

Interreg
Baltic Sea Region



Co-funded by
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ENERGY TRANSITION

Energy Equilibrium

Carbon driven energy equilibrium at the municipal scale (Energy Equilibrium)

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Dagnija Blumberga

interreg-baltic.eu/project/energy-equilibrium



Challenge of renewable energy and role of energy storage

REPowerEU: 45% share of RES by 2030

→ Expected major expansion of installed renewable energy capacities

Energy storage providing critical energy shifting and fast-response flexibility services

→ to compensate for volatile nature of RES

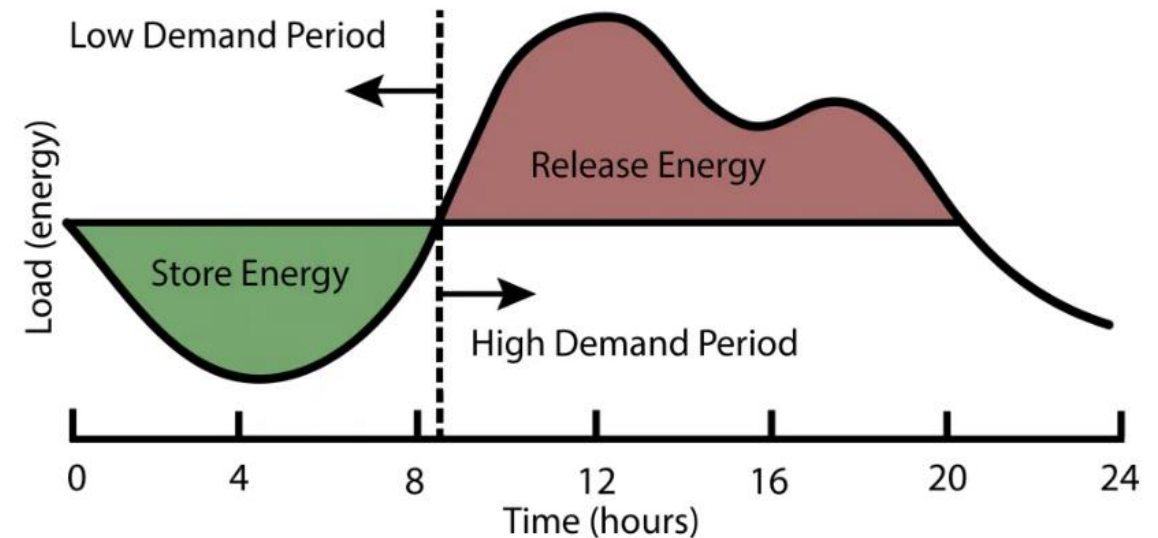


Image source:

