Interreg
EUROPEAN UNION
North-West Europe
Renewable Energy Regions

European Regional Development Fund

Why this Project?

NWE is one of the EU's highest energy consuming regions. The share of renewable energy (RE) in the region's production and consumption mix is low and there is a strong dependence on non-renewable energy sources.

NWE countries have EU-wide the highest challenge to reach their 2020/2030 targets of RE share in consumption. All lie below the EU28 average which is 17 %, and thus need to close decisive gaps to reach their 2020 national targets and trajectories set by the EU Directive. FR, NL and IE are even required to increase their share of renewable energy in consumption by at least 6 % (Eurostat 2018). Accordingly it is also questionable whether the NWE countries will meet the GHG emission targets.

Urban and rural territories are required to make the most of their RE potential progressing the energy industry from a heavily centralised and non-directional, demand-driven model to a regional model, in which supply and demand will be balanced.

RegEnergy connects rural RE production with the urban energy demand

Urban areas are heavy energy consumers and the main emitters of GHG, but don't dispose of the potential to produce the needed RE within their territory. Rural areas have large capacities to offer RE. These complementarities will be integrated and managed within RES demand-supply partnerships.

Urban-rural partnerships are a key component

Partnerships, which connect the high energy demand of urban areas with the large RE production potential, are a key component for a spatially compatible expansion and use of renewable energies.

Tackling Regional Obstacles by:

Developing optimal institutional arrangements, e.g. RE partnership agreements between cities & rural areas for urban support to rural RE producers to deliver to urban consumers.

Providing the necessary networks between RE producers and consumers cost-effectively, e.g. biogas from rural to urban areas.

Tackling technological challenges to match and manage regional RE production and consumption and allow RE growth despite limited grid capacities.

Proposing solutions to overcome restraints from regulatory frameworks and consumer concerns by combining best-practices of the partner countries.

Project Focus & Results

RegEnergy aims to reduce GHG emissions by increasing the use of RE in NWE regions through creating RE demand–supply partnerships between urbanised and surrounding rural territories. Win-win benefit for local and regional authorities of urban areas to meet their RE demand from reliable regional supplies, for rural LA's and RE producers to access energy consumers. In 8 typical NWE regional areas (approx. diameter 30 km) of more densely populated centre with rural surrounding.

Results: Estimated annual decrease of GHG emissions by 43.900 t CO_2, amount of funding leveraged by the project 30.000.000 €

Collaborative efforts by urban-rural partnerships are seen as one main pillar of working towards a RE future (European Territorial Review 2017). These partnerships between urbanised and surrounding rural areas create win-win relationships:

Densely populated urban areas are not able to provide the necessary RES supplies to meet their demand. Hence, providing financial and technical support for the development of RE production in neighbouring rural areas is fundamental. Whereas rural areas dispose of natural resources, but lack in number of energy consumers, and personal and financial capacities for developing solutions.

Solutions & Outputs

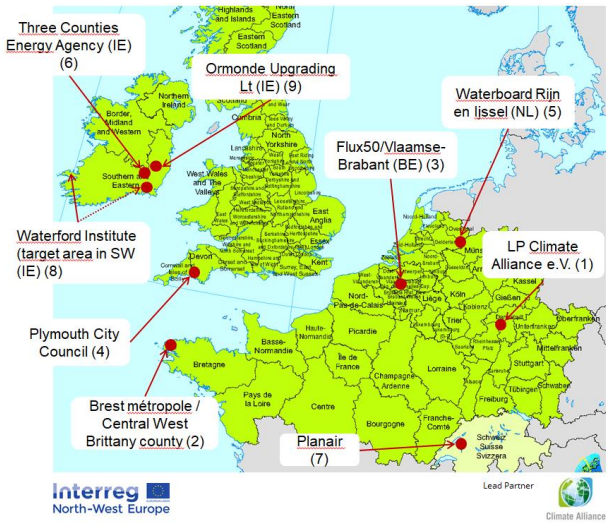
In RegEnergy, territorial cooperation of urban-rural regions will help to overcome these barriers and find better advanced solutions. Looking beyond the national administrative system will speed up finding better solutions for new institutional arrangements. The French approach of reciprocal framework contracts between city and county-side or the UK partner's integrated urban-rural joint local plan will offer one starting point for the other partners to develop the best solution for their region. NWE member states have different regulatory approaches facilitating an increase of RE consumption and production. Restraining national regulations can be tackled faster by transnational learning establishing best-practice among all partners, e.g. to enable smart grids and energy sharing for regional approaches. The project responds to the diversity of the NWE territories with highly urbanised areas encompassed by rural areas, and contributes to a sound territorial development of NWE by ensuring a balance of strengths between rural communities and growing metropolitan areas.

