RSSC Meeting #49
COVID-19 IMAPCTS ON DEMAND

June 11, 2020

Webinar

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Overview

- Economic disruption from COVID-19 is widespread but stakeholders are generally optimistic about the outlook ahead.
- Provincial energy demand is down and peaks are lower relative to typical for this time of year:
  - Weekday energy and peak demand down up to 14% and up to 10% on weekends typical demand for this time of year
- COVID-19 has significantly changed system conditions, now and for the foreseeable future, and we are revising forecasts to prepare for the next Annual Planning Outlook.

STAKEHOLDER RESPONSES

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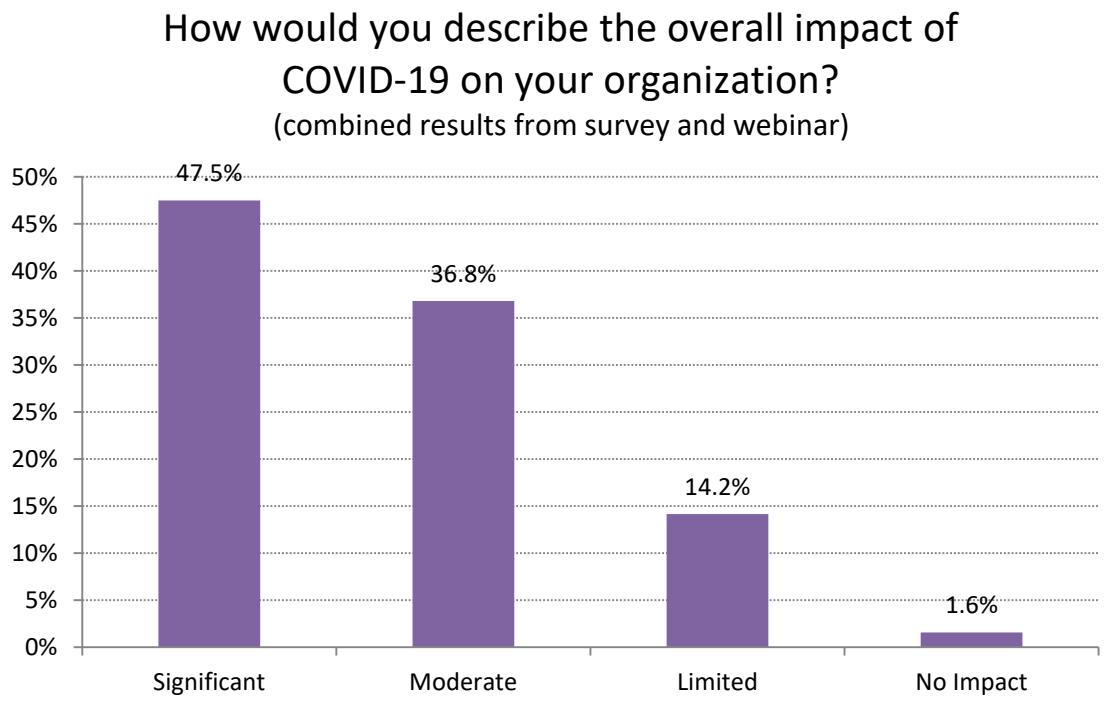
Overall Impact of COVID-19

- Close to half of respondents indicated a "Significant" impact from COVID-19, with another 51% indicating a "moderate" or "limited" impact, and 1.6%% indicating no impact



