

# Energy Lab Zuidoost

Realizing the social energy transition in Amsterdam South East

SIGS DAVIANDAY



# Location

Amsterdam Southeast

- Reigersbos
- ArenAPoort
- Amstel III

# Site Characteristics

- 85,000 residents
- > 4,000 residents per km<sup>2</sup>
- 109 nationalities
- Income €17,900 per year (compared to €24,100 in Amsterdam)
- 44,000 dwelling (99% built after 1949)
- 60% social housing, 28% home owners, 12% private rent
- Large business district and multiple complex buildings (e.g. Johan Cruijff ArenA, Ziggo Dome, HMH)
- 105,000 people work in this

# Mission

Amsterdam Southeast wants to be energy neutral by 2040. The development of Amsterdam Southeast offers opportunities to combine sustainability goals with poverty reduction and social improvement. For example, by improving the living comfort of homes when they are renovated. Or by creating local employment during large-scale renovations. We call this a social energy transition. Realizing this social energy transition requires cooperation among many different parties. By experimenting together in several 'Living Labs', we facilitate interdisciplinary research and help develop and test new innovations in a real-life environment. This helps us understand what works and how to scale and implement these innovations in Amsterdam South East and other metropolitan environments.

# Innovation themes

The focus within the Energy Lab Zuidoost is on three main topics, each developed into a Living Lab of their own.

- Sustainable renovation of homes renovate 10,000 homes by scaling the deep retrofit approach for 288 homes that is applied in Reigersbos.
- Local smart energy systems developing and testing a scalable neighborhood energy platform for a wide variety of stakeholders in the ArenAPoort area.
- Low temperature heat networks realization of a low temperature heat grid to heat buildings and houses with residual heat from data centers in Amstel III and developing a blueprint for such networks for the broader metropolitan area.

# Research and experimentation opportunities

We develop a number of scalable pilots and experiments around the topics above. All projects and pilots are carried out together with different companies, public organizations and residents. There are ongoing projects that offer experimentation opportunities depending on the phase of the project. Also, we develop new research and experiments around these topics. These can be applied at the existing project locations or we can search for new locations in the broader, versatile area of Amsterdam South East.

# How to join?

Amsterdam Zuidoost offers a real-life urban environment for innovations and research. The Energy Lab Zuidoost supports new projects and research that contribute to the

area (22% of the employment in Amsterdam)

#### Contact

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**ENERGIE LAB ZUIDOOST** 



energy transition in Amsterdam Southeast that are scalable, replicable and interdisciplinary. If you would like to develop research or set up an experiment, please contact Else Veldman. We can help bring parties together, support you in organizing an experiment or in exploring project financing.

# Living Lab Organisation

The Energy Lab Zuidoost is a collaboration between AMS Institute, City of Amsterdam, TU Delft, University of Amsterdam (UvA) and Amsterdam University of Applied Sciences (HvA). In the living labs these partners work together with companies, public organizations and residents to contribute with scientific knowledge to an energy neutral Amsterdam South East.









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# Examples of projects

## **Renovation of Reigersbos**

Approximately 300 dwellings will be renovated in Reigersbos. The project aims at developing a (circular) façade concept in combination with other renovation measures. The project offers an approach to scale the renovation of existing dwellings, to achieve great savings in CO2 and a better living environment, while raising awareness and socio-economic benefits by involving the district residents in the renovation process. One house has been renovated in advance to demonstrate the concept. The demonstration house also serves as an education and practice place to involve and empower the local community to take a role in the transition process.

### Data center heat

A new and sustainable heat network in South East is being realized that uses residual heat from a data center. This low temperature network serves as a demonstration for similar projects in the metropolitan area. During the realization of the project, research will be conducted into both existing limitations in the market and the technical requirements of low temperature heat network projects. The project is a collaboration between Firan, the City of Amsterdam, TU Delft and AMS Institute.

# A Future-Proof Mosque

Students of the MSc MADE worked together with people of the Taibah mosque to realize their sustainability goals. They made a roadmap how the mosque can make the kitchen fully sustainable in various steps. Also they developed a tool for the local community with possible measures for energy saving and renovation of their home, including an overview of the annual savings that these measures can yield. In addition, they investigated how the mosque can make more impact by mobilizing the community and share lessons learned with other mosques.

# ArenAPoort Smart Energy Lab

In the area of Amsterdam ArenApoort a local smart energy exchange platform will be developed and tested. Together with local stakeholders, such as energy communities and businesses, various experiments will be done, to develop services and explore the effect of various services and solutions on the local energy network. The project is a collaboration between, various knowledge institutions, and among others the Municipality of Amsterdam, Liander, Spectral, CoForce and the Johan Cruijff ArenA.