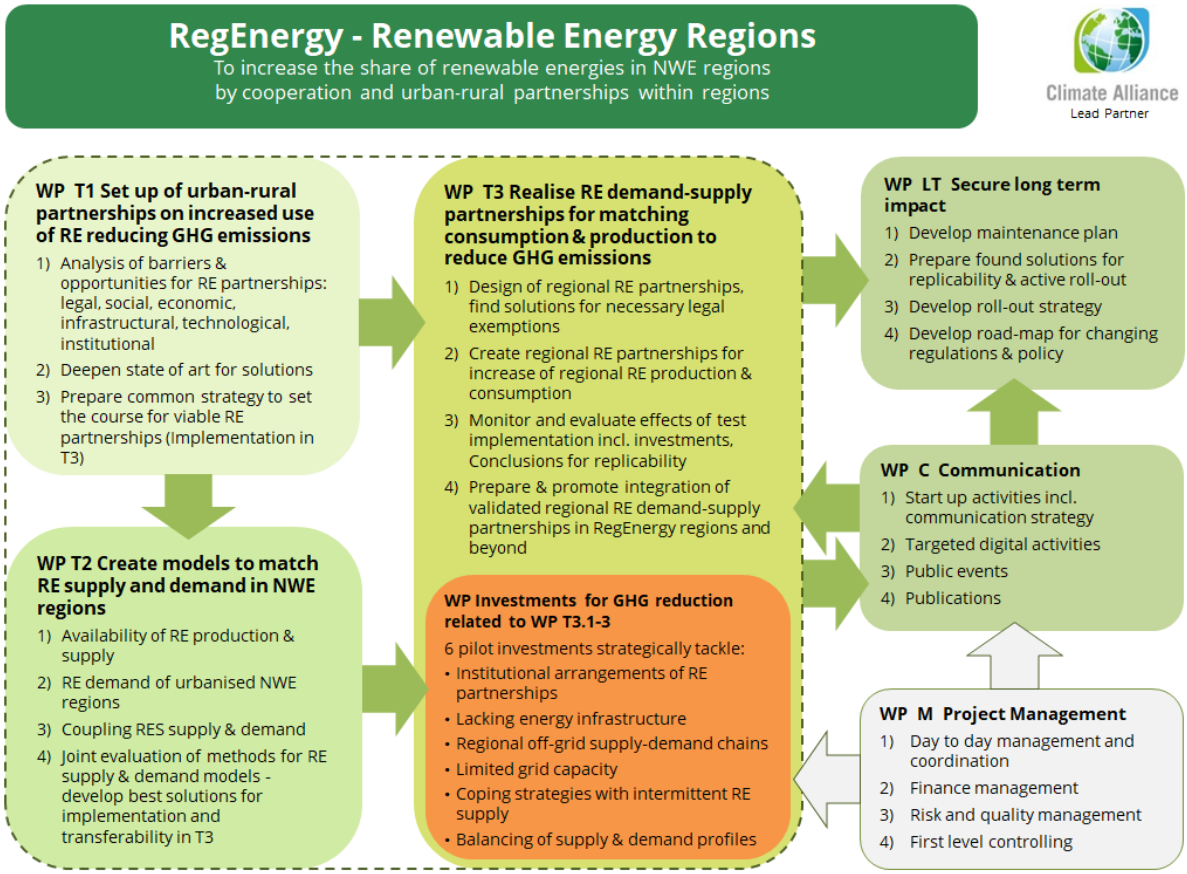
Project Partners

9 project-partners from 7 NWE countries, representing metropolitan regions, cities, rural communities, regional agencies, scientific institutions and RE producers will facilitate viable new urban-rural partnerships and will close missing regional links between RE demand and supply and will thus increase regional RE share in 6 regions.

The partners represent the types of regional territories found in 80 % of NWE (stronger and weaker regions). Research and engineering organisations with broad practical experiences will support the design and conceptualisation of the supply and demand models. Regional agencies and RE producers will complement the partnerships by integrating the found solutions into regional RE supply chains. The best solutions found for RegEnergy areas will serve as effectively transferable blueprints for regions throughout NWE.

The European Secretariat of Climate Alliance, located in Frankfurt (Main) coordinates the project and carries out two projects in Germany: "100% urban-rural renewable energy partnerships" and "Urban-rural energy and CO_2 monitoring".





