

Date: May 9, 2016

To: IESO

From: Brookfield Renewable Energy Group

RE: Market Renewal

Brookfield Renewable Energy Group (“Brookfield”) appreciates the opportunity to provide feedback on the Market Renewal initiative. Given that this ambitious initiative is still at its scoping stage, Brookfield encourages the IESO to continue actively engaging stakeholders in all of its design and implementation stages. Below are a number of high level comments regarding the IESO’s proposal.

Capacity Trade & Capacity Auction

Brookfield supports the implementation of a forward capacity market and inter-jurisdictional capacity trades. As iterated in our previous comments, Brookfield holds renewable assets in ISO-New England, New York ISO, PJM, Ontario, CAISO, and Québec; and actively trades capacity across these markets. Many other market participants in Ontario also engage in similar inter-jurisdictional marketing activities. Brookfield encourages the IESO to tap on the experience of its own participants to help design its capacity market.

Further, although Ontario is forecasted to be in capacity surplus for the next number of years, the IESO should not neglect nor delay the design and implementation of its capacity market. Unforeseen contingencies and other capacity shortfall could trigger the need for significant capacity earlier than expected. For example, a number of nuclear refurbishment projects have been planned during the capacity surplus period: unexpected refurbishment difficulties could trigger off-ramping or simply require additional replacement capacity. The flexible and shorter-term nature of a capacity market would thus allow the IESO the flexibility to procure as much or as little annual capacity it requires. Given that the IESO has already successfully conducted a Demand Response forward auction, the blueprint for a full-fledged forward capacity market is already present. In addition, the IESO has rightly identified

capacity export as an immediate opportunity for generators both in the province and with expiring contracts. In addition, the North-East Memorandum of Understanding (“MOU”) established the principle of reciprocity for markets wishing to trade capacity. In other words, Ontario would need to allow the import of external capacity in exchange for the right to export its own capacity. Given these two reasons, Brookfield urges the IESO to prioritize the design of capacity market and trades in the Market Renewal process.

Day-Ahead Market

Brookfield supports the creation of a Day-Ahead Market that treats interties trades as fairly as other types of transactions.

Single Schedule Pricing

When the Ontario energy market was opened, policy makers chose a dispatch model that provided one clearing price to the entire province. This single schedule market has operated largely unchanged for well over a decade. This regulatory certainty was important to market participants who could rely on this market structure when making investment decisions in the sector. If the existing pricing and dispatch models were to be overhauled, then the IESO should be cognizant of its potential impact on market participants who invested based upon an expectation of a much different market environment. For example, these expectations included mechanisms such as Congestion Management Settlement Credits. In the Market Renewal initiative, broader and more transparent interactions should be encouraged and fostered with the industry from the outset. Furthermore, the IESO should encourage the industry to first work together to arrive at common and unified positions, to then be built with the IESO into lasting changes backed by meaningful industry support.

Ancillary Service

The IESO’s May 2016 Spring Awareness Session indicated that additional ancillary services, such as frequency response and voltage support, would be required to meet growing Surplus Baseload

Generation and variable generation. The IESO also indicated that RFPs and stakeholder engagements regarding ancillary services have been planned for 2016. Given this need, Brookfield recommends the IESO to explore ancillary service procurement in its Market Renewal initiative. Specifically, the IESO should also consider using transparent, efficient, and competitive markets to procure its ancillary services. Many Reliability Organizations in the US have come to the conclusion that traditional ancillary service procurement methods dramatically undervalue ancillary services. Thus, the IESO should review existing market design concepts such as demand curves in ancillary service procurement.

Interties

Brookfield believes that the optimization of interties should be another priority in the Market Renewal initiative. Marketers serve to balance demand and supply across multiple jurisdictions, and help to achieve efficient market outcomes through intertie trades. It should be reminded that marketers fulfill this vital function by transferring the risks of balancing demand and supply from consumers to themselves. In this context, consistent, stable, and harmonized rules across markets provide marketers with confidence and serves to lower their embedded risk premiums, which is ultimately reflected in their bids and offers, and the benefits of which are then passed on to rate-payers. Brookfield believes that the IESO should continue to harmonize rules with other markets, and avoid isolated and potentially discriminatory rule-makings such as the recent proposal to curtail wheel-through transactions to avoid nuclear shutdown. Many of the Market Renewal proposals unequivocally aim to increase Ontario's interaction with its neighbour markets. Isolated rule-makings that are inconsistent with neighbour markets can cause seams issues and reduce confidence in Ontario's commitment to reciprocity.

