

# **Malmö's *Hyllie Climate Contract***

## **A Public–Private Partnership for Smart City Solutions**

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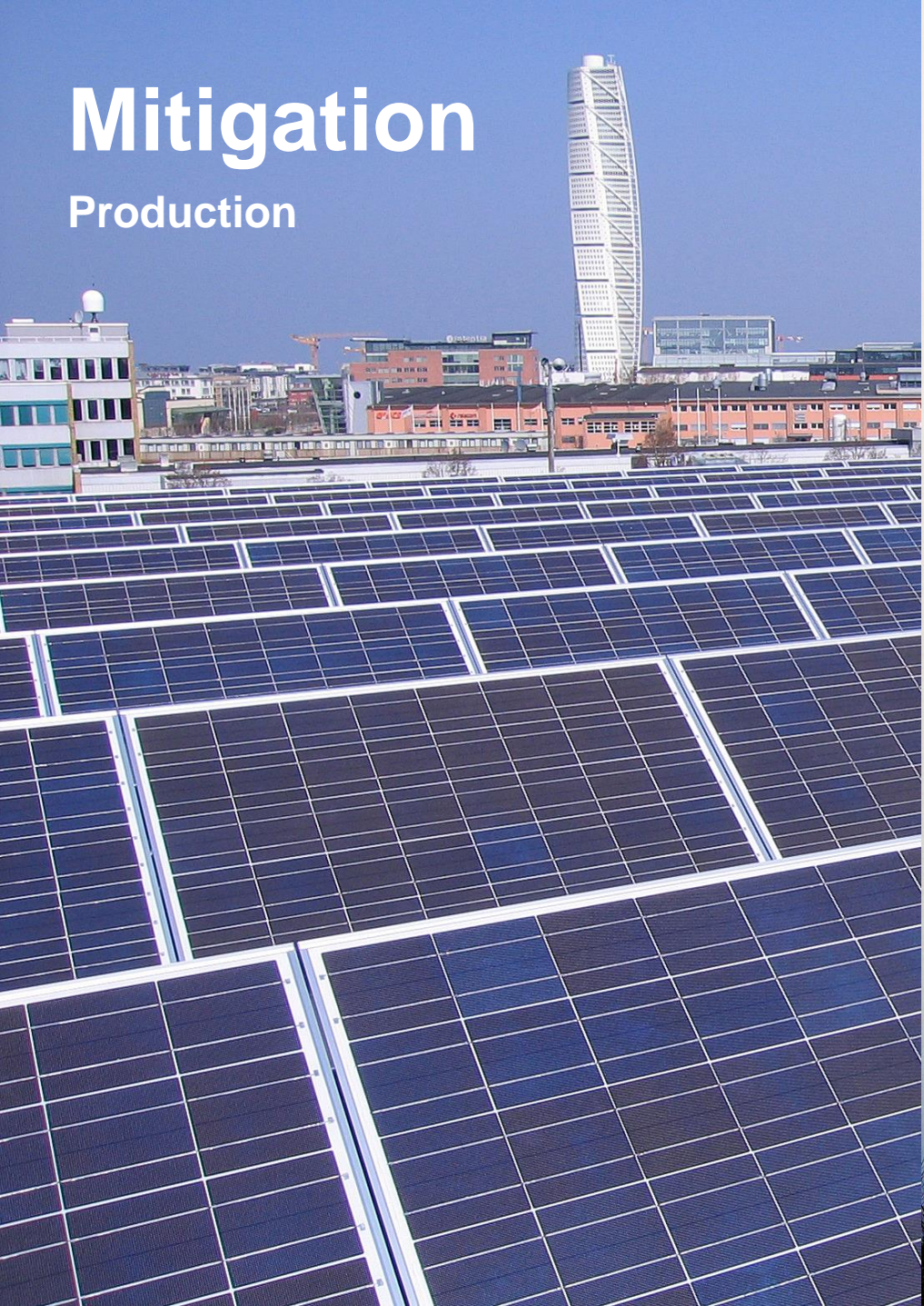




