

# Pathways to Growth: Ontario's Energy Future

## Ontario Energy Association/APPrO Conference 2023

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### Check against delivery

#### Intro

- Good morning, everyone!
- Thank you to APPrO and the OEA for inviting me to the stage once again.
- This is my third appearance, and previously, I talked about the pace and scope of change.
- Well, that notion remains true in 2023, with huge leaps forward in terms of policy, procurement, innovation, and markets since we were last here.
- For me, as President and CEO of the IESO, my goal is to fulfill our mandate, and drive and guide our sector's future, working directly with communities.
- And with all of you: 400 of my industry colleagues.
- Each of you are influencing the pace and scope of change as you pursue your organizations' objectives, as well as our sector's common goals.
- For today's conference, we are discussing the drivers that are propelling us forward:
  - decarbonization;
  - responding to market needs and getting best value from existing assets; and
  - procuring and building new infrastructure
- We are all in this together, leveraging our collective knowledge to get the best outcomes for customers.
- In many ways, I liken our transition to that of solving a Rubik's Cube.
- We have a complex, multi-dimensional puzzle that we need to align on all six sides to get to a cohesive state.
- And there are so many possibilities for us to solve it.
- With this in mind, today, I'll cover how our options are taking shape, and how our approach in managing options is critical to success.

- The challenge ahead reminds me of a slogan that originated in Britain during war preparations in the late 30s that was all but forgotten.
- “Keep calm and carry on.”
- To me it suggests resilience, order, and keeping our cool under pressure.
- Which is essential as we solve the energy transformation and transition’s equivalent to the Rubik’s Cube.
- And to succeed, we must be focussed and deliberate.
- Proceeding with an orderly transition.
- Leaving us with no regret about the actions we are taking.

### Political and Policy Landscape: Setting the Stage

- So how do we do that?
- All of us here work with each other in the sector: in service of our families, friends, and communities to keep our system reliable, affordable and sustainable.
- Indeed, our communities are also becoming active and influential sector partners – as we head from our last panel — as we site new resources and transmission lines.
- Last month I was in London for the Association of Municipalities of Ontario conference and had many conversations.
- What stood out was how the nature of those conversations have changed.
- Municipalities — and First Nations — are acknowledging and embracing their role in the energy transition more than ever.
- They are placing greater focus on partnership opportunities and collaboration to achieve local climate goals, and to look at resolutions that must align and contribute to provincial needs.
- There is also self-realization among that they themselves are the catalysts for demand, with growth that requires more infrastructure.
- Which adds complexity to our multi-dimensional puzzle.
- On the provincial level, the Government of Ontario released *Powering Ontario’s Growth* in July.
- It was, in part, a response to our *Pathways to Decarbonization* report last December where the IESO outlined our recommended no-regret actions to eliminate emissions from the grid.
- The Government of Ontario agreed with many of our conclusions, which includes beginning work on long-lead time resources, notably new nuclear and hydro; and planning for more energy efficiency programs.
- It also focuses on the expansion of Ontario’s overall transmission infrastructure, which is essential to our goals.
- And with more twists of the Rubik’s Cube, we have the Electrification and Energy Transition Panel.
- Or as we affectionately call it — the David Collie Panel — whom we will hear from this afternoon, with recommendations on high-value opportunities for Ontario’s energy transition.
- We also have to keep in mind national considerations.

- As the IESO has maintained for quite some time, a well-planned and orderly transition is critical to achieve decarbonization.
- And that requires clear, and practical, guidelines.
- The IESO is aligned with the intent of the Government of Canada's draft Clean Electricity Regulations, and pleased to engage in developing workable solutions.
- As they are currently constructed, however, these provisions could compromise the reliability and affordability of Ontario's electricity system.
- And they could stand in the way of the electricity system's ability to support broader economic development and electrification.
- Primarily, the proposed timeframe to effectively shut down natural gas generators after 20 years of operation, would not allow sufficient time to transition to new non-emitting forms of supply.
- There are also limitations on how much natural gas can be relied upon during periods of peak demand that would introduce significant uncertainties for system operators as they manage tight system conditions, like we experienced this very summer.
- We understand the impetus: a decarbonized electricity grid.
- Ontario is already in a position of strength, with a largely clean energy mix that we are working hard to improve.
- And I am confident that we are setting an effective pathway in Ontario.
- But to get there we must be measured, and we must be disciplined.
- I want to make clear, though, that despite these concerns, we look forward to collaborating with the federal government, and working together to achieve our common goals.
- Policy remains a significant influence and driver of our activities, and we are committed to working with governments at all levels to inform their decision-making.

### Securing Supply: Procurement

- As policy is quickly evolving, our work to secure supply is also moving briskly.
- We just wrapped up the expedited procurement — which represented an important point in decarbonization — by establishing the foundation for a robust storage fleet in the system.
- We look forward to working with the storage community to enhance the expertise needed to effectively operate these facilities on the grid.
- This procurement also sets the stage for future growth in intermittent renewable resources — which I will talk more about in a few moments.
- I want to note that these procurements were competitive and delivered excellent rate-payer value.
- This objective is always at the core of our Resource Adequacy Framework.
- I was particularly pleased with the Fairness Advisor's report on the procurement, which indicated that the process was fair, it was open, and it was transparent.
- And that's informing our process as we prepare for subsequent rounds of procurements
- In the next few days, we will formally launch the next long-term procurement — acquiring new capacity from build and expansions for operation no later than summer 2028.

