

RD for the energy sector: What options do we have now?

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Challenges and (RD) solutions Now

Power scarcity (5 GW?)

- Interconnections and grids faster, DLR and techs
- EU border grids reinforced
- 110kV used
- Antenna lines used
- Common Spare factory in neighboring country
- Decentralised solutions
- Open source modelling

Decentralised Energy Security

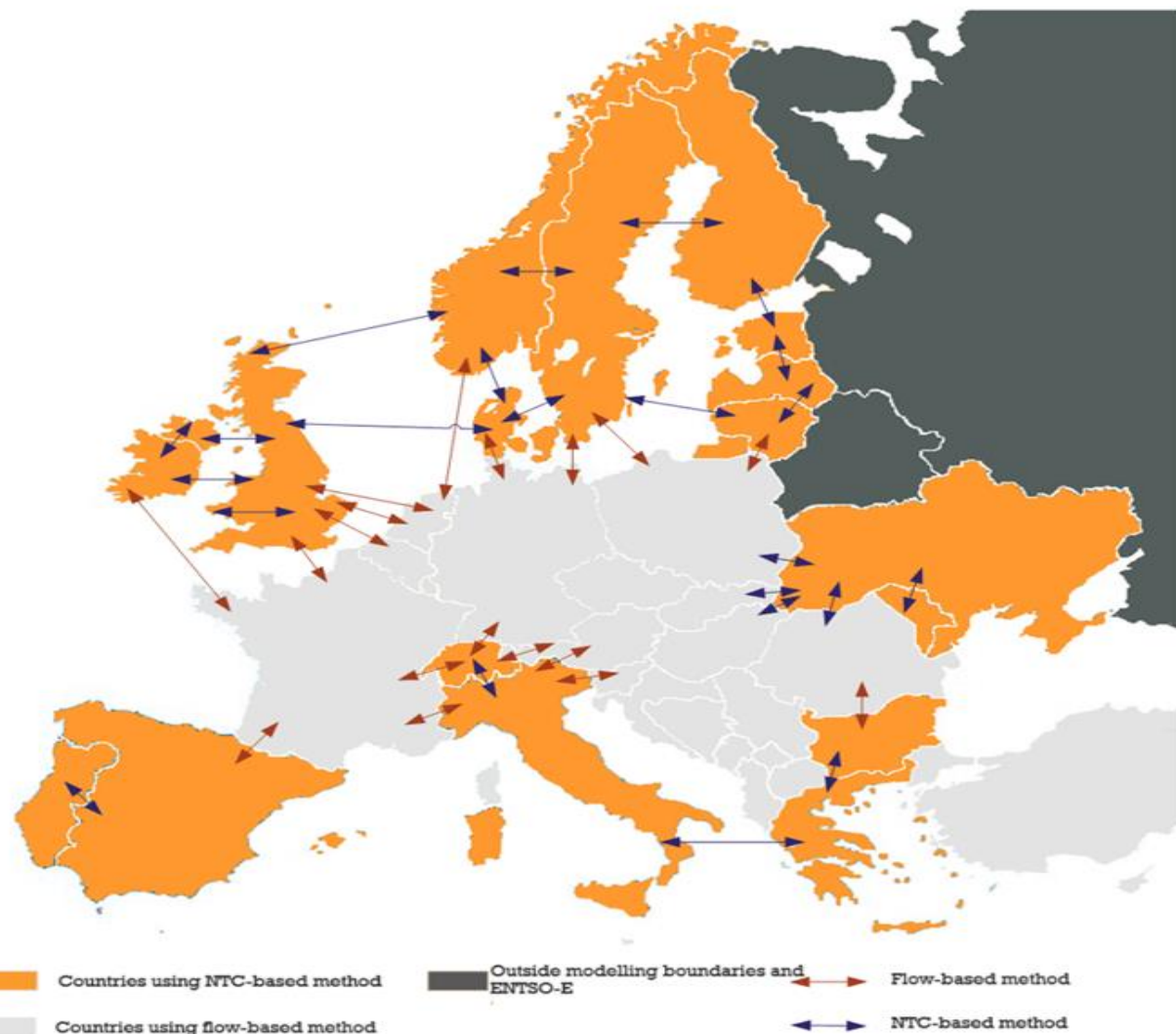
- Renewables and batteries
- Geothermal and Heatpumps
- Demand side response
- Use of 110kV grid
- Training of local energy advisers
- Build a pilot in Zhitomyr

Experts and teams

- Keep and develop experts in Ukraine
- Develop impactful trainings for local, regional, national level on technical, regulatory and strategic solutions.



Example Power Exports to Ukraine and Innovation



- How to go beyond 1.7 GW Export to Ukraine?
- What options for fast support next Winter?

1. Regional Energy Security. Use all possible solutions to maximise electricity exchange with Ukraine. Engage research partners to assess the options, including strengthening regional grids in the countries bordering Ukraine and using modern grid technologies such as Dynamic Line Rating or Power Electronics. Consider a new approach to the 110kV power grid and use it for energy security on the regional level as well as for renewable uptake. Use open-source modelling tools and include NGOs and civil society in the planning to source all available competence. Build on the Green Deal Ukraïna project of Helmholtz-Zentrum Berlin.

Partners: Helmholtz-Zentrum Berlin, TU Berlin, Fraunhofer IEE, Ukrenergo, DLR.

2. Resilient and sustainable local and regional energy security solutions. A start could be with a pilot project in Zhytomyr, northwestern Ukraine. Decentralised solutions are crucial in the current risk of large-scale blackouts and load-shedding across Ukraine. Use decentralised energy solutions in Ukraine, meaning solar and wind energy, backed by battery solutions, geothermal solutions, and a smart grid approach. Include civil society and NGOs to insource knowledge and local experience.

Partners: Helmholtz-Zentrum Berlin, Fraunhofer IEE and IEG, Dixi Group Ukraine, EcoAction Ukraine.

3. Impactful online training programs for decision-makers and actors on national, regional and local levels in the energy, climate and sustainable agriculture sectors. On the local level, entrepreneurs from small and medium-sized levels (farmers) should also be included. Take advantage of the training programs developed within the Green Deal Ukraïna project of BMBF and amplify this to other Green Deal areas based on a common program by Germany and Ukraine.

Partners: Helmholtz-Zentrum Berlin, Leibniz IAMO, Kyiv School of Energy Policy, Florence School of Regulation, EcoAction.