Adaptation

# Mitigation

Production



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# Mitigation Consumption

# Malmö's *Hyllie Climate Contract*

## A Public–Private Partnership for Smart City Solutions

### OUTLINE

Background

The Hyllie City District

The Hyllie Climate Contract

Actors and Stakeholders

Novelties

Achievements

Replicability

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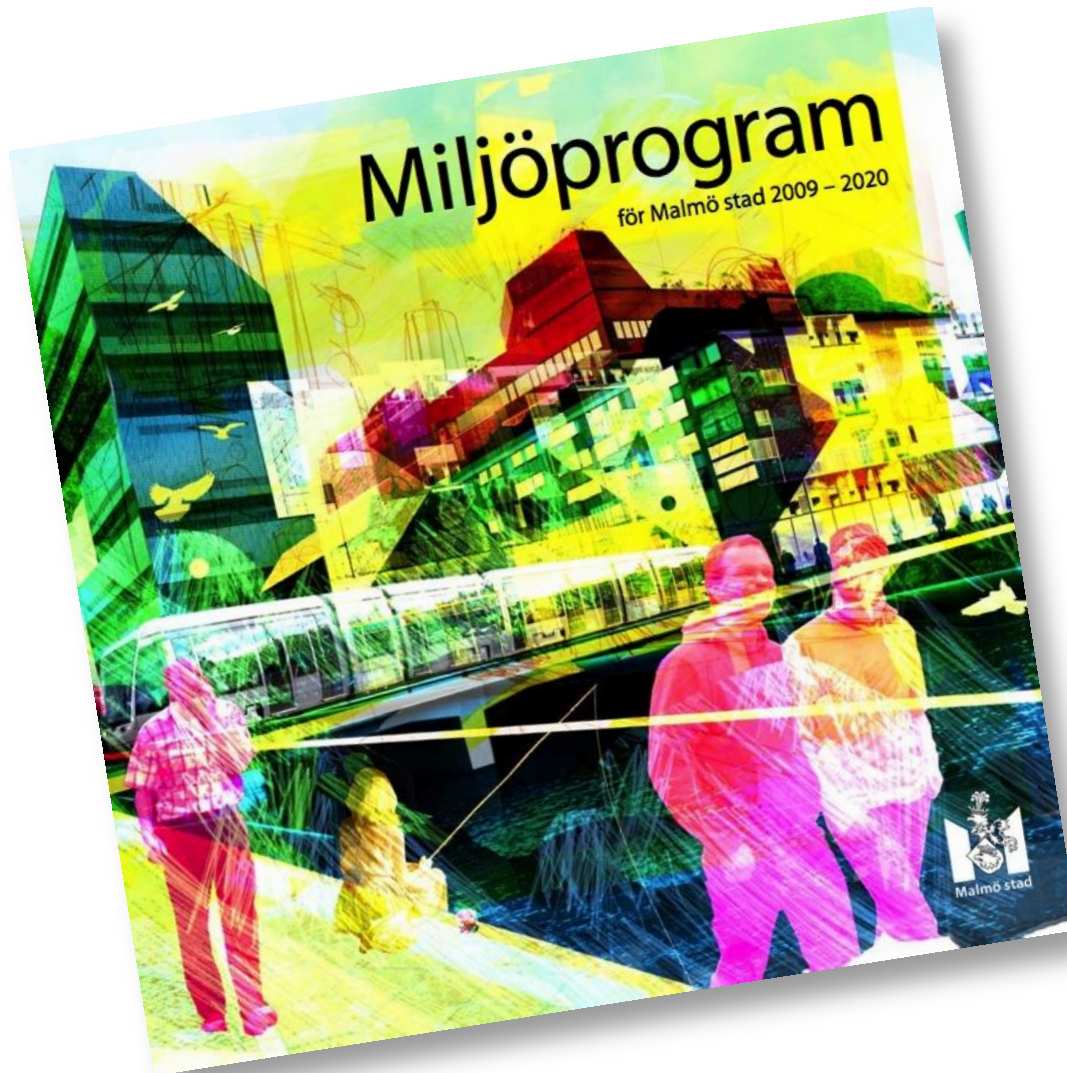
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# Malmö's Environment Programme



By

**2030**

all of Malmö  
will be supplied by  
100 % renewable energy

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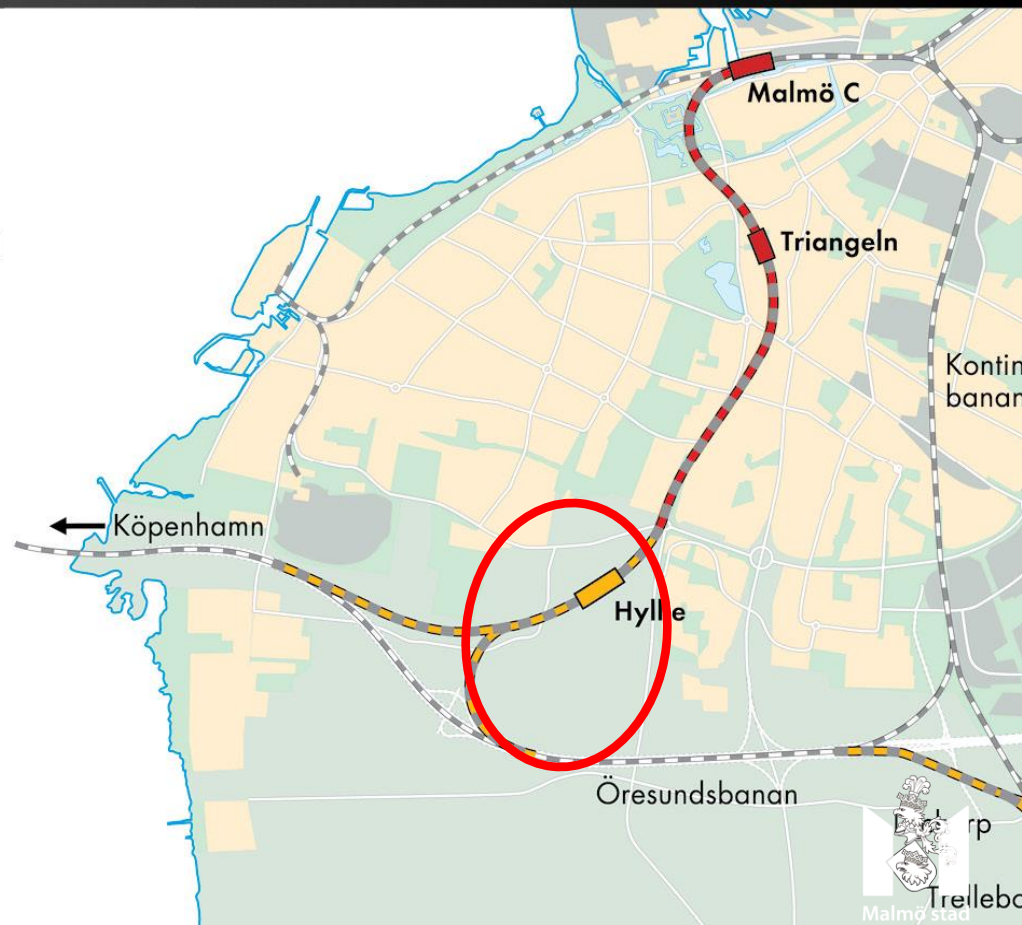


