



# VINGE NORTH

FUTURE LIVING NOW

KUBEN MANAGEMENT, GREEN ISLAND & EFFEKT

# WHERE AND HOW WILL OUR CHILDREN LIVE?

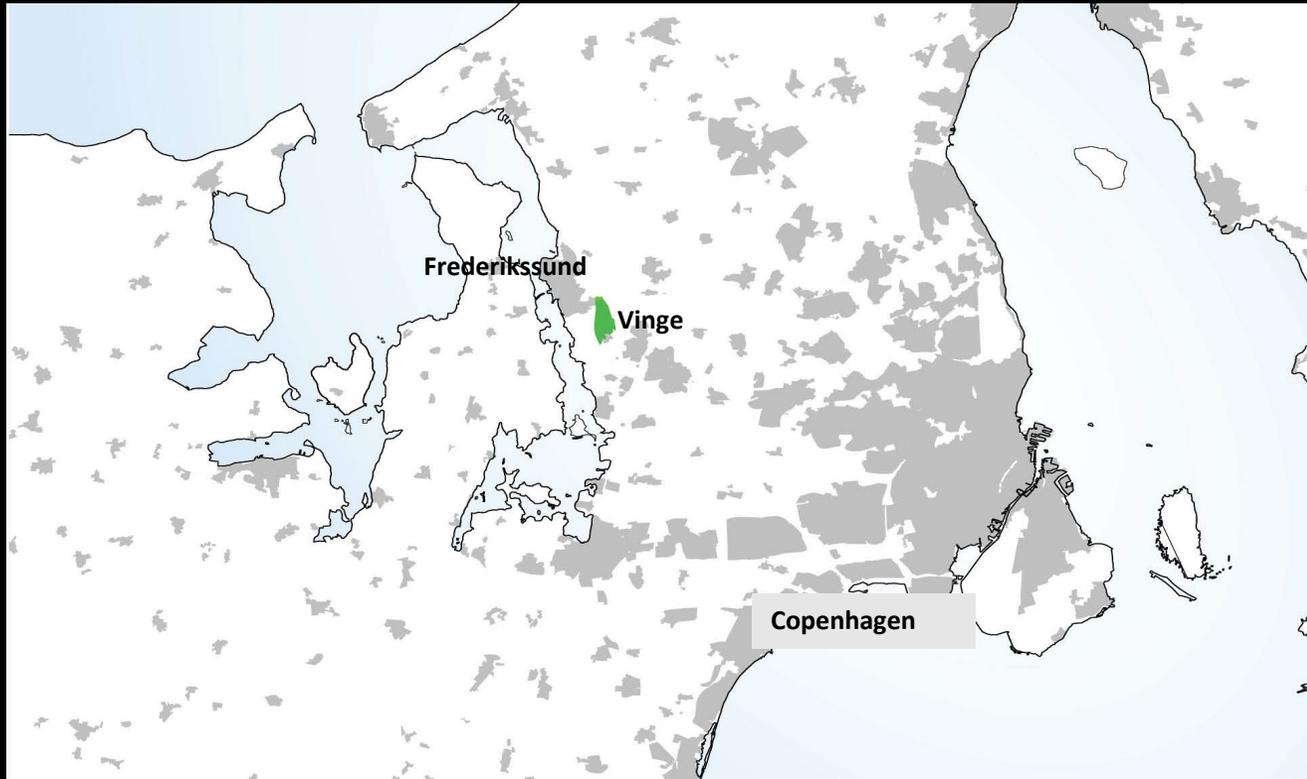
Many of us have moved away from smaller communities to overpopulated, expensive and increasingly lonely big cities. The demand for a future secure and comfortable living is growing exponentially.



-  Globally, and indeed in the Greater Copenhagen area, not enough housing is being developed to meet demand.
-  We (UN) have decided for a sustainable future, first wave of green transition was subsidized, now the need is economically viable solutions.
-  New housing developments are increasingly marketed on sustainable values. We want to deliver future secure living.

# ALIGNING INTERESTS

Developing sustainable housing projects often flounder in a landscape of opposing interests.



Frederikssund County has spent MDKK 387 since 2009 creating a visionary master plan for a new city – **Vinge**

- December 2017 a Danish Pension Fund withdrew from developing the central area of Vinge, because the county failed to execute on their visionary plans (Helhedsplanen).



- A city development vehicle like Byudviklingsselskabet Vinge Nord can align interest and succeed.

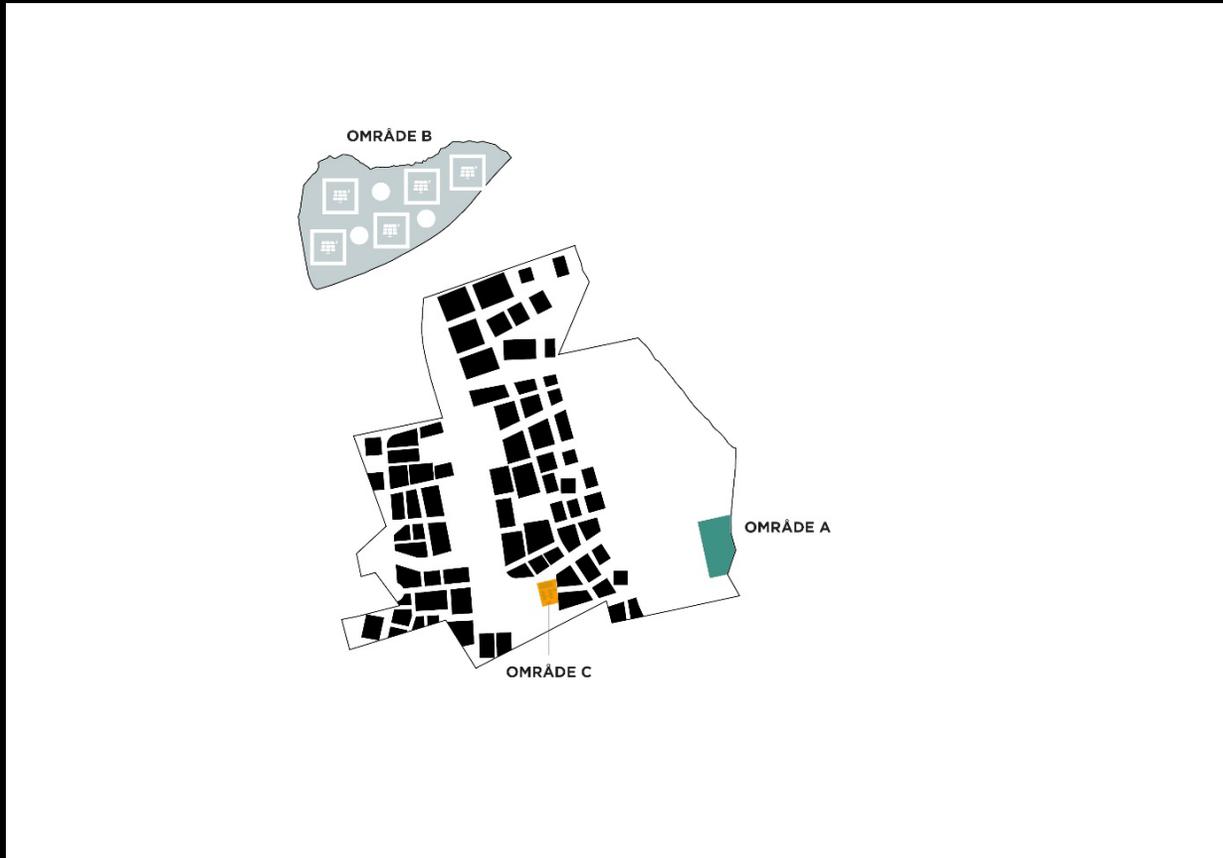




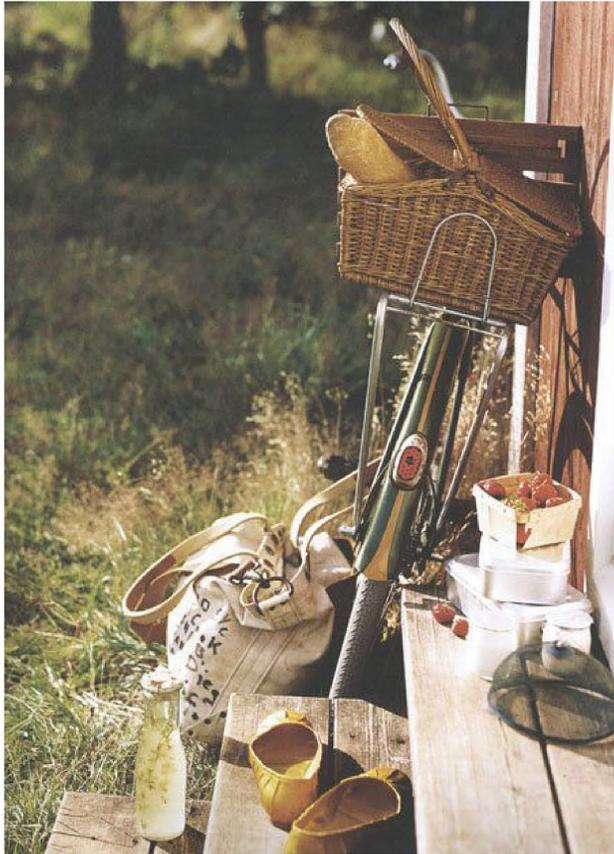
WHERE IS VINGE NORTH

# VINGE NORD DEVELOPMENT DELIVERS

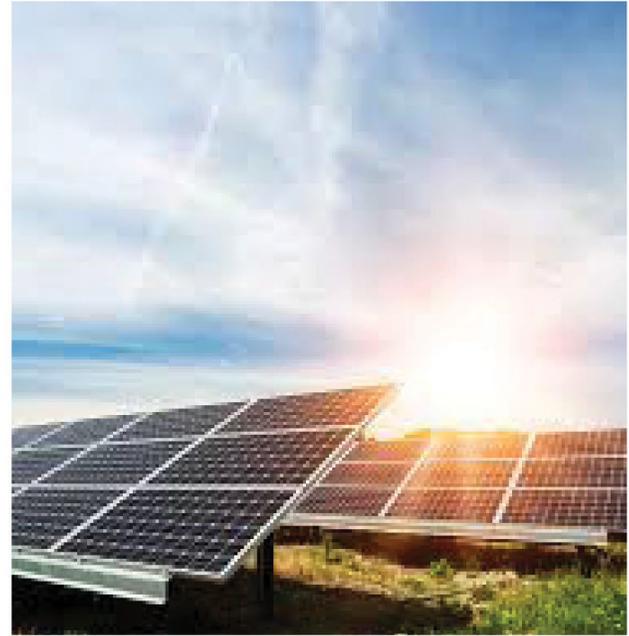
Building right opportunities at very competitive rates



-  We deliver a carbon free utility and infrastructure solution, that meets 9 out of 16 UN sustainable development goals. (6,7,8,9,11,12,13,15,16)
-  We build a city that will meet all future expectations for the good life. A city that is nestled in nature, living with nature and not of it.
-  Vinge Nord will be a community where continuous development is secured, through community ownership of commons and utilities.

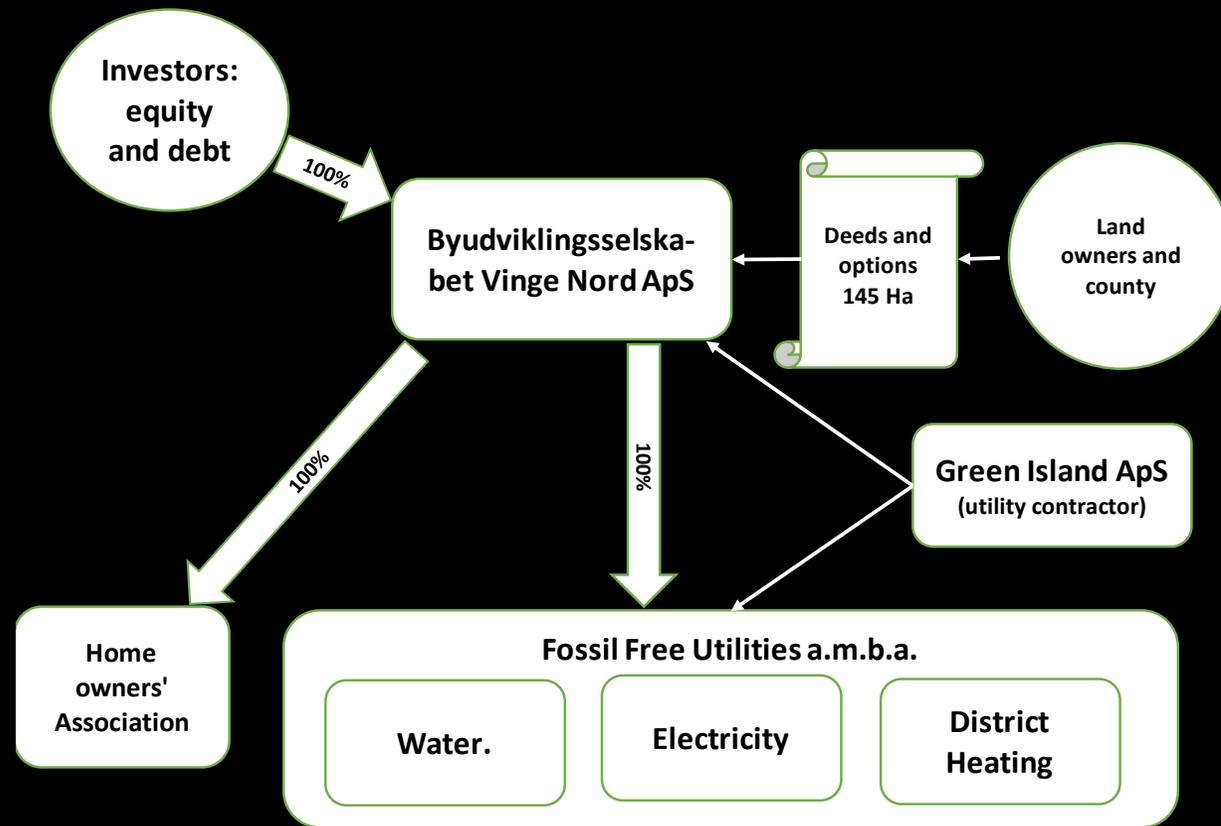


- We create value by eliminating risks for developers and end-users.
- We deliver the fabric for a modern and future secure city, that is so much in demand.
- We will steward the city planning process



# BYUDVIKLINGSSSELSKABET VINGE NORD APS

Organization in development and construction phase

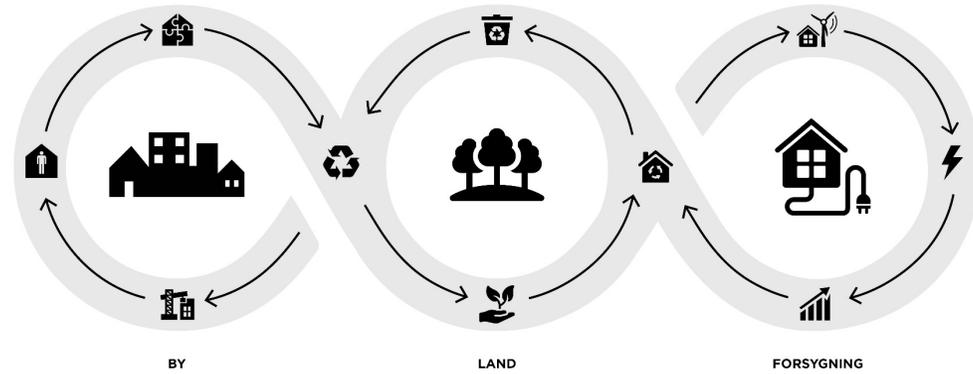


At present Byudviklingsselskabet Vinge Nord ApS has:

- Achieved a committed time plan for approvals from the county of Frederikssund.
- Signed options to buy the necessary land, the options are conditioned on the planning permission and other authorities permissions are obtained.
- Q4 2018 building rights will be brought to market.



