

Powering Amsterdam's Future
Supporting residents in the energy transition



City of Amsterdam

Partner Liaison: [REDACTED]

Specialized Jury Members: [REDACTED]

General Jury Members: [REDACTED]

Challenge Director: [REDACTED]

Amsterdam Policy Hackathon 2025

Note: Many source documents in this challenge are in Dutch. We recommend having at least one Dutch-speaking teammate on your team to take on this challenge.

Background

Saving energy through behavioural change supported by personalised guidance software

The energy transition is one of the greatest challenges of our time. Every day, we hear about new heating grids (warmtenetten), solar panels, energy cooperatives (energiecoöperaties), transitioning away from gas - the topics are numerous and complex. Besides the energy transition, the Amsterdam electricity grid struggles with overcongestion: in several places, there is no more capacity on the energy grid to supply power for new neighbourhoods, businesses, and public facilities, leading to delays and outright cancellations of building projects.

While grid operators such as TenneT and Liander are addressing this pressing challenge, this is a timely and costly venture. For these reasons, the City of Amsterdam is pursuing bottom-up, resident-focused approaches to guiding the energy transition and alleviating grid congestion.

The City of Amsterdam is currently committed to guiding the energy transition in the right direction, stimulating residents to make choices that align with the transition through subsidies, exemptions, and support. This support includes [energy coaches](#), who visit households on appointment for free to assist residents in improving their energy use. However, the tremendous challenge is too vast to be tackled by them alone, and not enough residents are aware of the energy coaching service.

For many citizens, it is challenging to maintain an overview of, and to understand, which choices they can make for themselves in regard to energy savings and the energy transition. Additionally, there is a lack of sources that tailor advice to personal situations or people. This leads many to not make any adaptations, while individual changes could have a real impact on reducing electricity grid demands, driving the energy transition, and reducing living costs for residents. The City of Amsterdam, therefore, encourages energy-saving behavioural changes. How could you further encourage action by residents?

Three major factors play key roles here:

Access to knowledge and insights: Residents need to understand *which options* are available to make a change and what impact their choices have. From neighbourhood heating solutions to the yield of solar panels on their own roof, the information should be accessible, clear, understandable, and tailored to all audiences.

Motivation and incentive structures: Financial benefits are a strong incentive, especially in times of high inflation. However, gamified elements such as point systems can also nudge people towards taking action.

Learning opportunity for the city: There is a chance that the initiatives surrounding energy currently offered by the municipality do not align with the needs of residents, leading to inaction. The city needs information about citizen preferences to improve policy. Could the municipality adapt or introduce programmes to further incentivise residents to take action?

Energy needs, usage, and budgets can vary a lot per household. How could you further encourage action by residents, especially when energy use-reducing solutions can be very personal? With the continuing development of Artificial Intelligence tools, there is ample opportunity to offer further personalised guidance through an AI tool, which can simultaneously offer residents personalised solutions and the city government & energy coaches information regarding what questions residents struggle with.

Case

Design a concept or prototype for a digital, AI-powered platform that helps residents make sustainable choices about energy for their household. The platform should inspire trust, make knowledge easily accessible, give residents insights into their own opportunities, and motivate them to make choices that contribute to the energy transition. The platform should be marketable and inspire residents to seek it out. Additionally, the platform should be usable by energy coaches when faced with complex situations posed by residents they are assisting.

Furthermore, to aid the City in assessing the needs of its residents, the platform should aggregate the types of questions that are commonly asked by residents. Using this data, the city could, for instance, introduce new subsidies or programmes for options sought after by residents. However, this should be done in a manner that preserves user privacy and avoids user selection bias.

Ideally, the design of your prototype will give the residents of Amsterdam ownership over reducing their energy bills and energy consumption. This allows room for individual creativity and involves residents in solving grid congestion.

In your policy brief, describe which challenges your solution resolves, and why the city should consider your advised concept. You should also include in the technical appendix any technical considerations you have regarding the AI tool you are using, with extra attention to energy consumption, of course. Pay attention to the scalability of the tool as well. How could the municipality apply this tool in the future, such as in heating, mobility, and other topics relevant to the energy transition?