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## Hyllie - a potential released

- An unrealized housing project in the 1970's which left a gap in the city's outer rim
- 3 000 km<sup>2</sup> undeveloped land, mostly owned by the City of Malmö
- Potentialized by the City Tunnel connection
- Reached by 3.6 million people within 45 minutes
- 6 minutes from Malmö Central, 13 minutes from Kastrup International Airport and 27 minutes from Copenhagen Central
- Is being planned for 9 000 apartments and 9 000 work places in a dense city-structure



2004



2009



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# Malmö's largest development area



April 2015



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# Climate-Smart Hyllie – Testing the Solutions of Tomorrow



# Climate-Smart Hyllie (on [YouTube](#))



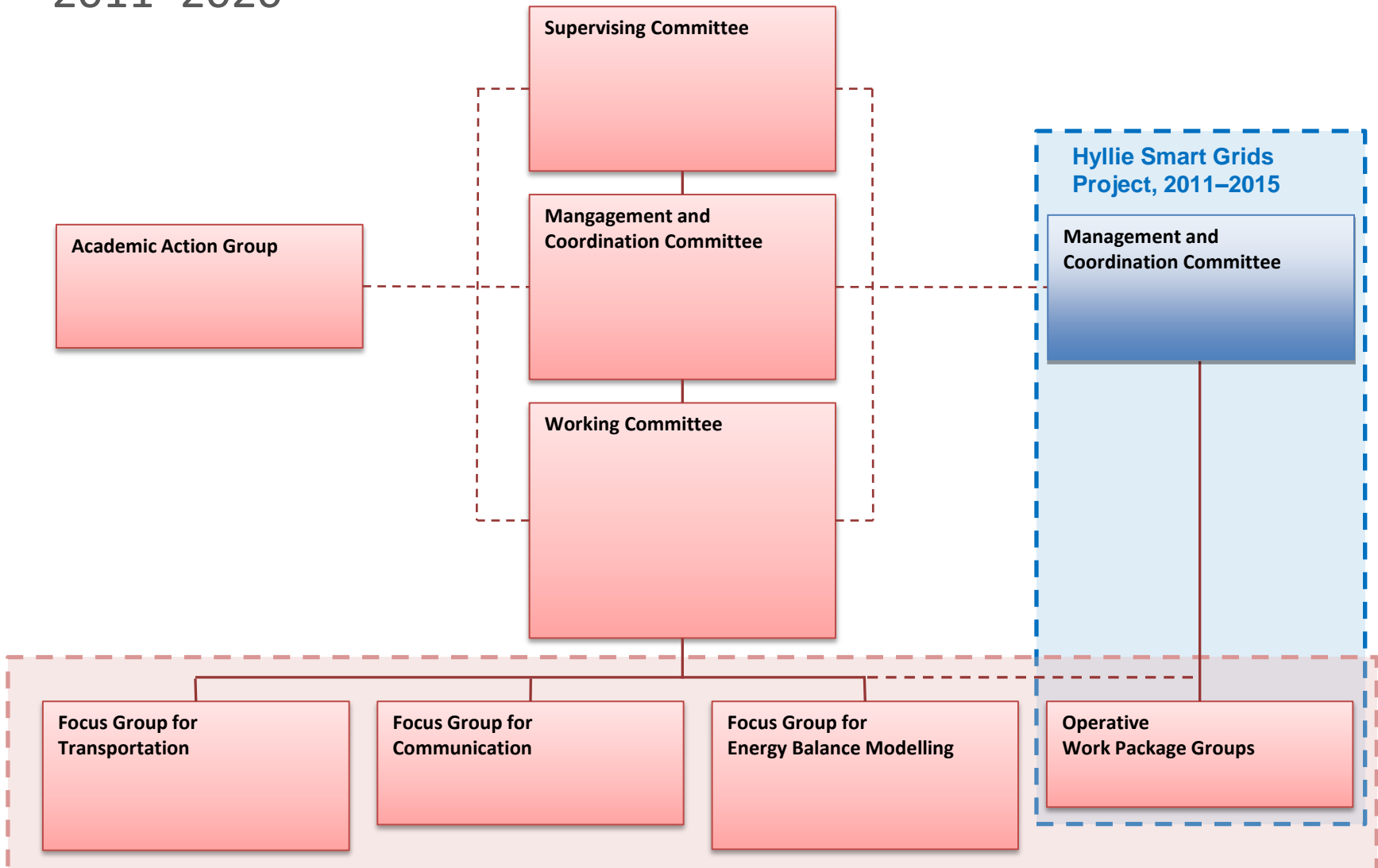
Climate-Smart  
Hyllie



0:04 / 4:23



# The Hyllie Climate Contract 2011–2020





# The climate contract roadmap



**Eight focal targets**, each broken down into **indicative targets**, as well as into **milestones** and **measures**, form the backbone of the joint effort.

1. By 2020, energy provided for Hyllie will be 100 % renewable or recycled.
2. In Hyllie energy infrastructures will be integrated with one another and based on a "smart grids" concept.
3. Buildings in Hyllie will be adapted to the opportunities that smart energy infrastructures offer.
4. Locally produced renewable energy will contribute significantly to the energy balance for Hyllie.

# The climate contract roadmap



**Eight focal targets**, each broken down into **indicative targets**, as well as into **milestones** and **measures**, form the backbone of the joint effort.

5. In Hyllie, promoted modes of mobility will be pedestrian, bicycle and public transport, while smartly integrated gas and electricity solutions for vehicles will be readily accessible.
6. For people in Hyllie, climate-smart lifestyle choices will be convenient and attractive.
7. Hyllie will be a world leader in the demonstration of climate-smart solutions.
8. This roadmap for Hyllie will be continuously monitored.

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# Whom does the climate contract address?



Hyllie boulevard



Hyllie allé

- ← Developments near Hyllie station
- Further northbound developments
- Further southbound developments
- Funding agencies and other third-party partners

