Purpose and overview

• Purpose
  – to provide a brief overview of some wind energy policy research being undertaken at the University of Waterloo.

• Outline
  – resource distribution
  – sustainability assessments
  – policy analysis
  – public perceptions and acceptance
  – summary and discussion
Resource distribution

• The issue:
  – What is the distribution of wind resources across space and time, and what are the relationships to the spatial and temporal distributions of loads?

• Our interests and activities:
  – nodal pricing, coincidence with system peaks, complementarity with other renewables
Resource distribution

• Our impacts:

Estimating the value of wind energy using electricity locational marginal price
Geoffrey McD. Lewis
Faculty of Environment, University of Waterloo, 200 University Avenue

Solar and wind resource complementarity: Advancing options for renewable electricity integration in Ontario, Canada
Christina E. Hoicka, Ian H. Rowlands
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b Environment and Resource Studies, University of Waterloo, Waterloo, Ontario, Canada
Sustainability assessments

• The issue:
  – What are the consequences for sustainability (across a variety of measures) of increased use of wind energy?

• Our interests and activities:
  – Sustainability impacts of wind generation; sustainability impacts of systems being displaced (or not selected in the first place)
Sustainability assessments

• Our impacts:

IN THE MATTER OF sections 25.30 and 25.31 of the Electricity Act, 1998;

AND IN THE MATTER OF an application by the Ontario Power Authority for review and approval of the Integrated Power System Plan and proposed procurement processes.

An Analysis of the Ontario Power Authority’s Consideration of Environmental Sustainability in Electricity System Planning

by

Robert B. Gibson
Mark Winfield
Tanya Markvat
Kyrke Gaudreau
Jennifer Taylor

Filed August 1 2008
Policy analysis

• The issue:
  – What policy or policies will most ‘effectively’ serve to cause more wind energy to be deployed?

• Our interests and activities:
  – Evaluating regulatory-, market- and information-based strategies: command-and-control; renewable/green portfolio standards; feed-in tariffs
Policy analysis

• Our impacts:

The Development of Renewable Electricity Policy in the Province of Ontario: The Influence of Ideas and Timing

Ian H. Rowlands
University of Waterloo

Public perceptions and acceptance

• The issue:
  – What are peoples’ preferences in securing energy services? How do they perceive wind energy?

• Our interests and activities:
  – public opinion, public preferences, social acceptance, community norms, multi-unit decision-making
Public perceptions and acceptance

• Our impacts:

http://reepgreen.ca/
Summary and discussion

• Presenter’s contact details

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References

• Resource distribution

• Sustainability assessments
References

• Policy analysis

• Public perceptions and acceptance