**instead of traditional seperated sector planning**



**Vinge north is a new visionary model where city, landscape,  
and utilities are integrated and create synergies between  
each other**

VINGE

MASTER PLAN

THE MUNICIPALITY OF FREDERIKSSUND

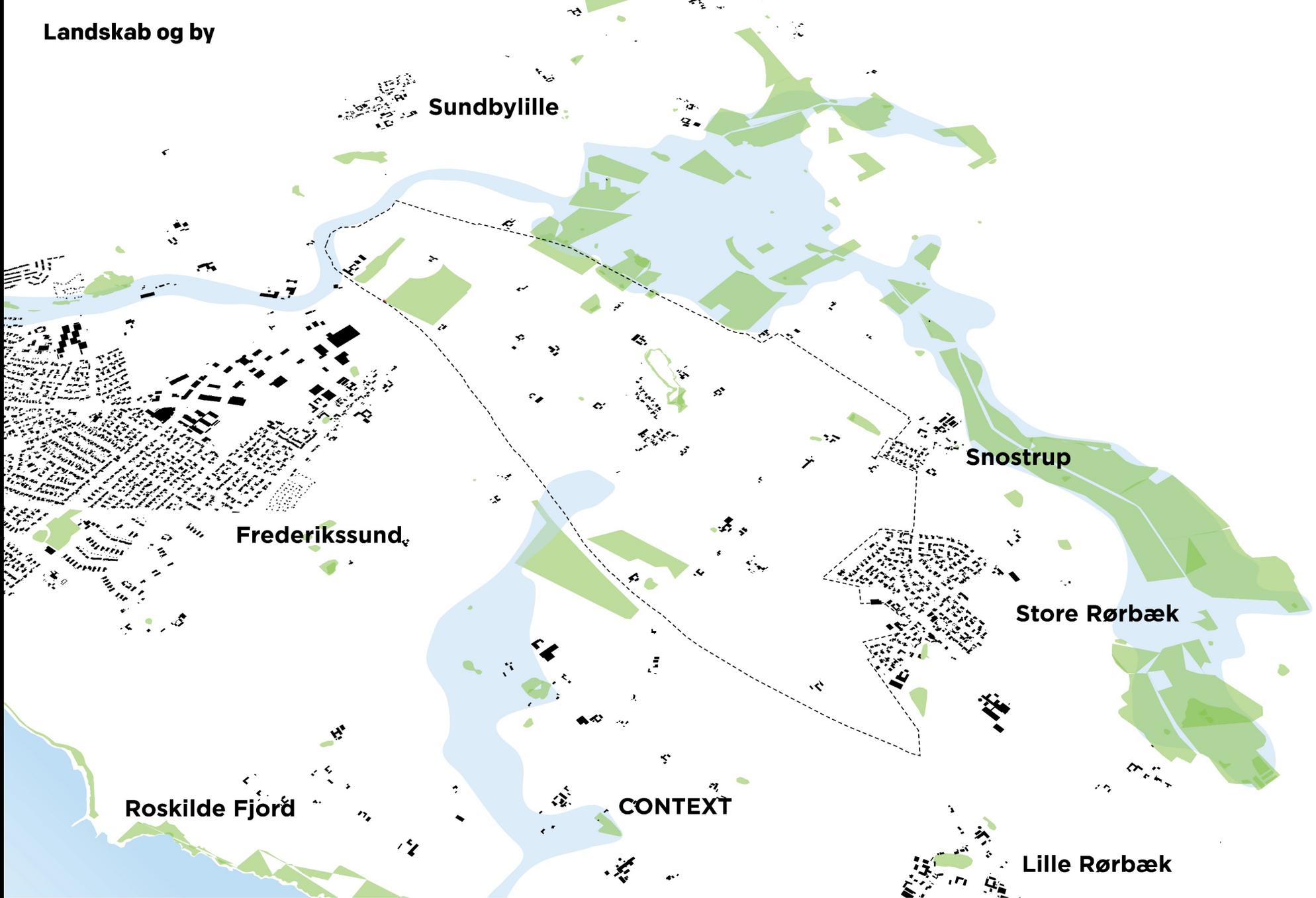


Placering



CONTEXT

**Landskab og by**



**Sundbylille**

**Frederikssund**

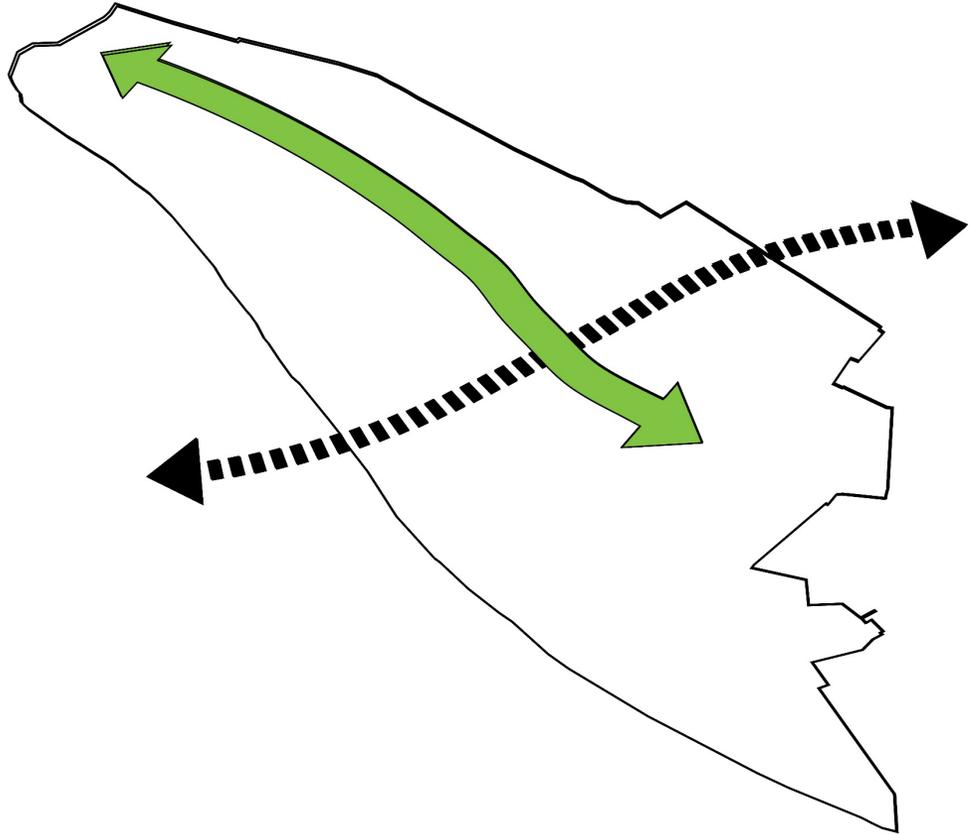
**Roskilde Fjord**

**CONTEXT**

**Snostrup**

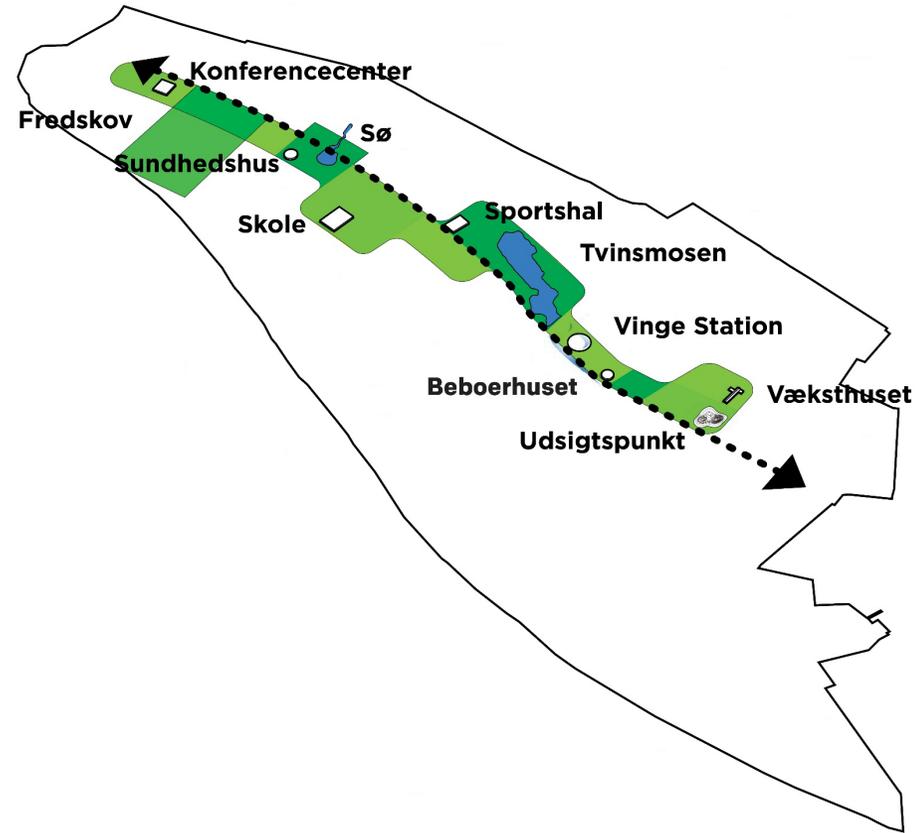
**Store Rørbæk**

**Lille Rørbæk**

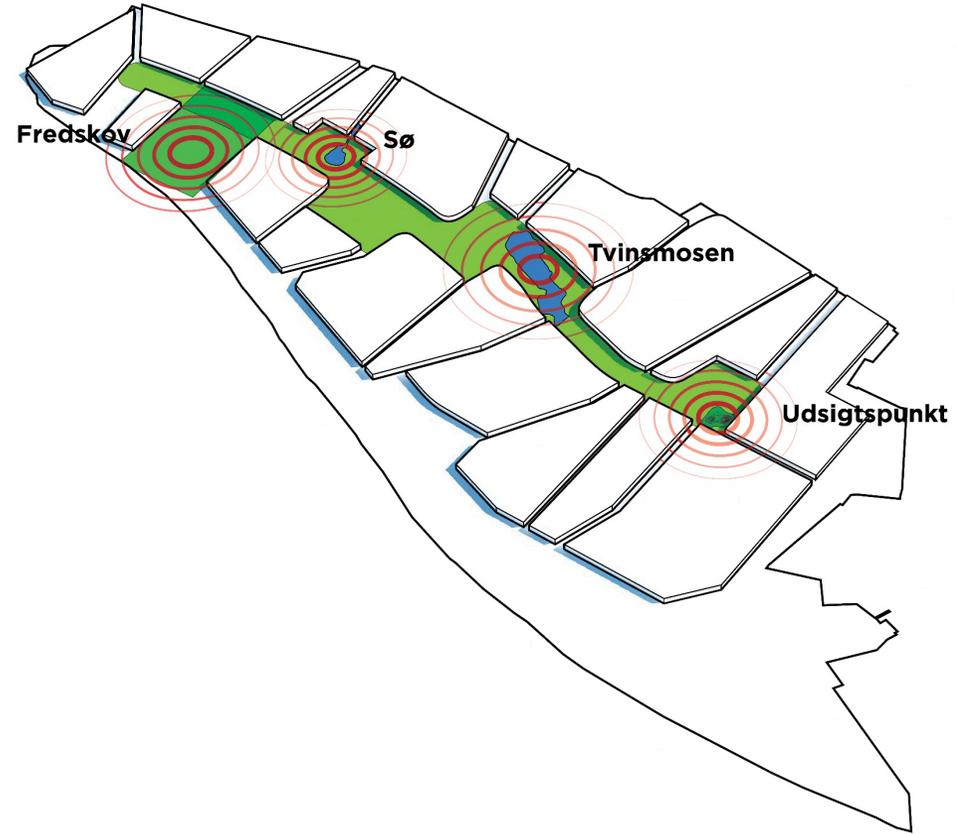


**VISION**

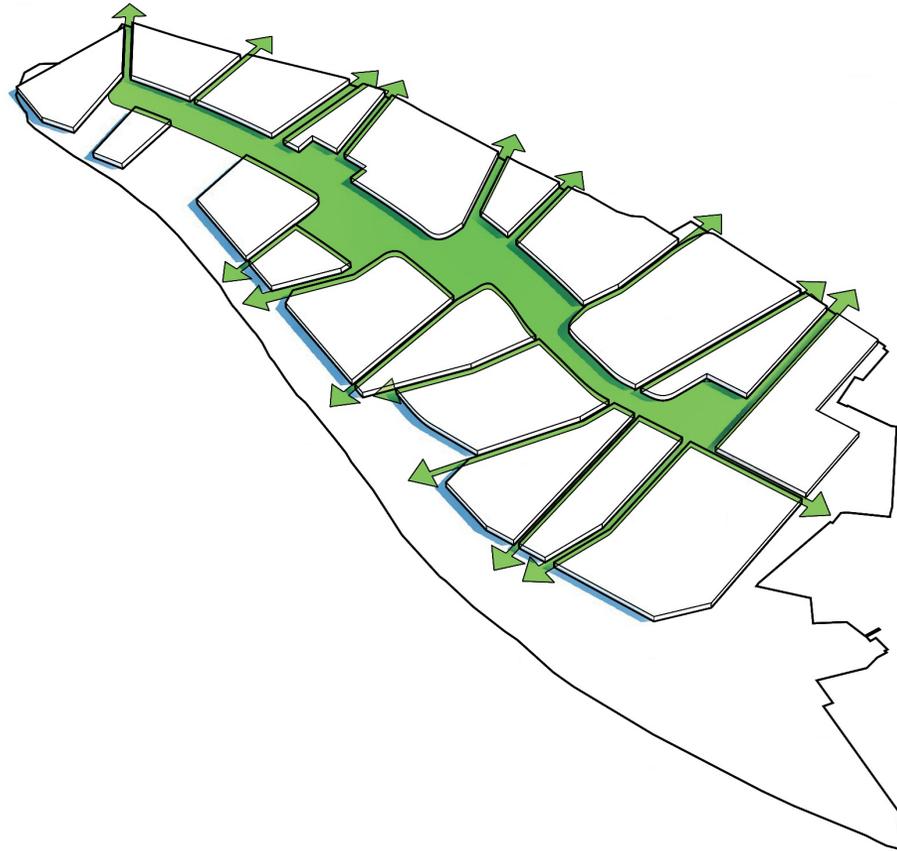
CITY AND LANDSCAPE INTEGRATION



**THE GREEN HEART**



**GREEN CITY CENTERS**



**GREEN CORRIDORS**



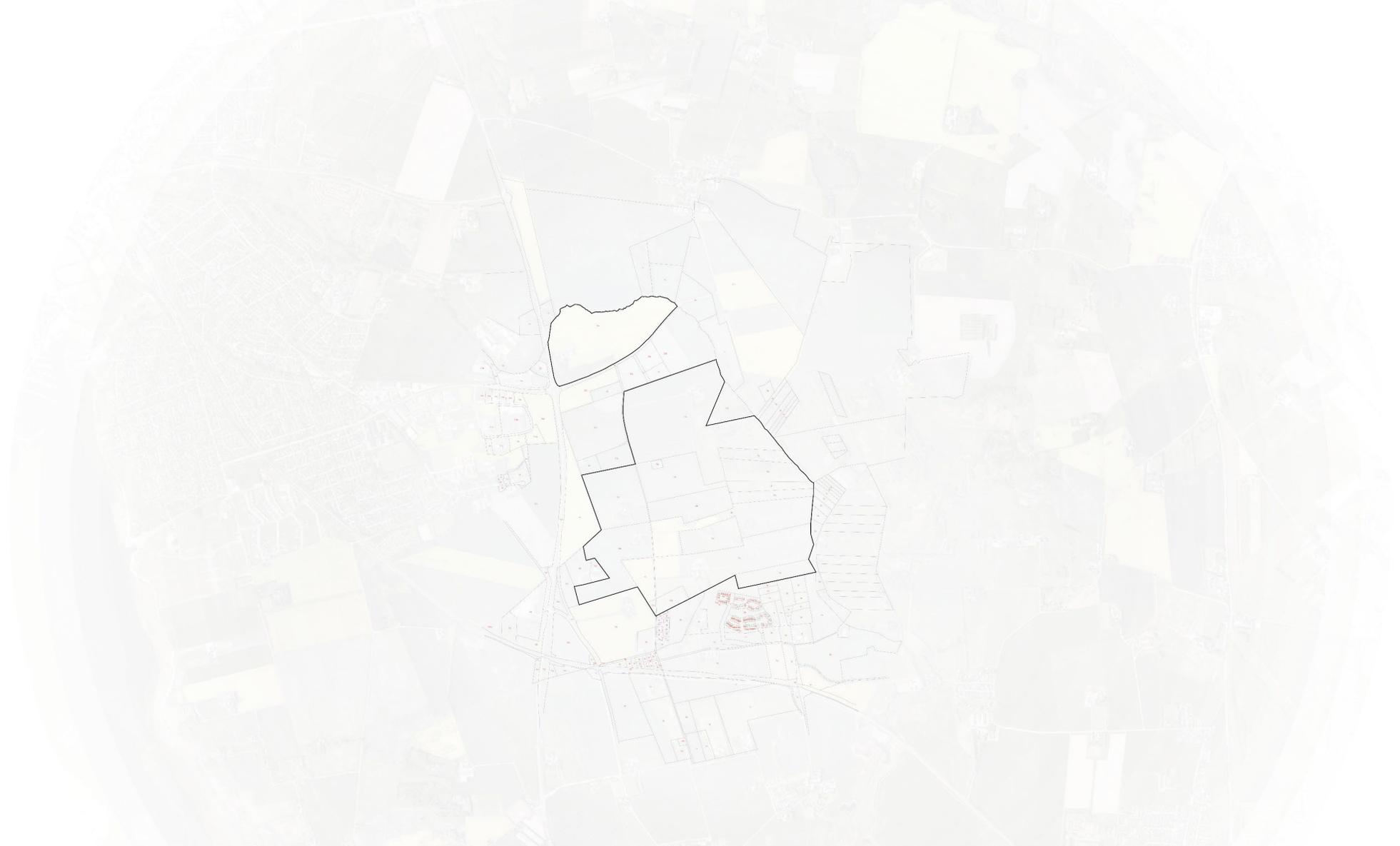
**HOUSING DEVELOPMENTS**



**VINGE MASTER PLAN**

VINGE NORD

THE FIRST CARBON FREE MODERN DEVELOPMENT



**VINGE NORTH ADDS ON TO THE MANY GOOD IDEAS OF THE MUNICIPALITY MASTERPLAN**

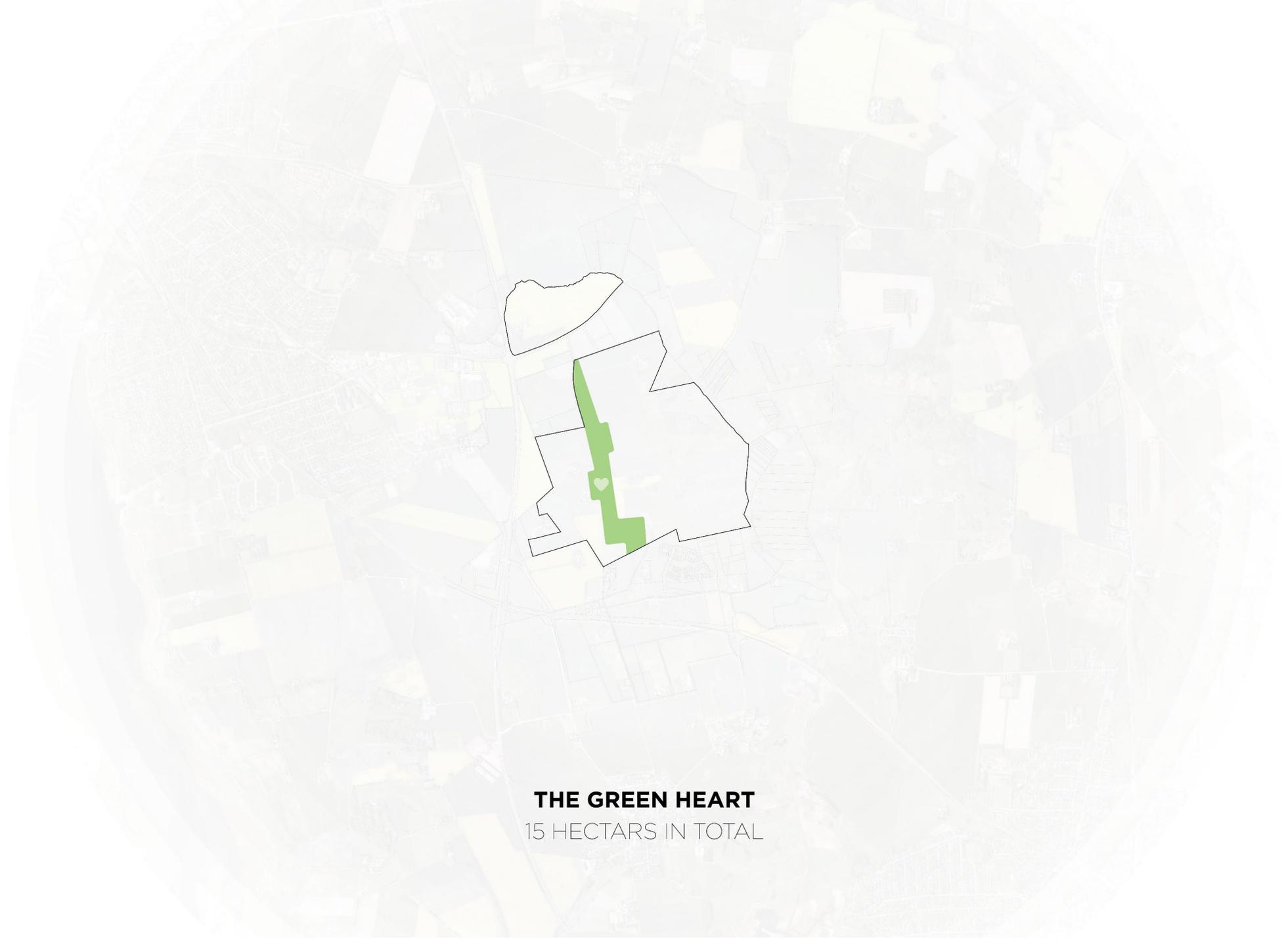
VINGE NORTH SITE



WHERE IS VINGE NORTH



**VINGE NORTH**



**THE GREEN HEART**

15 HECTARS IN TOTAL



**HOUSING DEVELOPMENT**

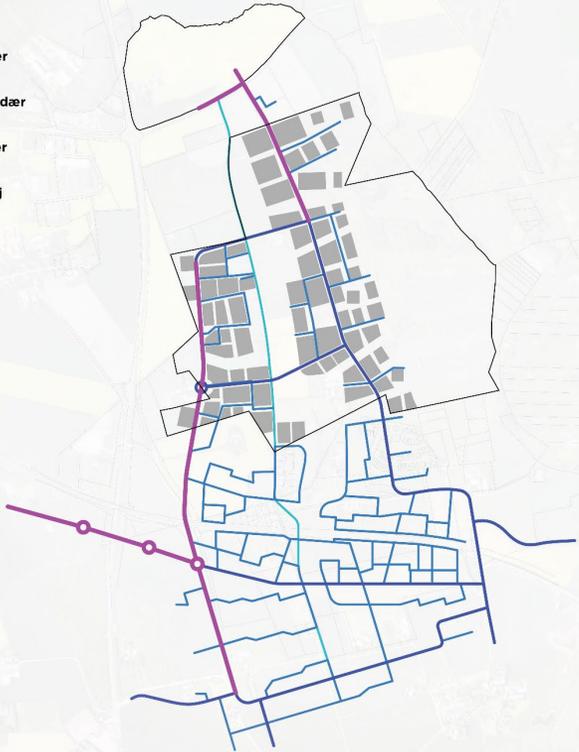
82 HECTARS IN TOTAL



**LAND ZONE**

50 HECTARS IN TOTAL WITHIN THE SITE

- Primær
- Sekundær
- Tertiær
- Busvej



**INFRASTRUCTURE**  
STREET CATEGORIES

- Primært vandskel
- Vandveje
- - - Vandskel



**RAIN WATER MANAGEMENT**



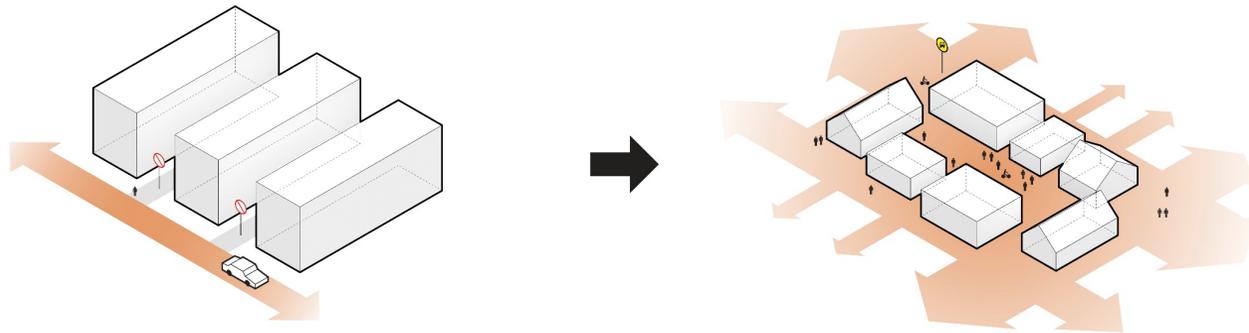
**SOUND BARRIERS**



**PHASED PLAN / DENSITET**

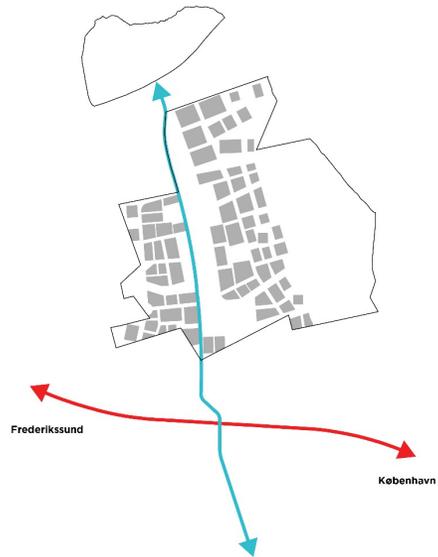
QUALITITES OF LIVING

IN A FUTURE SECURE VINGE NORD

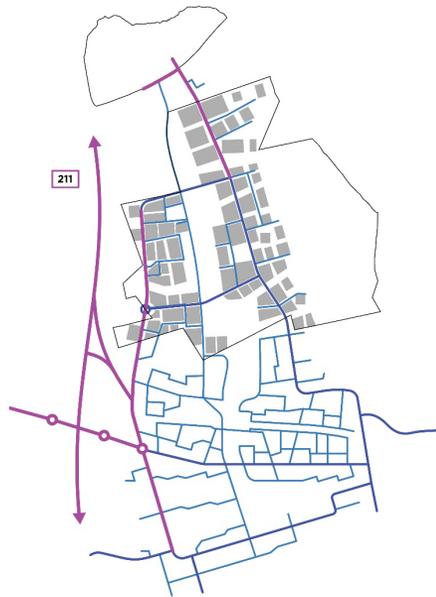


# ACCESS / CONNECTIONS

FROM SEPERATED ENCLAVES  
TO WELL CONNECTED RESIDENTIAL AREAS



**Easy access to public transportation**



**Safe and accessible infrastructure**



**A city plan with nature as its heart**



**A cityscape that encourages walking and biking**



Station integrated in the landscape in Vinge



Green public transport hub in Roskilde



Green bus stop in London



Safe walking zones along the road



Streets with integrated hang out space