The platform should address some of the following challenges, with both aiming to solve many challenges at once or some specific challenges well, being acceptable:

- Primarily, it should make complex information simple and understandable
 - The platform, provided by the municipality, should help residents understand terms such as *energy transition*, *heating transition*, *grid congestion*, and related technologies (district heating, heat pumps, batteries, etc.), so that I can easily grasp what is happening now and what future scenarios might look like.
- Enabling residents to find solutions that suit their specific situation and preferences
 - Should residents invest in heat pumps, solar panels, and batteries?
- Letting residents calculate the costs and benefits of measures
- Exploring subsidies or exemptions that apply to the considered options
- Highlighting local opportunities and initiatives
- Supporting residents in asking the right questions
- Support in several languages
- Gather insights from residents' interactions to identify common questions and challenges they face, helping the city design more effective subsidies and initiatives.
- Have an incentive structure that makes sustainable choices more attractive
 - The platform could show residents which choices give the greatest personal benefits, and which ones contribute most effectively to solving grid congestion. For this, they can earn credits that they can use, perhaps for expert advice. The more credits they earn, the bigger the discount on support during the next steps. In this way, they are encouraged and motivated to choose the solutions that best contribute to reducing grid congestion.

In your prototype, we do not expect you to explore all of these options. We encourage you to focus on a few categories, rather than all of them.

Challenge statement

How can the city of Amsterdam encourage energy-saving behavioural change in its residents? Design a platform mockup, prototype and LLM for residents of Amsterdam to assist them in making energy-saving choices, and describe the required data sources.

Sub-questions:

1. How can an AI model simplify complex questions surrounding the energy transition for the residents of Amsterdam?
2. How can the questions and issues raised by residents best reach and be used by the city government to inform future policy and subsidies?

Prototype design Principles:

- **Target group:** Residents of Amsterdam, energy coaches.
- **Main Functionality:** Support with personal choices surrounding energy. The output language should be easy to understand for any resident.
- **Scalability:** Built in by design. New regulations, subsidies, and other data sources should be easy to integrate.
- **Source of information for policymakers (municipality):** The platform (anonymously) builds up an information source on what kind of help residents need and which information is most helpful and requested. This could be an important source of information for policymakers.

Examples of questions residents may have

As a resident of the city, I want a platform to support me in making choices for myself, such as... So that I can contribute to solving the energy challenge *and* reduce my own costs.:

- Should I purchase a heat pump? Should I do this individually, or are there better collective alternatives?
- Should I invest in solar panels, or are there other options, and what would the benefits be for me?
- Calculate my savings if I... and show me alternatives.
- What about batteries? Is that a good solution for me, and what alternatives are available?
- If I'm buying a new car, which choices best fit my needs and savings potential?

- I need to replace my boiler. What options are available, and which best match my profile and savings goals?
- I want to generate and share energy together with others. What options exist in my neighbourhood, and how can I get started?

Recommended Resources

[Duurzaam Wonen Amsterdam](#)

- Amsterdam's page for supporting residents in energy-related choices.

[Overview of subsidies in Amsterdam](#)

[Subsidies for energy cooperations and citizen groups](#)

[National heat fund \(Nationaal warmtefonds\)](#)

- Loans for financing energy-saving measures for citizens

[Overview of initiatives for financing the energy transition \(Dutch Municipality Association\)](#)

- This document contains subsidies and initiatives aimed at several audiences. Make sure to focus on the ones related to citizens. Table 1 contains the most relevant content.

[Overview of initiatives for financing the energy transition \(Zuid-holland\)](#)

- Focus on initiatives targeted towards owners, renters and VVEs

[Overview of initiatives for financing the energy transition \(OranjeEnergie\)](#)

[Overview of initiatives for financing the energy transition \(Milieucentraal\)](#)

[Overview of energy communities \(Energiegemeenschappen\) in North-Holland \(Dutch\)](#)

- "Energiegemeenschappen" are local initiatives and cooperations focused on achieving energy-related goals shared by its members.

[Governmental overview of energy subsidies](#)

[Data usage metropolitan region of Amsterdam](#)

References

[Overview of Dutch Energy Transition](#)

[Amsterdam's Climate Neutrality Roadmap \(2020 - 2050\)](#)

[Amsterdam's vision on AI](#)

[Consumentenbond guide on subsidies for a more sustainable home](#)

- Overview of energy-saving options from the consumer association

[Energy savings law checker tool \(inspiration\)](#)

[De energietransitie en de Omgevingswet - Energierecht](#)

City's Training Videos (Dutch)

[Lotte Bruinsel vertelt over opgave, aanleiding, beleid en doelstelling energietransitie.](#)

[Steven Roerink vertelt over specifieke maatregelen voor gebouwen.](#)

[Lotte Bruinsel vertelt over verschillende warmte- en koudesystemen die \(potentieel\) kunnen worden toegepast in de stad. <https://vimeo.com/946187908/203c9a7a7e?share=copy>](#)

[Naut Loots vertelt over netcongestieprojecten](#)