# What motivates the parties of the climate contract?

**e.on**

VASYD

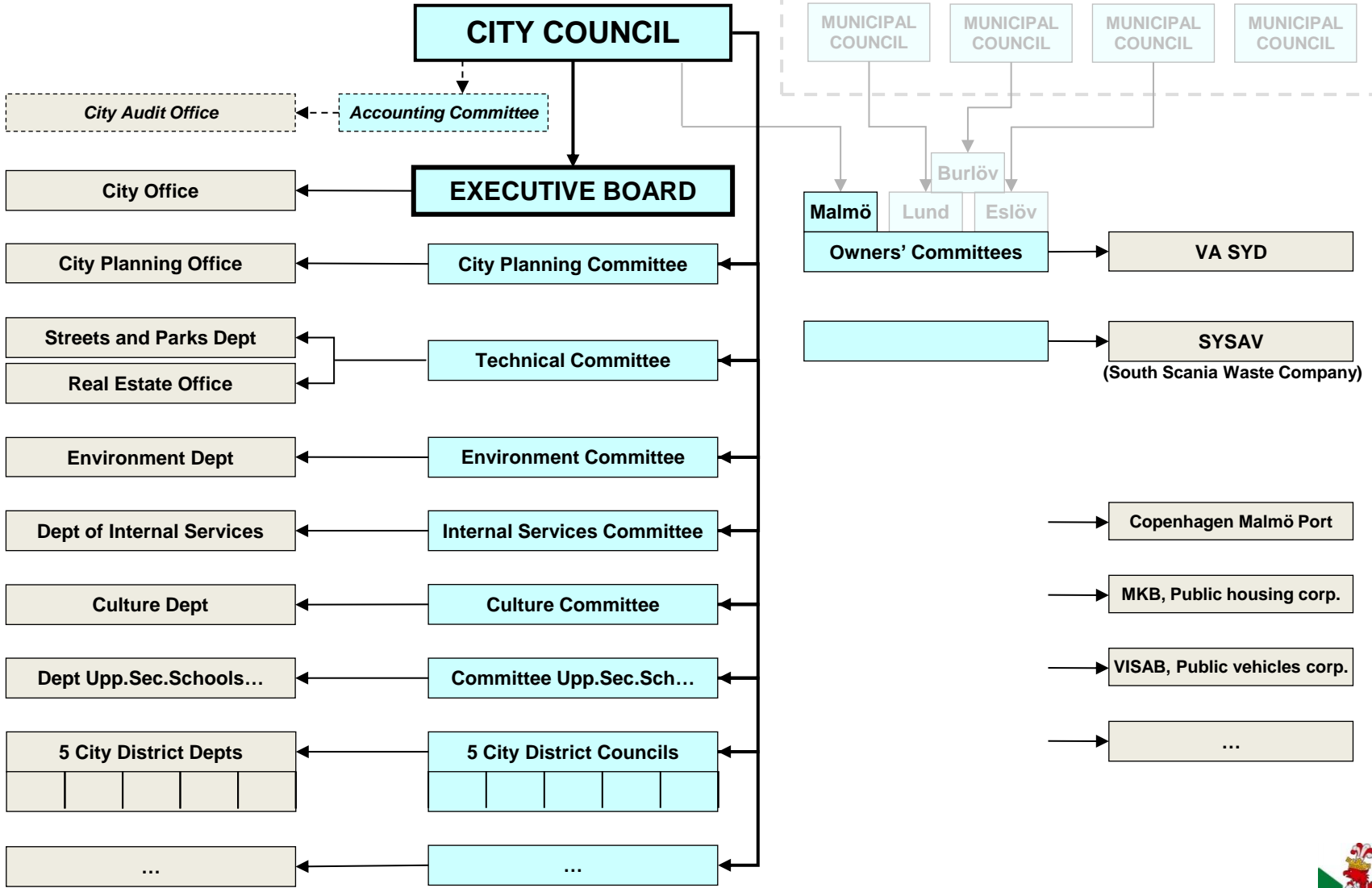


With the support of the  Swedish  
Energy Agency

# What legitimacy does the climate contract have?

- From the vantage of the primary addressees (developers and owners of property in Hyllie)?
- From the vantage of the secondary addressees (funding agencies and other third-party partners)?
- From the vantage of the people in Hyllie?
  - Residents
  - Employers and employees
  - Visitors
- Internally, within the organisations of the parties?