Green streets for community



bike paths along natural sights



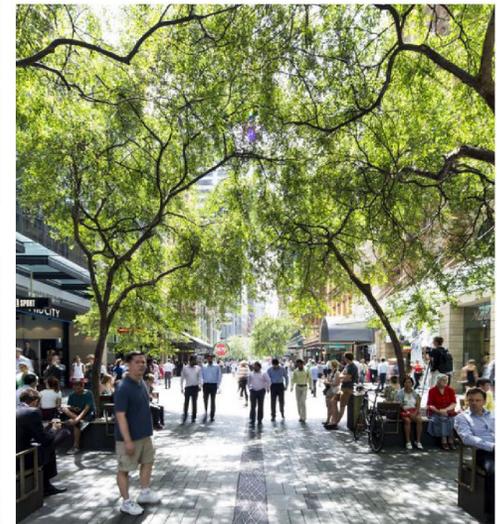
good separation of cars and bikes



Bike sharing stations



Streets that encourages walking



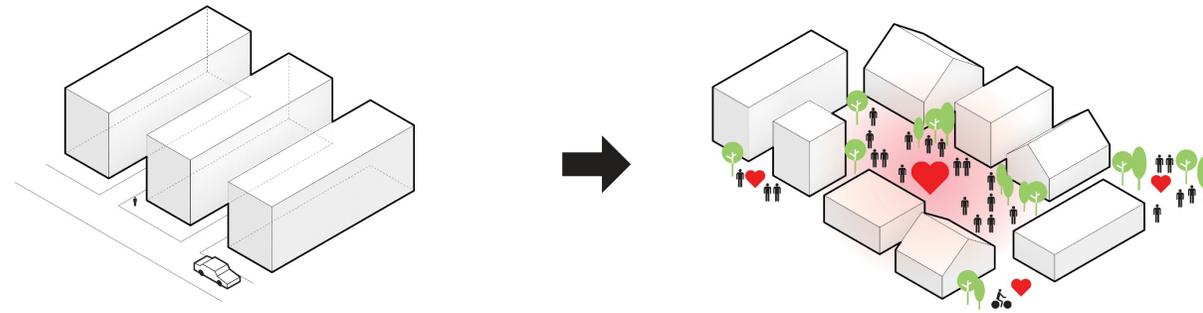
walking streets with character

**Easy access to public transportation**

**Safe and accessible infrastructure**

**Planning that prioritizes sustainable mobility**

**Creation of neighbourhoods that encourage walking**



# Communities

FROM CLOSED PARALLEL SOCIETIES  
TO OPEN DIVERSE COMMUNITIES



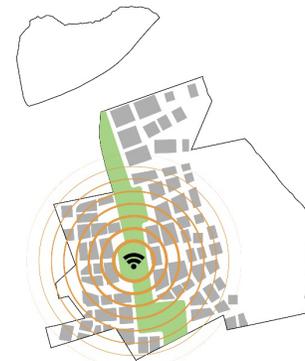
**city scapes for regional  
community**



**city scape for local  
community**



**Varied neighbourhood  
functions for community**



**online  
community**



Regional adventure activities



Facilities for sport in nature



School in Vinge North integrated in nature



Regional tourist attractions



City scapes for community gardens



Vertical community farming



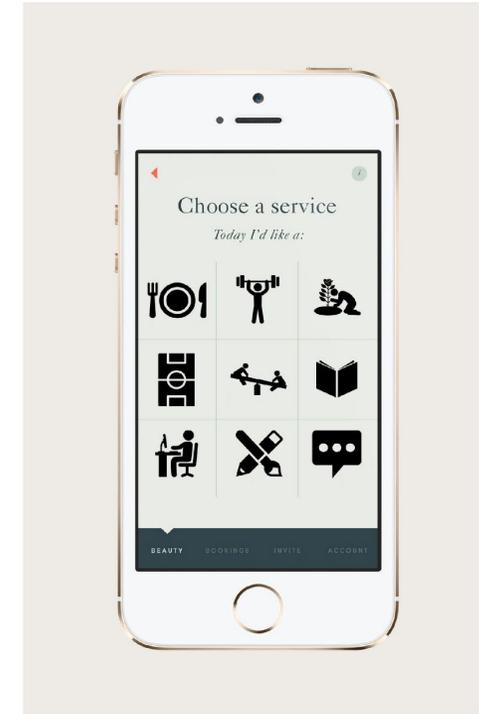
Regional nature experiences



Schoolyard in Vinge North



Food court in Vinge



IoT app that serves the community



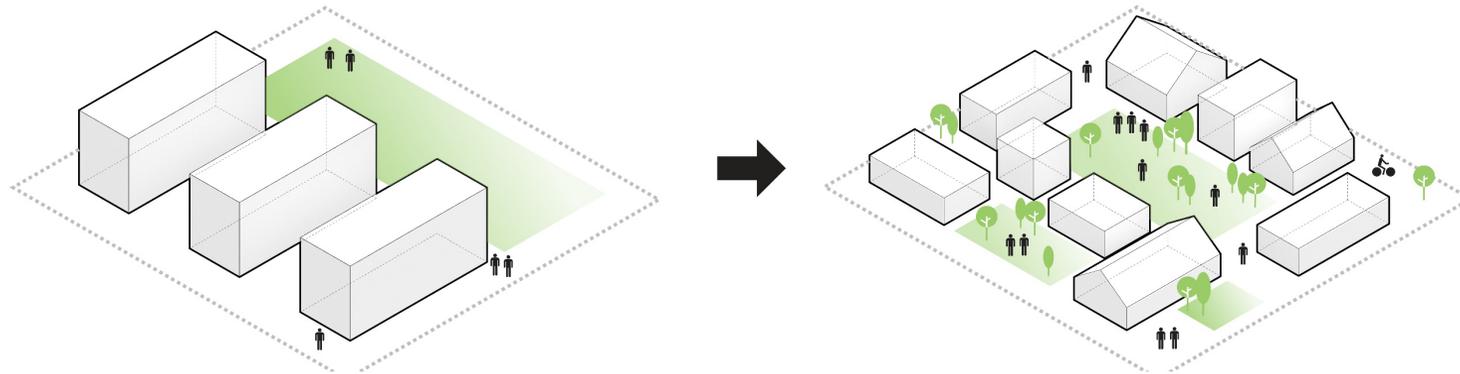
Online communities around sharing

## City scapes for regional community

## City scape for local community

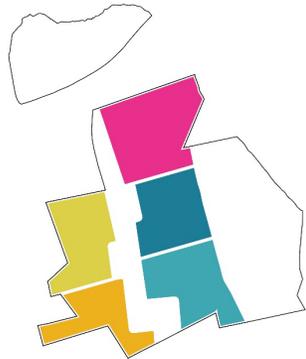
## Various neighbourhood functions for community

## Online community

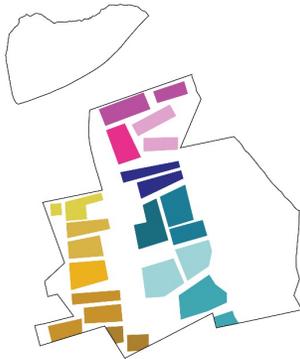


## **DENSITY / SCALE**

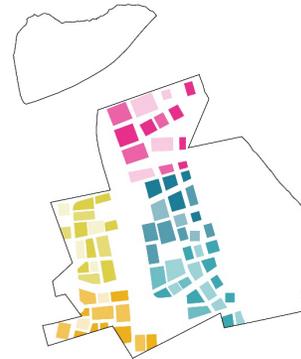
FROM SCALELESS MONOTONOUS DEVELOPMENT  
TO CLOSE DWELLINGS IN A HUMAN SCALE



**Districts**



**Neighbourhoods**



**Clusters**



Green districts



Neighbourhoods bursting with activity



Clusters integrated in nature



Districts with a city feel



Peaceful neighbourhoods



Clusters of green



Districts with a clear identity



Neighbourhoods for community

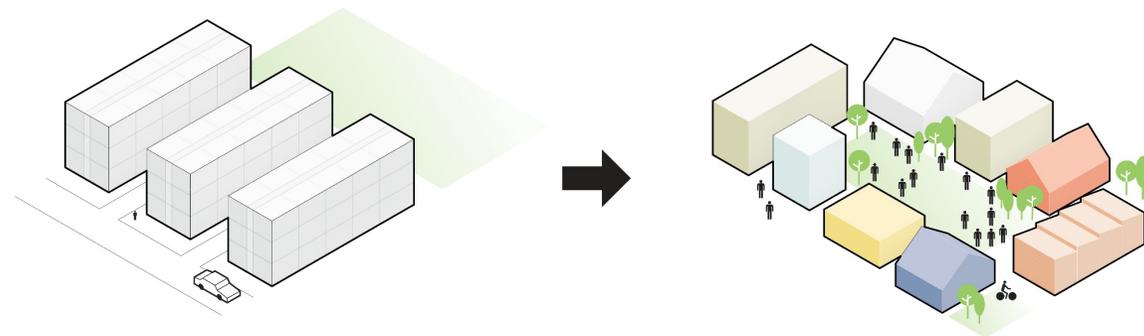


Clusters of commons

## Districts

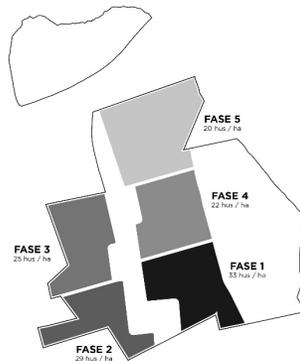
## Neighbourhoods

## Clusters



## **VARIATION**

FROM MONOTONOUS DEVELOPMENTS  
TO VARIED FLEXIBLE NEIGHBOURHOODS.