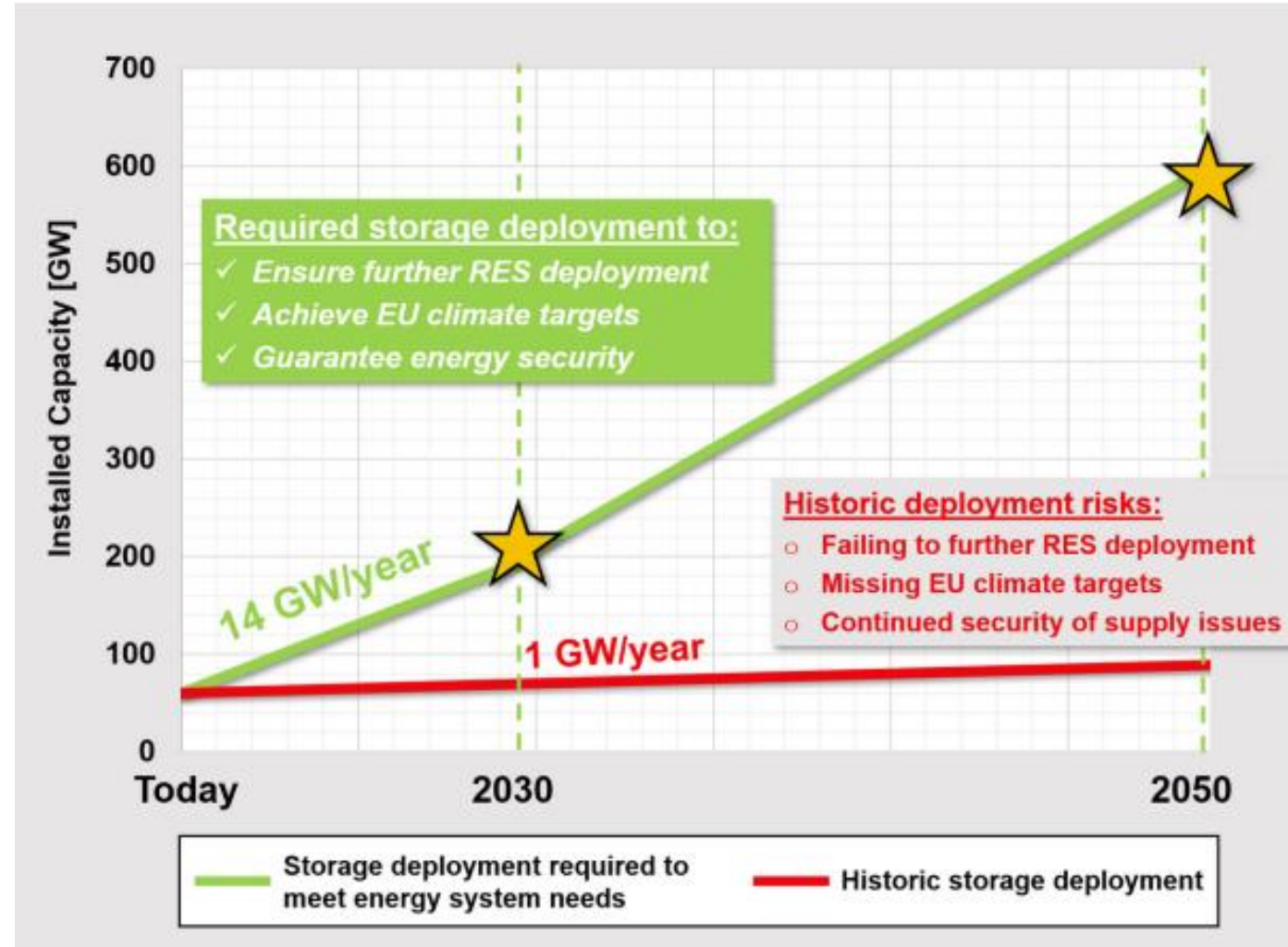
<https://css.umich.edu/publications/factsheets/energy/us-grid-energy-storage-factsheet>



Growing demand for energy storage

Need for high deployment of storage

→ 6 times larger than currently installed levels



Role of municipalities

- Municipalities are responsible for local infrastructure development, including energy-related infrastructure.
- Local public authorities are key enablers for energy transition in the region.

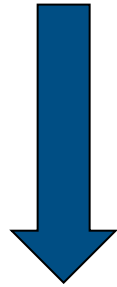


Source: The Regional Environmental Center for Central and Eastern Europe (REC).
«Local Action Planning Towards Energy Security and Sustainability.»



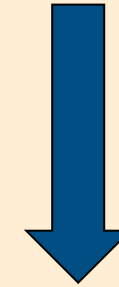
Problem description and project context

- **Variability and non-controllability of seasonally generated RES**
- **Daily fluctuations**



Development of sufficient energy storage infrastructure

- **Local public authorities** encounter numerous challenges and uncertainties
- Lack of knowledge and on-site capacity