# Malmö



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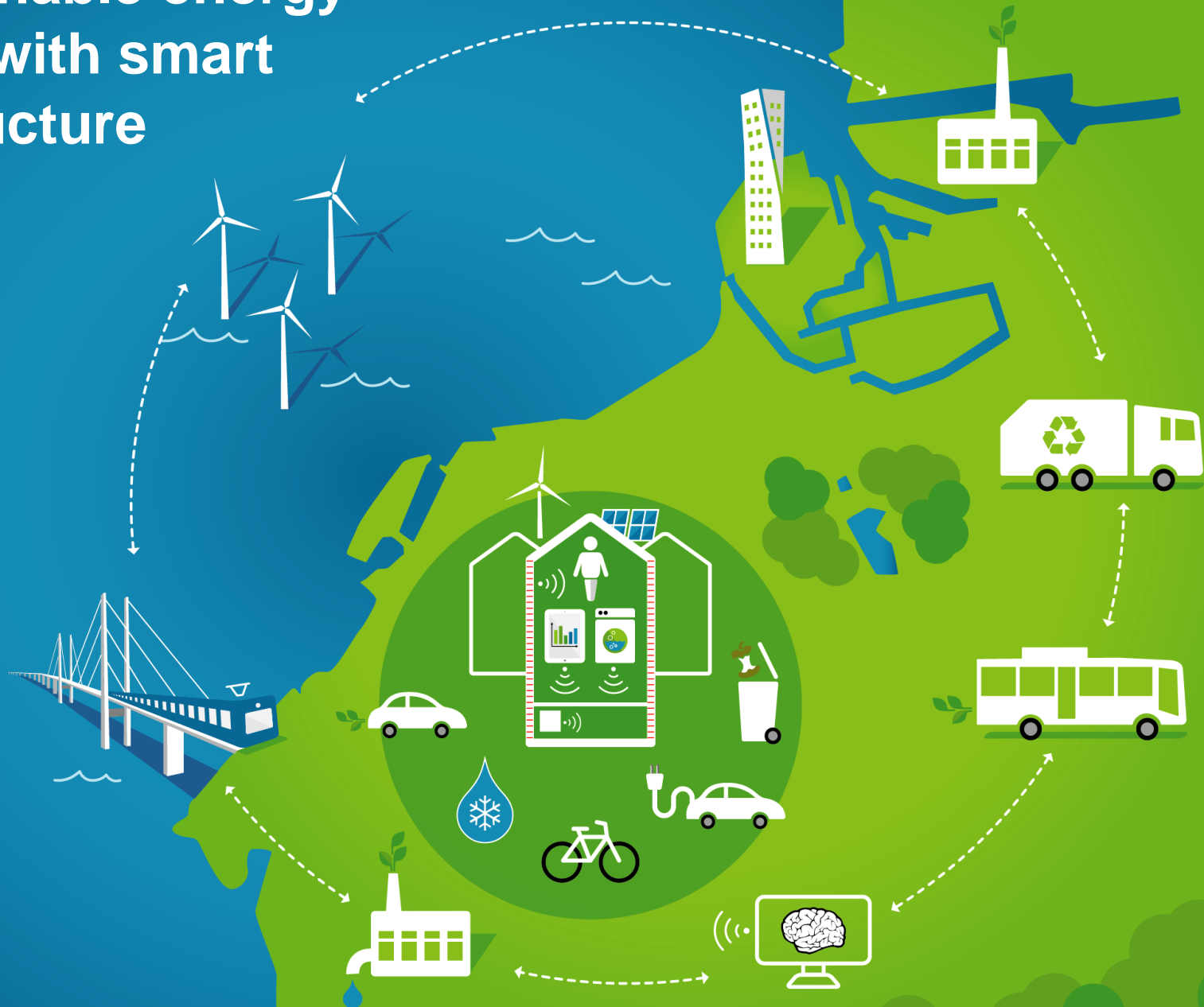
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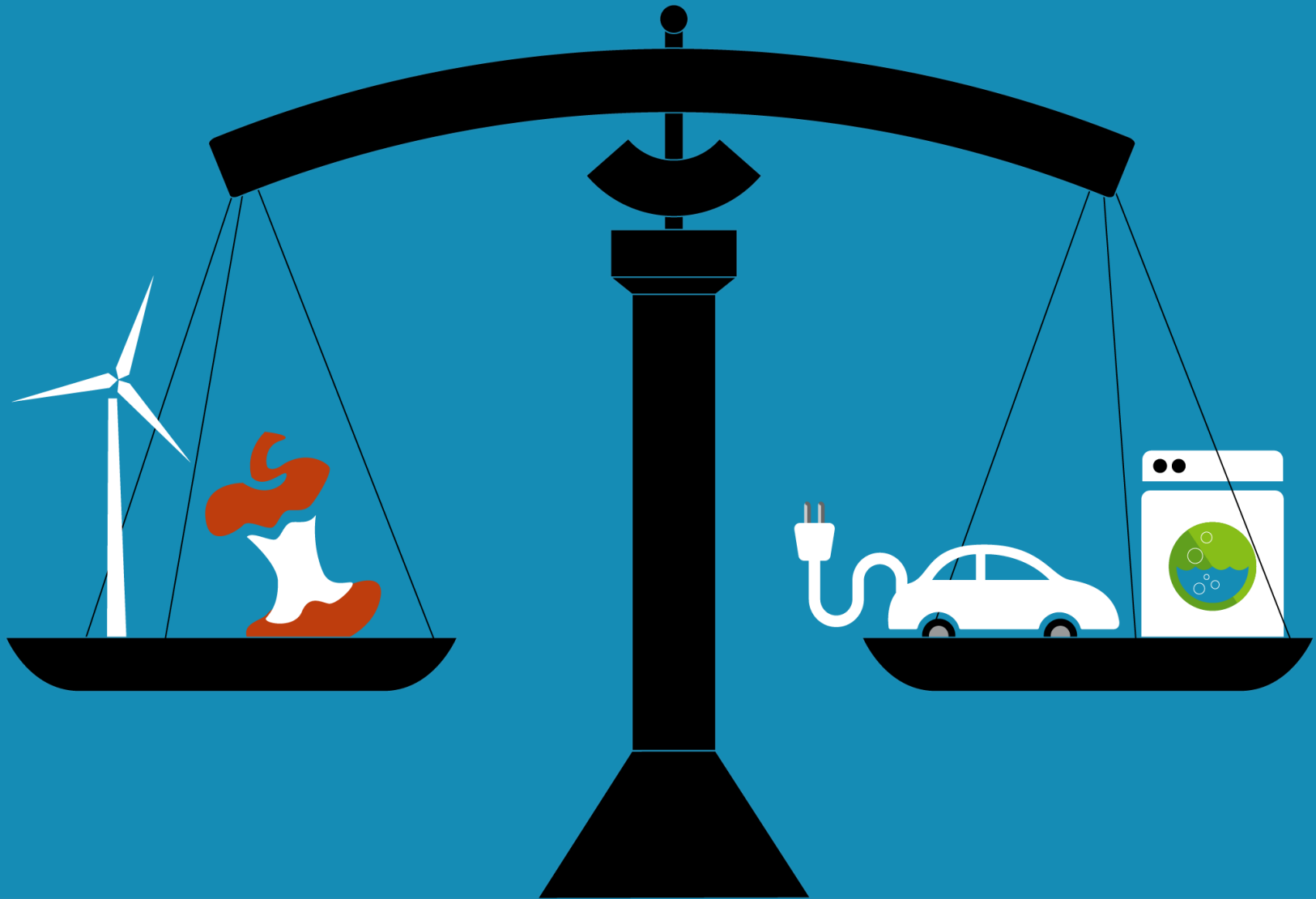
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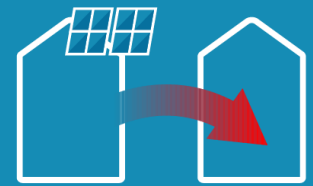
# A sustainable energy system with smart infrastructure