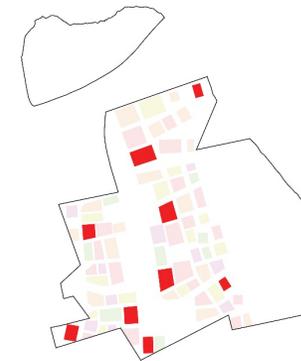


- FASE 1 - 33 HUSE / HA
- FASE 2 - 29 HUSE / HA
- FASE 3 - 25 HUSE / HA
- FASE 4 - 22 HUSE / HA
- FASE 5 - 20 HUSE / HA

**Varied density**



**Diverse types of dwellings**



**Community living**



Areas with high density



Apartment buildings



Generation houses



Areas with medium density



Attached houses



Co-living



Areas with low density



Villas

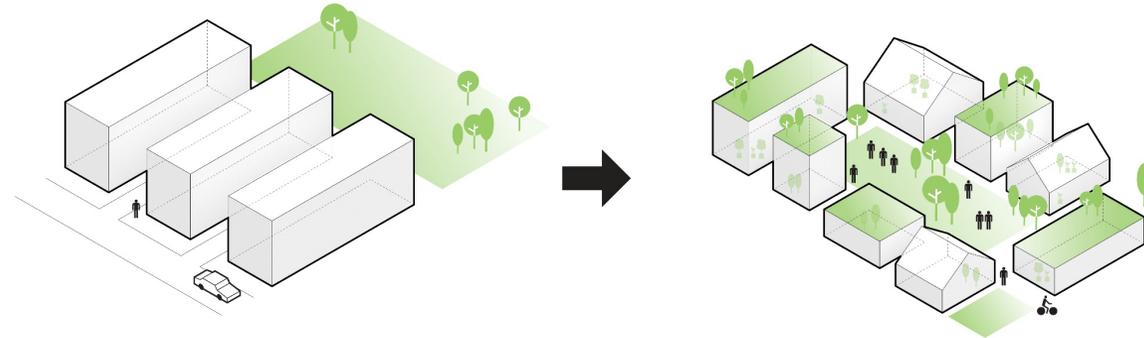


Senior communities

**Varied density**

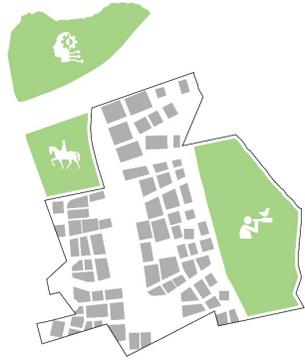
**Diverse types of dwellings**

**Community living**



# NATURE

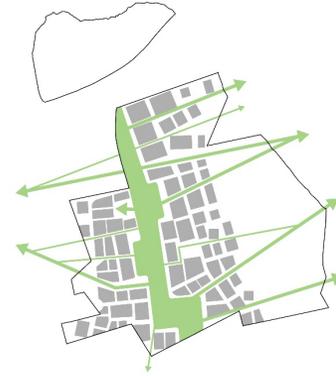
FROM SERPERATION FROM NATURE  
TO INTEGRATION OF NATURE



**Green spaces as regional attractions**



**Varied green outdoor spaces**



**Intimate green corridors**



**private green outdoor spaces**



Forests as farms



Green spaces for play



Green corridors for nature



Intimate green spaces for community



Green areas for rainwater management



Parks



Green corridors for gardens



Semi-private green zones for recreation



Recreational green spaces



Wetlands



Green corridors for community



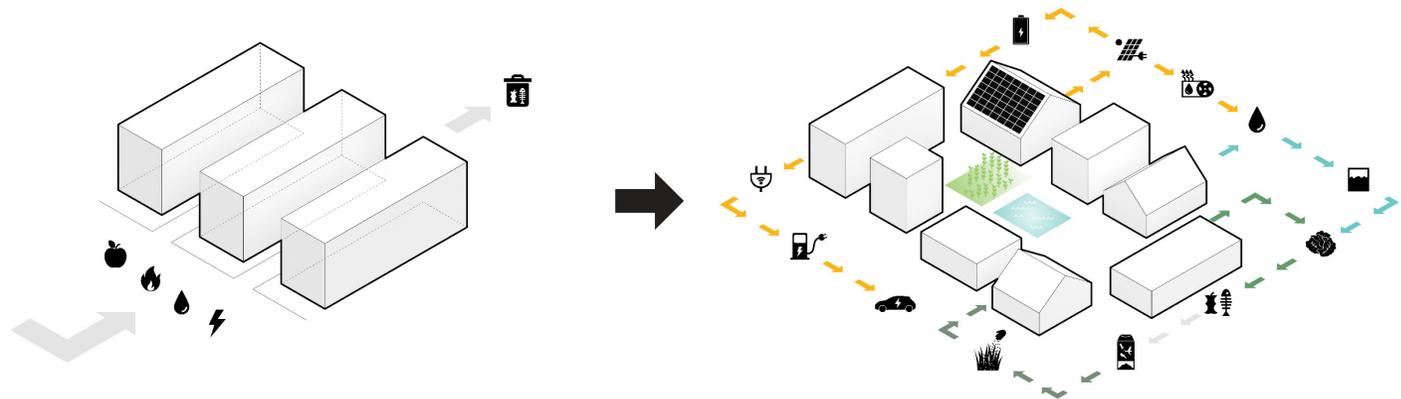
Green spaces for houses

**Green spaces as regional attractions**

**Varied green outdoor spaces**

**Intimate green corridors**

**private green outdoor spaces**

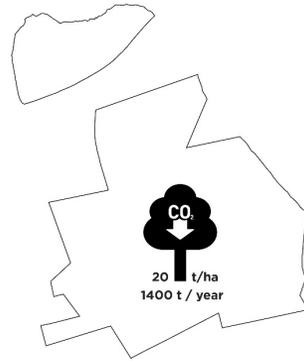


# SUSTAINABILITY

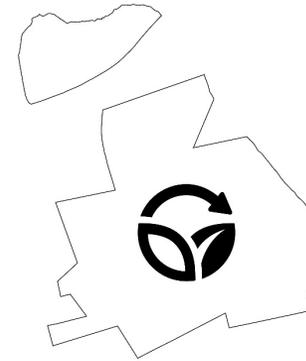
FROM BURDEN  
TO STRENGTH



**Fossil free utilities**



**Carbon sequestering city**



**Circular economy**



Green energy production



Carbon sequestration in green areas



Sharing of mobility



Green waste water management



Carbon sequestration in wetlands



Tool libraries



From waste to heat and electricity



Carbon sequestration in recreational areas



Shared spaces

## Fossil free utilities

## Carbon sequestration

## Circular economy

GREEN ISLAND

FOSSILE FREE UTILITIES

## Energy sources



Solar panels



Wind mills



Bio gas



Pyrolysis

## Energy storage



Batteries



Thermal storage



Bio mass

## Suppliers

Emerson

EWT

Agro buisness park

Aalborg CSP

SMA

Plan energi

BMZ

# COMPONENTS



1 X 20 FOD TEKNIK CONTAINER



2 X 40 FOD BIOAFFALD CONTAINER



5 X BIOGAS DIGESTER



1 X 40 FOD GAS OPGRADERINGSANLÆG



10 HA SOLCELLER / RANDBEPLANTNING



6 X 40 FOD BATTERI CONTAINER (UPS)



2 X GASLAGER BOBLE (Ø 10 M)



9 X 50 M X 50 M SANDFILTER



2 X 500 M2 STAKLADER



2000 M2 SOLVARME



3 X VINDMØLLE 100 M HØJ



6 X GENERATOR



OMRÅDE A

OMRÅDE B

OMRÅDE C

## COMPONENT MATRIX

# GREEN ISLAND DELIVERS

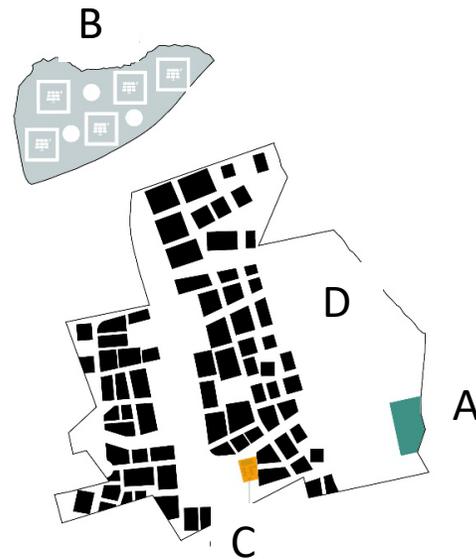


We design and calculate project cost

We assist the community with approvals and legal structures

We build, commission and operate fossil free solutions

We help structure loan capital to ensure financing for the project



**A – Sewage, Bio and Pyr-Gas production**

**B - 10 hectares of PV and 3 windmills**

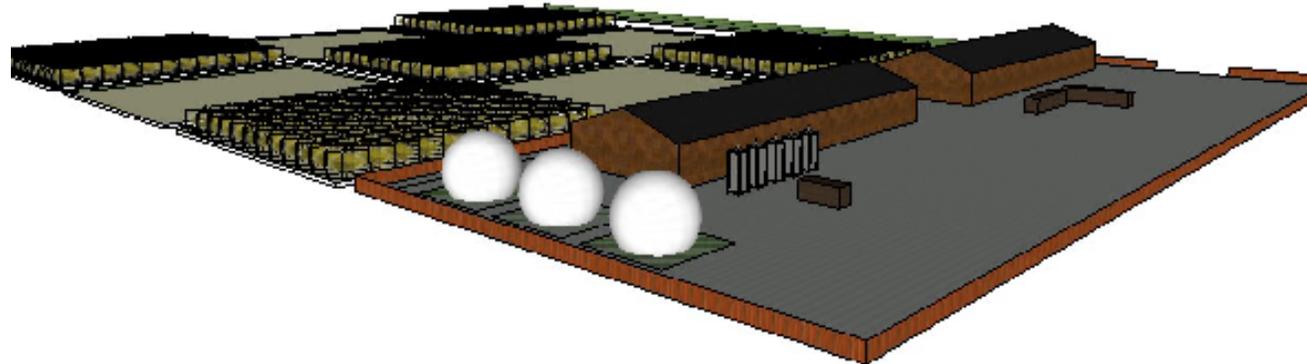
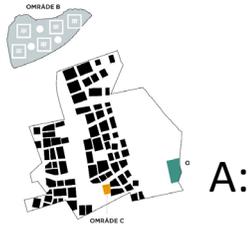
**C – Generators and control/operations**

**D – 40 hectares of biomass**

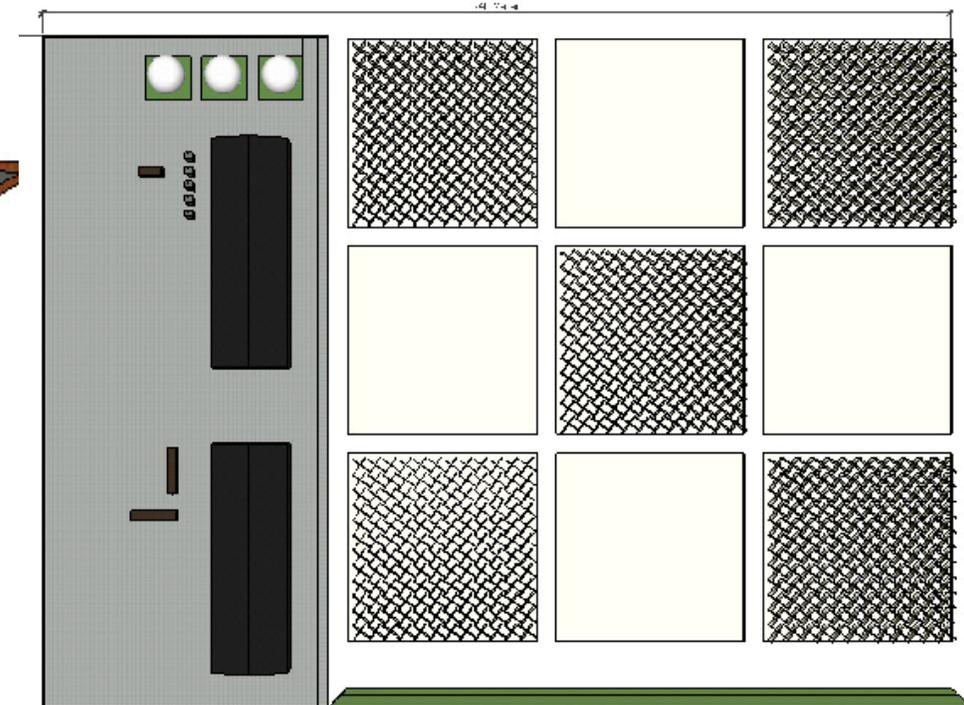
- 🌱 We deliver a carbon free utility and infrastructure solution, that meets 9 out of 17 UN sustainable developmental goals. (6,7,8,9,11,12,13,15,16)
- 🌱 We secure the circular resources and economic operation of the project.
- 🌱 Our utilities are build to the highest standards, meeting expectations for the good modern life.

# Area A

Biogas Production, Pyrolysis gas Production, Gas Storage, Biomasse Storage and Sewage Treatment



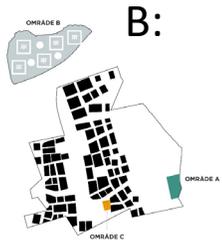
A – Sewage, Bio and Pyr-Gas production



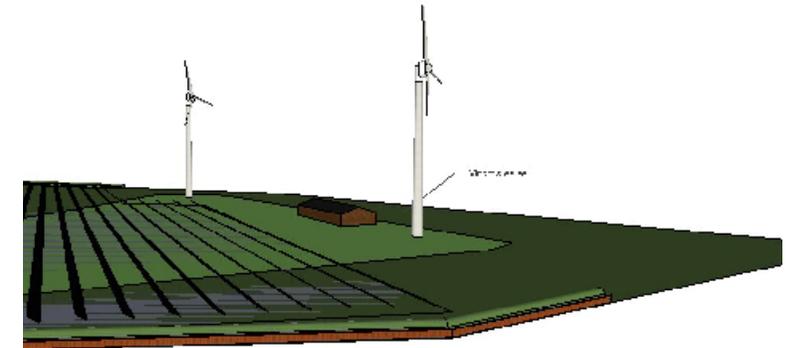
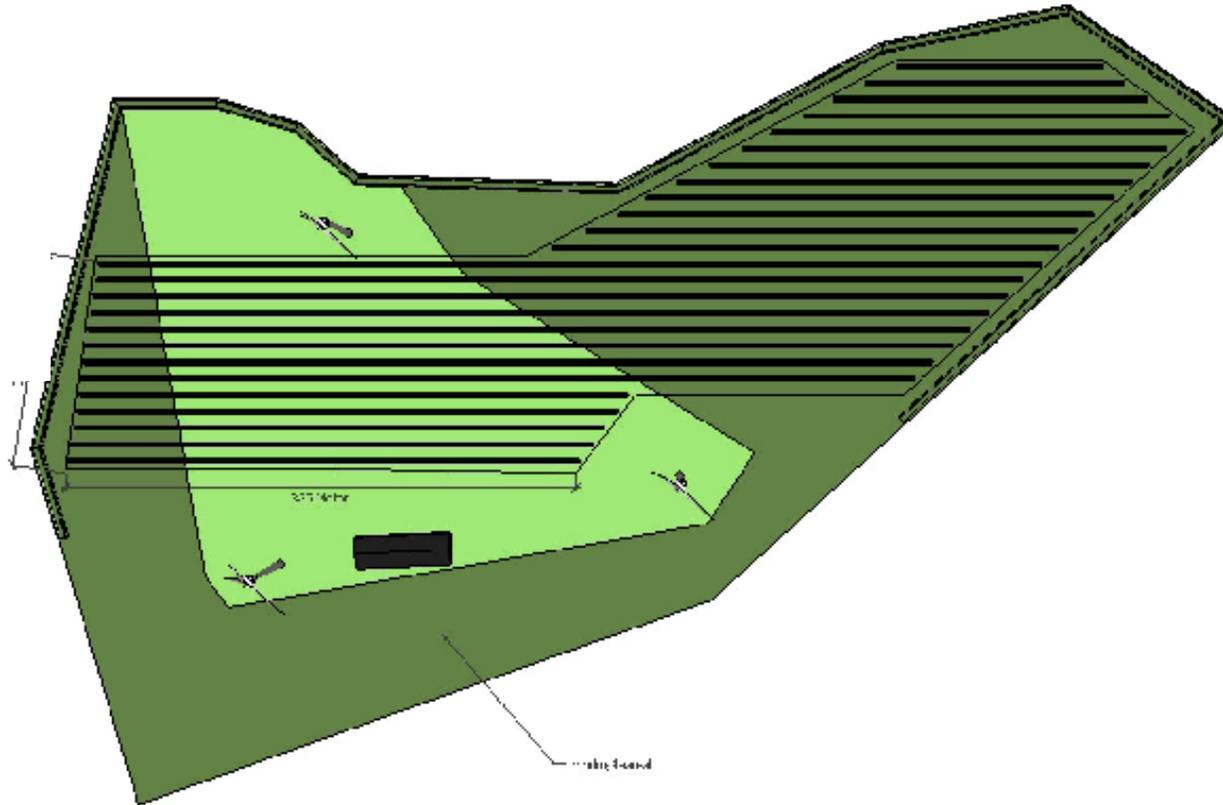
# Area B