Development of a tool to support decision making

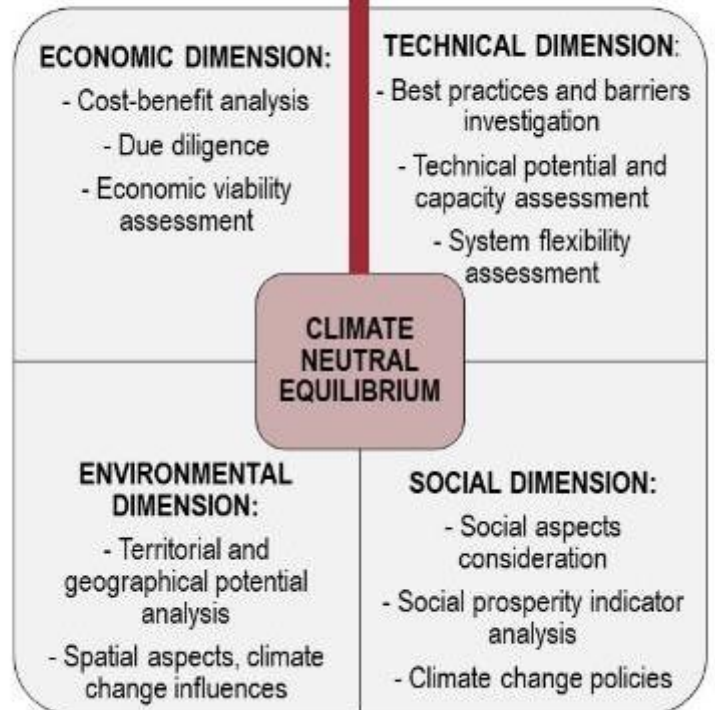
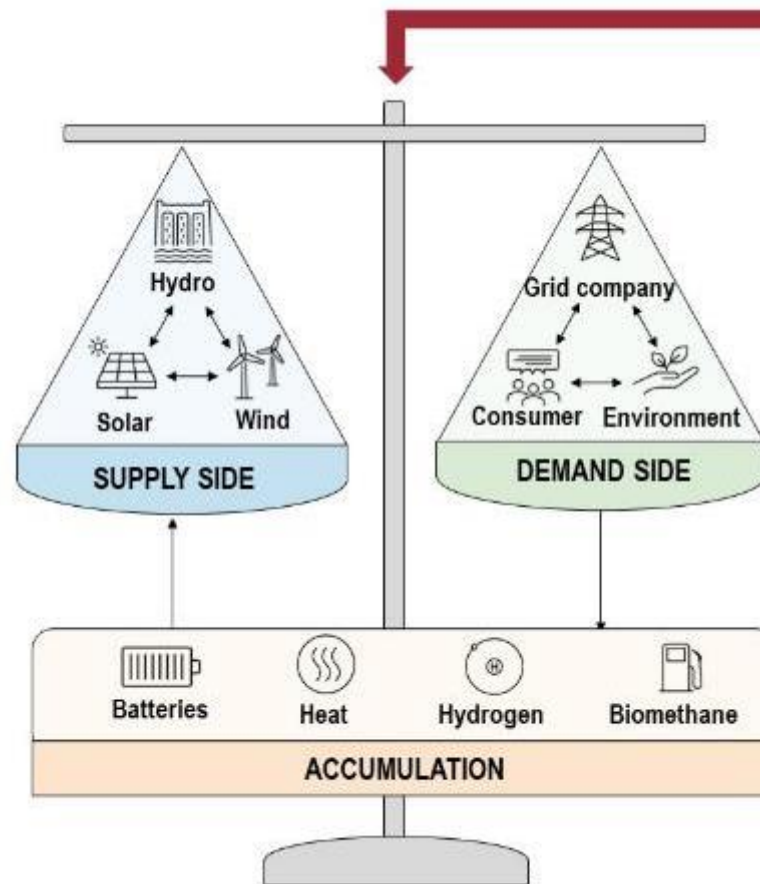


Transform RES supply potential in municipalities into reality



The goal of the project

This project aims to develop an **Energy Equilibrium Platform** – an interactive and easily applicable tool to support municipalities and energy suppliers in decision-making related to the development of efficient action plans to accelerate local RES utilization in the region.



