

## ONTARIO POWER AUTHORITY



**Enabler Transmission Concepts in Ontario**  
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# Renewable Generation in Ontario

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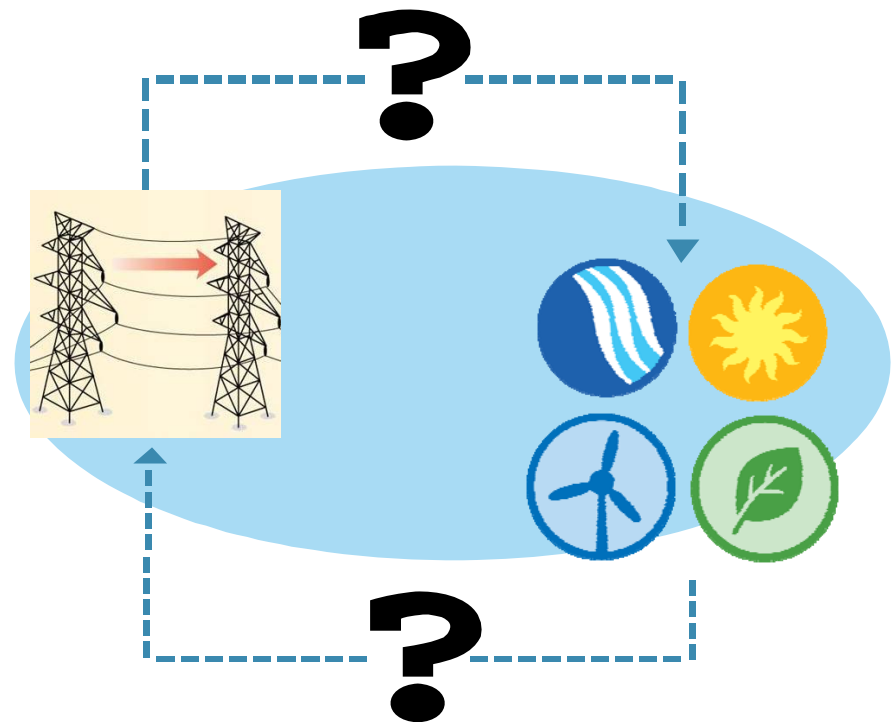
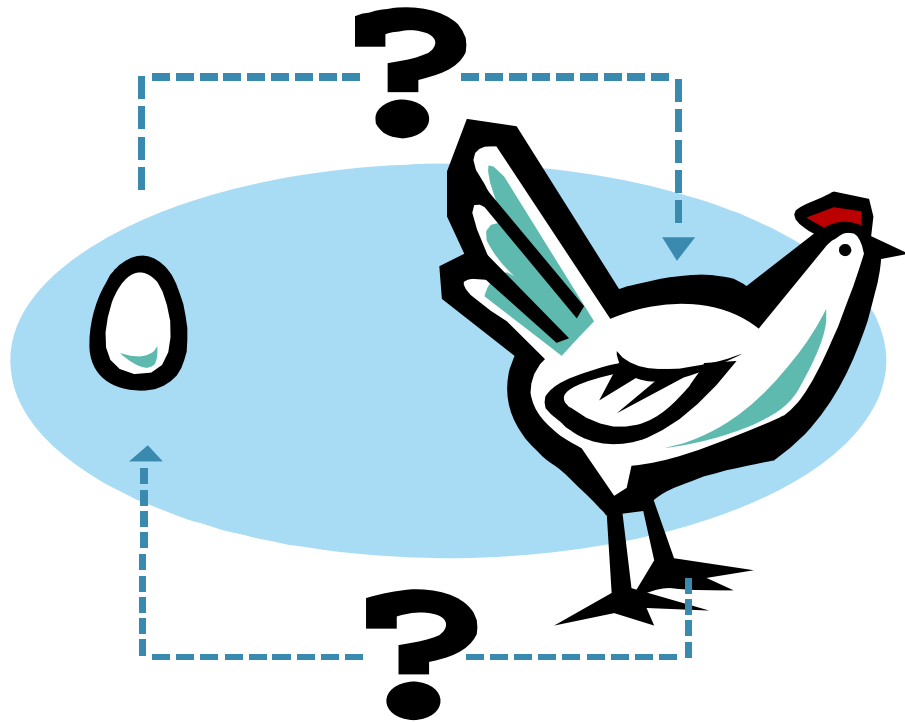
- Government's Supply Mix Directive set a goal of 15,700 MW of renewable resources by 2025
- Renewable resources includes hydroelectricity, wind power, bioenergy and solar power
- Existing renewable resources of about 8,200 MW is mostly hydroelectric
- Integrated Power System Plan (IPSP) identifies a 3 stage process to double the existing renewable resources by 2025. This consists of approximately:
  - 3,000 MW of hydroelectric
  - 4,300 MW of wind
  - 500 MW of bioenergy
  - 100 MW of Solar

