



Groningen at a Glance

Groningen, **the largest city in the north of the Netherlands**, boasts a population of 243.833 inhabitants in 2024 and is a vibrant university center with over 60,000 students. **The city has made sustainability a top priority**, actively promoting an eco-friendly lifestyle. 57% of all trips in Groningen are made by bicycle, contributing to a greener and healthier urban environment. With an average age of 36.4 years, the almost thousand-year-old Groningen is also the "youngest" city in the Netherlands.

Groningen is known as a city with a pleasant living and working environment. The city wants to maintain this in the future. Groningen is therefore actively addressing challenges related to managing the energy transition, energy poverty and citizen participation. As part of a major energy transition initiative, the city is actively moving away from natural gas to reduce emissions. This transition includes the implementation of **Positive Energy Districts (PEDs) as part of the European project MAKING-CITY** where Groningen plays the role of an example city for the project partners and other European cities.

Lighthouse City in the Scalable Cities Community

Groningen, a "Lighthouse City" in the MAKING-CITY project, leads urban energy transformation in the Northern Netherlands. As part of the Scalable Cities Community, **120 cities across 18 Smart Cities and Communities** projects have collectively achieved impressive results:

- 53% energy saved
- Up to 88% CO₂ emissions reduced
- 5,270+ electric vehicles introduced
- Nearly 500 e-charging stations installed
- Over 1 million m² of floor space refurbished
- 17,500+ smart meters installed
- Over 260,000 engaged citizens

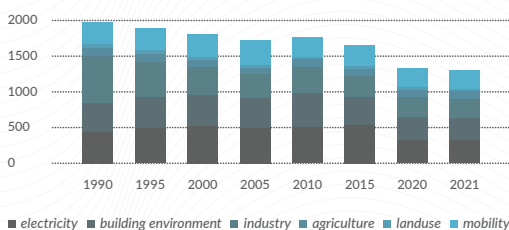


-  Groningen
-  The 7 other MAKING-CITY cities
-  48 Lighthouse Cities
-  72 Fellow Cities



Scan the QR code to access the interactive online map with all 120 cities or access the list of the 18 EU projects.

Emissions in kilotons CO₂-eq per year:



As early as 2006, Groningen already had a sustainability program. In 2010 it was decided that the municipality should be energy neutral for the foreseeable future.

In 2018, the target for 2035 was changed from energy neutral to CO₂ neutral, as it is not only about the balance between the amount of energy produced and used in the municipality, but also about whether the energy we use is sustainably produced. This also gives the opportunity to use carbon-free energy sources in the region.

To achieve the desired **transition from fossil fuels to sustainable energy**, there is a lot of work to be done. From our homes, businesses, transportation and our travel behavior. On the other side, we need to get our energy from solar, wind, biomass and other sustainable sources. Groningen's plans for consistently achieving its goals are described in a Roadmap that reflects all of these areas.

Groningen's PED Implementation

What is a PED ?

A **Positive Energy District (PED)** is an eco-friendly urban area that **produces more renewable energy that it uses**. It utilizes sustainable technologies, energy efficient buildings and smart grids to ensure environmental sustainability, community engagement and reduce its carbon footprint. PED is an example of **sustainable urban living and a greener future**.

PED North & South

Groningen North and South have been selected for the implementation of the Positive Energy District (PED) concept within the MAKING-CITY project.

These districts showcase diverse infrastructure, including residential buildings near the university campus, industrial and housing blocks and public facilities. In particular, **Groningen North**, with buildings dating to the 1960s, is predominantly residential, while **Groningen South**, built primarily in the 1980s, shows a mix of industrial, residential, and public facilities.

Groningen PED in action

Scan the QR code to watch a video that will help you get to know Groningen as a lighthouse city and show you the city's **2 Positive Energy Districts (PEDs) in action**.



More info?
Scan the
QR code
and watch



Demo Houses & Inspiring Success Stories

In PED North, 4 demohouses, with construction years ranging from 1966-2008, have been retrofitted. By installing solar panels, hybrid PVT (photovoltaic and thermal) solar panels and different types of heat pumps, these houses are all disconnected from gas. Residents' experiences in retrofitting their homes are featured in the PED North magazine and in the success stories on the website.

Scan the QR
code and
read about
Groningen's
success stories



We make more conscious choices in everyday life.

Ina & Boudewijn, demohouse



Energy Transition Fund Groningen

Since 2022, the municipality of Groningen has an Energy Transition Fund. **The aim is to provide subsidies and loans to households**, so that they can become more sustainable.

The fund is the central place within the municipality of Groningen from which the energy transition is financed.