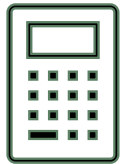
Energy Equilibrium Platform



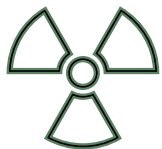
Identify optimal RES storage development strategy and impact on flexibility



Determine key factors affecting energy equilibrium in the region



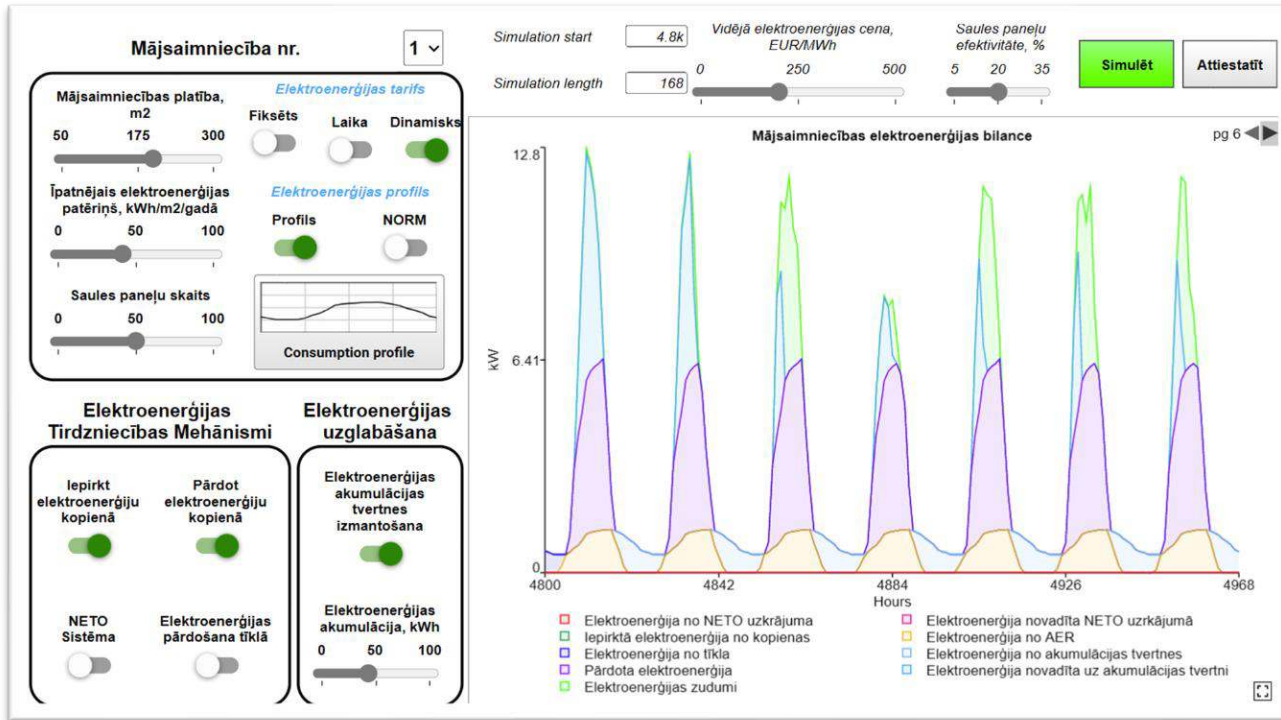
Develop policy mechanisms and action plans to enhance local RES



Anticipate risks and avoid making expensive mistakes



Energy Equilibrium Platform



Transnational value of the project

- Diversity of energy systems
 - Differences in spatial planning, territorial potential, available natural resources, seasonal factors, environmental permitting legislation, and political and administrative factors
- Knowledge exchange events
 - Group model building activities
 - Role game
 - Regional stakeholder groups in each country
 - Seminars
 - Webinars
 - Workshops
 - Discussions
 - Trainings
 - Informative materials and guidelines



