North American Energy Trade and Integration *Prospectus*
Energy Modeling Forum, August 2017



Heading	Description
Background	More integrated fuel and power markets will increase the flexibility and efficiency of North American energy systems. It will allow companies to tap new and more affordable regional resources to meet this area's rapidly transforming energy requirements. This process will create more competition and will change relative prices between and within each country. Integrated markets, however, do not operate in a vacuum but instead require considerable cooperation between Canada, Mexico and the United States. They will need common market rules and cross-border pipelines and transmission lines to achieve these gains. Effective rules and investments cannot materialize unless all public and private decision-makers are aware of how exactly more integrated markets might work. To promote this cooperation, there is considerable need for a collaborative, team effort to better understand: • the availability of existing data, • the opportunities for developing new metrics meeting investors' and policymakers' needs, and • the sharing of market insights that flow from numerous analytical models and frameworks. This effort will be closely coordinated with a framework for trilateral consultation and sharing of energy information initiated by the Energy Secretaries and Minister from Canada, Mexico, and the United States for the North American region in December 2014. Background information about the agreement can be found at http://www.nacei.org/en/.
Problem Statement	This EMF 34 working group and study will focus on how an integrated North American market might operate under various world oil and macroeconomic conditions. Specific focus will be placed upon the tradable commodities of oil, natural gas and electric power. Although primary emphasis will be on conditions that influence current decisions, the evaluation will extend through 2050 due to the long lead times for investment and planning. Primary emphasis will be placed upon these fuel and power metrics:

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	• production • consumption • prices • energy trade between Canada, Mexico and United States • energy trade between North America and the rest of the world
Purpose Statement	Through a series of workshops, the working group will develop broad market insights derived from results submitted by a range of economic and engineering process models covering the metrics described above. These insights will improve communication and cooperation between investors and policymakers in the three countries.
EMF Process	   **Government** **Universities/Institutes** **Companies** **Working Group** • Compare Results/Understand Differences • Robust Insights • Improve Models/Future Research  Studies are conducted by a working group drawing from corporate planners, government policy analysts, energy modelers, and energy experts. Comparing model results produces a range of valuable insights about energy markets and improves any models used for developing policies.
Research Questions	The study will address how North American energy integration: • ensures that energy produced in one area can be delivered efficiently to consumers in another, • shapes the volume of energy trade by product both between Canada, Mexico and the United States as well as between North America and the rest of the world, and • promotes price competition that may change traditional views

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	about relative fuel and power prices within North America and their relationship to standard price benchmarks like the Henry Hub natural gas price or the Brent or West Texas Intermediate crude oil price.
Project Schedule	**June 28:** Brainstorm group session was held in Washington, DC, to gauge interest in the topic and what topics were most critical as next steps in developing an effective long-term relationship. **September 10:** Steering committee completes its review of first meeting and submits its revised study design proposal to all modeling teams. **September 23:** Online meeting to review final first round study design. **Early October:** Final first round study design distributed **January 2018 (approx.):** First round scenario results due (leaving enough time for initial trouble shooting of reporting conventions/definitions) **April 2018 (approx.):** Next working group meeting (location TBD) **May 2018:** Short memorandum discussing preliminary insights from April meeting. **Every 6 Months:** Additional working group meetings to discuss most recent results and new or revised scenarios for future evaluation.
Participating Models	23 analytical teams with diverse energy and power models expressed interest in our effort at our June 2017 meeting. Teams represented Environment and Climate Change Canada, National Energy Board, Mexican Energy Ministry, and U.S. Energy Information Administration as well as those from research institutes, universities and consulting organizations. Further information is available upon request.
Corporate Participation	Corporate members of the working group will be those who are most interested in: • developing professional relationships with government staff members from Canada, Mexico, and the United States, • networking with key researchers evaluating North American energy markets • improving government and third-party modeling systems often used to influence and guide the policymaking process Support for the EMF process is made possible through funding from the US government and corporate sponsorship through our EMF affiliates program. Highly leveraged by the government support, the corporate affiliation fee is $25,000 per year. Additional information about our affiliates program is available here or by contacting Hill Huntington, hillh@stanford.edu.