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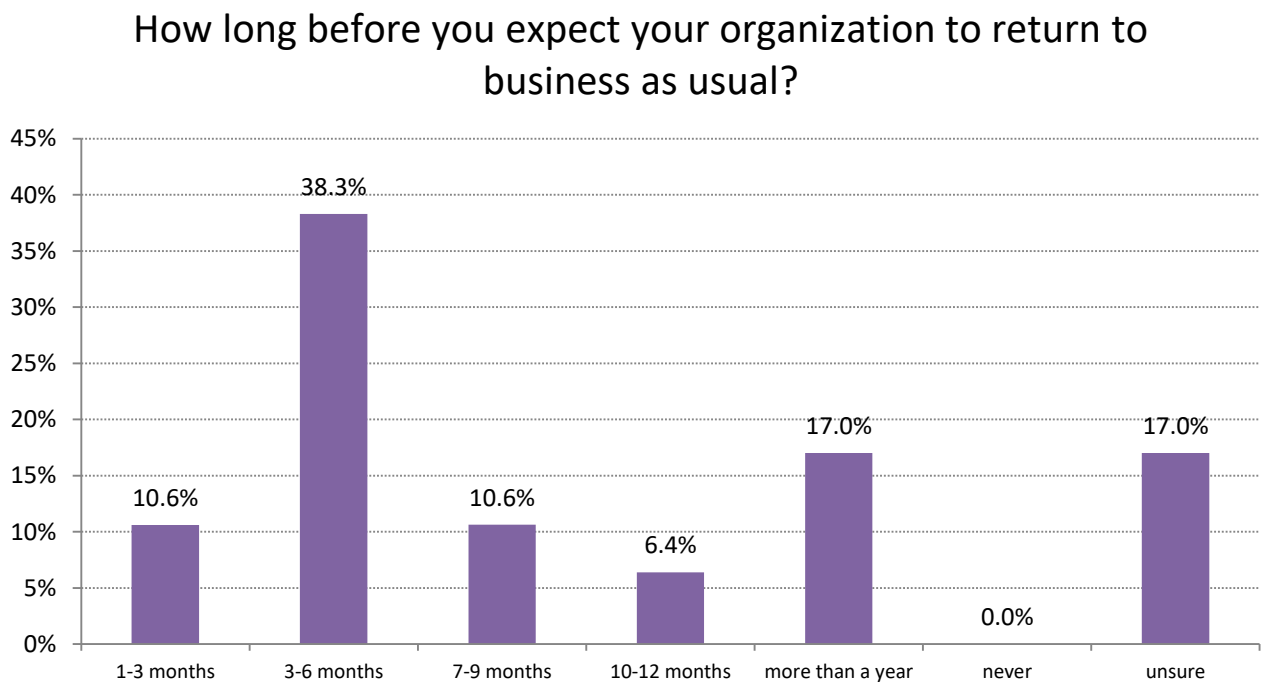
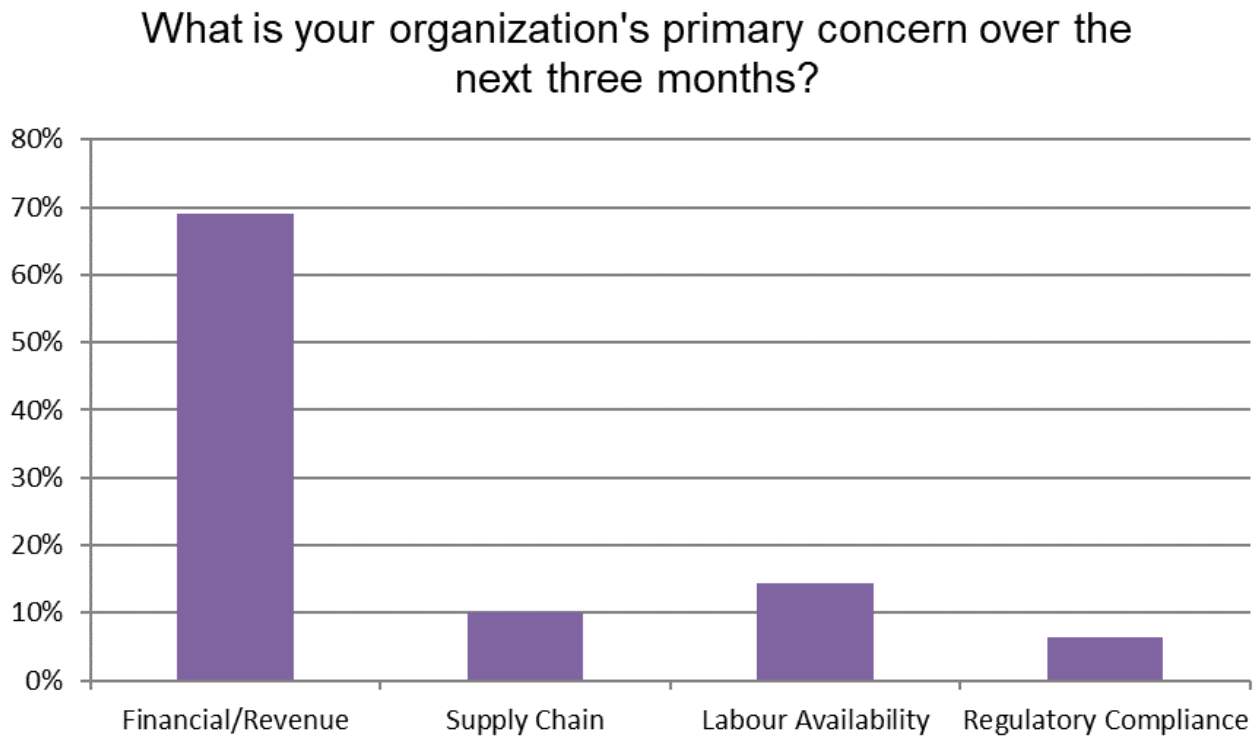
Recovery outlook