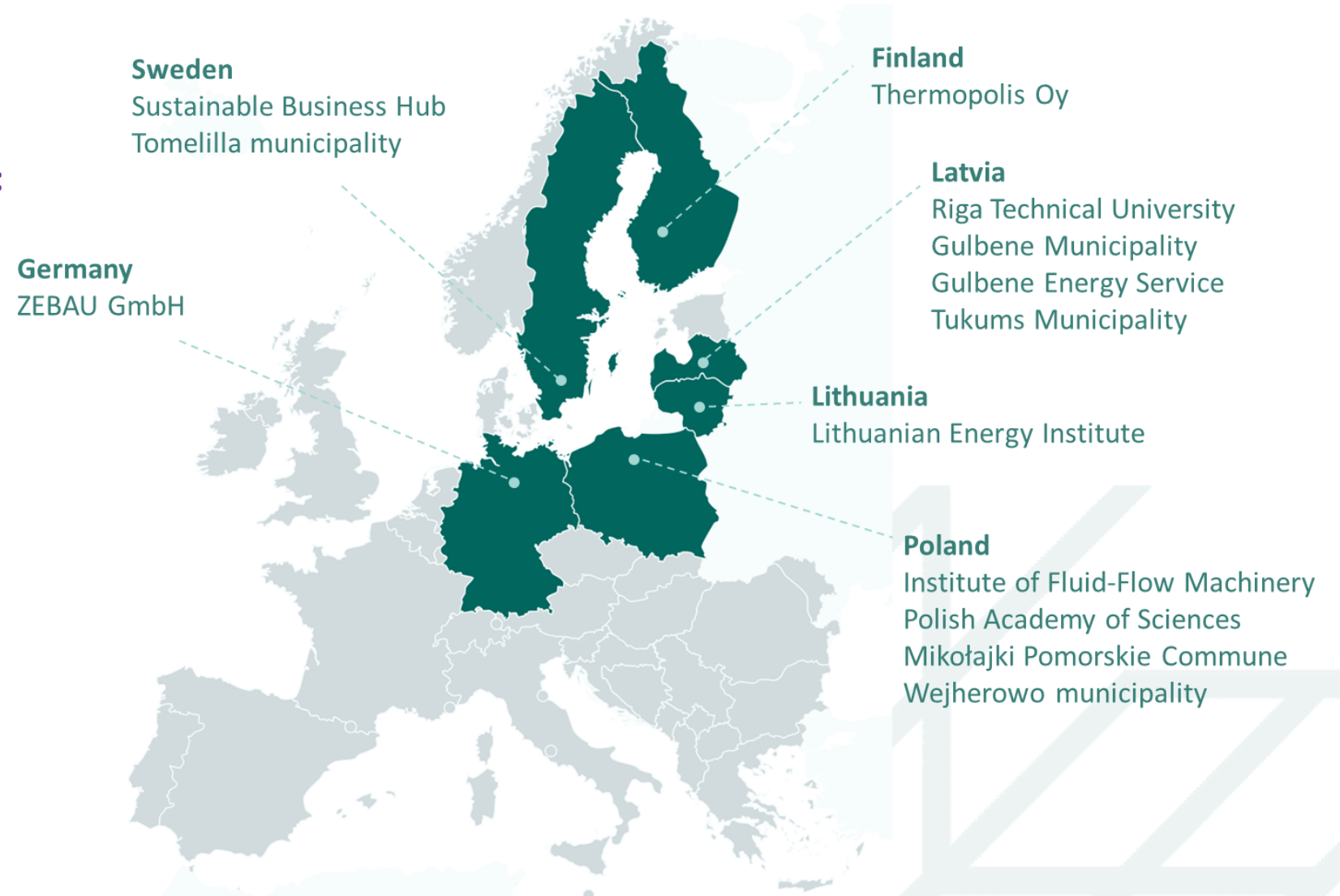
Partnership

12 core partners and 3 associated partners from 6 different countries:

- Latvia
- Lithuania
- Finland
- Sweden
- Poland
- Germany

4 different fields of activity:

- 8 municipalities
- 1 public infrastructure provider
- 3 energy agencies and clusters
- 3 technical research institutions



