



CESI RICERCA (I)

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REE (E) *t.b.c.*

TenneT TSO (NL)

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Proposal for a Research Stream within a Collaborative Project:

A Pan-European Framework for Transmission Expansion Benefits

Topic ENERGY.2007.7.3.4

CESI RICERCA

Main objective of the Research Stream

To increase transmission investments on national and multi-national levels in order to achieve a reliable transmission system, to enable the high penetration of large scale renewable resources and to facilitate a fully functional Pan-European electricity market.

Background issues (1)

- ✓ The benefits of transmission expansions range from technical-economic aspects (reliability improvement, support to new generation promotion of competition) to more strategic factors (support for exploitation of renewable resources, promotion of economic growth)
- ✓ The demonstration and, possibly, the **measure of transmission benefits** is one of the key element to overcome the present slow pace of transmission development

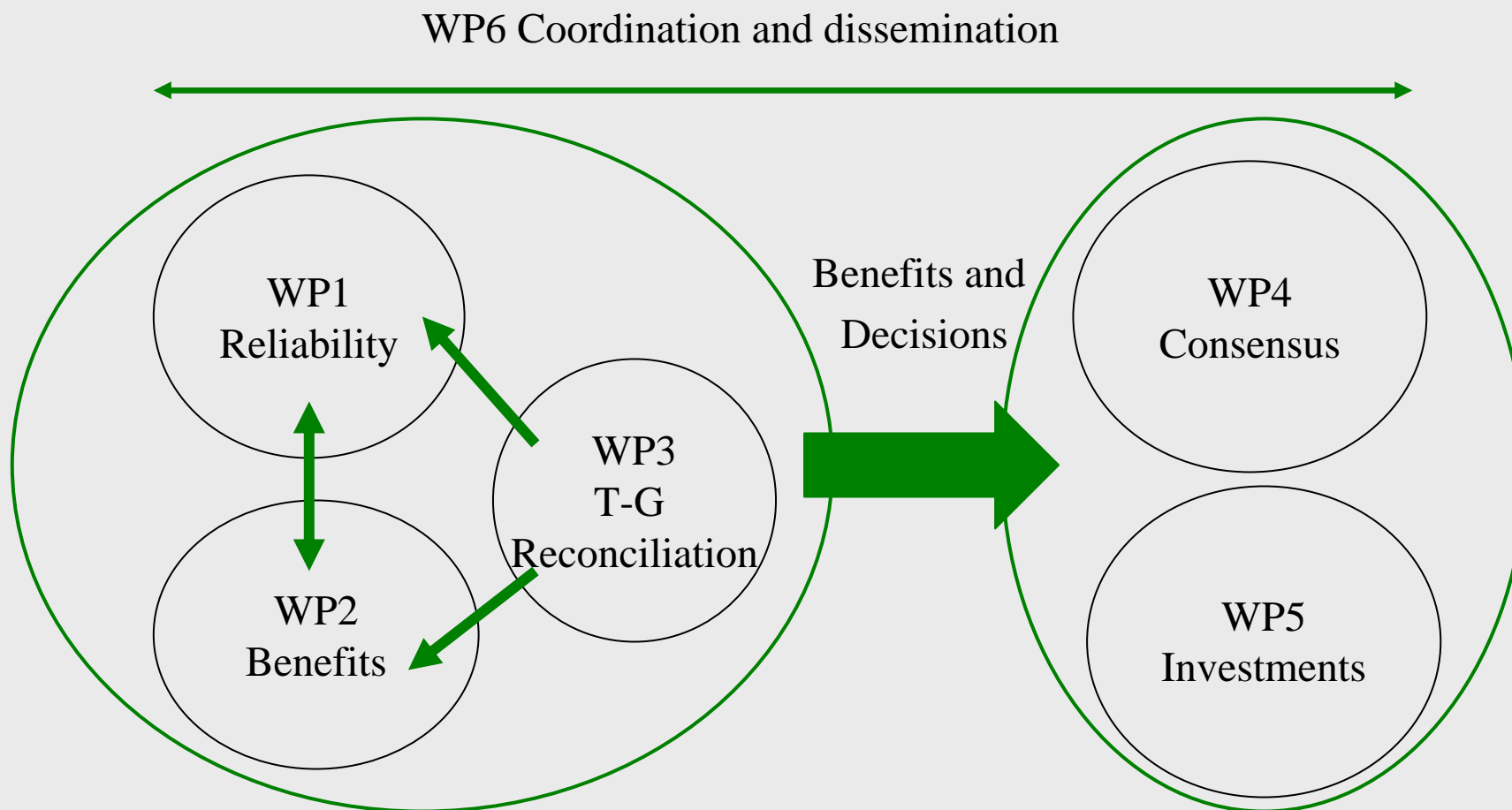
Background issues (2)

- ✓ According to the Smart Grid Vision, the establishment of a Pan-European grid for the **integration of large scale wind resources** and for improved system security will require new planning criteria, as well as new reliability methods and tools
- ✓ In restructured power industries generation and transmission are planned by different entities. This gap generates **lack of confidence** in transmission planning decisions and may result in a certain degree of social losses in case of incorrect planning. To overcome this problem TSOs may try to predict the investment behaviours of generators

Proposed approach and organisation in Work Packages

- ✓ **WP 1 - System reliability and technical planning criteria**
- ✓ **WP 2 - Technical-economic and Strategic Benefits of Transmission Expansions**
- ✓ **WP 3 - Reconciliation of transmission and generation expansion planning**
- ✓ **WP 4 - Consensus on new Transmission Infrastructures**
- ✓ **WP 5 - Incentives and support to Transmission Investments**
- ✓ **WP 6 - Research stream coordination and dissemination**

Overview of the proposed research stream



Expected results and impact

- ✓ **New planning criteria, reliability methods for a Pan-European grid with high penetration of large scale wind resources**
- ✓ **To develop methods and a tool for the evaluation of transmission benefits at national and multi-national level**
- ✓ **To develop innovative methods/tool capable of predicting investments in generation according to market/profit criteria**
- ✓ **To investigate the existing information, communication practices and tools that facilitate the public debate. To derive an harmonised approach/method for the public debate necessary to reach consensus**
- ✓ **To recommend policies in order to guarantee an adequate level of investments in transmission**
- ✓ **To ensure coordination among Work Packages and with other streams of the project. To share and to agree among policymakers, regulators and TSOs the main findings of the research stream**

Project features

- ✓ **Research stream within a large collaborative project**
- ✓ **Topic ENERGY.2007.7.3.4: Analysis and scenarios of energy infrastructure evolution**
- ✓ **The research stream cover part of the scope of the topic**
 - ✓ **“A methodology for transmission investments on multi-national level should be derived, comparing corporate, public, national and multinational benefits and costs.”**

Thank you for your attention

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