



# Amsterdam rural microgrids

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Sustainable energy is the future. The city of Amsterdam has the ambition to provide every citizen with a solar panel in the next years. How do you contribute? Share your innovative initiatives on energy here.

Improvements can be made by enhancing collaboration among stakeholders, sharing more data, and collectively planning underground activities. Understanding the interests of all involved parties is crucial to developing an action plan aimed at enhancing the quality and management of the underground.

Learn more about ATELIER at its public website () or via the ATELIER Twitter and LinkedIn channels. Sign up here ([link follows](#)) for the ATELIER newsletter. Follow the project virtually and don't miss an opportunity to come talk to its partners at events to learn more about how ATELIER will improve the life of its citizens and the liveability in its cities!

ContextAfrica is the fastest growing continent on the planet, measured both in GDP as in population, which historically is accompanied with a growth in energy consumption. With an eye on the Paris Agreement and COP26 it is clear the energy should be Low or even Zero Emission. However, it is important this does not stifle the economic growth allowing millions to climb out of poverty. With this in mind the EU funded the SESA project that aims at mitigating climate change while improving access to sustainable energy under affordable, reliable conditions.

Cenex NL's key contributionsCenex NL leads the work package responsible for the development of the key repository of the project, the so called "SESA Toolbox", and the evaluation of the project results available in the toolbox. Our team will be involved in three tasks:

Optimization of local energy usage, production, and exchange is important for tackling grid congestion. It can also stimulate the usage of sustainable energy resources and lower the costs of energy. However, optimization requires intensive collaboration between local stakeholders. It also requires them to take the common good into account instead of their self-interest.

Properly organizing these types of collaboration on the local level is therefore very challenging. There is a need to create a (as far as possible) standard approach with best practices and collaboration between the government, grid operators and the local communities. This challenge aims to create a collaboration between people working with Lokal Energy Systems (LES), to help them share their knowledge and learnings, and to empower people who want to create a LES of their own.

Across North West Europe, cities are increasingly investing in renewable energy production and charging infrastructure for electric vehicles. However, the control systems for energy generation, energy utilisation, energy storage and electric vehicle charging work are currently separate from each other. This results in high



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costs and CO2 emissions due to energy inefficiencies.

Electric vehicles are mostly powered by fossil fuel generated electricity. At the same time, renewable energy is inefficiently utilised because production and demand are not synchronised across the city.

The project CleanMobilEnergy will integrate various renewable energy sources, storage devices, electric vehicles and optimisation of energy consumption through one unique smart energy management system. The development of this intelligent Energy Management System (iEMS) will increase the economic value of renewable energy and significantly reduce CO2 emissions.

The iEMS will assure the smart integration through interoperability based on open standards for data flows and analysis tools. CleanMobilEnergy will make it possible for renewable energy sources to be used locally, so electric vehicles can be charged with 100 % renewable energy offered at an optimum price. Electrical energy from the grid will only be required when prices are low or renewable energy sources are not available, the iEMS monitors and optimises the system 24hours a day, 7 days a week.

One generic transnational iEMS will be adapted to the 4 specific City Pilots, in Arnhem, London, Schw?bisch Gm?nd and Nottingham. These pilots range from small towns to large cities. The 4 City pilots cover different types of renewable energy, storage and electric vehicles as well as different contexts and diverse city environments.

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