

TSO Facilitation of Renewables Studies Update

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June 2009



Overview

- Study Overview
- Consultants Appointed
- Indicative Time Lines and Next Steps



All Island 2020 Grid Study

- First comprehensive assessment of the ability of the power system to absorb large amounts of energy from renewable sources
- Five part study including:
 - Screening study
 - Resource assessment
 - Dispatch Study
 - Network Study
 - Cost Benefit Study

“However, in particular within the high penetration portfolios, a number of limitations of the studies methodologies have to be acknowledged.”

“The focus of technical follow up studies should be on the dynamic behaviour of the system accommodating high portions of renewable generation.”



TSO Renewable Facilitation Studies

Objectives:

- Increase our understanding of the behaviour of the power system with large amounts of renewable generation
- Identify any potential technical issues
- Develop mitigation measures
- Wrap it all up in a comprehensive strategy for the operation of the power system with large amounts of renewables

Outcome will inform:

- Future operational policies
- Grid code and standards
- Discussions on remuneration regimes for all generation

Technical Study Areas – Work Packages 1, 2

- Dynamic Stability
- Fault Levels
- Geographical Wind Variance
- Reactive Power and Voltage Control
- Flexibility needs of the system
- Frequency Response of the system



System Impacts – Work Package 3

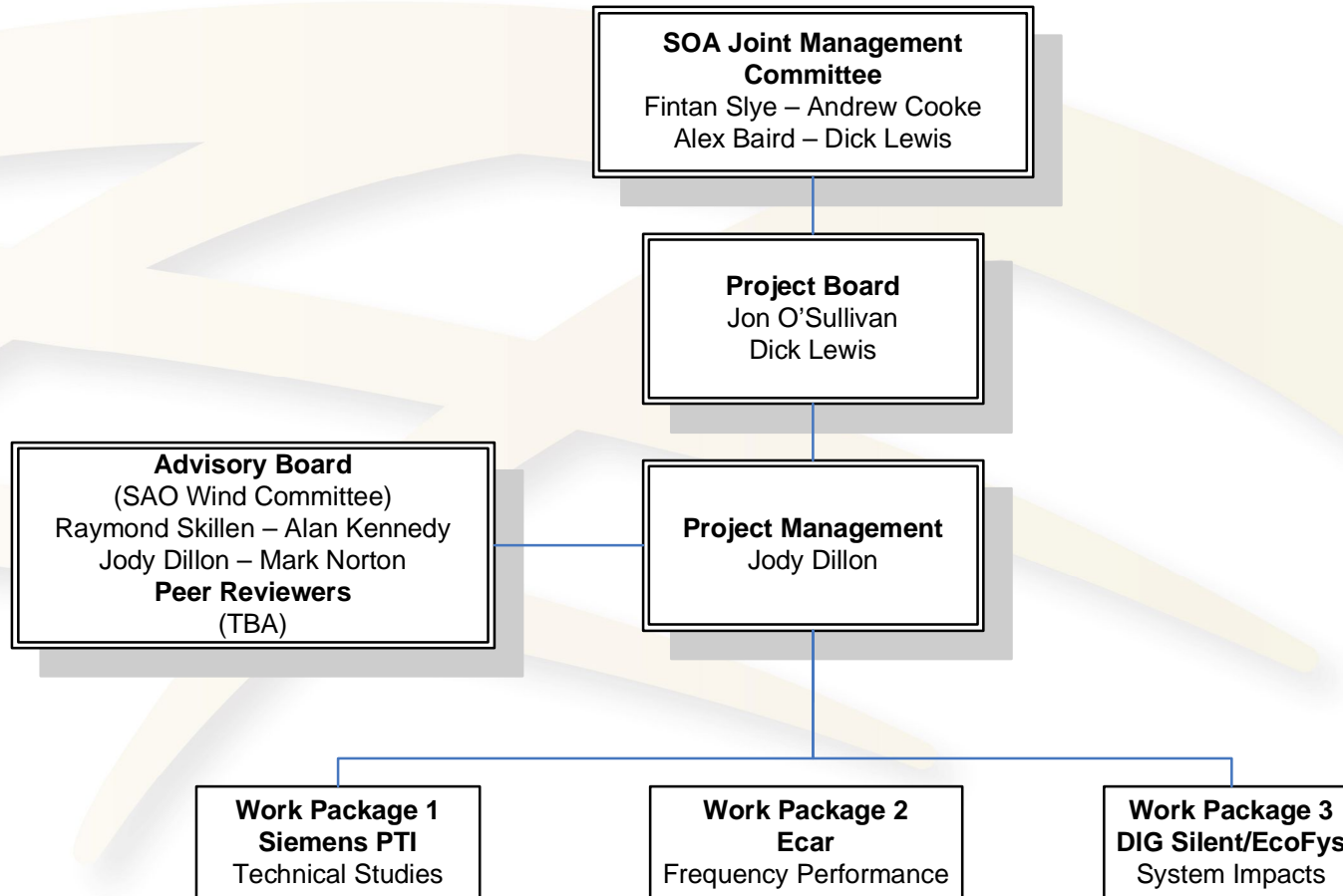
Objective:

