time to market” by offering ”Facility as a Service”
  - Plug and Play Business concept
  - System integration
  - Streamlined processes for obtaining permits and approvals
- Fixed or spot price renewable energy from direct connected 80 MW combined solar PV and onshore wind and from PPA via grid

GreenLab

Why the GreenLab platform accelerates investment in Powerfuels

Ensuring commercial viability

- Lower cost of electricity achieved by
  - pooling electricity demand (expected >400MW connected load)
  - offering auxilliary services (balance services) to the grid
- High load factor on the capital asset by
  - ensuring higher temporal correlation between electricity production from renewable sources and its timely consumption in the electrolyser by adding energy conversion and storage

GreenLab

THANK YOU
GreenLab