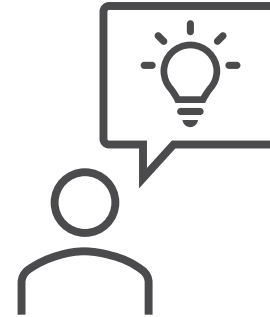
Target groups of the project



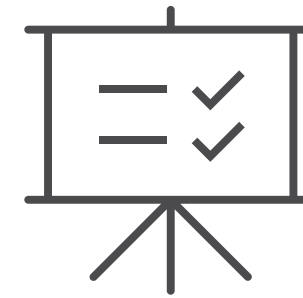
**Local public
authorities**



**Infrastructure
and public
service
providers**



**Sectoral
agencies**



**Regional
public
authorities**



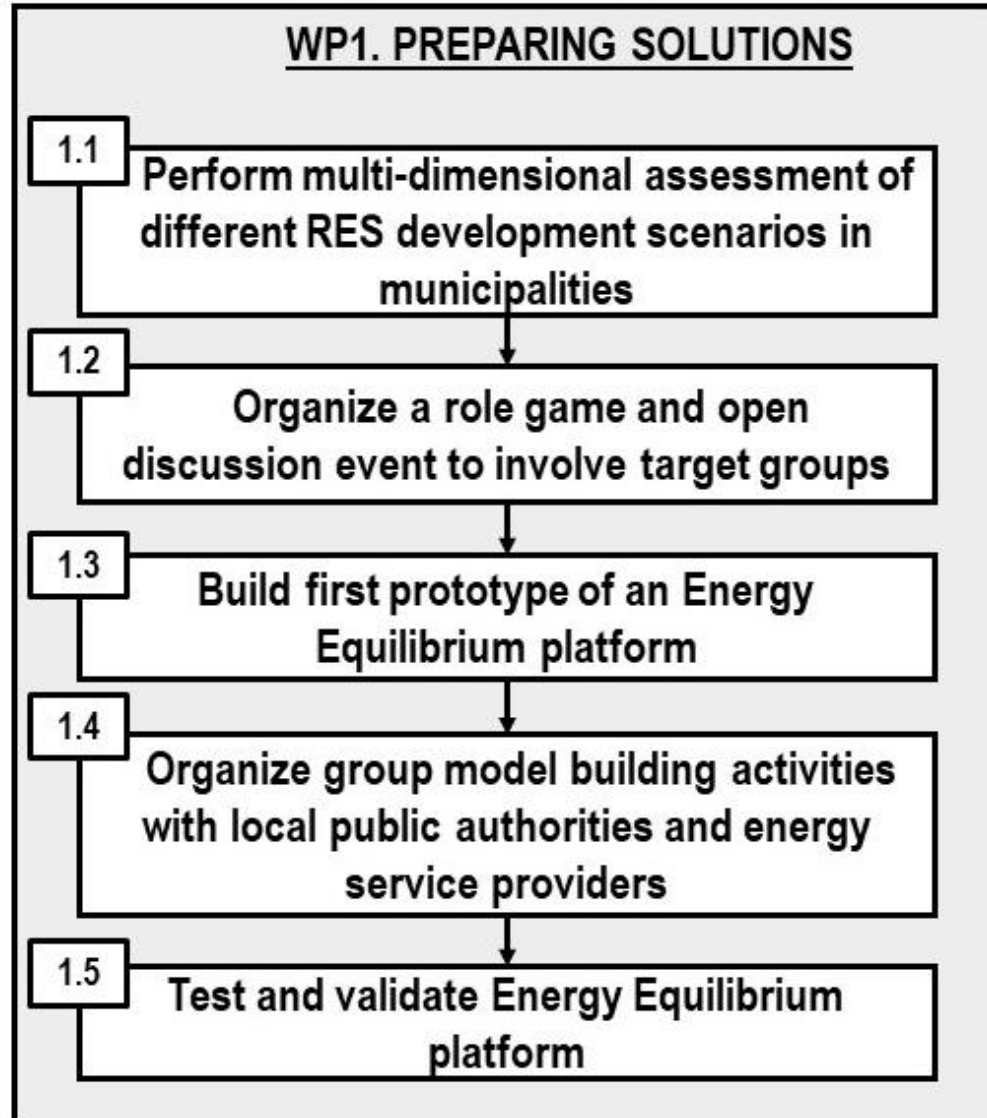
**Renewable
energy
associations**



Project work plan and timeframe



WP1 activities and deliverables



Deliverables

Outlook on multidimensional KPIs of a carbon neutral energy system in municipalities

