



Chuck Farmer  
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Independent Electricity System Operator  
1600-120 Adelaide Street West  
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June 18, 2021

Dear Chuck,

This submission responds to the Independent Electricity System Operator (IESO) June 24, 2021 presentation, *Gas Phase-Out Impact Assessment* (dated May 27, 2021).<sup>1</sup>

The Consortium understands that IESO has initiated this stakeholder engagement initiative, in an effort to support its forthcoming comprehensive assessment (the "Assessment") examining potential implications if Ontario's gas-fired generators were to be phased out by 2030, as multiple municipal councils across Ontario have recently passed resolutions supporting the phase-out of gas-fired generators by 2030.

Power Advisory has coordinated this high-level submission on behalf of a consortium of renewable generators, energy storage providers, and the Canadian Renewable Energy Association (the "Consortium"<sup>2</sup>).

### **High-Level Comments on the Presentation**

The Consortium understands that operating gas-fired generators in Ontario can meet power system needs, by providing: intermediate and peaking capacity; energy production capability; other reliability services, including operating reserve; and local supply reliability (p. 10).

As noted in previous submissions to IESO<sup>3</sup>, the Consortium is encouraged by the advancement of hybrid variable generator and energy storage projects being selected to replace gas-fired generators in U.S. markets. Many of these hybrid projects have been approved by state regulators because they are more cost effective than some operating gas-fired generators, provide the same (and sometimes superior) supply attributes, and help meet environmental policy goals and objectives. Appendix A lists examples of

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<sup>1</sup> See <https://www.ieso.ca/en/Sector-Participants/Engagement-Initiatives/Engagements/Gas-Phase-Out-Impact-Assessment>

<sup>2</sup> The members of the Consortium are: Canadian Renewable Energy Association; Axiom Infrastructure; BluEarth Renewables; Boralex; Capstone Infrastructure; Cordelio Power; EDF Renewables; EDP Renewables; Enbridge; ENGIE; Evolgen (by Brookfield Renewable); H2O Power; Kruger Energy; Liberty Power; Longyuan; NextEra Energy Canada; Pattern Energy; Suncor; and wpd Canada.

<sup>3</sup> See <https://www.ieso.ca/en/Sector-Participants/Engagement-Initiatives/Engagements/Hybrid-Integration-Project> and <https://www.ieso.ca/en/Sector-Participants/Engagement-Initiatives/Engagements/Resource-Adequacy-Engagement>

such hybrid projects. Over time, the Consortium expects the same trend to become reality within Ontario's electricity market. Therefore, IESO, along with stakeholders, should be engaged in planning for this coming reality, and supports IESO's Enabling Resources and Hybrid Integration Project stakeholder engagement initiatives.

Regarding the locational importance of some operating gas-fired generators (p. 20), the Consortium recommends that within power system planning documents (e.g., Annual Planning Outlook (APO), Annual Acquisition Report (AAR), etc.) IESO should be very specific regarding whether operating gas-fired generators (and other supply resources) will be needed for local reliability needs along with any other power system needs. This information is crucial to better understanding the needs of Ontario's power system. It is further important because the Consortium has noted that some operating gas-fired generators with expired contracts have been eligible to participate within Capacity Auctions, yet it is not clear whether any of these participating gas-fired generators meet local power system needs.

Regarding IESO's Assessment in terms of the depth and focus of analysis (p. 24), more clarity and details are needed on how the three scenarios will factor in: (i) the base case; (ii) the emissions baseline; and (iii) the diverse supply mix. Relating to needing more clarity and details on these factors, more clarity and details are needed regarding IESO's proposed three scenarios that will be used within the Assessment (p. 26):

- Scenario 1 – complete phase-out of gas-fired generators by 2030 with a supply mix approach of new resources, in response to municipal council resolutions;
- Scenario 2 – market-based approach that examines potential for higher natural gas prices to reduce utilization of the fleet of gas-fired generators to reduce greenhouse gas (GHG) emissions by 2030, and provide market signals to clean energy projects; and
- Scenario 3 – reduce GHG emissions by 2030 with a supply mix approach of new resources.

Overall, more clarity is needed regarding the stakeholder engagement process for this initiative and when the final Assessment will be completed, and how the Assessment may inform other IESO power system planning initiatives and documents (e.g., APO, etc.), as well as procurement processes and mechanisms.