- Close to half of the respondents (48.9%) expect to return to business as usual within 1 – 6 months, with 17% indicating it will be more than a year



Returning to Business As Usual

- Over the next three months, close to 70% identified financial/revenue as their primary concern



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COVID-19 DEMAND IMPACTS

COVID-19 Impacts on Demand

The stay in place policies in conjunction with the closure of non-essential business have had the following **system wide** impacts on grid demand:

	Avg. Daily Energy Reductions		Avg. Daily Peak Reductions	
	Weekday	Weekend	Weekday	Weekend
Overall System Impacts	7-14%	6-10%	8-14%	5-10%
1st Round of Closures	3 -11%	2-8%	3-13%	4-7%
2nd Round of Closures	7-14%	6-10%	8-14%	5-10%

Overall, we expect energy, minimum and peak demands to be lower

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Residential Demand Impacts

	Avg. Daily Energy Increases		Avg. Daily Peak Increases	
	Weekday	Weekend	Weekday	Weekend
1st Round of Closures	1-8%	1-8%	1-7%	1-6%
2nd Round of Closures	1-14%	1-7%	1-9%	1-9%

- Increased consumption during mid-day
- Delayed morning peak and using on average 13% more electricity during morning peak vs. pre-COVID-19 levels
- Daily minimums have increased 5% on average
- Impacts vary depending on weather trends
- Looking forward: returning to pre-COVID residential demand will be gradual

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Small Commercial (<50kW) Demand Impacts

	Avg. Daily Energy Reductions		Avg. Daily Peak Reductions	
	Weekday	Weekend	Weekday	Weekend
1st Round of Closures	6-15%	5-12%	7-21%	9-18%
2nd Round of Closures	11-19%	5-14%	18-24%	10-20%

- Reduced consumption in all hours
- Contribution to morning peak has been reduced by 15%
- Greatest reductions occurred during the week following Easter
- Looking forward: the longer lockdown measures are in place, there is a likelihood that a portion of this load may not recover
- This segment is a weather sensitive load, therefore impacts will range depending on weather forecasts

Distribution Connected Industrial/Commercial Customers

	Avg. Daily Energy Reductions		Avg. Daily Peak Reductions	
	Weekday	Weekend	Weekday	Weekend
1st Round of Closures	9-19%	10-14%	9-22%	12-16%
2nd Round of Closures	18-22%	13-18%	17-23%	10-16%

- Contribution to morning peak has been reduced by 15%
- Greatest reductions occurred during the week following Easter
- Looking forward: Similar to small commercial, the duration of the lock down measures will have enduring impacts on their ability to return to pre-COVID-19 levels
- Majority of commercial load is weather sensitive, therefore impacts will range depending on weather forecasts

Transmission Connected Wholesale Customer Demand

	Avg. Daily Energy Reductions		Avg. Daily Peak Reductions	
	Weekday	Weekend	Weekday	Weekend
1st Round of Closures	1-12%	1-6%	1-14%	1-9%
2nd Round of Closures	10-25%	8-25%	11-22%	10-23%

