



FACTSHEET

SUSTAINABLE ENERGY IN THE BALTIC SEA REGION

Interreg
Baltic Sea Region



Co-funded by
the European Union

● SUMMARY

This factsheet provides an overview of the achievements gained by the transnational projects within the **Interreg Baltic Sea Region Programme 2014-2020** thematic priority “**efficient management of natural resources**” and specifically the objectives “**renewable energy**” and “**energy efficiency**”. In this factsheet, you will find examples of the projects’ solutions. For more information, visit the **project library**. These projects contributed to progress towards the objectives of the **EU Strategy for the Baltic Sea Region (EUSBSR)** “connect the region” and helped to advance the implementation of the EUSBSR action plan in the policy areas of Energy and Spatial Planning.

Besides, the projects’ solutions can help developers of new project ideas see what has already been developed and what could be a new step towards more efficient handling of energy under the new priority of the **Interreg Baltic Sea Region Programme 2021-2027** “**climate-neutral societies**” and its objective “**energy transition**”.

What?

The projects tackled the following challenges:

- Dependency on fossil fuels;
- Lack of locally produced renewable energy;
- Low energy efficiency in public and private building stock and district heating;
- High energy consumption and its effect on changing climate.



Who?

The solutions are for national, regional and local authorities responsible for energy and spatial planning, operators of electric transmission systems and offshore wind industry, forest private owners and agencies, power electronics industry, technology transfer organisations, district heating systems operators, heat suppliers, energy planners, building managers, market technology solutions providers, energy auditors, housing companies, utilities, and energy service companies.

● ACHIEVEMENTS

Increased production of renewable energy

Improved framework conditions for spatial planning of renewable energy projects ([BEA-APP](#))

- Transnational recommendations to improve spatial planning processes for projects on renewable energy production from different sources (offshore wind, solar, biomass).
- Handbook on innovative stakeholder involvement and communication models to support public and private bodies responsible for the planning and implementation of renewable energy projects. The handbook provides factors triggering stakeholders' acceptance or non-acceptance of renewable energy projects, as well as step-by-step guidance for elaborating stakeholder involvement plans.

New plan for a coordinated meshed offshore electricity grid in the Baltic Sea ([Baltic InteGrid](#))

- Improved concept on planning and implementing a meshed offshore wind grid in the Baltic Sea covering policy, regulation, planning, public acceptance, construction and technical issues as well as market conditions and supply chains.
- Baltic Offshore Grid Forum as a network of stakeholders from politics, industry and science dealing with joint offshore electricity grid in the Baltic Sea.
- Recommendations to the Ten-Year Network Development Plan (TYNDP) on the development of a Baltic Offshore Grid. They include case studies and experts' opinions based on offshore wind energy projects and interconnectors and primarily target the European Network of Transmission System Operators for Electricity (ENTSO-E) comprised of 43 electricity transmission system operators from 36 countries across Europe.

Decision support to harvest and use forest residues for energy production ([Baltic ForBio](#))

- Decision support tool for the harvest of logging forest residues as energy, which enables to estimate forest residues production costs and assess the profitability of harvesting forest biomass. With this tool, forest agencies and advisory organisations can help companies plan the harvest of logging residues and biomass recovery at early thinning.
- Forest energy atlas, developed as a GIS platform enabling to explore spatially-explicit energy wood potential. It collects the harvesting potential of energy wood in Finland, Sweden, Estonia, Latvia and Lithuania.



- Training programme “Energy wood harvest in the forest management process” for private forest owners, societies and associations as well as forestry companies. It provides insight into the role and potential of energy wood as well as the use of felling residues and small wood in energy production.

Enhanced energy efficiency

Roadmap to market uptake of advanced power electronics ([GREEN PE](#))

- Transnational technology and product roadmap on the technological state-of-the-art and future capabilities of advanced power electronics and wide bandgap materials. The roadmap is for the power electronics industry, research institutions and policy-makers to understand the opportunities and barriers related to the market uptake of advanced power electronics.
- Advanced power electronics pilot in e-mobility, applied for racing cars which power electronics operate at limits, making the racing cars good test objects for power electronics. The pilot showed that wide bandgap semiconductors in electric drives improve the overall system efficiency.
- Brochure on green power electronics covering electromobility, smart houses and renewable energy.

Strategy and tools to plan and implement low-temperature district heating ([LowTemp](#))

- A step-by-step methodology for strategies to implement low-temperature district heating covering area analysis, stocks evaluations, potentials for increasing energy efficiency, diminishing consumption, technical preconditions, requirements of district heating, profitability assessment, CO2 balance and monitoring methods.
- Training toolkit with 26 modules on planning low-temperature district heating: from background information to strategies, from technical aspects to best practices.
- Calculation method on economic efficiency and funding gaps with an excel based calculation tool, a manual and an analysis on the financial framework and funding gaps of a district heating project. It is based on the evaluation of the internal rate of return and the net present value of an investment over a period of 20 years.
- Business models and innovative funding structures adapted to low-temperature district heating, including examples of innovative pricing models, new value chains, business opportunities as well as innovative funding structures.

New model how to run cooperative energy planning ([AREA 21](#))

- A concept of “energy improvement districts”, conceptual and technical guidance for cooperative energy planning enabling to better understand planning at a district level. It addresses local, regional and national actors in energy planning aimed to reduce CO2 emissions and increase energy efficiency at the district level.



- Web-based tools for involving citizens and property users in energy planning by enabling monitoring energy (electricity and heating) and water consumption and saving potentials in single housing unit

Toolkits to calculate and plan renovation for improved energy efficiency in buildings (EFFECT4Buildings)

- Toolbox with a catalogue of technology solutions for energy efficiency in buildings, guidelines and templates for procurement of solutions and their maintenance. The toolbox helps building managers better understand the profitability and performance and supports providers to enter bigger markets for their solutions.
- Financial calculation toolbox that helps building managers, energy auditors and investors make decisions on energy efficiency measures by predicting the profitability of an investment.
- Funding toolbox that helps municipalities and building managers investigate finances for implementing energy efficiency measures. It compiles EU and national funds from Denmark, Norway, Estonia, Latvia, Poland, Finland, Sweden as well as the international and national non-public sources.

Learning tools for municipal administrations to improve energy planning and management (Act Now)

- Manual for municipalities to increase energy efficiency by assessing the existing capacities in municipalities and other organisations. It describes the idea of local energy efficiency workgroups (LEEGs), a network of stakeholders aggregating the knowledge, perspectives and capacities for sustained implementation of energy efficiency.
- Capacity self-assessment tool enabling municipalities to assess the exact needs for capacity building in energy management. The tool includes commitment, management, energy planning, implementation, resources, infrastructure, and home-owner segment.
- On-line learning platform on energy efficiency providing municipalities with hands-on guidance on planning and implementing energy efficiency projects in their building stocks.

TAGS: renewable energy, energy efficiency, energy planning, energy production, energy transition, low-carbon economy, low-carbon energy systems, sustainable consumption.