Outcomes and insights from role game and open discussion event

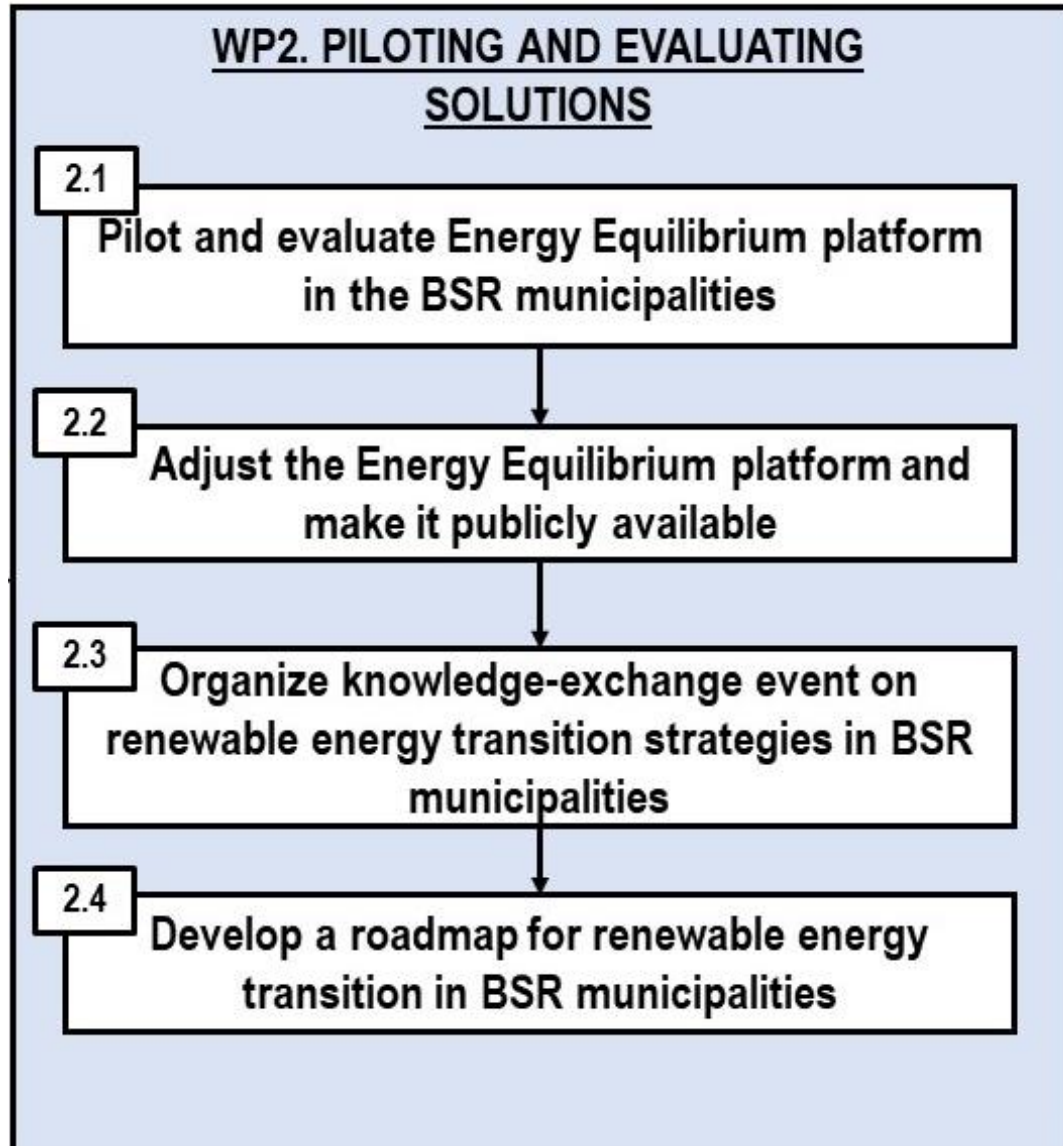
Prototype of Energy Equilibrium platform

Improvement Energy Equilibrium platform based on group model building sessions

Validated prototype of Energy Equilibrium platform and notes from the platform validation tests



WP2 activities, deliverables, and outputs



Deliverables and output

→ Evaluation report on Energy Equilibrium platform pilot in the BSR municipalities