Finally, Brookfield believes that the optimization of interties and harmonizing market rules should also be a first priority for the IESO. Contrary to some other proposals that would require not only drastic rule changes but also IT investment, the optimization of interties is a low-hanging fruit where the IESO can see immediate results.

Green Attributes & Generation Attributes Tracking System

Ontario has one of the cleanest supply stacks in North America. It is a feature of our power market that Ontario should be extremely proud of in a world trending towards de-carbonization. In its push to create lasting market mechanisms and signals to the industry, the IESO and the province must ensure that merchant market signals that are developed include not only energy, capacity and ancillaries but also meaningful carbon pricing. As is being seen in other jurisdictions, merchant energy and capacity prices are not very effective at ensuring that existing, non-emitting generation resources can remain viable and economical. Without meaningful carbon pricing, the vast majority of Ontario's supply stack, be it renewable or nuclear, will eventually come off contract and be forced to export to neighboring markets or to retire. The current Government's Cap-and-Trade legislation is a step in the right direction, but may not fully value the benefits that these resources provide the power system.

As the Market Renewal initiative evaluates industry best-practices and explores opportunities to improve efficiency for Ontario rate-payers, the IESO should consider the valuation of green attributes as an area of focus. Green attributes such as renewable energy certificates are currently traded in other markets, but remain unleveraged in Ontario. As such, they are an immediate opportunity for the IESO to consider in conjunction with the capacity exports proposal. In essence, the establishment of a Generation Attributes Tracking system ("GATS") would allow Ontario to consider monetizing its green attributes in neighbouring markets. The ability to market the currently unleveraged green attributes could prove to be an important and immediate revenue stream for the Ontario Government. If capacity trades were established, GATS would allow Ontario to price-in its green attributes and thus render Ontario capacity more attractive to neighbour markets. In addition, the ability to track generation and trades in finer detail can prove to be an important compliance and monitoring tool for the IESO. The NEPOOL Generation Information System and the upcoming New York Generation Attribute Tracking System are two examples that the IESO can readily evaluate.

Contracts

The IESO indicated at the April Market Renewal inaugural meeting that the proposal's impact on existing contracts will be addressed seriously. As such, Brookfield expects the IESO to actively and immediately engage market participants to arrive at a mutually acceptable solution so that contract holders are kept

whole and the terms of the contracts are respected. Further, the IESO's planned cost-benefit analysis should cover the impact on contract holders.

Governance

Brookfield wishes to reiterate the importance of a reliable, impartial, independent, and transparent governance process to oversee future market evolution, decision-making, and dispute resolution. The IESO's proposal would not only require multiple years to define and implement, its resulting market rules' fine-tuning and further development would also remain ever-evolving and increasingly complex. In this setting, disputes and conflicts would inevitably arise, not only between participant-and-participant, participant-and-the-IESO, but also between market-and-market. An impartial and credible arbitrator is therefore not only necessary for the fair and equal treatment of all stakeholders, but also critical to ensure that market mechanisms with actual reliability and financial consequences, such as capacity markets and trades, will be coordinated and allowed to operate. Credible governance that holds the confidence of all stakeholders is key to prevent undue external interference on market rules and thus efficient outcome. For American electricity markets, the Federal Energy Regulation Commission serves this vital function. Brookfield urges the IESO to consider the question of governance seriously in its initiative.

Finally, the IESO mentioned that a consulting firm was retained to conduct a cost-benefit analysis of its proposal. Brookfield suggests that stakeholders should be consulted before analysis begins to ensure meaningful stakeholder participation.

Brookfield appreciates the opportunity to provide comments and look forward to further participate in this stakeholder process.