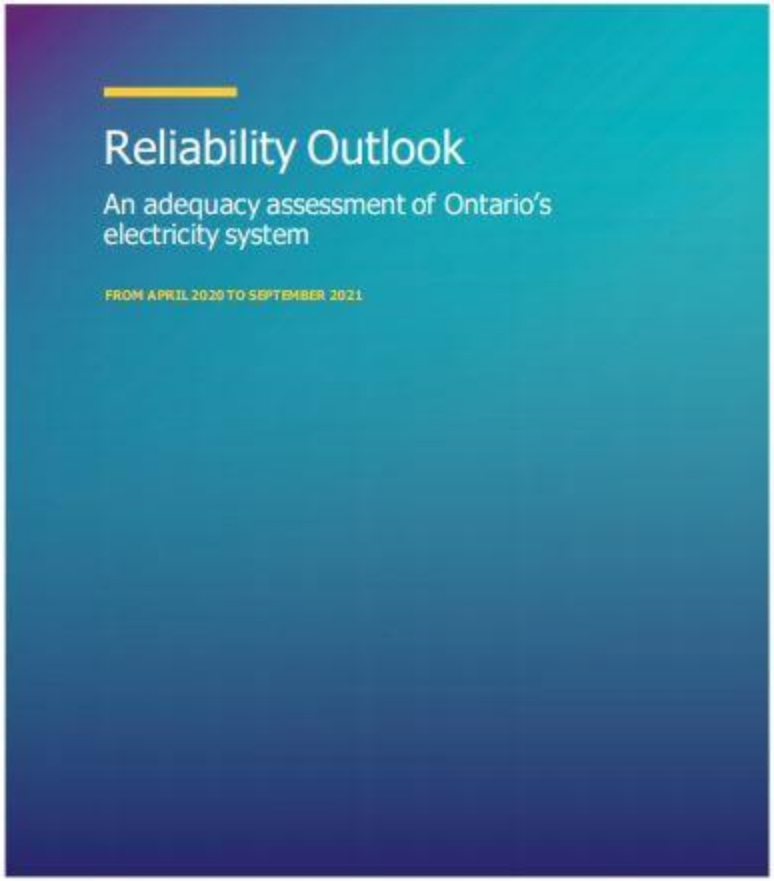
- The automotive sector has been hit the hardest
- Minimal impacts to the majority of the industrial load
- Looking forward: supply chain demand and transportation networks will have a high impact on the ability of these loads to return to pre-COVID-19 levels
- This load is typically not very weather sensitive