In this way, **everyone can be helped out of energy poverty** and take a big step in reducing energy consumption.

Energy Transition Fund

Incidental resources

- 2 mln municipal contribution
- Public Housing Fund
- Various government subsidies

Structural resources

- Municipal operating company income from solar parks and wind turbines



Loans

- Incentive loan
- Home equity loan
- Tailor-made loan

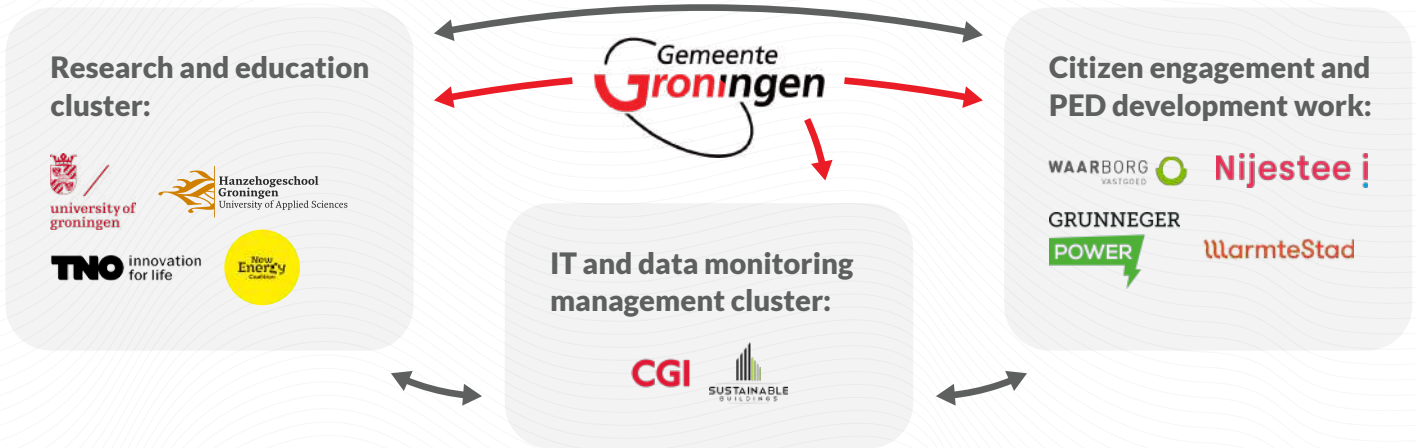
Subsidies

- Public Housing Fund
- Specific benefit subsidy
- etc

Other

- To be determined annually by the council

Stakeholders of Groningen's PEDs



Energy Transition as a social process

Throughout the project, a number of partners from the Groningen Consortium worked together on the topic of citizen participation and did an extensive study of it. The energy transition can be as technical as we want, but if citizens are not involved in the energy transition, developments will stagnate. But how do we engage citizens in the energy transition, and how do we help people facing energy poverty? Read more about this topic and the partners' work in the following magazine.

Read more in our magazine "Energy transition as a social process"



Take every citizen into account when planning and doing the energy transition.

Hester Bax, Project Officer, Grunneger Power

Decreasing energy poverty should be part of the plan.

Bart Jager, Finance Director Waarborg Vastgoed



Beyond the technologies applicable to your city, clear goals and expert management are necessary to achieve results.

Katerina Radosteva, MAKING-CITY Project Lead Groningen, municipality of Groningen

Groningen's Path to Energy Transition

Europe has big climate ambitions and big challenges to fulfill them. Cities play an essential role in this. **In 2018, the European Commission therefore initiated the MAKING-CITY project, so that cities can focus on the energy transition and learn from each other.** In Groningen, we have been working together in a consortium that includes the Municipality of Groningen, TNO, New Energy Coalition, Nijestee, Waarborg Mediacentrale, Hanzehogeschool Groningen, Rijksuniversiteit Groningen, Grunneger Power, CGI Netherlands, Sustainable Buildings and WarmteStad.

Two PEDs were selected for Groningen, one in the north and one in the south of the city. **These districts differ in terms of existing buildings, challenges and citizenship.** In the south, we mainly worked with large buildings where energy consumption was very high. Here we were able to greatly reduce energy consumption with innovative measures. In the north of the city, these include four demo houses, two 1970s youth flats and the sustainable Energy Academy Europe building. Various techniques for getting rid of natural gas have been tested. Sustainable generation is applied in an innovative way, through vertical solar panels on a facade or two-sided panels, for example. MAKING-CITY makes it clear that the road to an energy-positive neighborhood is not only about applying the right technical measures and innovations, but also precisely about social change, about measuring & knowing, and about how residents can take part in the **energy transition**.



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