

Interreg
North Sea Region
EMPOWER 2.0

European Regional Development Fund



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Regions within the NSR programme area



Today, the role of citizens in the energy system is limited to being 'energy consumers', at most 'energy prosumers' or investors.

This role will change in the future since the European Commission introduced a new vision in the 2016 winter package. In MEMO/16/3961 the European Commission states: "All consumers across the EU will be entitled to generate electricity for either their own consumption, to store it, share it, consume it or sell it back to the market. These changes should make it easier for households and businesses to become more involved in the energy system, to better control their energy consumption and respond to price signals." The updated European Renewable Energy Directive (ERED-14-06-2018) reinforces the importance.

To succeed, another degree of organisation is required to empower (groups of) citizens and businesses in their new role. Citizens and businesses currently encounter significant challenges (governance, technical, legal, financial) to play an active role in the energy market.

These developments are exactly what EU Interreg North Sea Region funded project EMPOWER2.0 is anticipating by testing propositions aimed to empower citizens and

existing civil society structures in their journey towards becoming active energy prosumers and energy communities.

The project's consortium is led by Zaanstad (NL) with a total of 14 partners in the Netherlands, Belgium, Denmark and the United Kingdom, consisting of governments, knowledge institutes and seven living labs. The purpose of EMPOWER2.0 is to increase (transnational knowledge about) local ownership of energy generation and the engagement towards it. The project aims to demonstrate and accelerate the empowerment of citizens to become active energy citizens - and to create local energy communities via existing civil society structures - through the development of new propositions and the adoption of new, emerging and existing solutions for energy ownership. This will lead to an increase in energy awareness and renewable energy production, and hence reduce the environmental footprint in the North Sea Region.

Ultimately, the project aims to empower 14,000 households in the directly involved municipalities and regions, leading to an increased uptake of renewable energy by 1% of the households in the NSR and a reduction of 14,700 tonnes of carbon dioxide emissions.

This brochure provides an overview of the different EMPOWER2.0 pilot projects and the innovative ways in which these pilots enable

citizens to take charge of their role in the renewable energy transition.

EMPOWER2.0 is an Interreg North Sea Region funded project with 15 partners.

Lead Partner: Gemeente Zaanstad (NL)

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Gemeente Zaanstad (NL), Provincie West-Vlaanderen (BE), Essex County Council (UK), Southend on Sea Borough Council (UK), Middelfart Kommune (DK), Gemeente Haarlem (NL), Intercommunale Leiedal (BE), Hogeschool

van Amsterdam (NL), University of Southern Denmark (DK), Ghent University (BE), Graham Oakes Ltd (UK), WeSpark Zaanstreek (NL), Stadsgarage (NL), Coöperatie Kennemer Energie (NL).

Zaanstad (NL)

WeSpark is a cooperative citizen energy initiative that connects local energy producers to local energy consumers, households and businesses. Each participant is a member of the cooperative. The buying and selling of sustainable energy are done by ourselves – without using a large energy company as a ‘trading facilitator’. This means that:



Kennemer meets Zaanstad

1. WeSpark can be very transparent about costs and benefits
2. profits will be used to invest in new local sustainable energy projects – either for production or storage
3. members of the cooperation have a vote in the choice of investments
4. members will also benefit financially in the long run as the cooperation will generate its own power
5. power pricing will be competitive to make it available for all incomes

Moreover, together with Parteon housing corporation, we are actively busy with an energy-monitoring pilot using a device called the ‘EARN-E’ to actively monitor 100 households.

WeSpark’s first area of focus is the Amsterdam Metropolitan Area, of which the Zaanstreek region is a part. The aim of WeSpark is to speed up the energy transition by encouraging local energy sharing and getting citizens more involved in the energy system. The more members join in, the more new energy projects they can realise. The municipality of Zaanstad is a partner in this project and together they will work towards a climate-neutral Zaanstreek.

Location: Zaanstad is a city of about 157,000 inhabitants, Amsterdam Metropolitan Area, the Netherlands

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Haarlem (NL)

The municipality of Haarlem is a frontrunner in the Netherlands on smart sustainable policies and wants to rule out natural gas by 2040. Haarlem is particularly active engaging citizens in the energy transition, by stimulating, accelerating and facilitating their initiatives. As observed, active energy cooperation participants are more aware and feel a higher sense of urgency than average citizens. They can help the municipality to implement energy transition plans for their neighbourhoods so they may switch to 100% renewable energy. With local partners Stadsgarage and Coöperatie Kennemer Kracht (CKK), citizens will be facilitated to join several projects and become prosumers.

Since 2011, local citizens that cannot use their own roofs for solar panels are working together to realise cooperative solar installations on roofs of other parties. The knowledge gained during the first successful projects supported further initiatives in tackling the complex process. At the request of these initiatives, the municipality has started a process to set up an organisation helping initiatives to overcome financial, organisational and legal barriers. As a result, CKK now supports not only new initiatives but also existing cooperatives with their administration and next steps in the energy transition.

