



**Interreg**  
North Sea Region  
**ACCESS**  
European Regional Development Fund



# **Advancing Communities towards low-Carbon Energy Smart System**





# Malmö

## A car park turned into an energy hub in a new residential area

## Context

### The Challenge for the City of Malmö

The City of Malmö is a European leader in carbon neutrality, aiming for net zero by 2030 powered by 100% renewables and reused fuels. A growing population and changing energy landscape in Sweden means much of this renewable capacity needs to be generated locally, on a district grid not prepared for such capacity. Grid congestion – where local demand exceeds the capacity of wires in peak times - is becoming a real and growing problem in this context.

### Objective of the ACCESS Pilot in Malmö

The City of Malmö aimed to test the process of building flexibility into new urban developments, focussing on a Local Energy Mobility Hub integrating renewable generation, EV charging infrastructure and storage in an efficient DC grid to cut power peaks and losses locally.

## ACCESS

**Total Budget:** €4.540.864  
**ERDF Contribution:** €2.270.432  
**Duration:** 2019-2023

### Description

As part of the Interreg North Sea Region project ACCESS, 4 frontrunner cities piloted innovative solutions for decarbonising local energy systems. ACCESS found that local authorities can actively facilitate the renewable transition in their area through grid balancing, energy trading, efficiency and other smart methods.





**Malmö used its parking garage to test its future role as a municipal coordinator of local energy systems**

## Approach

### **Establishing a grid-friendly Mobility Hub**

Malmö incorporate smart energy planning into the installation of the Sege Park mobility hub, to construct a building fully powered by renewable energy sources. The hub contains an impressive array of solar panels, with a total capacity of 255 kWp, and 220 kW capacity of battery storage.

### **Coordinating green investments with local actors**

The City of Malmö took a coordinator role in the project, finding the right balance in planning green investments and working closely with municipal parking company Parkering Malmö to complete the installation.

### **Testing innovative city energy strategy through the pilot**

Malmö used their experience in ACCESS to test their Europe-leading energy strategy, *Energy Strategy for Malmö 2021-2030*.



# Pilot Impact

**30**  
%

## Carbon emission reduction

Potential annual carbon savings enabled by the installation of solar panels on the Sege Park garage roof and the ability to sell energy to the grid at optimum times thanks to the energy management system.

**35,000**  
€

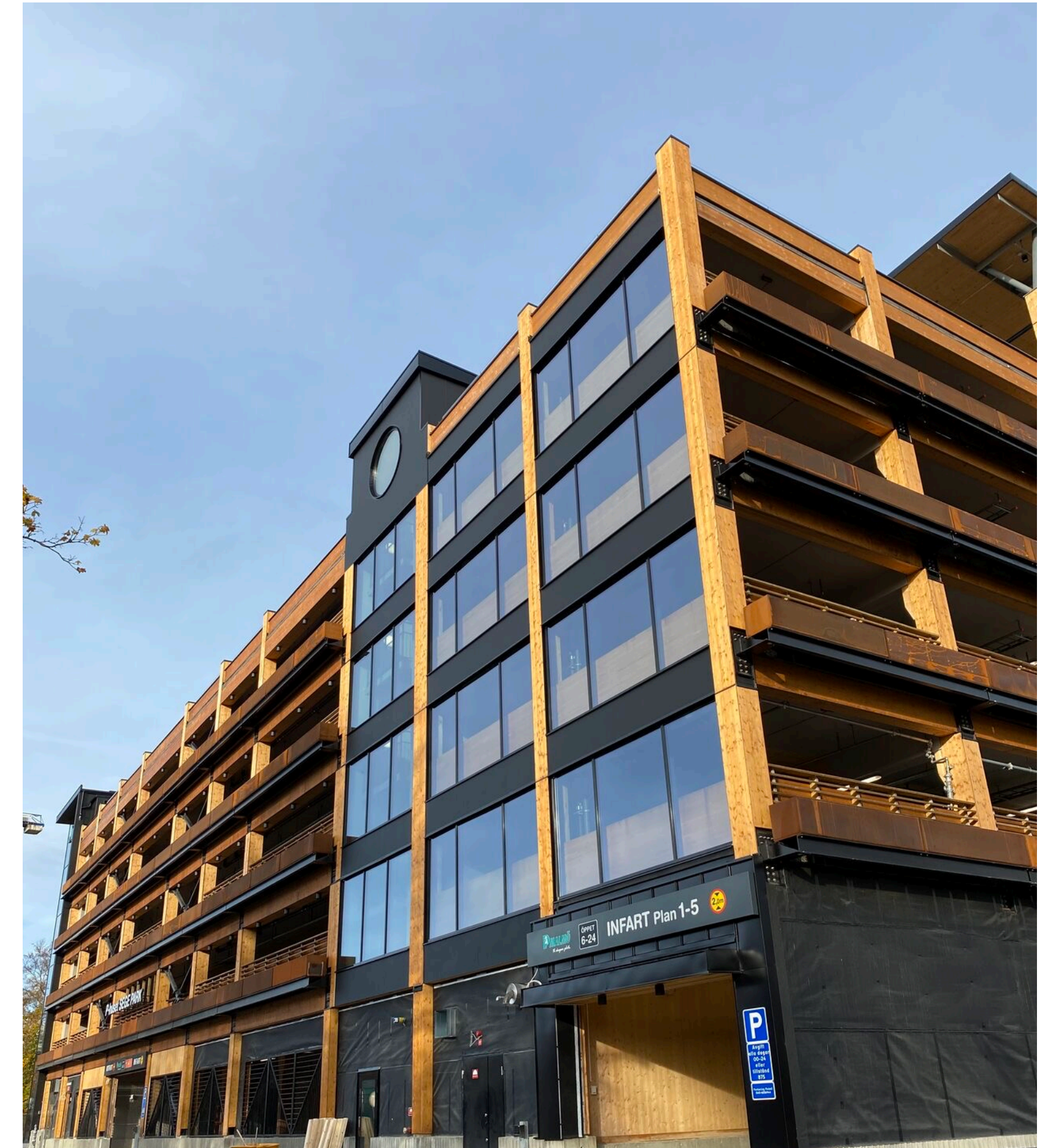
## Estimated value of flexibility services offered to the grid

By contributing to energy flexibility market in winter, the Sege Park battery will produce an estimated operating income of €35,000 (400,000 SEK) annually. This will help to pay back the initial battery expense.

**27**  
%

## Reduction in energy costs

By providing services to the grid during Winter and reducing energy costs for EV charging during peak times, the Sege Park installation will reduce net energy operation costs by 27%.



**The Sege Park pilot gave Malmö a blueprint for building a renewably-powered highly flexible installation**





**The development process for Sege Park helped Malmö identify avoidable delays for future flexibility projects**

## Lessons Learned

### **DSO participation is valuable but cannot always be relied upon for flexibility projects**

The DSO Malmö E.ON have historically participated in energy initiatives, but did not to take part in the Sege Park ACCESS pilot. This made development more complex. Where possible, local authorities are encouraged to coordinate the involvement of DSOs, or find suitable alternative arrangements if DSO incentives do not align with city goals.

### **Choose the right consultants is essential to project success**

The innovative nature of the project meant Malmö struggled to find contractors with the right technical expertise to build the project. Local authorities should be mindful of choosing the right contractors to avoid delays and unneeded expense.

### **Be careful not to overload flexibility pilots with innovations**

Malmö experienced a 6-month delay in the opening of the Sege Park parking garage partially due to on-site innovations not related to the ACCESS project, including the stormwater collection system. When embarking on innovative energy pilots, simplicity in design can help keep to schedule.