

Needs and challenges of the energy sector in connection to the DTP SO 3.2

Mario Vašak

University of Zagreb Faculty of Electrical Engineering and Computing

mario.vasak@fer.hr

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DTP – cooperation programme

- Policy driver and pioneer to tackle common challenges and needs in specific policy fields
- Transnational cooperation in development and practical implementation of:
 - policy frameworks,
 - tools and services, and
 - concrete pilot investments

DTP – cooperation programme, energy sector

- Diversification of energy supply under the constraint of improving energy security
 - better usage of local sources including renewable energy
 - increase energy efficiency
 - improve energy transport and distribution, strengthen transnational markets

SO 3.2 – cooperation programme

- Investment priority 7e:
 - Improving energy efficiency and security of supply through the development of smart energy distribution, storage and transmission systems and through the integration of distributed generation from renewable sources
- SO 3.2: Improve energy security and energy efficiency
 - ... by supporting the development of joint regional storage and distribution solutions and strategies for increasing energy efficiency and renewable energy usage

SO 3.2 cooperation programme summary

- Regional energy planning to safeguard security and efficiency of energy supplies
- Development of smart energy distribution systems to make the significant investments of regions in renewable energy sources, energy efficiency and smart grids more efficient

Energy sector transformation – another view

- Decarbonization of the energy sector (the need)
 - Long-term goal
- Transition process (the challenge)
 - Costly, requires careful and long-term planning
- Performed techno-economical analyses how this can be done in optimal way, in terms of:
 - total operation and maintenance costs of the energy system with the end-constraint of 100% de-carbonized system by 20xx
- Example: ReMod-D by Fraunhofer
 - Decarbonized German energy sector by 2050

Energy sector transformation – ReMod-D example

- ReMod-D – four phases of the transformation of the energy sector till 2050:
 1. Individual renewable energy systems and energy efficiency measures development
 2. System integration – exploitation of flexibilities in demand, demand side management, coupling of different energy sectors
 3. Synthetic fuels
 4. Renewable fuels import
- Needed policy inputs, tools and pilots corresponding to the integration endeavours