



CLEAN ENERGY IMPORTS: OPTIMIZING EXISTING INFRASTRUCTURE & BENDING THE COST CURVE

York University
Sustainable Energy Initiative Series

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This presentation contains forward-looking statements and information within the meaning of Canadian securities laws, and “forward-looking statements” within the meaning of Section 27A of the U.S. Securities Act of 1933, as amended, Section 21E of the U.S. Securities Exchange Act of 1934, as amended, “safe harbor” of the United States Private Securities Litigation Reform Act of 1995 and in any applicable Canadian securities regulations, concerning the business and operations of Brookfield Renewable.

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Factors that could cause actual results to differ materially from those contemplated or implied by forward-looking statements include, but are not limited to, our limited operating history; the risk that we may be deemed an “investment company” under the Investment Company Act; the fact that we are not subject to the same disclosure requirements as a U.S. domestic issuer; the risk that the effectiveness of our internal controls over financial reporting could have a material effect on our business; changes to hydrology at our hydroelectric stations or in wind conditions at our wind energy facilities; the risk that counterparties to our contracts do not fulfill their obligations, and as our contracts expire, we may not be able to replace them with agreements on similar terms; increases in water rental costs (or similar fees) or changes to the regulation of water supply; volatility in supply and demand in the energy market; our operations are highly regulated and exposed to increased regulation which could result in additional costs; the risk that our concessions and licenses will not be renewed; increases in the cost of operating our plants; our failure to comply with conditions in, or our inability to maintain, governmental permits; equipment failure; dam failures and the costs of repairing such failures; exposure to force majeure events; exposure to uninsurable losses; adverse changes in currency exchange rates; availability and access to interconnection facilities and transmission systems; health, safety, security and environmental risks; disputes and litigation; our operations could be affected by local communities; losses resulting from fraud, bribery, corruption, other illegal acts, inadequate or failed internal processes or systems, or from external events; general industry risks relating to the North American and Brazilian power market sectors; advances in technology that impair or eliminate the competitive advantage of our projects; newly developed technologies in which we invest not performing as anticipated; labour disruptions and economically unfavourable collective bargaining agreements; our inability to finance our operations due to the status of the capital markets; the operating and financial restrictions imposed on us by our loan, debt and security agreements; changes in our credit ratings; changes to government regulations that provide incentives for renewable energy; our inability to identify and complete sufficient investment opportunities; the growth of our portfolio; our inability to develop existing sites or find new sites suitable for the development of greenfield projects; risks associated with the development of our generating facilities and the various types of arrangements we enter into with communities and joint venture partners; Brookfield Asset Management’s (“Brookfield”) election not to source acquisition opportunities for us and our lack of access to all renewable power acquisitions that Brookfield identifies; our lack of control over our operations conducted through joint ventures, partnerships and consortium arrangements; our ability to issue equity or debt for future acquisitions and developments will be dependent on capital markets; foreign laws or regulation to which we become subject as a result of future acquisitions in new markets; the departure of some or all of Brookfield’s key professionals.