10 Hektares PV Solarcells

3 Windmilss, Height: 100 Meter



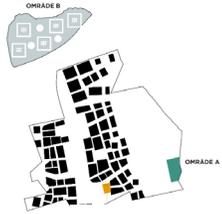
B:



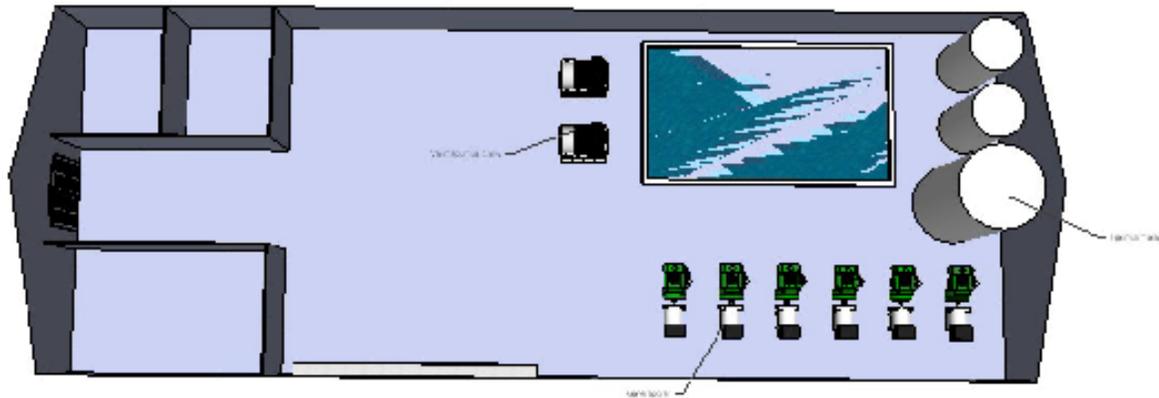
B – PV and WindmillsSewage

# Area C

District Heating and Control/Operations

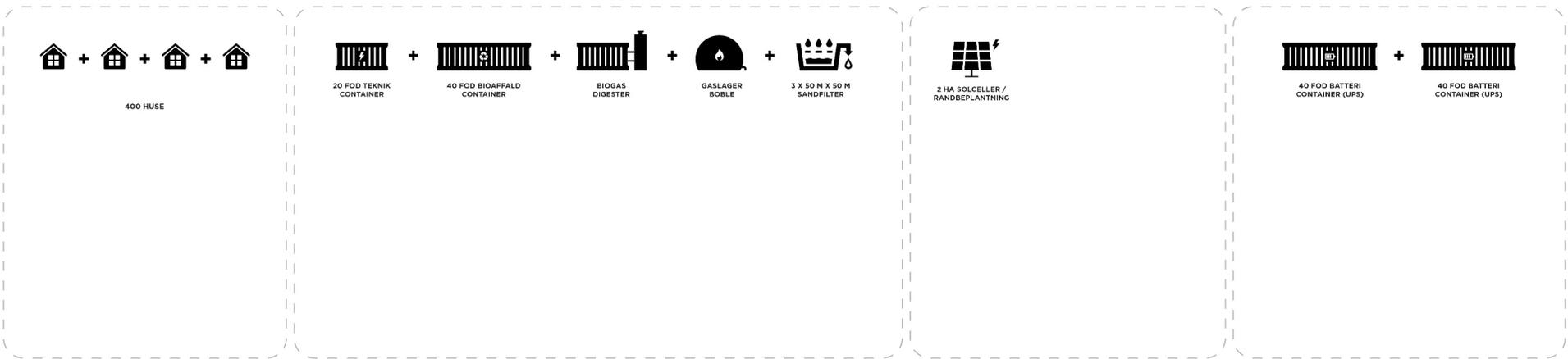
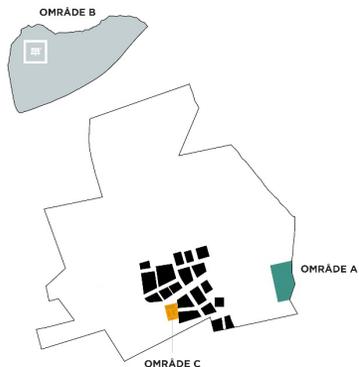


C:



C – Generators and control/operations

**CONSTRUCTION PHASE PLAN  
IN VINGE NORTH**



BOLIGER



OMRÅDE A



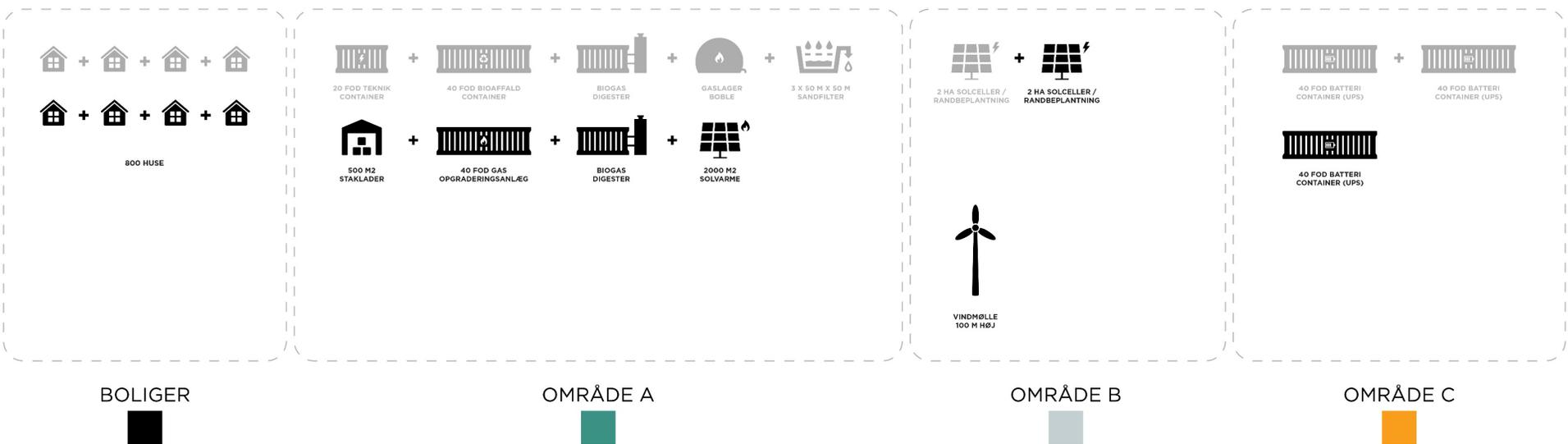
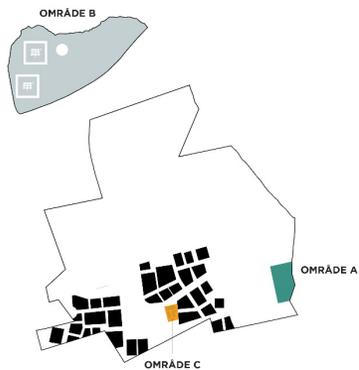
OMRÅDE B



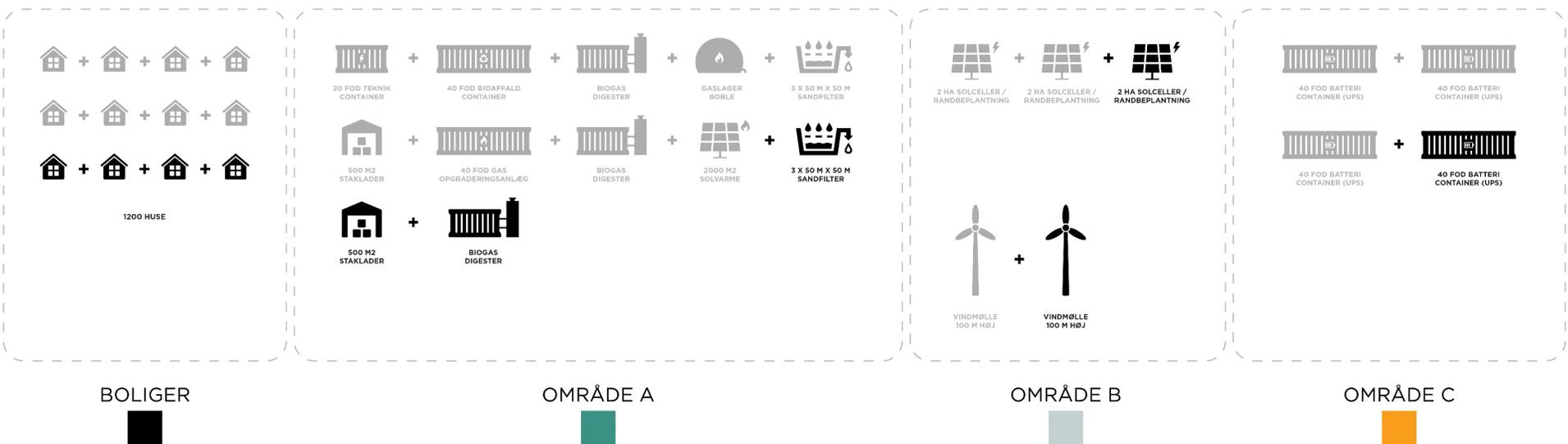
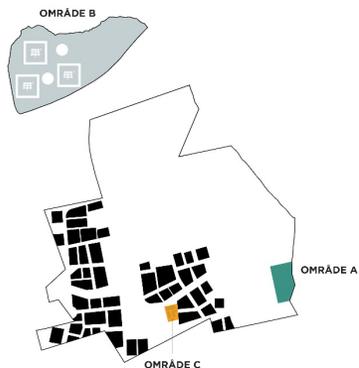
OMRÅDE C



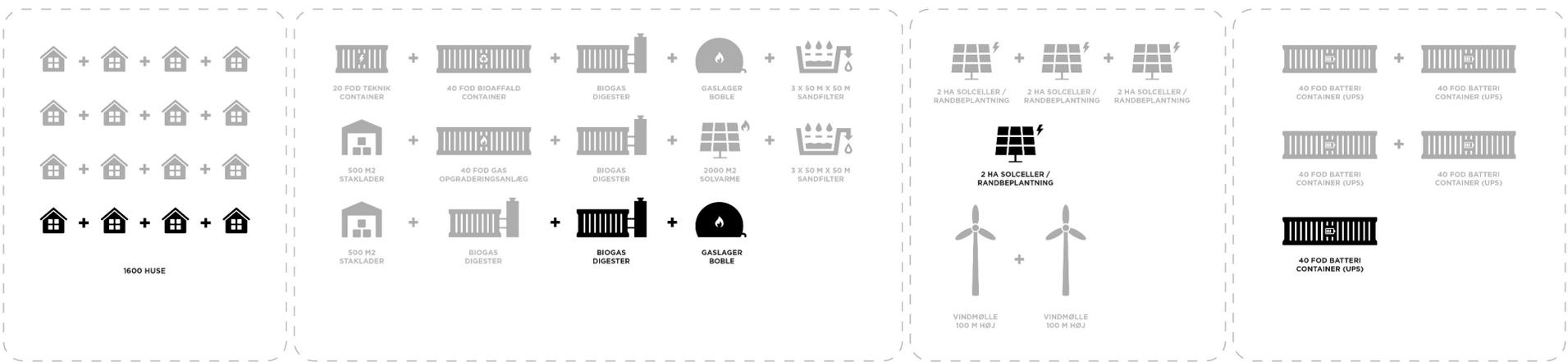
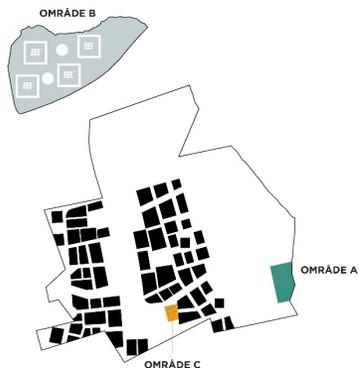
**PHASE PLAN WITH COMPONENTS**



**PHASE PLAN WITH COMPONENTS**



**PHASE PLAN WITH COMPONENTS**



BOLIGER



OMRÅDE A



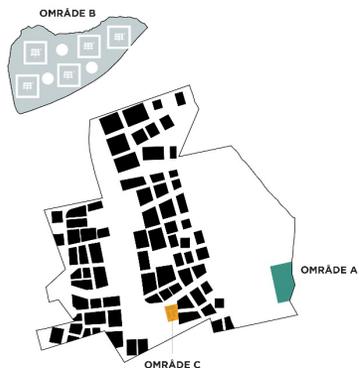
OMRÅDE B



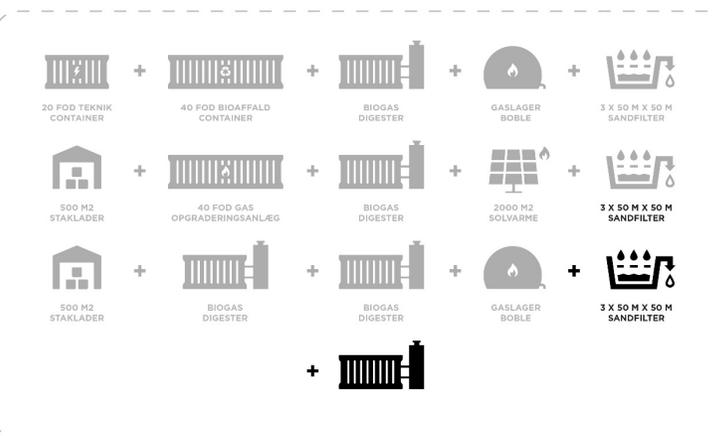
OMRÅDE C



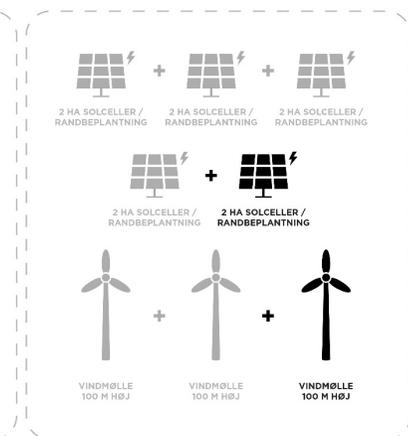
## PHASE PLAN WITH COMPONENTS



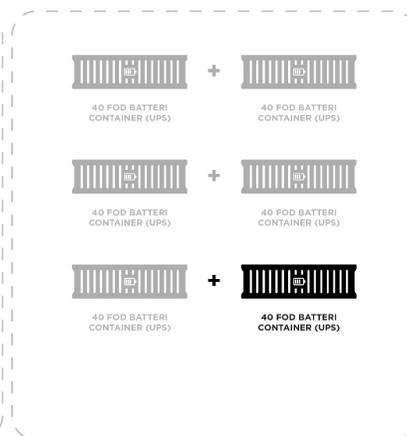
BOLIGER



OMRÅDE A

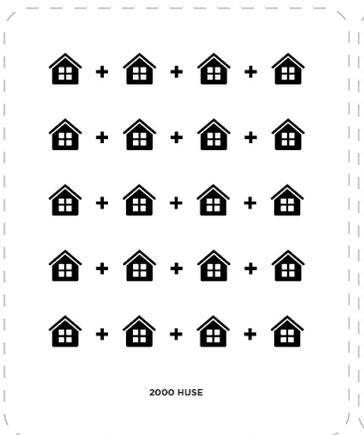
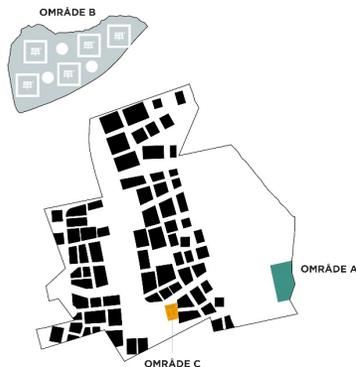