Questions

Q1 INTERIM RELIABILITY OUTLOOK

Q1 Interim Reliability Outlook

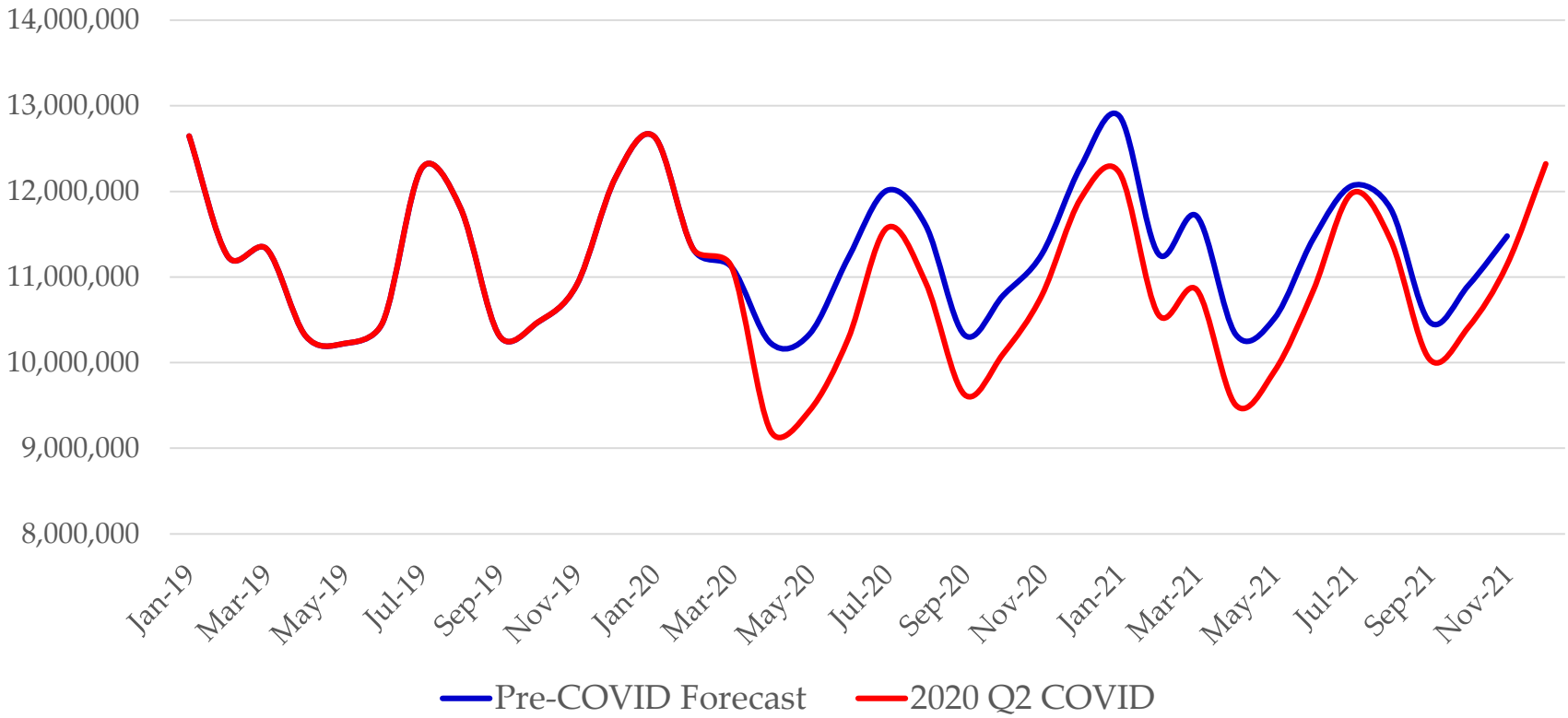
- Historically, an 'interim' update reflects the latest actual and weather corrected demand
- The Q1 Interim update will contain an updated demand forecast for the outlook period
- For this iteration we are updating the information beginning May 2020



Summary

- The IESO has updated the demand and supply forecast to reflect post COVID-19 conditions
- The pandemic has had an impact on demand across all customer segments, these impacts have been reflected in the RO forecast
  - **Energy Consumption**: Decrease by 4.6% in 2020 and 4.1% in 2021
  - **Peak Demand**: Decrease by 6.6% in 2020 and 3.2% in 2021
- IESO expects decreasing demand will put upward pressure on Global Adjustment costs
- While assumptions have been made for economic recovery, the forecast does not account for changes in future government policy, which may have an impact on economic recovery
- Expect Ontario's electricity system to be adequate under both the normal weather and extreme weather scenarios over the outlook period

Monthly Energy



Energy	Q1 Forecast (TWh)	Interim Q1 (TWh)	Forecast Change (% ,TWh)
2020	135.1	128.9	-4.6%, (-6.2 TWh)
2021	136.8	131.2	-4.1%, -(5.6 TWh)

