

Introduction of wind integration activities of Task 25

Quebec wind integration workshop 18th Oct, 2010

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IEA WIND Task 25



OBJECTIVE:

to analyse and further develop the methodology to assess the impact of wind on power systems

First phase 2006-08, 11 countries + EWEA participate

Second phase 2009-11, 14 countries + EWEA participate.

- Provide an international forum for exchange of knowledge
- State-of-the-art: review and analyse the studies and results so far
 - methodologies and input data, system operation practices
 - **Final report 2006-08 published in July 2009**
- Formulate guidelines:
 - recommended methodologies and input data when estimating impacts and costs of wind power integration
- Quantify the impacts of wind power on power systems
 - range of impacts/costs; rules of thumb

www.ieawind.org/AnnexXXV


















IEA WIND Task 25:
Design and operation
of power systems with
large amounts of wind
power

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Final report 2006-08
published in July
2009



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	Country	Institution
	Canada	Hydro Quebec (A.Robitaille); Manitoba Hydro (T. Molinski); Natural Resources Canada (S.Lalande);
	Denmark	Risø-DTU (Peter Meibom); Energinet.dk (Antje Orths)
	EWEA	European Wind Energy Association (Frans van Hulle)
	Finland (OA)	VTT Technical Research Centre of Finland (Hannele Holttinen)
	Germany	ISET (Bernhard Lange); TSO Amprion (Bernhard Ernst)
	Ireland	ECAR/UCD (Mark O'Malley); TSO Eirgrid (Jody Dillon)
	Italy	Terna (Enrico Maria Carlini)
	Japan	AIST (Junji Kondoh)
	Norway	SINTEF (John Olav Tande); TSO Statnett (T. Gjengedal)
	Netherlands	we@sea, ECN (Jan Pierik); TUDelft (M.Gibescu)
	Portugal	INETI (Ana Estanquero); TSO REN (João Ricardo); INESC-Porto (J. Pecas Lopes); UTL-IST (Ferreira Jesus)
	Spain	University of Castilla La Mancha (Emilio Gomez Lazaro)
	Sweden	KTH (Lennart Söder)
	UK	DG&SEE (Goran Strbac), TSO National Grid (A.Hiorns)
	USA	NREL (Brian Parsons); UWIG (Charles Smith)



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Where are we now?

- There is already experience from several countries integrating 13-20 % of their electricity consumption from wind energy
 - TSOs use updated information of on-line production and forecasts as well as possibility to curtail in critical situations
 - They see increase in short term regulation/load following use
- Existing constraints to reinforce the transmission network can delay reaching 20% wind penetration on the European/North American scale
- Operation strategies to cope with wind generation from a high to a very high level (>20 %) are still being developed. New tools are needed.
- Technical capabilities of wind power plants used more, and evolving