OMRÅDE B

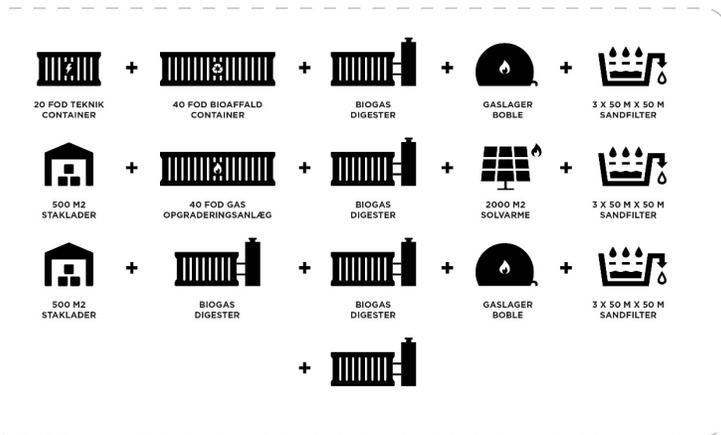


OMRÅDE C

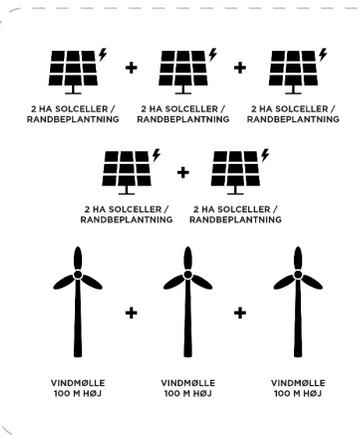
PHASE PLAN WITH COMPONENTS



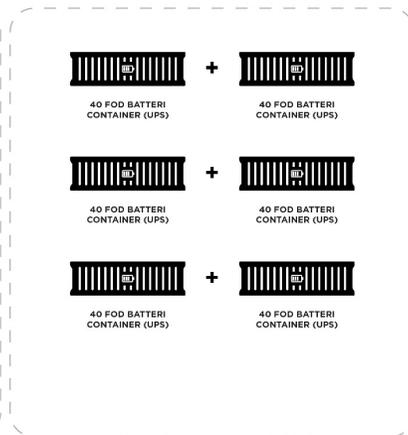
BOLIGER



OMRÅDE A



OMRÅDE B



OMRÅDE C

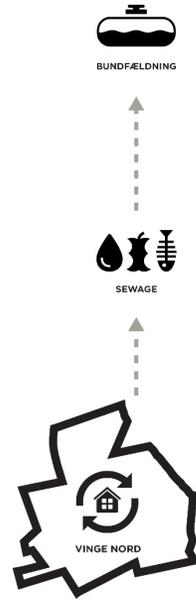


PHASE PLAN WITH COMPONENTS

OVERVIEW

# **SYSTEMS DIAGRAM**







SANDFILTER /  
PILERENSNING



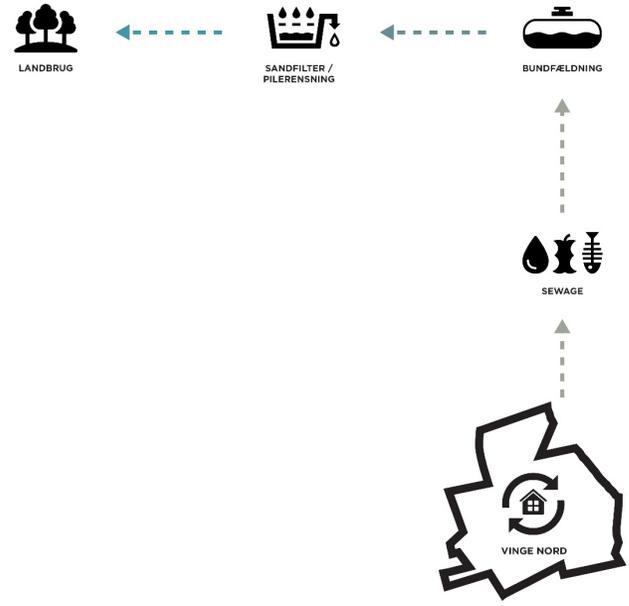
BUNDFÆLDNING

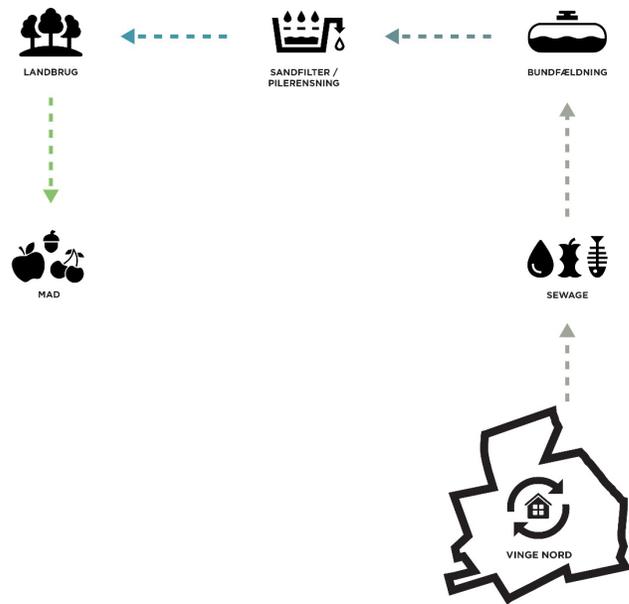


SEWAGE

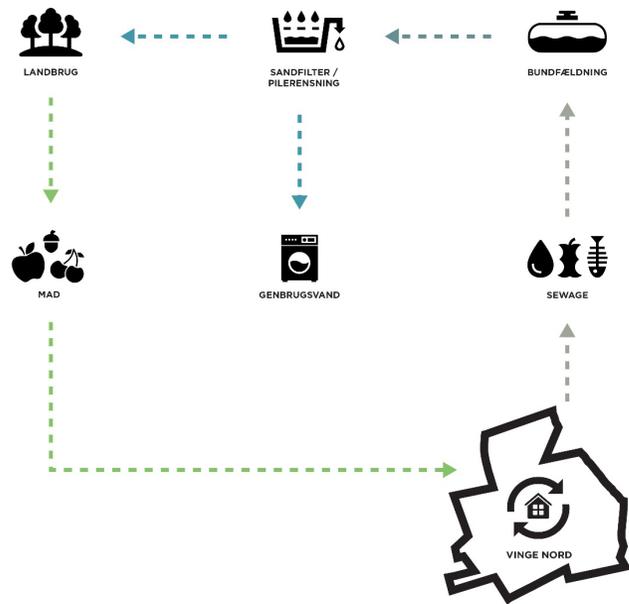


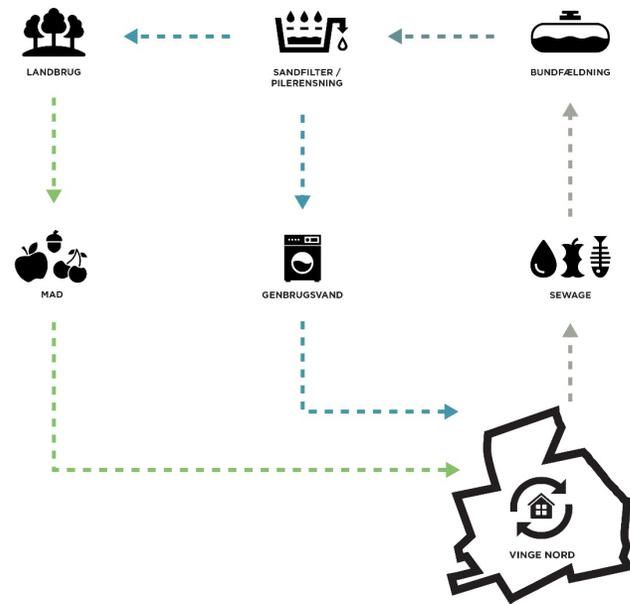
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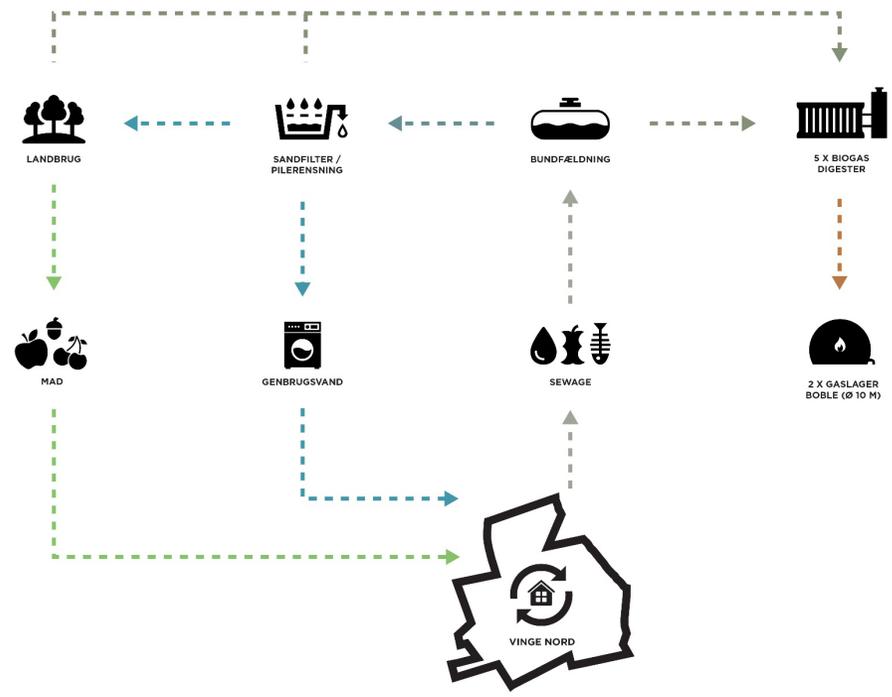