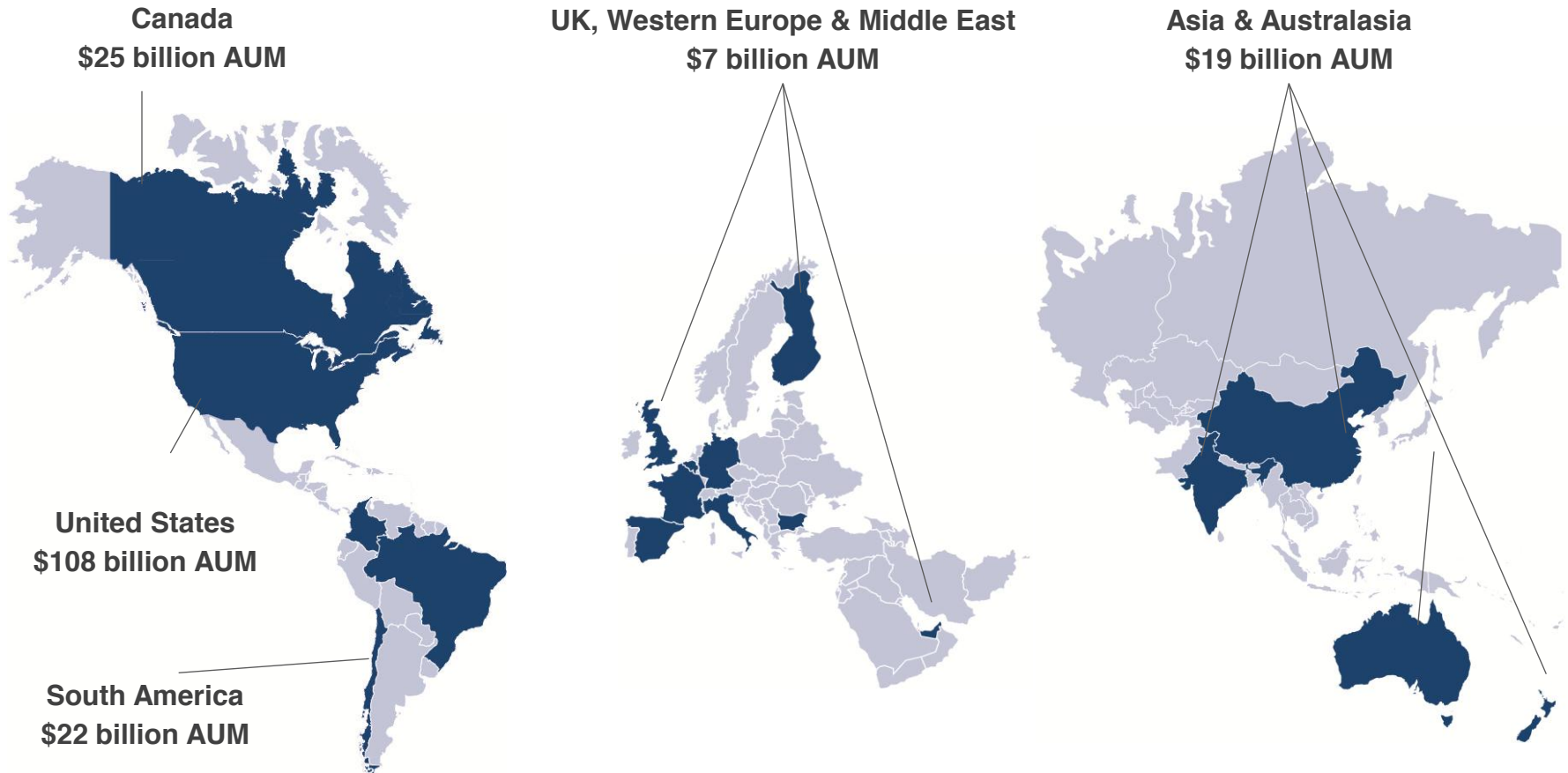
We caution that the foregoing list of important factors that may affect future results is not exhaustive. The forward-looking statements represent our views as of the date of this presentation and should not be relied upon as representing our views as of any date subsequent to the date of this presentation. While we anticipate that subsequent events and developments may cause our views to change, we disclaim any obligation to update the forward-looking statements, other than as required by applicable law. For further information on these known and unknown risks, please see “Risk Factors” included in our Annual Information Form and Form 20-F.

CAUTIONARY STATEMENT REGARDING USE OF NON-IFRS MEASURES

This presentation contains references to Adjusted EBITDA, funds from operations and net asset value which are not generally accepted accounting measures under International Financial Reporting Standards (“IFRS”) and therefore may differ from definitions of Adjusted EBITDA, funds from operations and net asset value used by other entities. We believe that Adjusted EBITDA, funds from operations and net asset value are useful supplemental measures that may assist investors in assessing the financial performance and the cash anticipated to be generated by our operating portfolio. Neither Adjusted EBITDA, funds from operations nor net asset value should be considered as the sole measure of our performance and should not be considered in isolation from, or as a substitute for, analysis of our financial statements prepared in accordance with IFRS. As a result of the combination of Brookfield Renewable Power Fund and Brookfield Asset Management’s directly-held power assets, which resulted in the creation of Brookfield Renewable, we have presented these measurements on a pro forma basis.