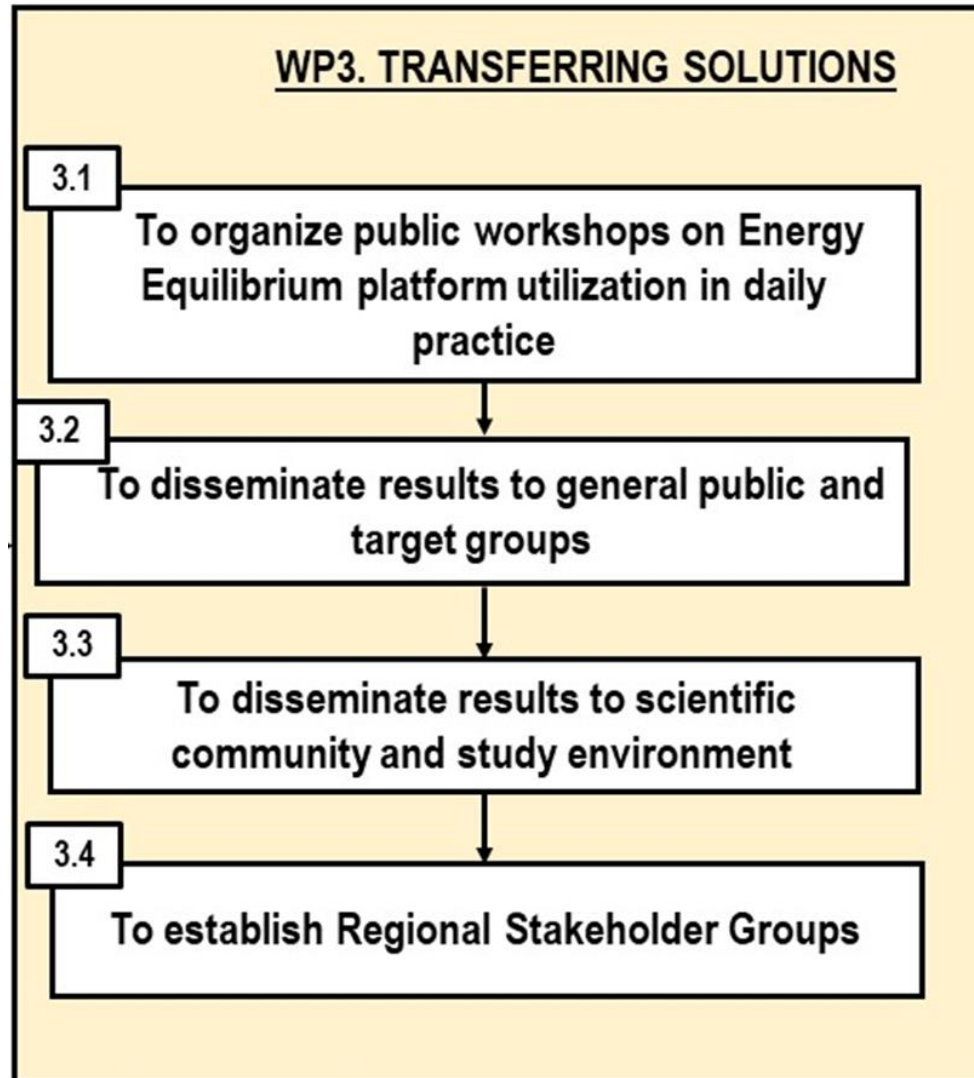
→ Energy Equilibrium platform

→ Outcomes and insights from knowledge exchange event

→ Roadmap for renewable energy transition in BSR municipalities



WP3 activities and deliverables



Deliverables

- Developed training material to be presented in workshops
- Information dissemination materials (2 webinars, 2 seminars, local seminars, 2 popular science articles, 1 podcast, social media announcements)
- Scientific dissemination materials (2 scientific papers, 1 conference, 2 guest lectures)
- Six Region Stakeholder Groups (one in each partner country - Latvia, Lithuania, Poland, Germany, Sweden, Finland)



Project main outputs & deliverables



Energy Equilibrium platform



**Roadmap for renewable
energy transition in BSR
municipalities**



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Project website:

<https://interreg-baltic.eu/project/energy-equilibrium/>

Contact details:

kristiana.dolge@rtu.lv

dagnija.blumberga@rtu.lv



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