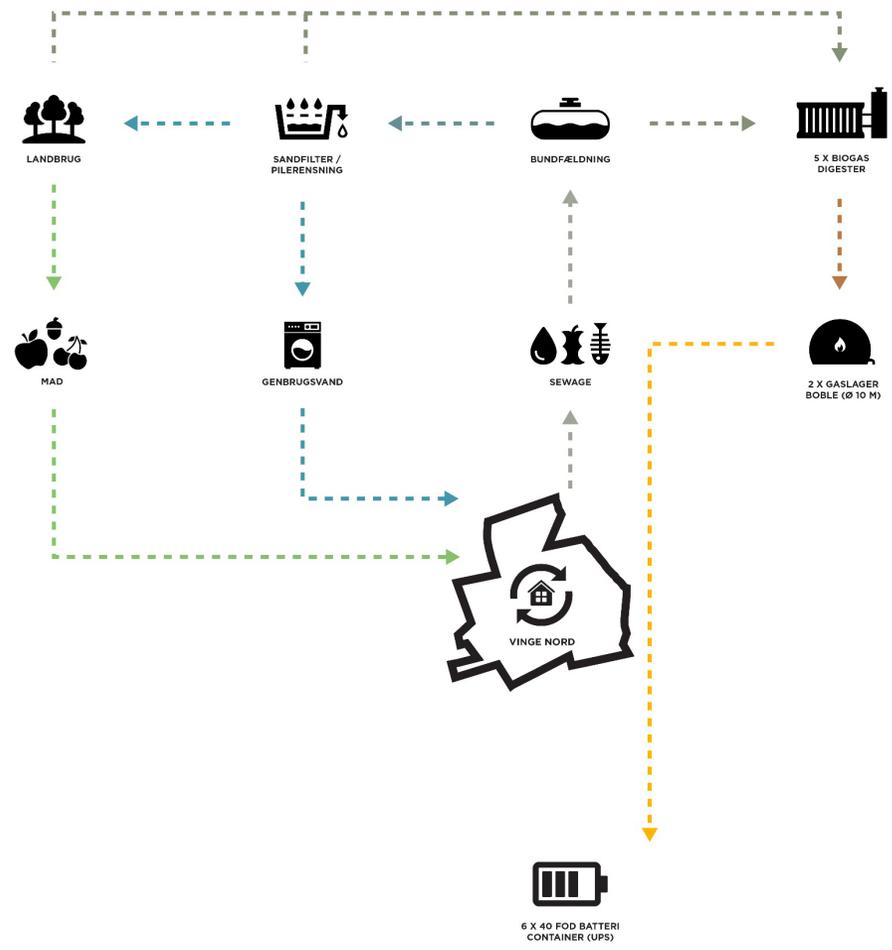


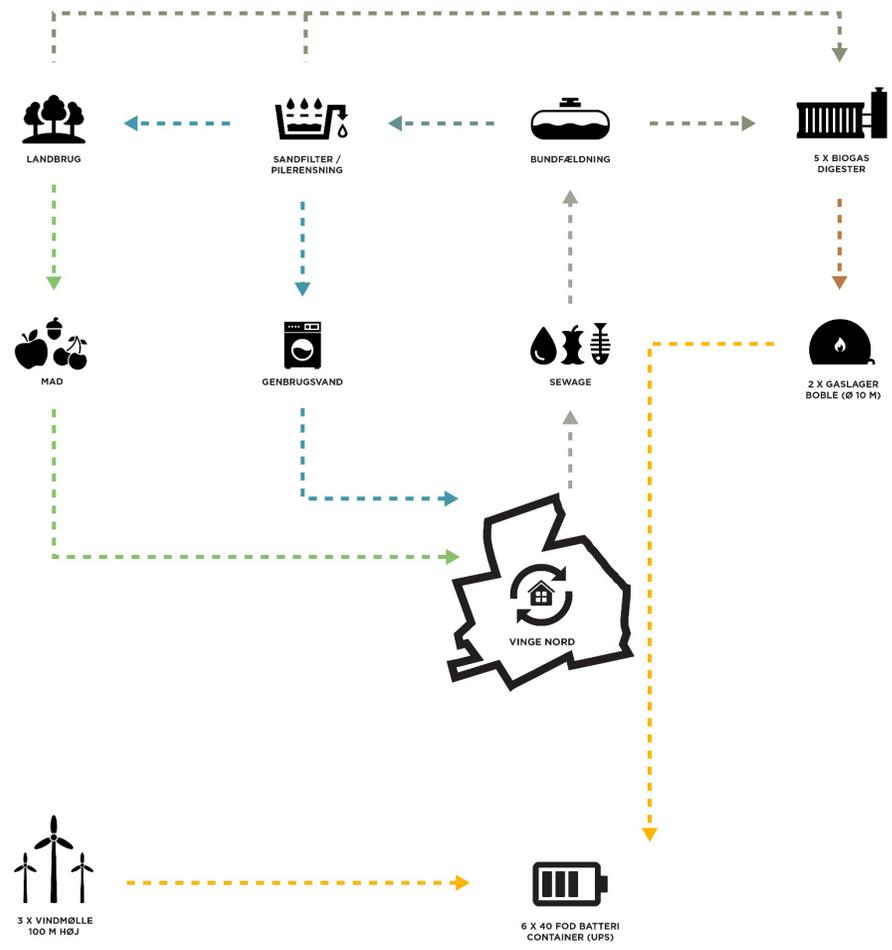


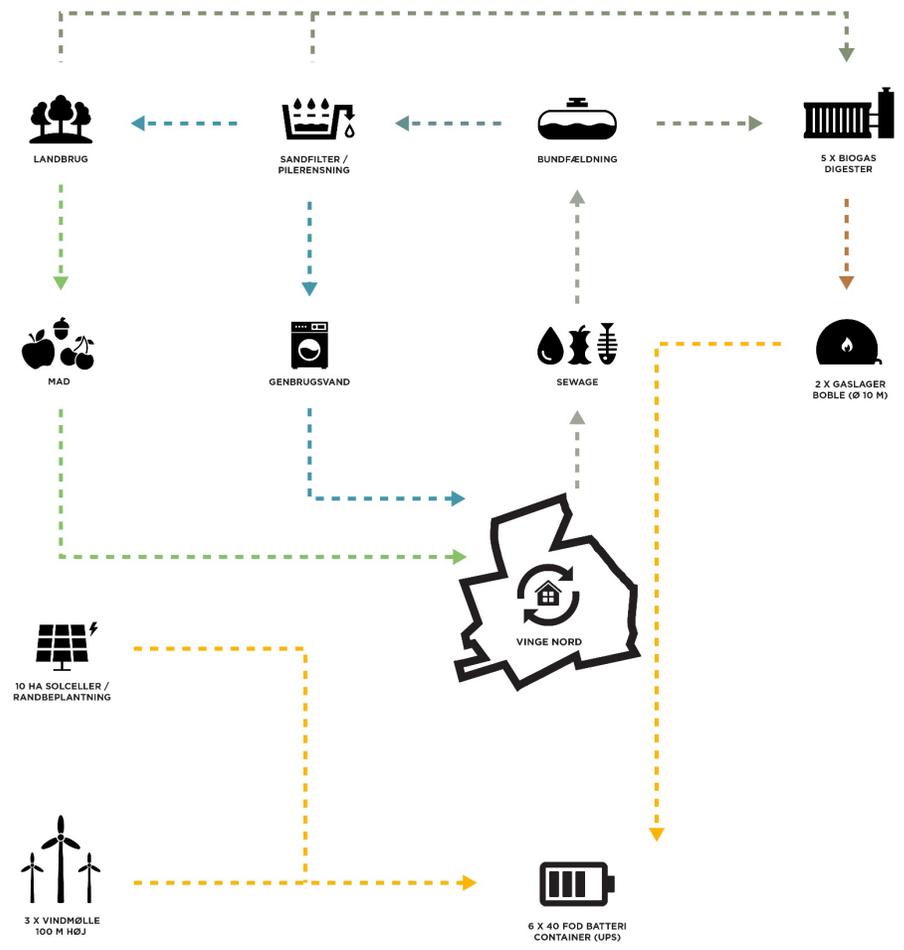


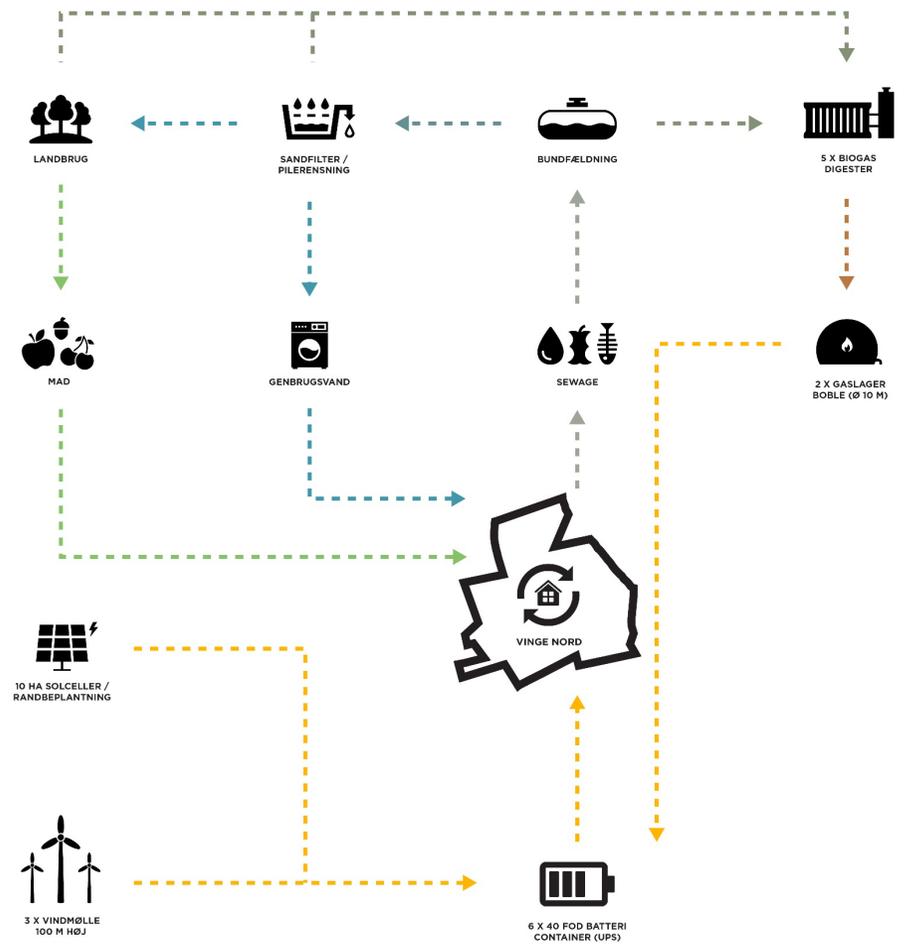


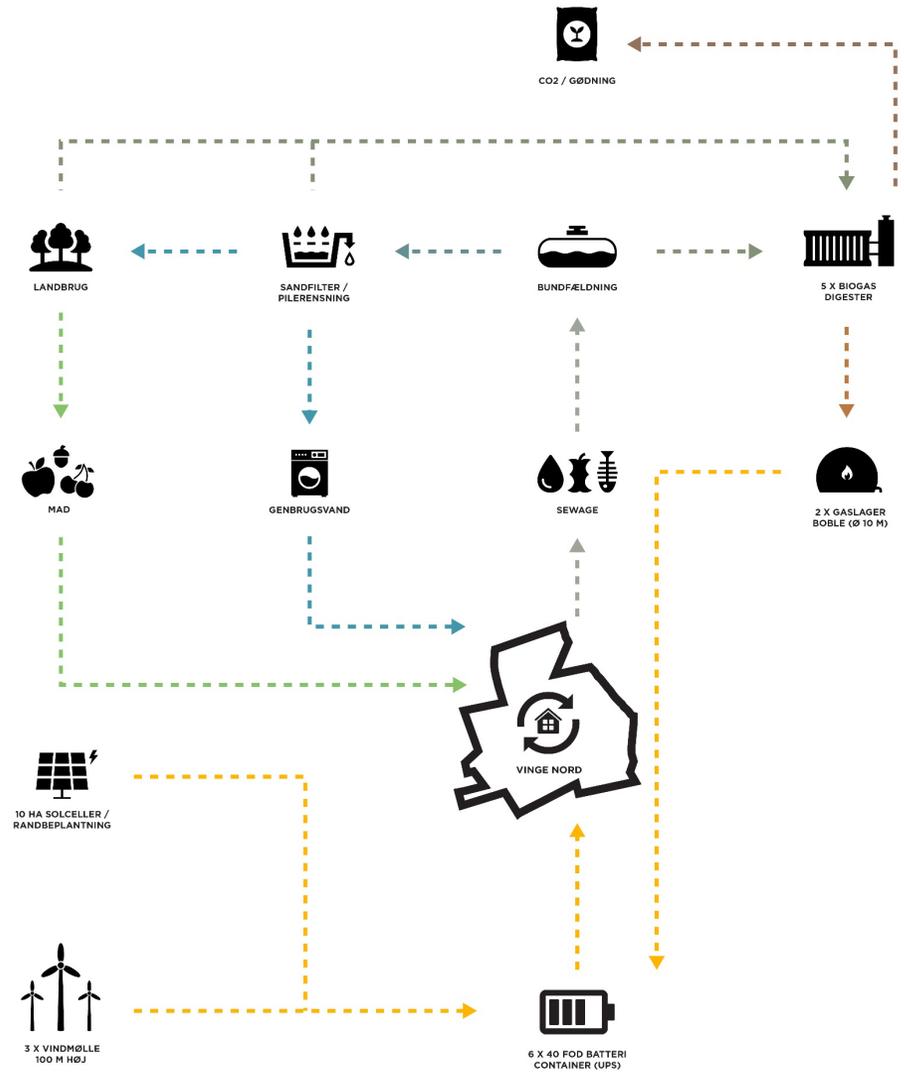


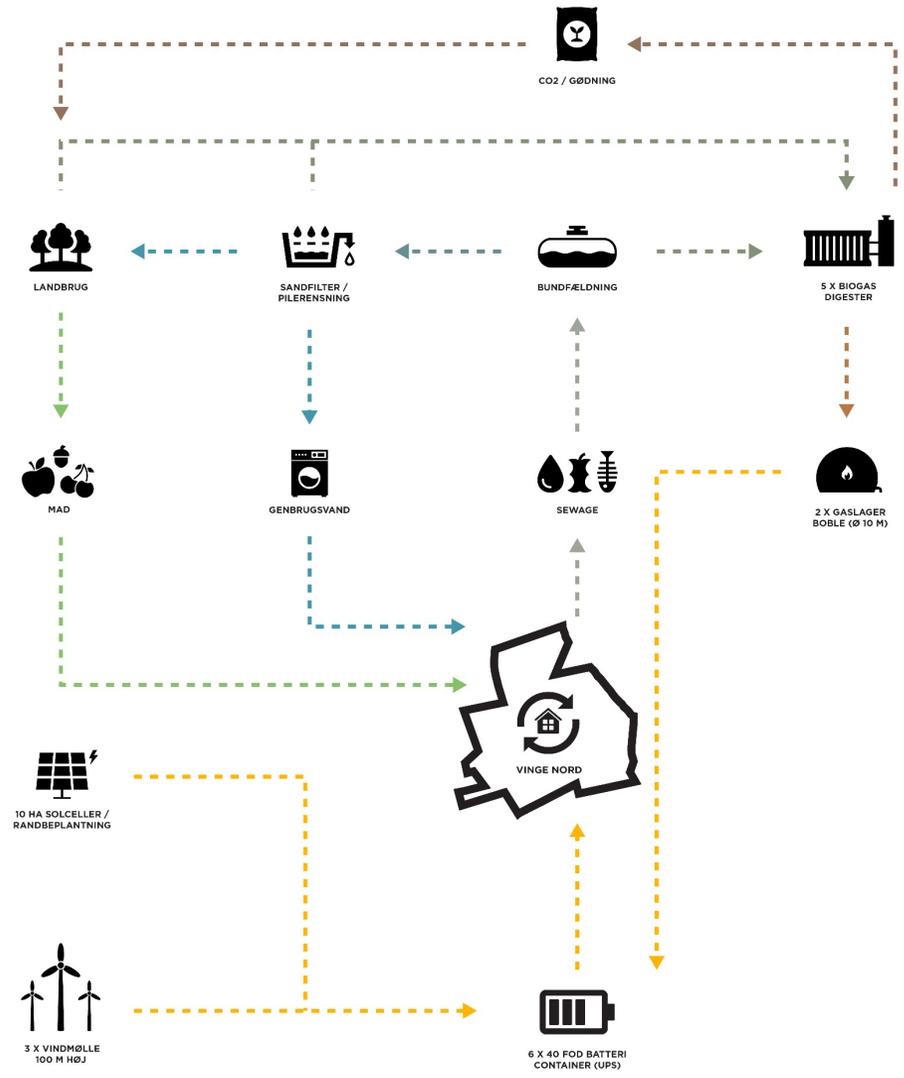


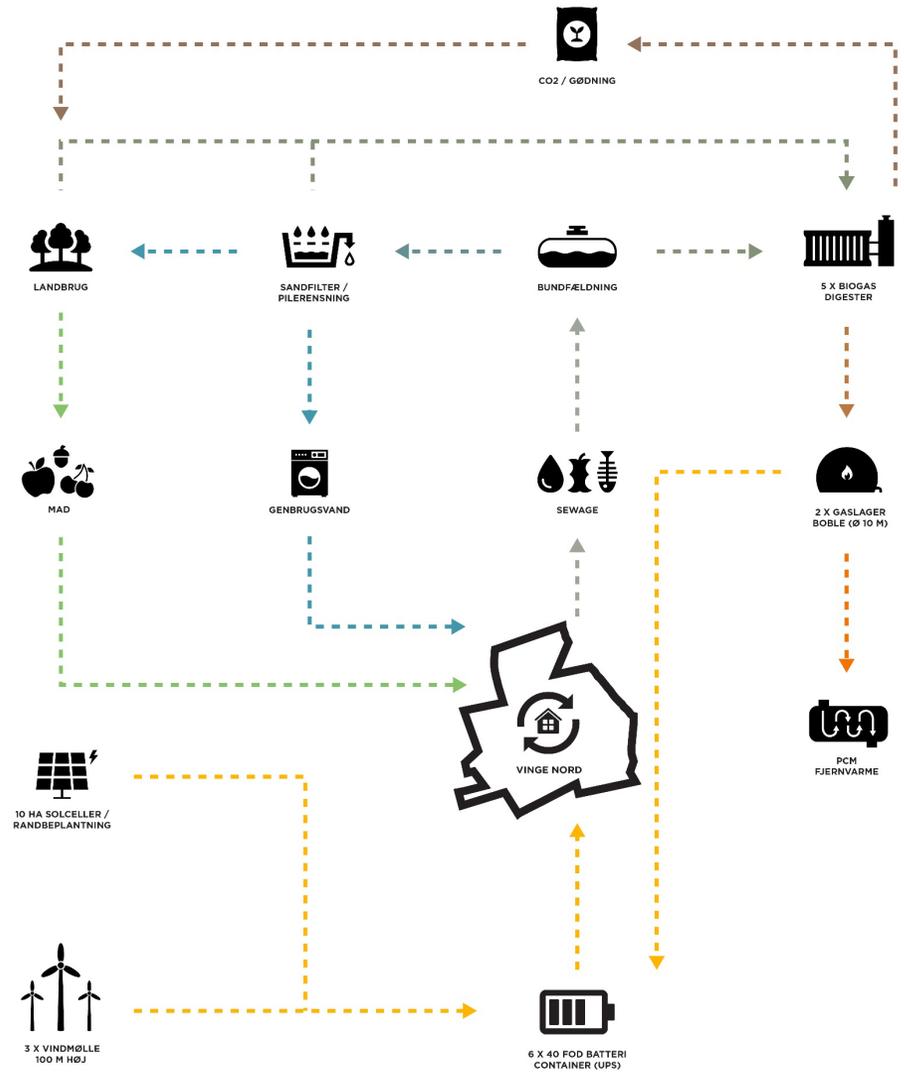


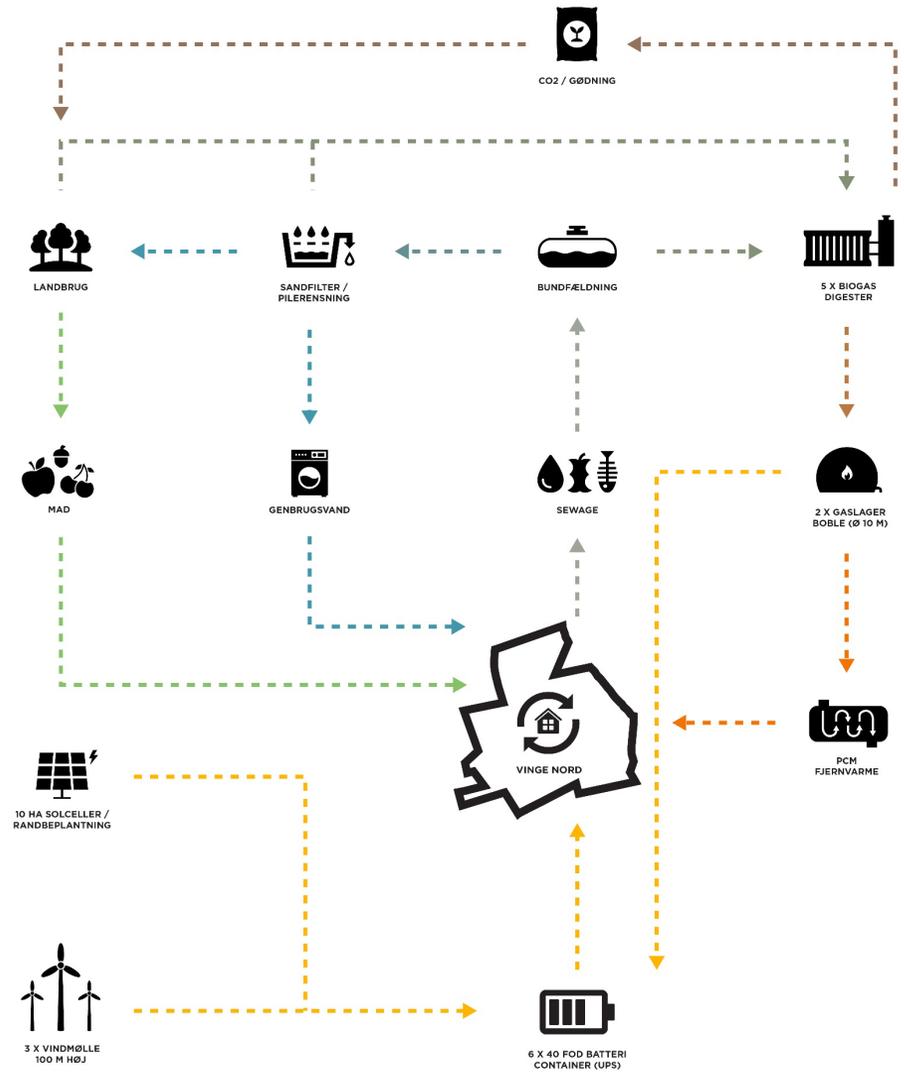


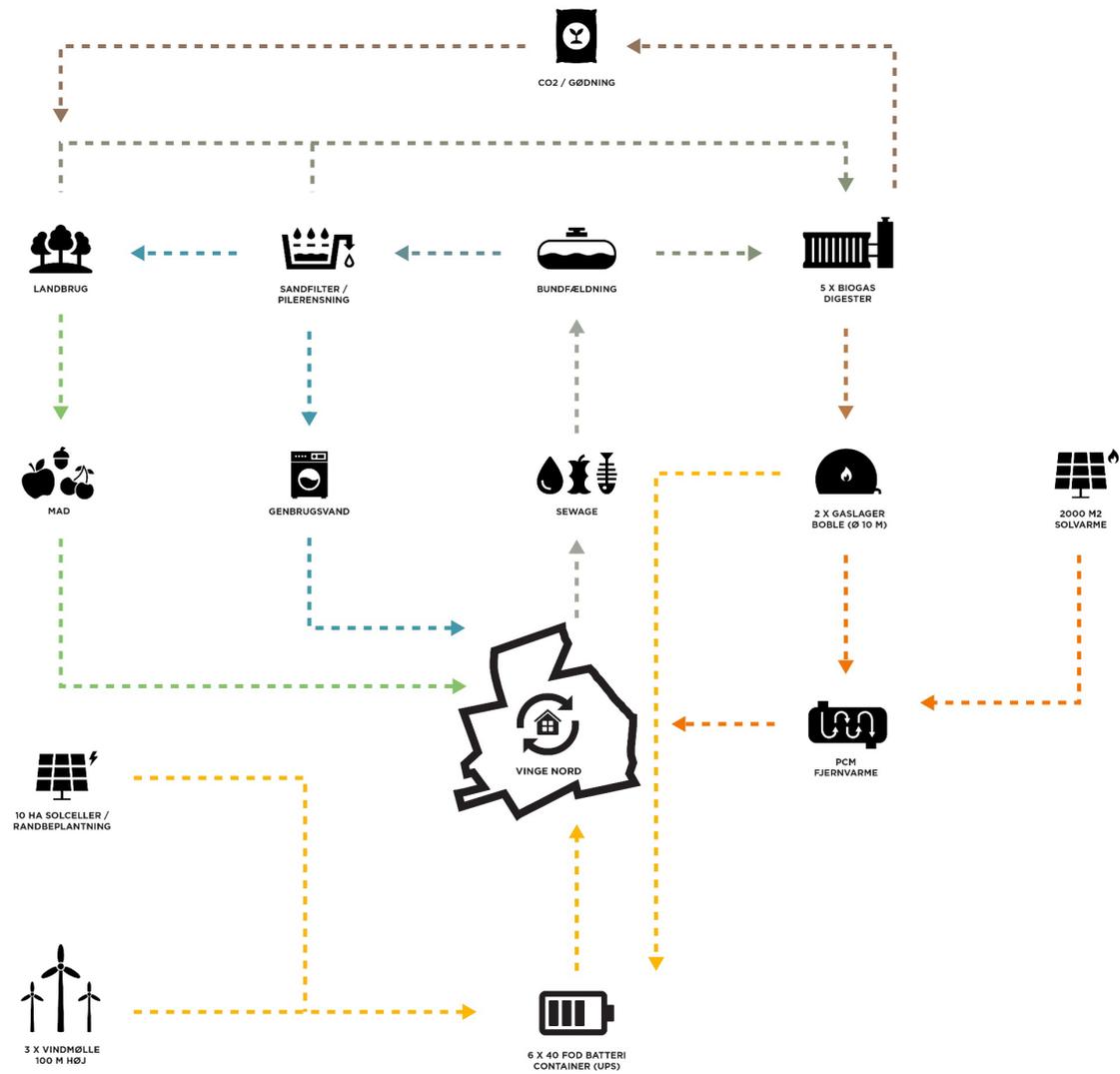


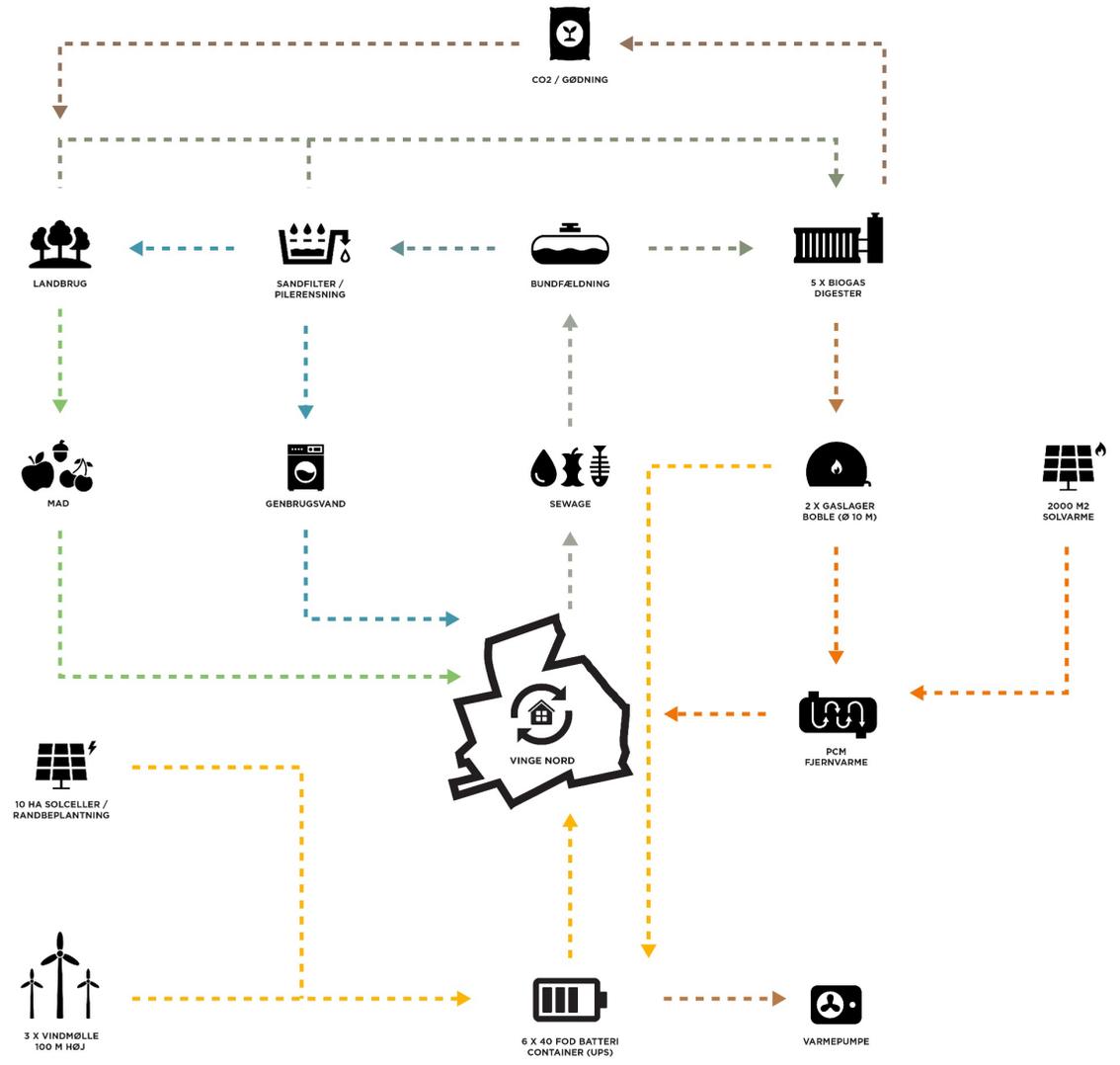


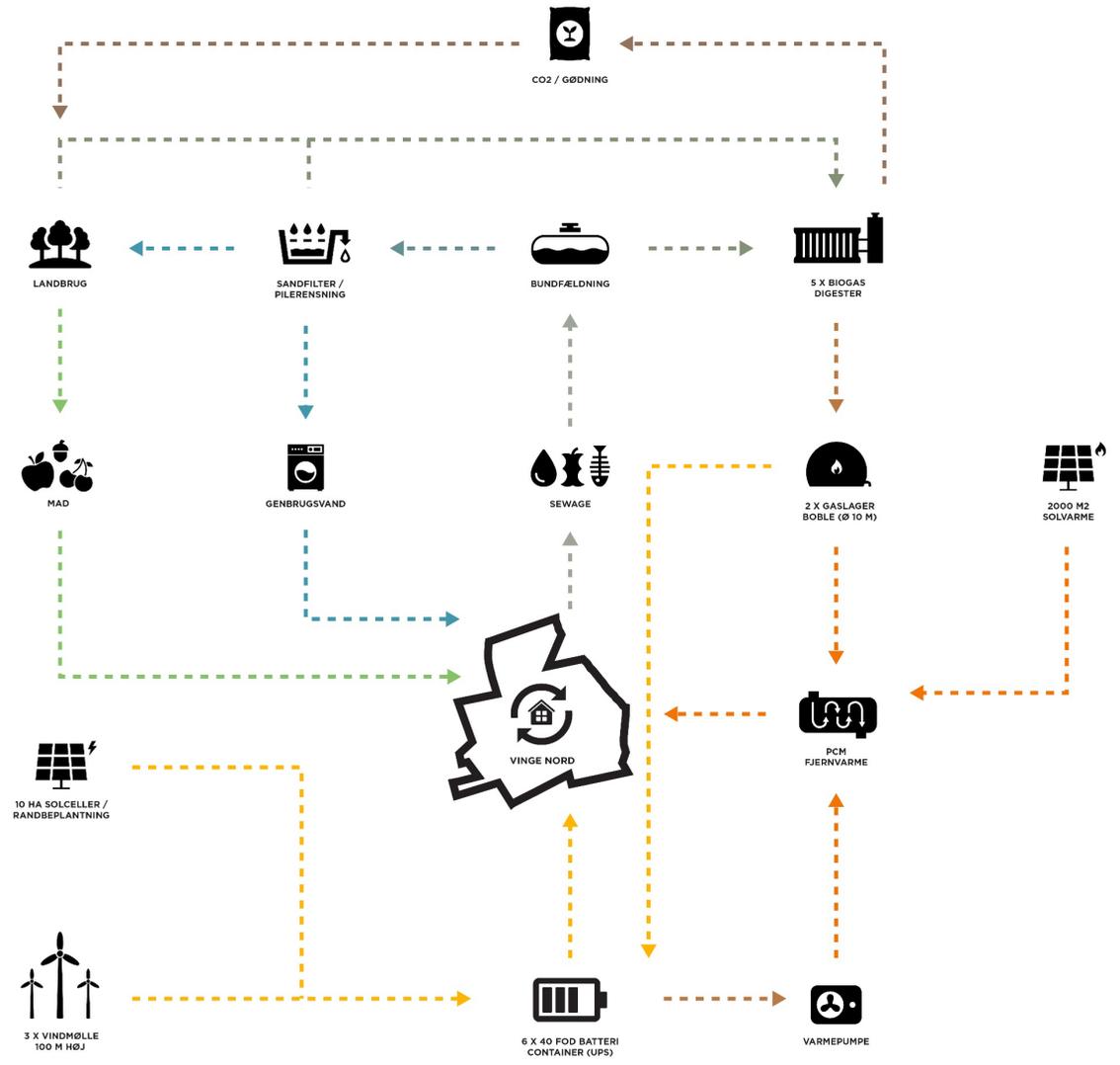