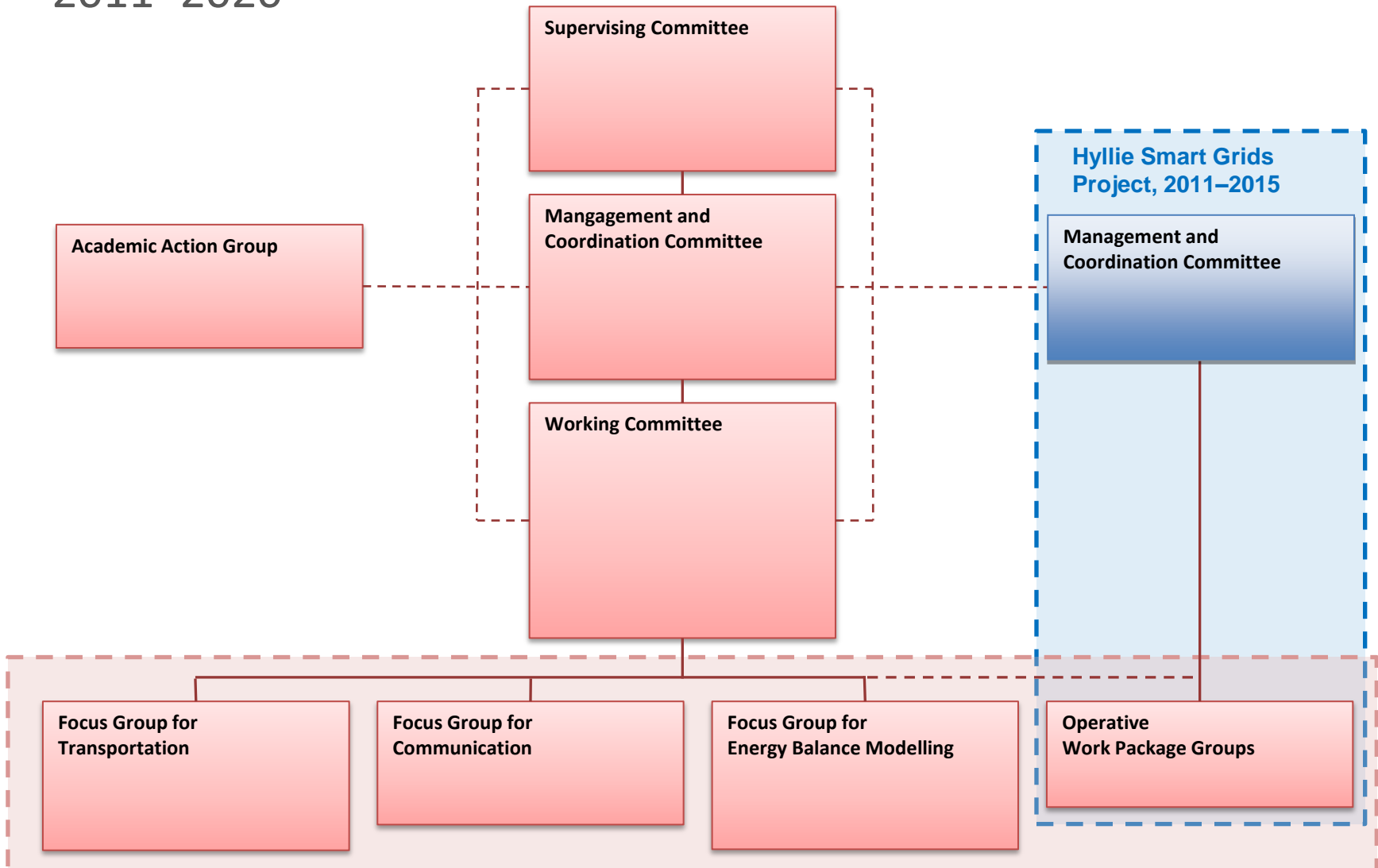
# Annual energy balance



# Smart energy solutions lower carbon emissions



# The Hyllie Climate Contract 2011–2020



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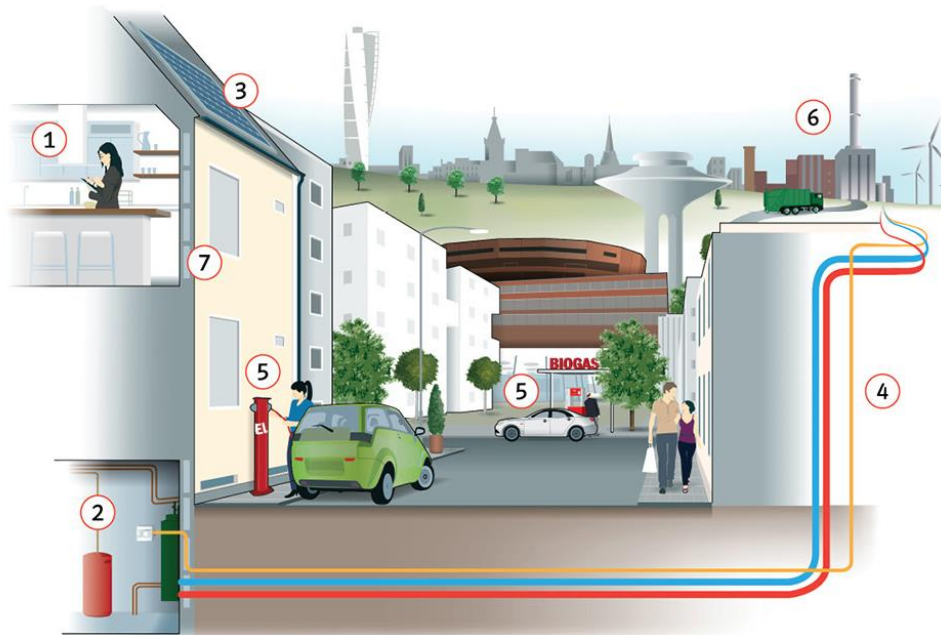
Replicability