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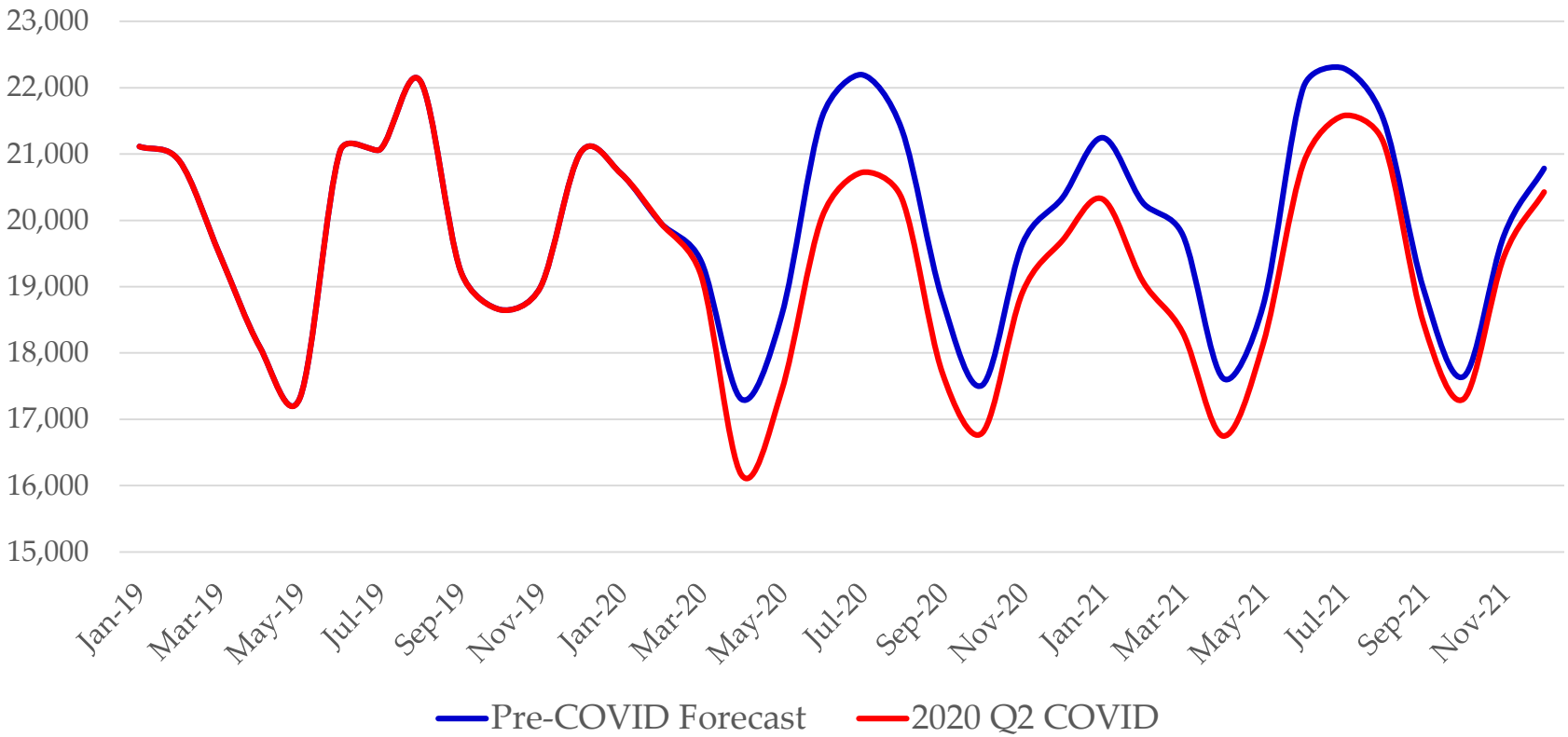
Monthly Peaks



Peak	Q1 Forecast (MWh)	Interim Q1 (MWh)	Forecast Change (%, MW)
2020	22,195	20,722	-6.6%, (-1,473 MW)
2021	22,293	21,577	-3.2%, (-716 MW)