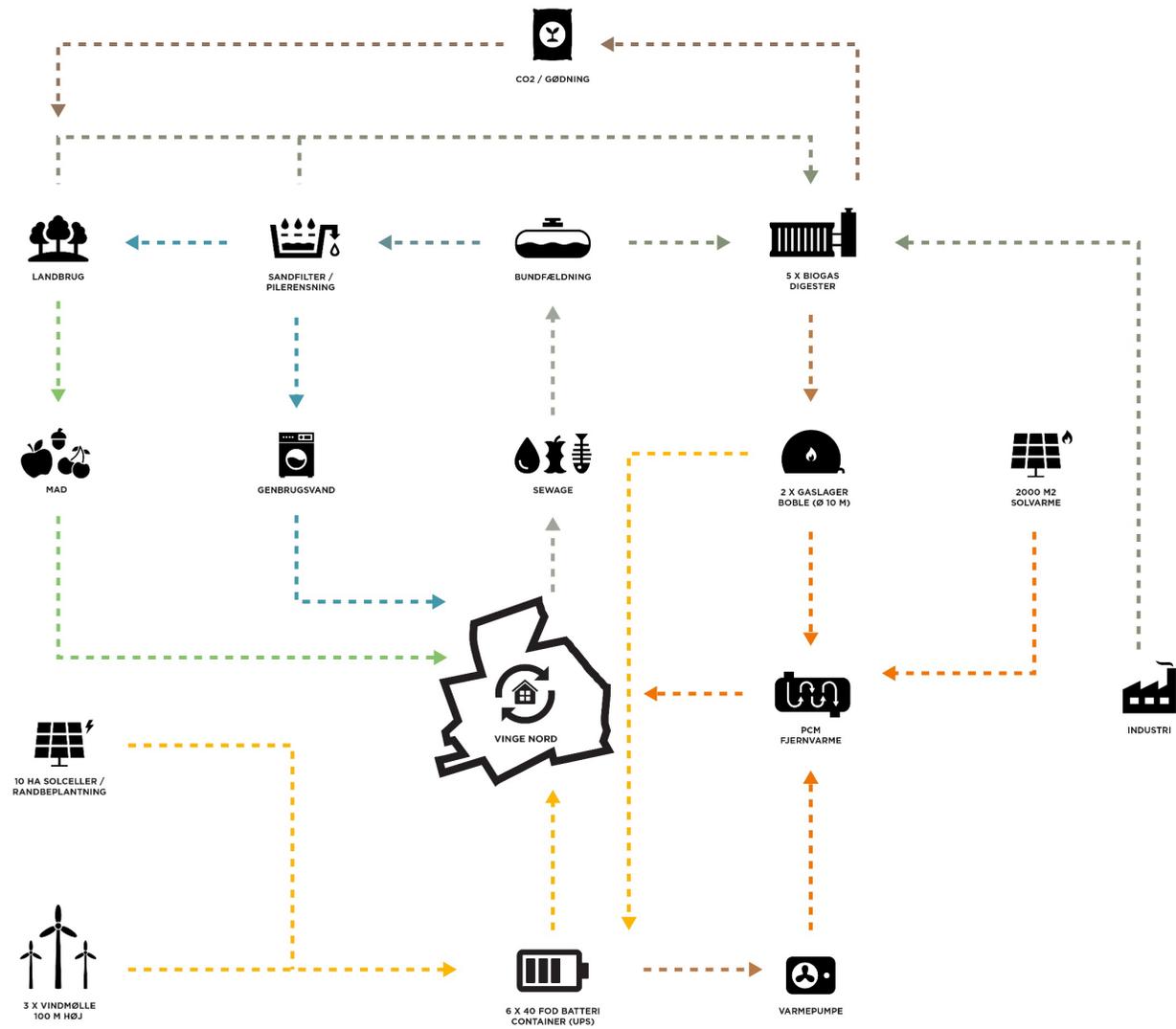


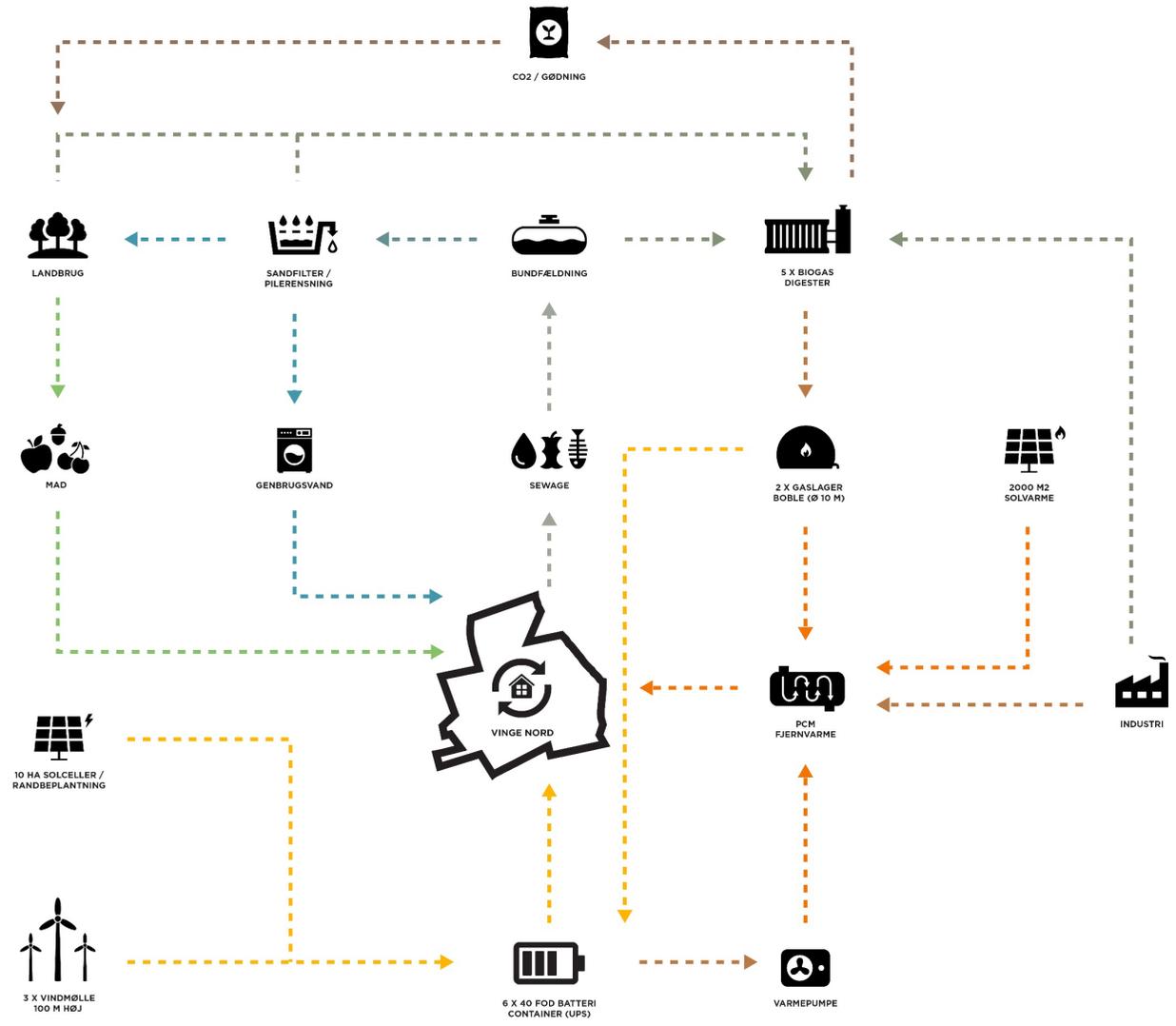










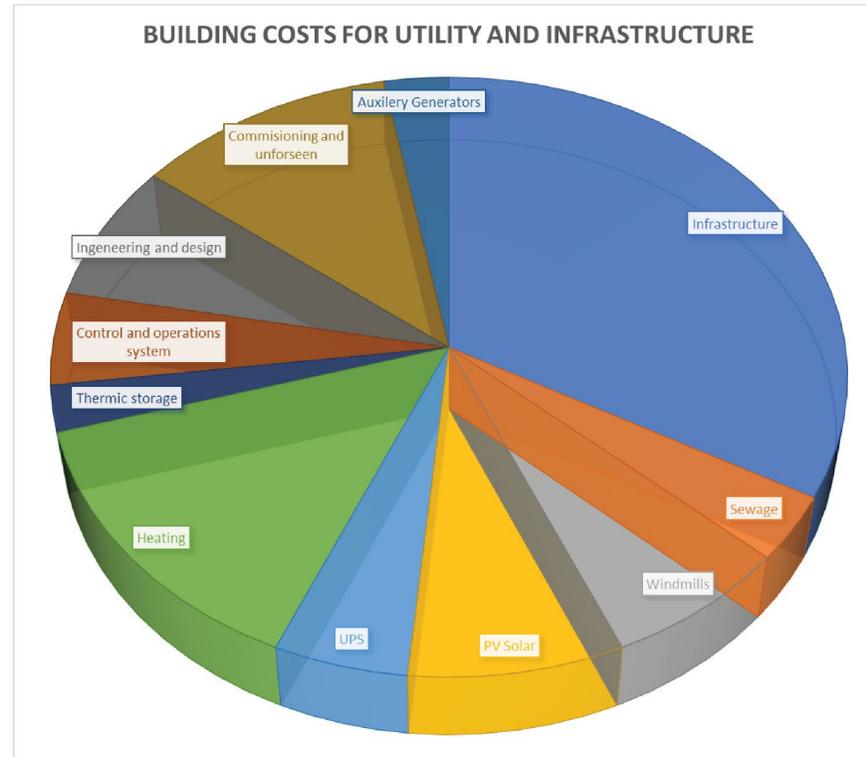


GREEN ISLAND

BUSINESS CASE

**Cost pr house**  
**Total Cost**

**160.000**  
**318.015.620**



Distribution of Cost	
Infrastructure	33%
Sewage	3,5%
Windmills	7%
PV Solar	8%
UPS	5%
Heating	14%
Thermic storage	2,5%
Control and operations system	5,0%
Ingeneering and design	7,5%
Commissioning and unforeseen	11,6%
Auxilery Generators	2,9%
	100,0%

**UTILITY BUILDING COSTS**