Amsterdam in the energy transition

Where are we headed?

Amsterdam wants to take a leading position in the energy transition of the Netherlands

Reducing CO^2 by 55% in 2030 and 95% in 2050

Cutting of natural gas in 2040

Emission free mobility in 2025

Building a foundation by working together

amsterdam smart city

Amsterdamse City Deal

"Naar een stad zonder aardgas"

Amsterdams Klimaat & Energiefonds

AMS AMSTERDAM INSTITUTE FOR ADVANCED METROPOLITAN SOLUTIONS

CITY-zen

Zuidas Mobility Experience

7 Guiding principles towards a circular city

1. A circular city produces no waste. All materials form part of a closed technical or biological cycle.

2. All energy is provided by renewable sources

3. Raw materials (financial or other forms) are used to create value

4. Modular and flexible product designs and production processes increase the adaptability of the system.

5. The change from consumer to user calls for new business models for production, distribution and consumption.

6. The logistics system is changing with an increase in regional logistics and return logistics.

7. Human activity contributes to ecosystems and ecosystem services, and the recovery of natural resources.

Where are we at?

Amsterdam still has a long way to go

Approximately 100 MW wind and solar energy

360.000 dwellings connected to natural gas

5% electric mobility

Three current issues hampering innovation

Uncertainty
in the direction and
overal progress

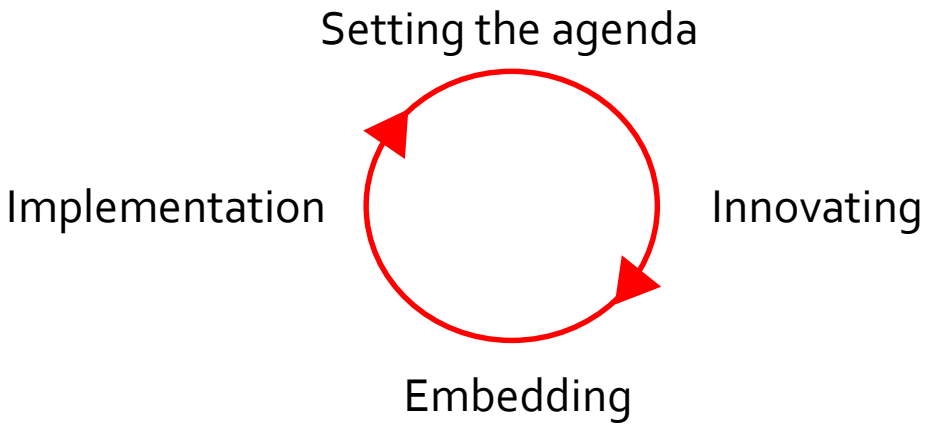
Small scale tailor-
made solutions

Fragmented
activities and
intiatives

**Invites a topdown,
intervention approach**

Improving the collective effectivity of the city's efforts

By creating a shared implementation-innovation loop for the city as a whole



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By creating a shared implementation-innovation loop for the city as a whole

Living roadmap	Developing accelerators	Streamlining innovation
Real-time progress and future perspectives give input to shortterm actions	Proof-of-concepts for scalable solutions and instruments	Coördinating initiatives and knowledge sharing

Energy Innovation Lab

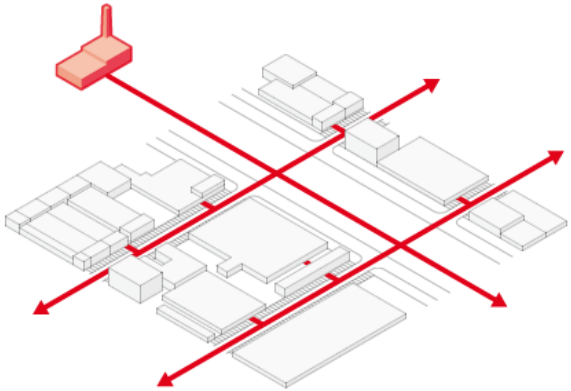
Strategy. Visualising systems

Example: BAU versus networked.

A

Business as usual

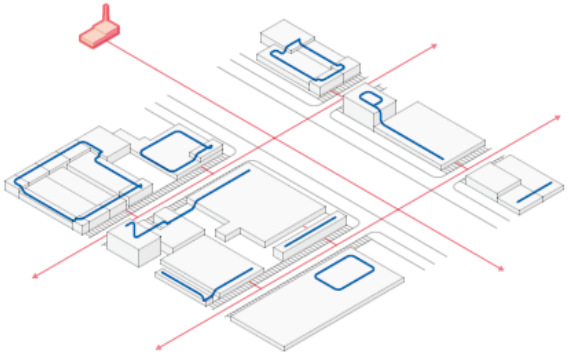
A large combined heat and power plant provides effective, reliable district heating, cooling and power. It is a well-understood solution. Yet it tends to be expensive. It is not easily scalable. It does not integrate particularly well with other systems. Nor is it particularly adaptable to change, with little incentive to take advantage of demand reduction via behaviour change strategies.



B

Networked

A decentralised network of community-owned energy microgrids, based on distributed renewable energy generation (solar, biowaste and others), battery storage (including in vehicles as well as fixed batteries), machine learning (to provide load balancing between systems), social sharing possibilities (between buildings and communities, including greater possibility of demand reduction via behaviour change). The grid provides backup, in the form of a smaller district combined heat and power plant. This means significant cost savings, as well as the ability to adapt to future scenarios, via iterative addition of microgrids. Cost, carbon and waste is all reduced.



So, how does this compare to Europe?

Interreg North-West Europe CleanMobilEnergy
European Regional Development Fund

Interreg North Sea Region SEEV4-City
European Regional Development Fund

EV Energy
Interreg Europe

European Union
European Regional Development Fund

simpla