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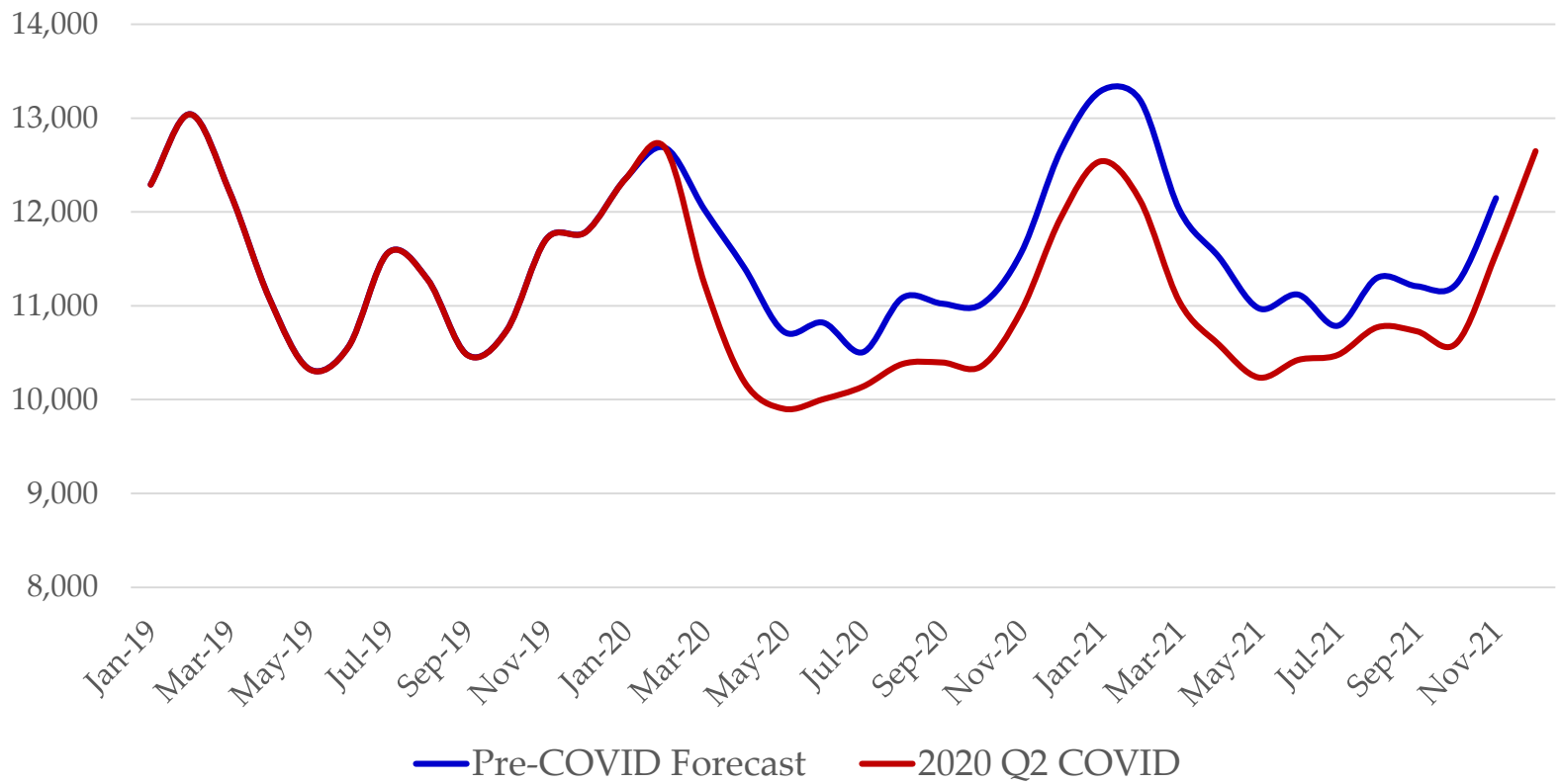
Monthly Minimums



Minimums	Q1 Forecast (MWh)	Interim Q1 (MWh)	Forecast Change (%, MW)
2020	10,505	9,904	-5.7%, (-601 MW)
2021	10,786	10,237	-5.1%, (-549 MW)

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Looking Ahead

- Q1 Reliability Outlook Interim Update
  - Data tables posted May 20
- End of June – Q2 Reliability Outlook (July 2020 to December 2021)
- Interim APO engagement:
  - **Demand forecast** to be presented during June engagement webinar
  - **Capacity and energy adequacy** assessment results to be presented during July engagement webinar

Questions

INTERIM ANNUAL PLANNING OUTLOOK

Annual Planning Outlook

- First Annual Planning Outlook (APO) released January, 2020
- Onset of COVID-19 has significantly changed system conditions, now and for the foreseeable future
- IESO is revising forecasts and these will be available in upcoming monthly webinars

Approach

- Given level of uncertainty, the updates will not include a single Reference forecast, but will be based on scenarios
- Two scenarios will be prepared representing the range of likely COVID-19 policy responses and resulting economic conditions
- Ontario demand, supply, and transmission system assumptions follow from policy and economic conditions
- Scenario summary:
  1. Tortoise – deep recession, slow recovery
  2. Rabbit – Shallow recession, fast recovery

Summary

- Expect Ontario's electricity system to be adequate under both the normal weather and extreme weather scenarios over the Q2 Reliability Outlook period (July 2020 to December 2021)
- Reliability Outlook can be found on the IESO website: http://www.ieso.ca/en/Sector-Participants/Planning-and-Forecasting/Reliability-Outlook
- Upcoming monthly COVID-19 webinars will include updated revised long term demand forecasts, capacity and energy adequacy assessment results

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