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Cost-Benefit Analysis Overview and Update

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Agenda

- Background
- Overview of Cost-Benefit Analysis (CBA) methodology
- IESO's recent application of CBA and Stakeholder Feedback
- Going forward

Background

- In Fall of 2006, IESO commissioned Dr. Michael Trebilcock of CRA to draft a paper on Cost-Benefit Analysis (CBA)
  - Experience with 12-times ramp rate multiplier review process
- In June 2007, Dr. Trebilcock presented paper to stakeholders at the Market Pricing Working Group
- IESO exploring role for CBA in Market Rule Amendment process
  - IESO applied CBA to a recent market rule change and received constructive comments from stakeholders

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What is CBA?

- A decision standard used to decide whether a project should be implemented (or to decide among different projects)
  - In a policy context, the project could be new regulation or change in regulation
- A project is ‘approved’ by a CBA if the benefits to individuals exceed the costs
- Kaldor-Hicks criterion
  - change is approved if the gains to ‘winners’ exceed the losses to ‘losers’, such that the change creates benefits that are sufficiently large to offset the losses

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Advantages of CBA

- Advantages of CBA over other methods:
  - Transparency
  - Encourages accountability
  - Coherent framework for data collection and identification of information gaps
  - Allows for aggregation of dissimilar effects across individuals

Potential limitations of CBA

- Typically a narrow focus on direct effects (e.g., producers and consumers of electricity)
  - "Ripple effects" in other economic sectors (job losses and gains) are typically small and so are usually disregarded in CBA
  - Secondary/indirect effects can be included in a CBA if there are credible reasons for believing that they are significant
- CBA does not account for wealth distribution effects in its 'standard' form
  - CBA can be modified to put higher weight on welfare of certain individuals/groups (e.g.. lower income consumers)
  - If a project 'passes' a CBA, transition/compensation mechanisms can be implemented to ease effects on some groups

CBA Methodology

- Apply Kaldor-Hicks criterion
  - change is approved if the gains to ‘winners’ exceed the losses to ‘losers’, such that the change creates benefits that are sufficiently large to offset the losses
- Steps applied:
  - Project impact of change on key variable (quantities consumed and produced, and prices)
    - Projection needs to factor in how participants may respond to change
  - Compute costs/benefits to all affected participants
    - Use concept of consumer/producer surplus
  - Compare aggregate cost and benefits of affected individuals
    - If aggregate net benefits exceed cost then compare present value of aggregate net benefit to any implementation costs incurred

Recent Application

- Market Rule Amendment MR-00332-R00
  - Regional Reserve Sharing and Operating Reserve Requirements
- The IESO sought comment with respect to
  - (i) whether there are material costs or benefits ignored in the draft CBA and, if so evidence of their existence and an estimate of their significance or how you would propose to value them, and
  - (ii) more general comments on the use of CBA as a means to facilitate a more rigorous consideration of rule amendments and whether, and how, the content can be better organized in future CBAs.

Stakeholder Feedback

- General Comments:
  - Applying CBA is the right thing to do
  - IESO should be clear on decision criteria
    - Without firmly-established criteria potential for debate even when agreement on costs and benefits
  - Care should be given to measurement of costs and benefits
  - All costs and benefits should be included
  - Net benefit should have a high likelihood
  - Guidance vs. Flexibility

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Going Forward

- IESO to continue to apply CBA to market rule amendments that have a material impact on market efficiency and market outcomes
- Iterative process with extensive stakeholder involvement
- Determine instances when CBA <u>should not</u> be applied?
- IESO Board and SAC updates