- There has been a lot of interest in this procurement, and we look forward to the incoming submissions.
- This round is being designed to meet our near-term needs, which we have made clear, still includes a limited amount of new natural gas capacity.
- Because we are at a critical juncture in the energy transition.
- To achieve decarbonization, we need to build out our non-emitting resource mix further, taking into account the time it takes to build all that new infrastructure, and allow new technologies to mature.
- And natural gas generation is the bridge that will get us to that state.
- But that doesn't take away from the critical importance of requiring municipal support resolutions for all new projects through our competitive procurement processes.
- We are also now at a point that — with our ongoing procurements and other efforts like the capacity swap with Hydro-Québec — our reliability outlook for the remainder of the decade has improved.
- Next summer, for example, we are not predicting potential adequacy shortfalls as we did this past summer.
- So now that we are addressing immediate capacity needs, we turn our attention to longer-term needs — the energy needs — and there is a lot happening on that front.
- As indicated in *Powering Ontario's Growth*, we are looking at new opportunities for renewables and other forms of non-emitting supply.
- With roughly 2,500 MW of storage on the system by 2028, we will have more options to choose from to ensure reliability.
- We will be in a better position, for example, to pair the flexibility of storage with intermittent resources, like wind and solar.
- And this is a critically important point: as we upsize the grid to connect new forms of supply, we must be mindful to maintain a balance where all forms of supply complement each other.
- The Minister of Energy has asked us to report back on the future role of renewable generation in our system, and how to we can frame our procurements to capture the value that they can provide.
- We must also be mindful of transmission planning.
- Producing energy is half the equation.
- Delivering it is equally important.
- And we have been working with transmitters to expand opportunities to connect.
- On this note, I encourage you to sit in on Chuck Farmer's panel on Planning, Procurement, Permitting and Approvals that takes place at the conclusion of my remarks.
- Because we need to find ways to work together along the value chain, to ensure approvals and permitting are completed in time to complement the development of that supply infrastructure.

## Innovation

- I'd also like to flag that, very shortly, we are announcing the recipients of our Hydrogen Innovation Fund – to drive a better understanding of how to leverage hydrogen to support decarbonization.
- Hydrogen — and other new forms of supply — whether they be DERs, hybrids or other new technologies we haven't even contemplated yet, are going to be critical.
- We are accelerating our Enabling Resources Program to integrate these assets more effectively with the market and with the system.
- Soon, I hope to be in a position to provide more information about how we are going to do this.
- In the meantime, I want to be clear: the IESO has put in a significant amount of effort to develop pathways for smaller and non-emitting resources onto the grid.
- We continue to work with customers, aggregators, and LDCs — along with other solution providers — to ensure a co-ordinated approach to unlocking the potential of new, clean resources to meet our growing needs.
- Whether it's through the Grid Innovation Fund, or our DER Roadmap: we are leaving no stone unturned when it comes to finding reliable, affordable and practical solutions to our energy future.

## Conservation and Demand Management

- And that includes offerings on the demand side.
- As our systems become more constrained in summer — and eventually winter peaking — conservation and demand management, energy efficiency, is a critical resource.
- The Industrial Conservation Initiative has been a major contributor to summer reliability, seeing up to 1,500 MW of response on some hot days.
- This summer we also launched Peak Perks – a residential demand response program that has already registered 60,000 smart thermostats in Ontario.
- That's nearly 10 per cent of smart thermostats in the province.
- Every analysis of the energy transition has shown that conservation will be a key element.
- And we are building on that as we look forward to the next CDM Framework, which will be launched in just a few years' time.

## Market Renewal

- Finally, I know we have a lot of market participants in the room, so I'll finish with a few updates on our Market Renewal Program.
- I can tell you that the core benefit remains the same: improving how we supply, schedule and price electricity.
- As we near the 2025 launch, market participants will need to adjust their business processes and interfaces to incorporate the changes MRP is implementing.
- The IESO has a robust readiness program, designed to support participants as they make these changes.
- We're working with the MRP Implementation Working Group on the scope and timing of testing planned for Market Trials, and sharing these details in October.

- There's a lot to do.
- We are confident that we are on track to support you as the finish line approaches.
- By modernizing the wholesale markets, we also enable the future integration of newer resources, including storage, hybrids and DERs.
- And modernization is necessary, because as the system becomes more intricate with new resources being added, it means more turns to solve the Rubik's Cube.
- Markets will help ensure we use those resources efficiently, promote competition, and provide critical information transparently about system needs.
- As we look beyond 2025 — we know that the market renewal program will enable further change — opening up the market to a more diverse range of participants and lowering the barriers for entry.
- Markets will be more important than ever if we want to decentralize and diversify the grid.

## Conclusion

- To wrap things up, I want to reiterate that the scope and pace of change the sector faces is challenging and invigorating.
- And everyone is trying to get ahead and influence what's next.
- This is an enormous challenge for us.
- Because we must stay aligned and we must work collaboratively so we don't go too far down conflicting tracks where our efforts will undermine our collective success.
- We simply can't afford to lose time by working at cross-purposes.
- Because there are 43 quintillion ways to scramble a Rubik's Cube.
- And there's no greater satisfaction than solving a complicated puzzle in the fewest amount of moves.
- So imagine yourself in 2050, looking back at your career, and your contributions to the energy future that we now live in.
- And you think about some of the decisions that you made, and you think about what you thought was the best decision at the time.
- For us that time starts now.
- So let's recognize how important and far-reaching our decisions will be.
- Before the war, in preparation of the uncertainty that was ahead, folks recognized that over the long-haul they had to keep calm and carry on.
- For the energy sector, to successfully navigate this transformation in an orderly transition, we need to do the same.
- We need to "keep calm and power on."
- Thank you.