Hydro-Québec Distribution

Demande d'approbation du Plan d'approvisionnement 2005-2014 du Distributeur
Dossier R-3550-2004

Preuve de FCEI

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Open Markets

- Supply plan presents HQD's basis for supply arrangements to be made on behalf of customers
- In open markets supply planning is devolved to the customer level
  - Based on view of market prices
  - Incorporates impact of prices on demand
- Supply planning principles do not differ between the two

Market Dynamics

- Québec has a de-integrated market structure
- Bordering jurisdictions have open market structures
  - How can HQD capture the benefits of both?

- By incorporating market price signal where possible

First Supply Plan

- Outcomes
  - Load higher than medium scenario
  - Baseload and cyclable service contracted
  - Delay in acquiring modulable service

➡ Increased reliance on market purchases

Current Supply Plan

- Stronger load growth accommodated through:
  - Short term market purchases
  - Increase use of cyclable contract
  - TCE winter excess
  - New supply contracts towards end of plan

Supply Options by Technology

- Large hydro
- Biomass
- Gas-fired
  - Cogeneration
  - Combined Cycle
  - Simple cycle
- Wind generation
- Market purchases

Supply Options by Technology

- Technology is shorthand for cost and operating characteristics
  - Large Hydro
    - High fixed costs, low operating costs, very flexible
  - Gas-fired
    - Trade-off fixed vs. variable operating costs, inflexible to quite flexible
  - Wind
    - High fixed cost, energy only (without balancing)
- Costs are important – not technologies
  - Technologies may be mandated

Supply Options are Interchangeable

- Base unit with resale of excess
  - looks like modulable on a net basis
- Very short term purchases
  - look like modulable or cyclable service
- Short-term contracts
  - some are effectively baseload with resale of energy not used

- Need to compare net cost
  - Requires outlook of market prices

Supply Options are Interchangeable

- Customers are exposed to market prices
  - looks like modulable on a net basis
- Question is whether exposure is as
  - net buyer or
  - net seller
- Need to compare price risk
  - Requires outlook of market prices

Significance of Market Prices

- Market prices having greater impact on purchase cost
  - Market purchases are becoming a larger portion of the supply portfolio
- Market Prices are also relevant to:
  - Procurement choices
    - Contract vs. market purchase
    - Baseload vs. dispatchable
  - Dispatch decisions
  - Imbalance charges

Market Prices and Procurement Choices

- If market prices are high:
  - build baseload plant and resell unused energy
- If market prices are low:
  - purchase from market

Market Prices and Dispatch

- Matching of load and supply in near-real time
  - Element of optimization
    - not all costs are variable with output (e.g. start-up costs)
- Compare contract costs/provisions to alter output with market prices
  - Efficient dispatch decisions
- Mismatch of load and supply will carry over to imbalance
  - Alignment between dispatch and imbalance will provide for efficient decisions

Market Prices and Imbalance

- Matching of load and supply inside of scheduling window
- Contract with HQP
  - Permits "after the fact" management of Patrimonial "sticks"
- TransÉnergie charges for imbalance services through the OATT
- HQP and TE both charge based on "buy high and sell low" – not market prices

Conclusion

- HQD needs to incorporate a transparent view of market prices into its Supply Plan

END