The main targets of the Haarlem pilot are to scale up and accelerate the realisation of collective solar roofs, to develop new business models (including possibilities for low-income households to participate), and to create a participation platform that informs and involves citizens to increase awareness, sense of urgency and support for the energy transition.

Location: Haarlem is a city west of Amsterdam of about 163,000 residents
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Zwevegem (BE)

Transfo Zwevegem is a former electric power plant that was operational until 2001. Now, the site is being given a new destination with a strong focus on energy education, since energy has always been - and indeed still is - the very DNA of the site. To reform the entire estate, three partners - the municipality of Zwevegem, intercommunal organisation Leiedal and the West Flanders province council - have joined forces. Together, they have restored buildings and recruited new partners to create a vibrant and energetic place to be.

This is where EMPOWER2.0 kicks in. We wish to install a battery demo installation, storage, solar and wind energy and an educational tool to create a perfect living lab for students. All findings, obstacles, processes, successes and failures will be compiled and presented. This knowledge will be captivated and educationally valorised.

Location: : Zwevegem is a municipality of about 24,000 inhabitants in South West Flanders, Belgium
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Kortrijk (BE)

Flanders' so-called neighbour premium started in October 2017: a premium for facilitators who collectively supervise the renovation of a number of homes (at least 10 in one municipality) to make them energy efficient. The facilitator supports the citizen in making energy-saving investments and takes over as many tasks as possible, such as home energy screenings, timings, advice on energy renovation and plans of action. He helps to search for contractors, provides follow-up of the works, administrative support regarding premium applications and financing, etc.

Within EMPOWER2.0, Leiedal aims to support the roll-out of the neighbour premium by way of its "Renovation Coach" service (www.warmerwonen.be), and by extension, to also encourage other collective renovation projects and to empower people to reduce their energy consumption by stimulating house renovations. The Dutch 'Buurkracht' project is a source of inspiration for this.

In certain neighbourhoods, they will initially increase the number of home visits and reports to convince the residents to carry out (collective) energy renovations.

Location: Kortrijk is a city in South West Flanders of about 70,000 residents

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Middelfart (DK)

Føns is a village of approximately 200 inhabitants in central Denmark that has created its own district heating system, the newest and probably smallest in the country. Its success lies in a co-creating method with public authorities, private companies and research and education centres as partners. The model works with the citizens in a homemade 'village style'.



This way of working, which has actually empowered the citizens' achievements, is the backbone for further development and mapping of the progress in the EMPOWER2.0 pilot. The main ambition of the pilot is to replace one of the district heating system's wood chip boiler with a 200 kW heat pump. The goal is also to use the heat pump when electricity prices are low. This requires a great deal of effort and knowledge, first in terms of insight into energy systems and focus on thermal characteristics, secondly as to organisational competencies, gathering the right people at the right time, and thirdly for the ability to raise funds and thereby fuel action.

Location: Middelfart is a town in central Denmark with 16,000 residents

Contact: Morten M. Westergaard, municipality of Middelfart

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Essex (UK)

Essex County Council Living Lab will accelerate the empowerment of local communities to become active energy users. This will see the implementation of an energy demonstration project on public buildings, bringing together local renewable energy generation and smart tariffs to test a business model that can provide financial and social benefits to communities and small-scale generators.



The pilot is based in Danbury Village, Chelmsford, and includes the installation of solar PV systems on 3 public buildings – 2 primary schools and 1 centre for outdoor activities. This renewable energy capacity will allow us to test prosumer models. The main objective is to reduce the buildings' carbon footprint, but the solution proposed should also reduce running costs and reliance on electricity from the grid.

However, the solar installations and demonstration project are only the first step. Members of the local community are receiving tailored support to come together, establish legally, develop a business plan and access funding to deliver a community-led energy project. Educational and awareness-raising activities are also planned to involve and inform school children, families, local residents and businesses of the benefits of renewable energy ownership and new opportunities in the energy market.

Location: Essex County is in South East England and counts about 1,5 million residents

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Southend (UK)

The pilot in Southend has been specifically designed to demonstrate how strategic energy projects on local authority-owned buildings can be used to accelerate the empowerment of citizens to become 'active energy citizens' and drive forward the uptake of energy ownership across local communities.

The Southend pilot focuses upon delivering sustainable energy projects at four primary school buildings in the borough: Chalkwell Hall Junior School, Chalkwell Hall Infant School, St Mary's Primary School and Earl's Hall Primary School. The pilot explores how school energy projects can be used as a catalyst to engage wider communities and encourage the uptake of energy efficiency and renewable energy technologies with households and businesses.

Schools are chosen because they provide unrivalled access to the wider community, with pupils being able to connect with families and friends, local businesses etc. They present an excellent opportunity for local authorities to extend the scope of their work around net-zero carbon targets with local communities.

Location: Southend is a city in the south-east of the UK of about 175,000 residents

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