Finally, regarding the timeframe for the Assessment, the Consortium recommends that the timeframe should be consistent with APO and therefore be 20 years (i.e., 2022 to 2042). This will better capture forward projections of Ontario's power system needs, technological advances of multiple supply

resources, and will better align with the Canadian government's Climate Action Plan targets, goals, and objectives.<sup>4</sup> Therefore, the timeframe for the Assessment should not be limited to the 2030 timeframe.

### **Response to IESO Posed Question**

Are there additional considerations the IESO has not identified in defining the scope of the assessment to examine the reliability, operability, timing, cost and wholesale market implications of reduced emissions on the electricity system?

*As recommended above, more clarity and details are needed regarding IESO's posed three scenarios and factors regarding these scenarios, and the initiative overall.*

*The Consortium recommends that IESO look to other wholesale electricity markets in the U.S. that are replacing gas-fired generators with hybrid projects and utilize relevant power system planning methodologies towards making such determinations within the forthcoming Assessment.*

*Is this initiative intended to be used as a planning tool by IESO that informs work already underway with the development of APO and AAR, or is this Assessment going to remain limited as an exclusive 'snapshot' limited to the 2030 timeframe?*

*The Consortium recommends the timeframe for the Assessment be consistent with the timeframe within APO, and therefore be 20 years (i.e., 2022-2042).*

The Consortium will be happy to discuss the contents of this submission with you at a mutually convenient time.

Sincerely,

A handwritten signature in black ink, appearing to read "Jason Chee-Aloy", enclosed in a thin black rectangular border.

Jason Chee-Aloy  
Managing Director

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<sup>4</sup> Canada's Climate Plan states the key objective is to achieve net-zero emissions by 2050 (see <https://www.canada.ca/en/services/environment/weather/climatechange/climate-plan/net-zero-emissions-2050.html>)



Power Advisory LLC

cc:

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Chris Scott (Suncor)  
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## Appendix A – Hybrid Projects in Select U.S. Electricity Markets

Hybrid projects are being developed as cost-effective alternatives to gas-fired generators in the U.S. – with supply capabilities to meet flexibility and operability needs of respective power systems, while addressing resource adequacy needs.

For example, on March 28, 2019, Florida Power & Light (FPL) announced their 409 MW Manatee Energy Storage Center project that will be co-located with an existing FPL solar generator in Manatee County, Florida. This hybrid project will enable accelerated retirement of two FPL gas-fired generators and will save Florida customers more than \$100 million (USD) and eliminate more than 1 million tons of carbon emissions.<sup>5</sup>

As another example, on May 1, 2020, Southern California Edison announced execution of seven contracts for a combined 770 MW of grid-scale battery storage projects (see table below). Most of the winning projects will be co-located with existing solar generators, and purposely being developed to help replace four gas-fired generators that have been ordered to reduce their environmental impact.<sup>6</sup>

Selected Bidder	Project Name	Project Location	Contract Term (Years)	Contract Capacity (MW)	Commercial Online Date
Southern Power	Garland	Rosamond, CA Kern County	20	88	8/1/2021
Southern Power	Tranquillity	Tranquillity, CA Fresno County	20	72	8/1/2021
TerraGen Power	Sanborn	Mojave, CA Kern County	10	50	8/1/2021
NextEra Energy Resources	Blythe 2	Blythe, CA Riverside County	15	115	8/1/2021
NextEra Energy Resources	Blythe 3	Blythe, Riverside County	15	115	8/1/2021
NextEra Energy Resources	McCoy	Blythe, Riverside County	15	230	8/1/2021
LS Power	Gateway 1-2	San Diego, San Diego County	15	100	8/1/2021

<sup>5</sup> See <https://www.prnewswire.com/news-releases/fpl-announces-plan-to-build-the-worlds-largest-solar-powered-battery-and-drive-accelerated-retirement-of-fossil-fuel-generation-300820312.html>

<sup>6</sup> See <https://www.greentechmedia.com/cdn.ampproject.org/c/s/www.greentechmedia.com/amp/article/southern-california-edison-picks-770mw-of-energy-storage-projects-to-be-built-by-next-year>