**Nomination for Appointment to the**

**Integrated Resource Planning (IRP) Technical Working Group**

To be submitted through the OEB’s online filing portal by 4:45 pm on November 8, 2021. Please quote file number **EB-2021-0246**.

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| **Contact Information** | |
| Nominee Name: | Dr. Dean Murphy |
| Company Name: | The Brattle Group |
| Company Address: | One Beacon Street, Suite 2600  Boston, MA 02108, USA |
| Position Title: | Principal |
| Department: | Energy practice |
| Email Address: | dean.murphy@brattle.com |
| Mobile: | 617.320.4642 |

Please provide a short description for each of the following.

1. **Is this a self-nomination (Y/N)? If not, please indicate which individual(s)/organization(s) the nomination is made on behalf of, and whether the nominee has confirmed an interest in participating on the IRP Technical Working Group.**

Yes, this is a self-nomination.

1. **Nominee’s Technical or Policy Experience With Natural Gas or Electricity IRP(utility system planning, experience with IRP solutions, cost-benefit analysis and comparison of IRP/facility solutions, etc.)**

I have considerable experience with electric system IRP, system planning and cost-benefit analysis. I have limited experience in traditional gas system planning, but I bring to the IRP Working Group a perspective on how long-term decarbonization is likely to affect the gas sector, and the pressures that will face the sector over the next several decades as the world, Canada, and Ontario act to mitigate climate change.

The future of gas system planning is unlikely to look like its past. It may be possible to meet [Ontario’s current 2030 emissions targets](https://prod-environmental-registry.s3.amazonaws.com/2018-11/EnvironmentPlan.pdf) (30% GHG reduction via conservation and RNG substitution) with a gas system that looks similar to today’s system. But Canada’s more ambitious national goals – 40-45% GHG reduction by 2030, and particularly its 2050 net-zero goal – are likely incompatible with continued delivery of natural gas at the current scale. Thus much (and conceivably all) of Enbridge’s Ontario natural gas infrastructure – including distribution, pipeline and storage assets – might become redundant within the next few decades. This creates a conflict with investment planning and cost recovery, since most gas infrastructure is designed to operate and recover its costs over a considerably longer period.

I bring considerable experience in understanding the future of natural gas systems in a climate-constrained world. As examples, I co-led a study on [Heating Sector Transformation in Rhode Island](http://www.energy.ri.gov/documents/HST/RI%20HST%20Final%20Pathways%20Report%205-27-20.pdf) for two state agencies. I am currently advising the Massachusetts Attorney General’s Office in the Commonwealth’s “Future of Gas” proceeding, and have performed a number studies for other clients looking at how our energy systems will transform, including the gas system and its interactions with the electric system.

1. **Nominee’s Knowledge of Ontario Context for Enbridge Gas IRP activities**

**(related work experience in Ontario, participation in OEB proceedings, etc.) *{Note that the OEB will consider nominations for candidates with experience in IRP outside of Ontario}***

I am familiar with the Ontario Context for the current activities related to Enbridge Gas’ IRP. In April 2020, the OEB initiated a review of Enbridge Gas’ IRP process, including the incorporation of realistic natural gas supply-side and demand-side options and IRP alternatives. Its July 2021 Decision and Order (EB-2020-0091) approved the first-generation IRP Framework and OEB’s requirements for Enbridge Gas. The IRP framework is forward looking and expected to lay a solid foundation for Enbridge Gas to meet its future energy needs as the Ontario and Canadian energy sector evolves. For example, the OEB’s 2021/22 five-year Strategic Plan highlights how climate change policy and decarbonization will drive change in the Ontario’s energy sector, including electrification of heating. The Enbridge Gas IRP provides a framework for the utility to make prudent investments in its network infrastructure to meet the current and future energy demands in a safe and reliable manner, considering IRP Alternatives such as energy efficiency, demand response, CNG, RNG, and electrification. The July 2021 Decision and Order lays out screening criteria and evaluation processes to identify which solution is most appropriate to deploy to meet the identified need. Still, it seems fair to say that the process to date has not given sufficient consideration to the long-term impacts of climate policy and national decarbonization goals on gas system investments.

I have experience in evaluating the benefits and costs associated with a myriad of options to meet evolving energy needs. For example, in the Rhode Island [Heating Sector Transformation](http://www.energy.ri.gov/documents/HST/RI%20HST%20Final%20Pathways%20Report%205-27-20.pdf) study, our team evaluated a broad spectrum of solutions to transform the state’s heating sector. I also co-authored [a study](https://www.brattle.com/insights-events/publications/study-coauthored-by-brattle-economists-assesses-policies-and-pathways-for-achieving-100-renewable-electricity-in-rhode-island-by-2030/) for the Rhode Island Office of Energy Resources analyzing the renewable resources necessary to achieve the state’s nation-leading goal of 100% renewable generation by 2030, and the implications for ratepayer costs, economic impacts, and energy and environmental equity. In addition, Brattle has significant experience with helping gas utilities evaluate options in a decarbonizing energy future (see <https://www.brattle.com/future-of-gas/>). For example, Brattle assisted Consolidated Edison Company of New York develop the benefit-cost-analysis [framework](https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId=%7b8E98015E-9AA3-4443-99AB-BFE452A9A60E%7d) for its Non-Pipeline Alternatives Program, which includes a broad spectrum of demand-supply and supply-side technologies like those identified in the OEB Decision and Order.

Beyond this, I have significant experience in electric utility planning and IRP. For example, I was part of the Brattle team developing the Connecticut utilities’ joint electric IRP for several years. I am currently engaged in modeling the Ontario electric system, accounting for how decarbonization will affect it.

1. **Why do you believe that you/the nominee would be a valuable member of the IRP Technical Working Group?**

Planning for the near term without attention to more stringent longer-term climate goals risks backing Enbridge, its customers and regulators into a corner. It could cut off opportunities, limit future flexibility, and result in significant stranded costs, much of which might be avoided with the proper advance planning. Beginning immediately to plan for these long-term possibilities will allow Enbridge to avoid (or at least foresee and manage) the possibility that investments made today might be abandoned well before the end of their normal life.

The kinds of planning that should be considered may include geographically organized energy conversions of existing customers, to enable strategic retirement of parts of the gas system and avoiding some interim investments and operating costs. It will also be important to develop an advance understanding between Enbridge, its regulators and its customers regarding how investments will be made, and how they will be treated for regulatory and cost recovery purposes. Provincial participation may also be needed, to finance the transition and to equitably allocate costs across society, which may be more appropriate than focusing all costs on existing (remaining) customers and/or the utility.

The current IRP process is already considering a number of the types of IRP alternatives that could help to limit longer-term exposure, but a clear assessment of the long-term future of the gas system (distinct from the traditional, implicit planning assumption that the gas system will continue operating indefinitely) is necessary to guide effective planning.

The OEB should dedicate at least one seat on the Working Group to an expert familiar with climate change mitigation strategies and their likely impact on gas systems, to ensure Enbridge is planning for the appropriate long-term goals. I believe I am well-suited to play that role.