Set up of urban-rural partnerships on increased use of RE reducing GHG emissions

Objective: Joint strategy to set-up effective and operational RE urban-rural partnerships for regional territories on increased use of RE reducing GHG emissions.

Effective and operational urban-rural RE partnerships need to cope with manifold barriers (e.g. institutional). The WP aims at finding viable solutions based on best-practice and the state of art from all partners despite the existing barriers. This leads to a common strategy on how to set up partnerships that can cope with these barriers.

Key activities are:

- Analysis of relevant institutional, economic, infrastructural, technological, legal and social barriers in the national and EU context hindering RE urban-rural partnerships.
- Jointly deepen the state of art for solutions by comparing and learning from the existing solutions of PP countries.
- Jointly draft framework guidelines for a common strategy developing RES partnership models serving as basis for test implementation in WP T3 and investments.
- Adjust and improve the common strategy after the feedback loop and lessons learned from the test phase in WP T3.

Create models to match RE supply and demand in NWE regions

Objective: Create joint and viable models to match RE supply potential and demand within an urban-rural regional territory.

The optimised allocation of the regional renewable energy potential and supply with its diversified sources and locations and con-

sumer's energy demand in in urban areas is a pre-requisite to apply adequate partnerships and to increase the RE production and consumption within a regional territory. This leads to WP T2 and joint models to match RES demand and supply within a regional territory. It provides the basis for pilot activities and validated partnerships in WP T3.

Key activities are:

- Investigation and modelling of the conditions and future availability and options of RE sources and supply in the urban-rural region as well as the potential demand and energy consumption within the Renewable Energy Regions. These activities provide the basis for developing regional options for coupling the RE production and supply with the demand within a regional territory.
- Project partners will support each other and regularly share their specific knowledge. The opportunities resulting from that exchange will be evaluated by the RegEnergy partners, deciding which ones should be implemented and tested in WP T3.
- Joint assessment of regional options by all partners based on the lessons learned from the pilot activities and leads to jointly validated regional models.
- Jointly developing a transferable method for coupling RE supply and demand for a regional territory in NWE.

Realise RE demand-supply partnerships for matching consumption and production for reducing GHG emissions

Objective: Deliver validated regional RE demand-supply partnerships, and implement increased RE consumption and production for reducing GHG emissions

The developed practical solutions need to be tested and verified as pilot activities. T3 and investments are designed to achieve this objective based on validated in-depth solutions to the identified barriers. This will lead to increased RE production and consumption and reduced GHG emissions as main outputs of the implemented partnerships.

Key activities are:

- Design and deliver concrete RE partnerships on complementary issues; negotiate with relevant local, regional and national stakeholders; develop details of contractual and financial agreements; signed contracts.
- Implement related facilities to overcome structural and technological barriers.
- Based on the implementations: test and validate the developed models and opportunities under real life conditions in the highly complex environment of linked factors based on the cooperative urban-rural monitoring device.
- Summarize the lessons learned in order to optimise and update regional renewable action plans of RegEnergy partners. This will lead to expanded RE partnerships and further rise of RE consumption linked to regional production.

Long-term effects

The WP will secure the long-term GHG emission reduction of the implemented pilot RE demand-supply partnerships. It will also guarantee that the validated solutions and outputs are rolled-out and replicated

throughout NWE beyond the lifetime of RegEnergy.

Positive long term effects are:

- GHG emission reduction from increased RE production and consumption.
- Decentralized RE production and consumption within a regional territory implementing regional energy and low carbon strategies.
- Main barriers are solved.

To sustain and widely expand the positive effects, RegEnergy partners will develop a replication scheme. RegEnergy will boost impact by implementing the solutions to 8 cooperating regions (4 million inhabitants) already during the project's lifetime. At 12 impact meetings, RegEnergy partners will present best-practice and showcases to cooperating regions and will actively help them to develop appropriate RE demand-supply partnerships in their regions.

Key activities comprise:

- Develop and agree on common maintenance plan ensuring and increasing low carbons reductions achieved through investments supported through ERDF and leverage of funding.
- Prepare the solutions for replicability and ongoing active roll-out in 8 cooperating regions.
- Develop a roadmap for implementation of the results after the project in case of changing regulations and policy.
- Develop roll-out strategy for uptake of results beyond RegEnergy territories after the end of the project.

Project Data

- Project duration: Oct 2018 – Sep 2022
- Total Budget: 10,2 million Euro; application for ERDF funding: 6,1 million Euro
- Application submitted: INTERREG VB Northwest Europe programme, targeted call on renewable energy, 31 Jul 2018

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