# Examples of achievements



## 0 Inter-party coordination, external funding, etc.

1. **Smart homes**
  - Home energy management system (HEMS) and interface
  - Receptiveness studies
2. **Smart buildings**
  - Building management system (BMS) gateway
  - Hotwater-fed white goods
  - Novel business and incentive models
3. **Local production and infrastructure**
  - Dynamic district heating temp range
  - Thermal grid smartness



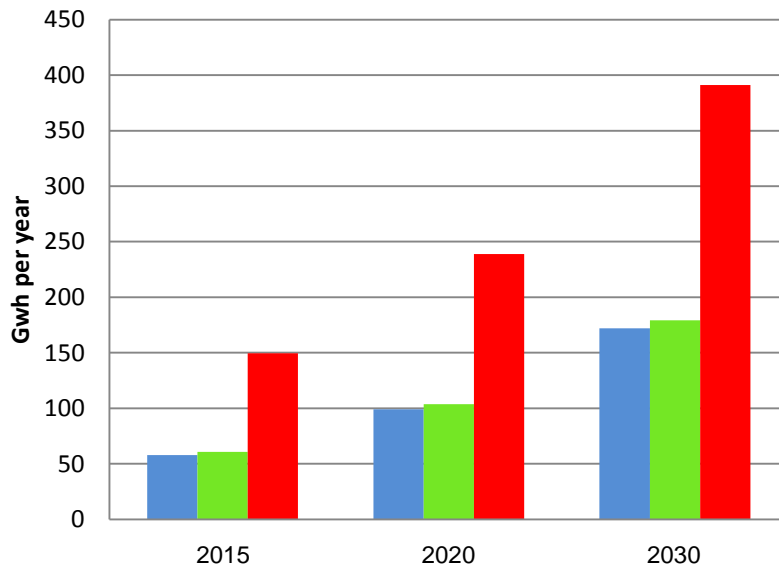
4. **Integrated smart grid**
  - Platform and interface
  - Automation increase in grid stations
  - Load balance adaptivity
  - Customer relations
5. **Transports**
  - Biogas tank station
  - Systems integration of electric vehicle charging
6. **Energy balance**
  - Energy balance modelling and interface
  - High-efficiency cooling solutions

7. **Energy storage**
  - Building core storage capacity
  - Integration of photovoltaic cells and local battery storage
  - Integration of thermal grid and local heat accumulation

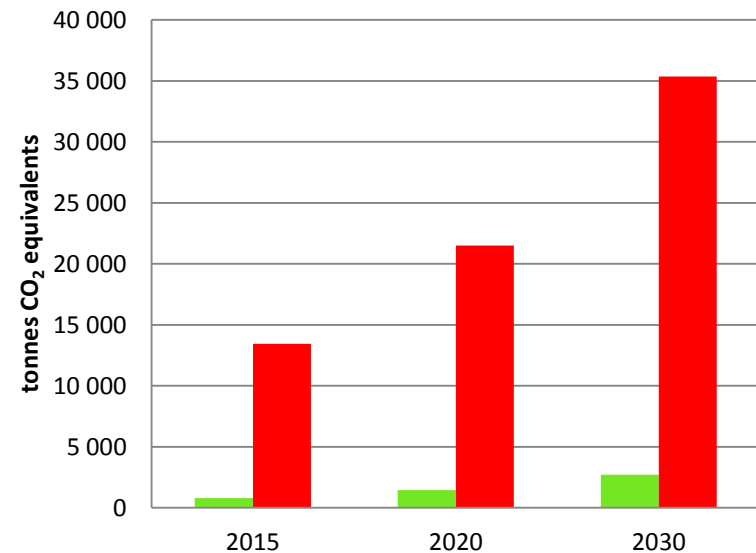
# Effects of allocation of production



## Hyllie Primary Energy Use



## Hyllie GHG emissions



- Without Climate Contract production allocation scheme
- If Climate Contract energy allocation targets were to be reached
- Forecasted energy end-use by Hyllie users

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Who are the parties and what are their stakes?



July 2015

A wide-angle photograph of an offshore wind farm at sunset. Numerous wind turbines are visible, their silhouettes and blades reflected in the calm water. In the background, a long cable-stayed bridge spans across the horizon. The sky is a mix of soft orange and grey, indicating the time is either dawn or dusk.

## Contact

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