The Relative Economic Costs and Benefits of the Line 9B Reversal and Line 9 Capacity Expansion

Media Briefing

The Goodman Group, Ltd. (TGG)

Expert Report in the Context of the Current NEB Case

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High risk of rupture: cost implications

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- High risk of rupture implies high cost consequences
- Due to extraordinary proximity to people, water and economic activities, rupture costs under a range of accident possibilities range from significant to catastrophic
- As will be discussed later, TGG estimated the rupture costs for a bad-case scenario at $1B and those of a worst-case scenario at $5-10B
- No evaluation of cost of a malfunction or accident provided by Enbridge

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Benefits of the Project

- Enbridge estimated the benefits as almost $1B/year over 30 years
- Likely overstated, but the Project does likely have some benefits
- TGG estimates these benefits to be less than $1B/year and likely less than $0.5B/year, especially in the near term
- Benefits mostly go to Quebec refineries and some to oil producers; but refined product prices will not decrease
- Job benefits tiny: around 200 jobs/year
- GDP benefits insignificant when weighed over QC, ON and Canadian economies
- Even more insignificant when weighed against the costs of a major spill

Relative cost-benefit analysis approach

- Cost-benefit analysis (CBA) by TGG limited to economic costs and benefits
  - more readily estimated
  - less subject to controversy
- TGG has approximated the benefits (under $1B/year and likely under $0.5B)
- High degree of uncertainty and broad range of potential costs, so estimated range of relative cost magnitudes under a variety of rupture possibilities
- Relative cost-benefit analysis can offer practical guidance to NEB regarding relative magnitude of costs and benefits

How benefits were estimated

- Enbridge assumes the Project will supply AB and ND crudes to QC refineries over a 30 year period with big cost savings vs. overseas crudes
- Savings estimated by Enbridge likely overstated; crude markets are rapidly shifting, with pricing very dynamic and difficult to predict
- Quebec refineries contracted to use the Project for 10 years, so the Project likely has some benefits
- TGG has approximated the benefits (under $1B/year and likely under $0.5B), based on our review of Enbridge and other analyses and judgment

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How costs were estimated

- Range of relative magnitudes for potential costs under a variety of rupture possibilities

- Selected four relevant examples of pipeline accidents and disasters:

  - rupture on Enbridge's Line 6B in Marshall, MI ($1B) – most directly comparable with Line 9 rupture in non-urban HCA (High Consequence Area)
  - explosion, fire and spill of Bakken crude at Lac-Mégantic (possibly > $1B; 47 dead; concerns about financial responsibility; nowhere near worst-case scenario for Line 9B rupture)
  - San Bruno natural gas pipeline rupture, explosion and fire (could exceed $2.5B; 8 dead; getting close to worst-case scenario for Line 9B)
  - widespread devastation to New York City from Hurricane Sandy ($19B in economic damages and 43 deaths in NYC; not implying that Line 9B rupture in Toronto or Montreal would create same extent of damage; but this example demonstrates in the way others do not how major disasters in urban areas can have very high costs)

Results of cost-benefit analysis

- Potential costs for a major rupture in an HCA, but not an urban setting (similar to Marshall) could start at $1B (bad scenario)

- A major accident in a densely populated area damaging and disrupting key infrastructure, costs could escalate to multi-billion dollar damages ($5-10B in worst case scenario)

- Given hazardous characteristics (notably flammability) of proposed new crude slate (including Bakken and dilbit), an accident could involve the loss of human life

- Conclusion: the potential economic costs could exceed (and under a range of malfunction/accident conditions, greatly exceed) the potential benefits (estimated as under $1B and probably under $0.5B/year)

Insufficient financial coverage

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- Concerns re: Enbridge's capability and willingness to provide financial coverage for a major accident/spill
- Concerns exacerbated by Enbridge's dismissive attitude in the hearings about the need for specific financial coverage to be set aside for this pipeline (also expressed by the City of Montreal and Toronto, and Government of ON)
- Currently only US$685M in liability insurance for all of Enbridge (including all subsidiaries and affiliates)
- TGG has demonstrated that this amount (and even the $1B suggested by some parties) is vastly inadequate for a pipeline with a high risk of rupture running through Toronto and Montreal
- At the very minimum, we recommend a minimum total coverage of $3 billion (dedicated to the Project and not general coverage for all of Enbridge)

Major flaws in Enbridge's analysis of costs and benefits

- Enbridge has taken a broad view of the benefits, a narrow view of risks, and has ignored costs of rupture

- For Enbridge and other parties (those receiving benefits) the main focus in this case is on benefits; TGG concludes that benefits are less than claimed by Enbridge, but our core area of disagreement is on the costs

- Enbridge claims the rupture risk is low and being adequately managed, and it has assumed minimal costs (beyond the cost of the Project itself) and no expected costs to rupture

- In reality, because of high risk of rupture, expected costs of rupture are unacceptably high; with inadequate financial coverage, the costs of spill and accidents could be borne in large part by the public and governments, while the benefits will flow mainly to Quebec refiners, oil producers and Enbridge

Recommendations

- Given (1) results of relative economic CBA which demonstrates that potential economic costs could exceed or greatly exceed benefits; (2) the uneven allocation of the costs and benefits across stakeholders and regions; (3) the Kuprewicz conclusion of a high risk of rupture in the early years, TGG strongly recommends that the NEB reject this Project as proposed, which is neither safe nor in the broader Canadian public interest

- If NEB decides to approve Project despite our strong recommendation of rejection, we recommend (1) the implementation of all recommendations of the Kuprewicz Report re: pipeline safety; (2) a minimum total financial coverage of $3 billion dedicated to the Project to ensure that Enbridge will be responsible for all damages; (3) maintenance of the same crude slate (with restriction on heavy crude) as was approved for Line 9A