# The Challenge for Renewable Resources

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- Renewable resources have unique challenges:
  - clusters of small projects
  - fuel sources tend to be immobile
  - projects tend to be developed incrementally in time
  - located in remote areas with no access to transmission facilities
  - Typically dedicated radial transmission lines needed to connect these resources to the grid
- Current rate treatment of “connection” transmission facilities requires connecting proponents to fund
- Transmission costs may be prohibitively high for small generators and may impede development

# Enabling Renewable Resources

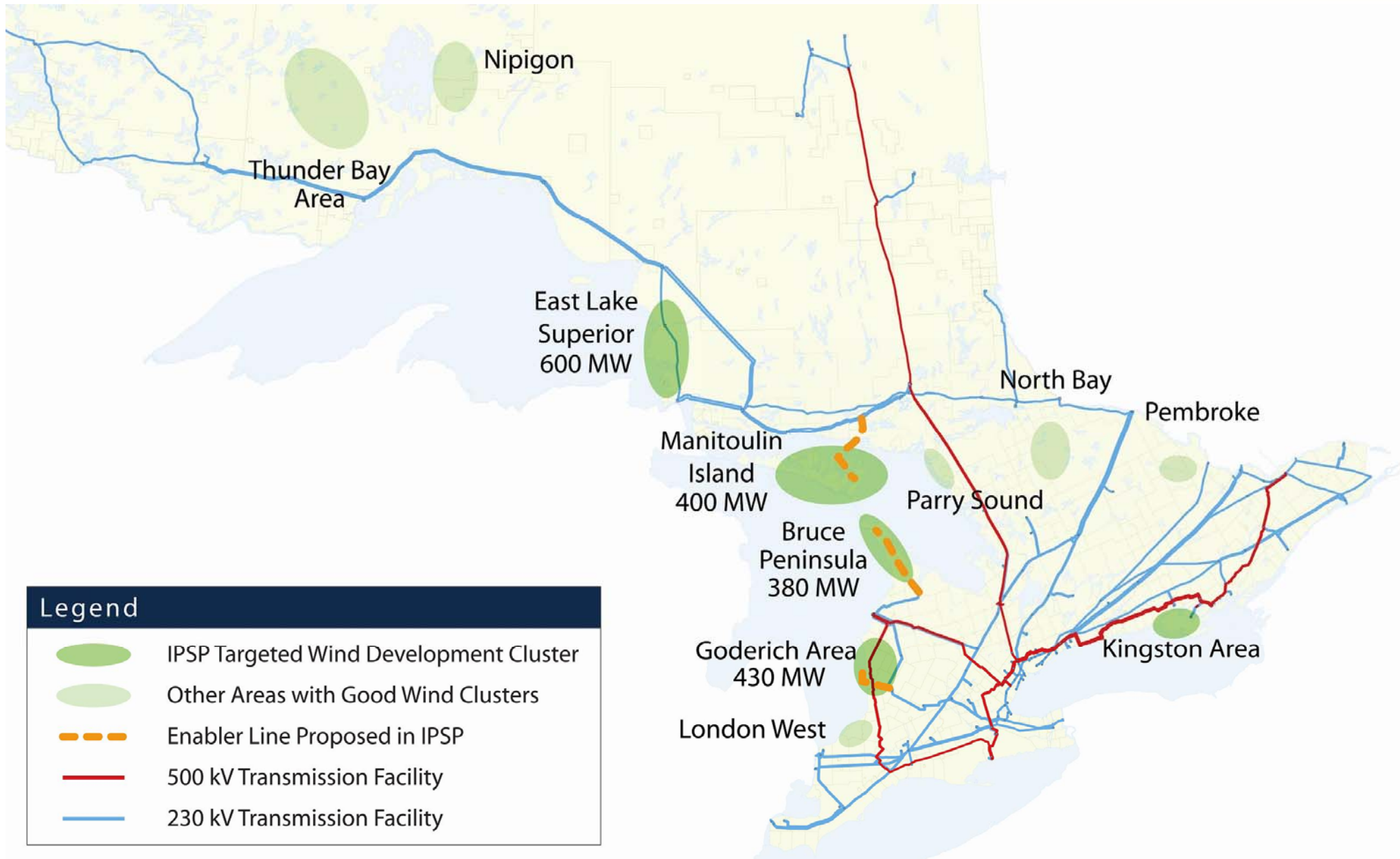


# What is the Enabler Concept?

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- Seeks to break the “chicken & egg” dilemma
- “Enabler” facilities connect to the grid those areas with clusters of good renewable potential
- Enabler facilities or at least the initial costs would be borne by all rate payers
- Enabler facilities would attract and promote competition among a number of projects in the cluster areas
- Generation projects would include the line costs to connect to the Enabler facilities
- Enabler development would proceed with escalating generation development commitment

# Wind Generation Potential



# The Issues

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- Many complex questions from policy, planning and procurement perspectives must be addressed in developing appropriate mechanism(s)
- How to secure and time level of generator interest and commitment with the transmission development and construction?
- How will the procurement process be conducted for generation (and transmission?)
- Who will take the risk on transmission (and generation?) development costs?
- Who will build and own?
- Issues must be addressed if Government policy goals are to be met. Proceedings underway to review & develop the enabler concept.