Comprehensive strategy for operation of the power system with high levels of wind power

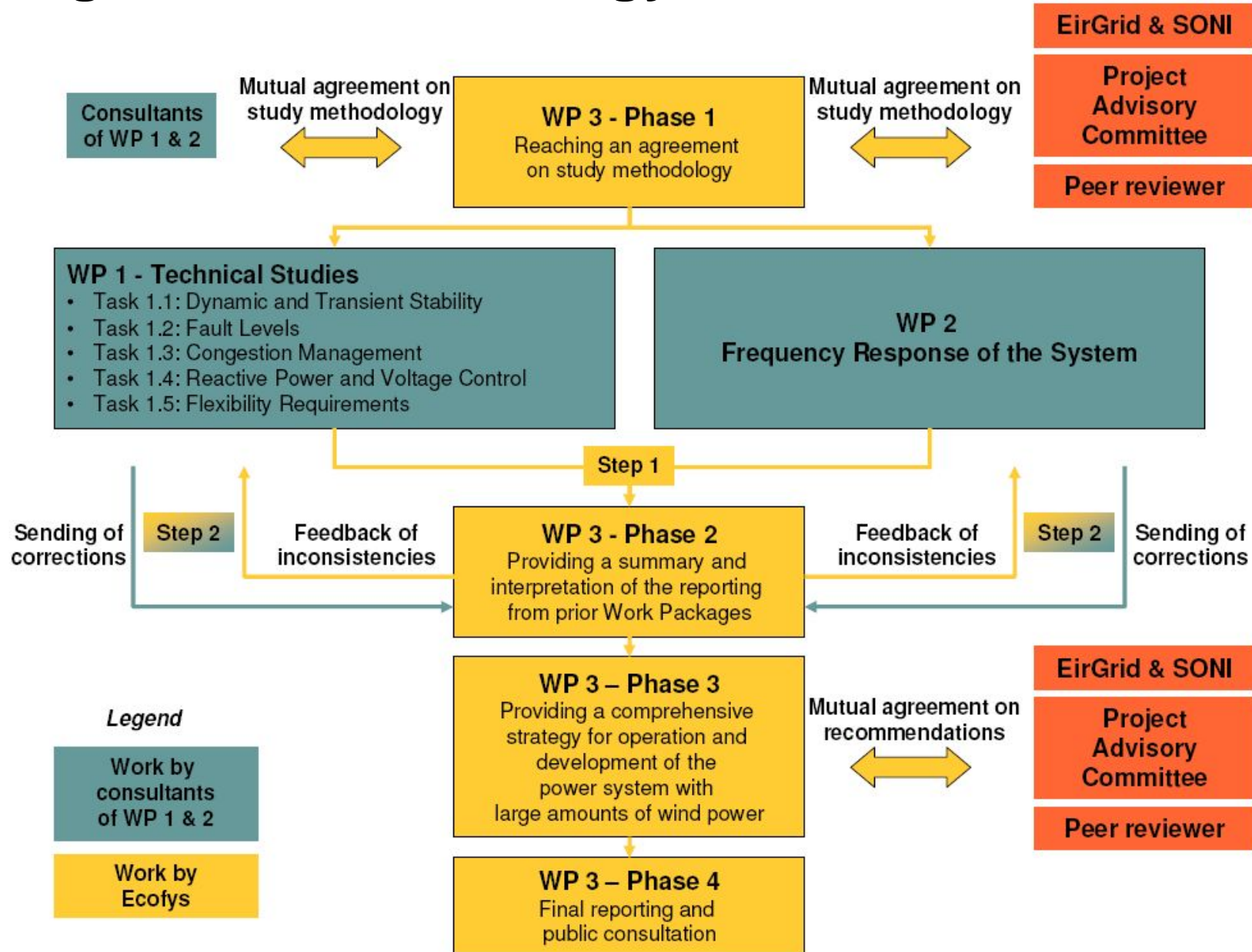
- Distillation of technical issues and their solutions into operational measures



Project Structure



High Level Methodology



Approximate Timelines

| Event | Date |
|---|---------------------------------|
| Contract commencement – anticipated | 29 th June 2009 |
| Methodology Meeting | 3 rd July 2009 |
| Submission of Methodology Report | 20 th July 2009 |
| Submission of Interim Report (WP 1 and 2) | 24 th August 2009 |
| Submission of Interim Report (WP 3) | 24 th September 2009 |
| Submission of Final Report (WP 1 and 2) | 15 th November 2009 |
| Submission Draft Strategy Report (WP 3) | 20 th December 2009 |
| Submission of Final Report (WP 3) | 30 th January 2010 |



Thank you for your attention.

Questions?

