

Amsterdam KPIs

The Smart Energy City, as a core to the concept of the Smart City, provides its users with a liveable, affordable, climate-friendly and engaging environment that supports the needs and interests of its users and is based on a sustainable economy. The Smart Energy City is highly energy and resource efficient, and is increasingly powered by renewable energy sources; it relies on integrated and resilient resource systems, as well as insight-driven and innovative approaches to strategic planning. The application of information, communication and technology are commonly a means to meet these objectives.

KP1 Resource system integration

	Level 1	Level 2	Level 3	Level 4
Integrated energy planning	Emergence of prosumers	Energy strategy: guidelines and roadmap	2015: new buildings 100% RES-heat and 50% RES-el	
Development of ICT use	Pilot & roll out of smart meters	Several small public wifis		
Use of ICT tools in city planning and mgmt.	Small scale decision support & monitoring tools	Planned large energy data analysis		
Flexibility and transparency of service providers	At consumer level: smart meters	At city level: publishing yearly energy consumption	data at a building level	
Waste (integration with resource systems)	Paper, batteries, metal, glass, plastics separated	Domestic waste burned in waste-to-energy plants	Sewage waste converted to biogas	
Transportation (integration with energy systems)	Bike highways discussed. E-mobility experiments.	Regulation for trucks in the inner city	Private parties: exploration of ideas of carpooling etc.	

KPI2 Access to energy services

	Level 1	Level 2	Level 3	Level 4
Access to affordable energy services	100% access to electricity	98% of households with access to affordable energy		
Level of energy services provided	No national policies on flexible tariffs	More and more products emerge		

KP3 Resilience

	Level 1	Level 2	Level 3	Level 4
Self-sufficiency distributed generation	Solar, wind, underground thermal storage	No specific goal		
Energy price shock	Not local, but national issue			

KP4 Energy efficiency

	Level 1	Level 2	Level 3	Level 4
Reduction of energy use	Financial support for measures in social housing	Low interest loans for energy measures for house owners	40% GHG emission reduction by 2015	
Increasing efficiency	Not a city issue			
Increasing efficiency in the supply system	Smart meters rollout, smart grid, home batteries	Pilot on innovative DH and DHC		
Increasing end-use energy efficiency	Unable to measure - done mostly by private parties			

KPI5 Renewable energy

	Level 1	Level 2	Level 3	Level 4
Production of electricity and heat from RES	Possibly solar&wind, cooling by deep lakes, sewage sludge to biogas	Private company: food waste to biofuels		
Level of public and private investment in developing RES	Possibly solar&wind, colling by deep lakes, sewage sludge to biogas	Private company: food waste to biofuels		
GHG emissions caused by energy production & transportation	Pilots in 3 main areas of work	40% GHG reduction by 2025		

KPI6 Active users

	Level 1	Level 2	Level 3	Level 4
Smart City-reflective behaviour	Smart meter pilots Energy loan	Hospital program Datacenter policy		
Awareness of the city's Smart energy vision	Marketing - yearly Smart City event	Amsterdam Smart City events (4x year)	Energy Cafe	
Formal& informal hubs and innovation centers	Amsterdam Smart City Green Metropole	Green Business Club	Climate Council	
Self-sufficiency by users	Climate policy	Amsterdam Smart City 3: districts as living labs	Various city-wide projects	
Engagement from users	Amsterdam Smart City: 3 districts as living labs, city wide (small) scale pilots	Policy: <i>Uitvoeringsagenda 2015-2020</i> . Hospitals		
Investment	Amsterdam Smart City: 3 districts as living labs, city wide (small) scale pilots	Policy: <i>Uitvoeringsagenda 2015-2020</i>		

KPI7 Sustainable economy

	Level 1	Level 2	Level 3	Level 4
Investment in innovation (public&private)	Vision on wind; car sharing; smart light; smart grid	Large: in DH and DC; optic fibre; use of datacenters' waste heat	University of Amsterdam, TKI IRIS, WUR	
Availability and prevalence of green jobs in the city	Jobs not a primary goal of energy transition			
Green initiatives	75% GHG emission reduction in all greenfield investments	Sustainable brownfields developments	No specific policy on retrofitting	

KPI8 Smart Governance

	Level 1	Level 2	Level 3	Level 4
Local stakeholders involved in investment and maintenance	Mostly private companies investing	Amsterdam Smart City programme	Amsterdam Smart City dsitriacts; pilot projects	
Governance	Under construction from 2013			
Standards for data collection and analysis	Continuing shared data and open data projects	Analysis often up to the data user, not the keeper		
Government engagement with users	Several city labs			