All amounts are in U.S. dollars unless otherwise specified.

100 offices or locations | Over 600 investment professionals | 24,000 operating employees



- **\$180 billion Assets Under Management**
- **Real Estate, Renewable Power, Infrastructure & Private Equity (special situations, residential development)**

Largest public purely renewable power company in the world

100 years of experience in power generation

Predominantly hydro portfolio unique in the industry

\$17B

**POWER GENERATING
ASSETS**



217 generating facilities

6,000

**MEGAWATTS
OF CAPACITY**



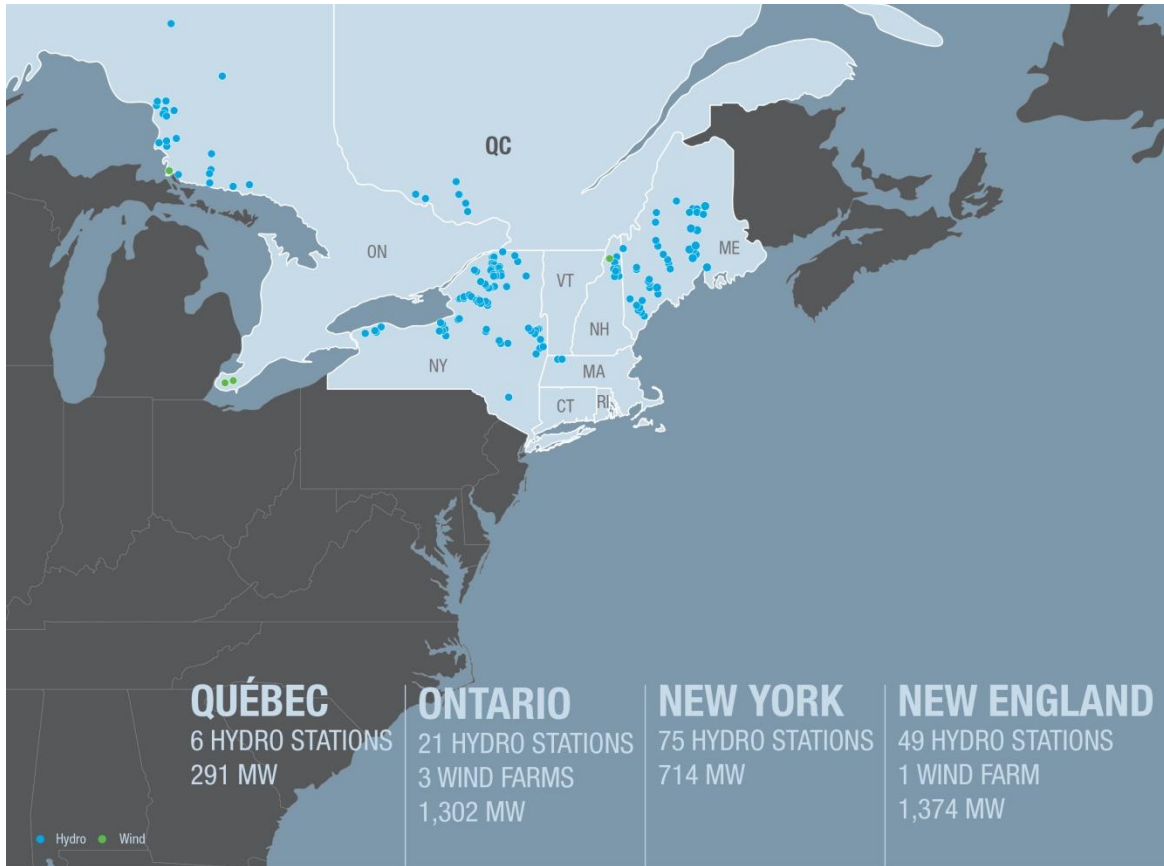
12 markets in 3 countries

85%

**HYDROELECTRIC
GENERATION**



Situated on 71 river systems



~1,300 MW

3 WIND FARMS

INSTALLED CAPACITY OF
405 MW

21 HYDRO STATIONS

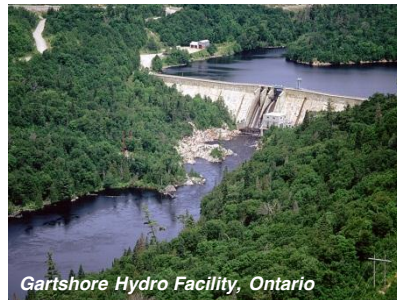
INSTALLED CAPACITY OF
900 MW

364 000 HOMES

POWERED EVERY YEAR



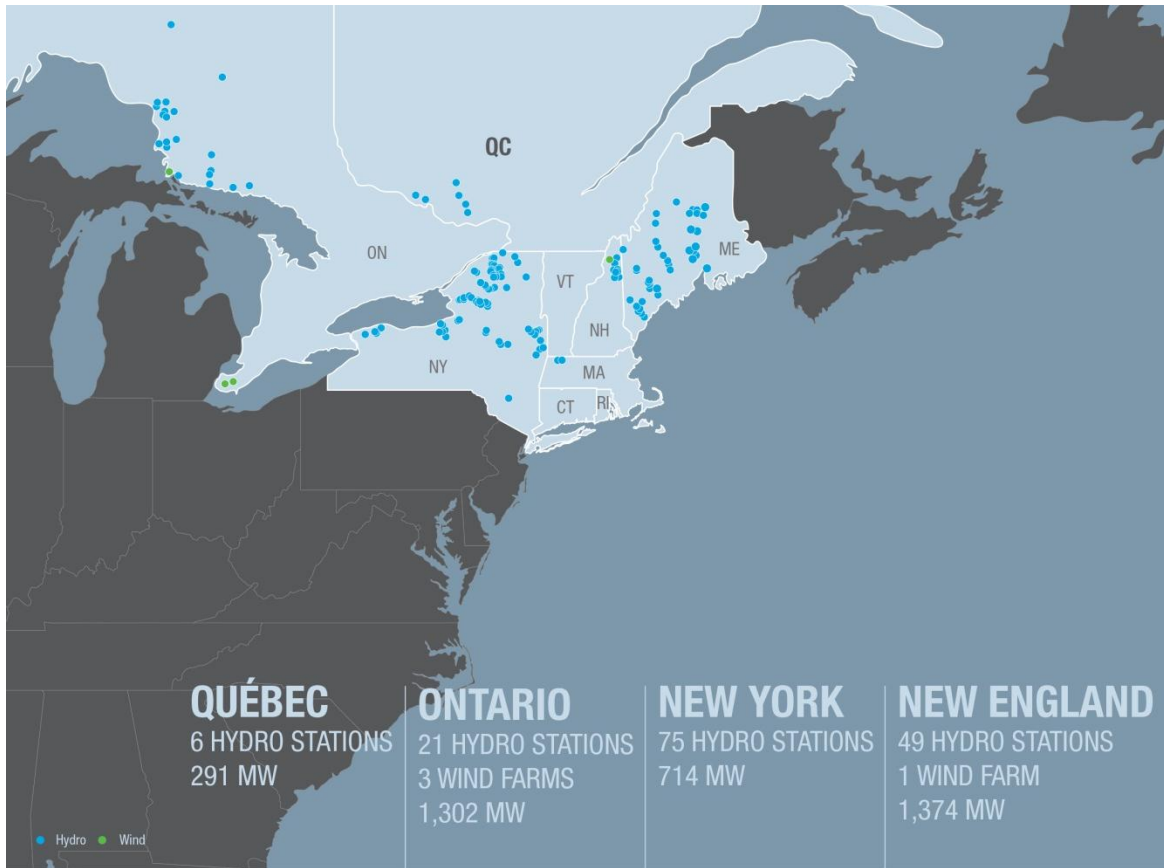
MacKay Hydro Facility, Ontario



Gartshore Hydro Facility, Ontario



Prince Wind Farm, Ontario



6 HYDROPOWER FACILITIES ON 3 RIVER SYSTEMS

INSTALLED CAPACITY OF 291 MW

ENOUGH ELECTRICITY TO POWER ABOUT 135 000 HOMES PER YEAR

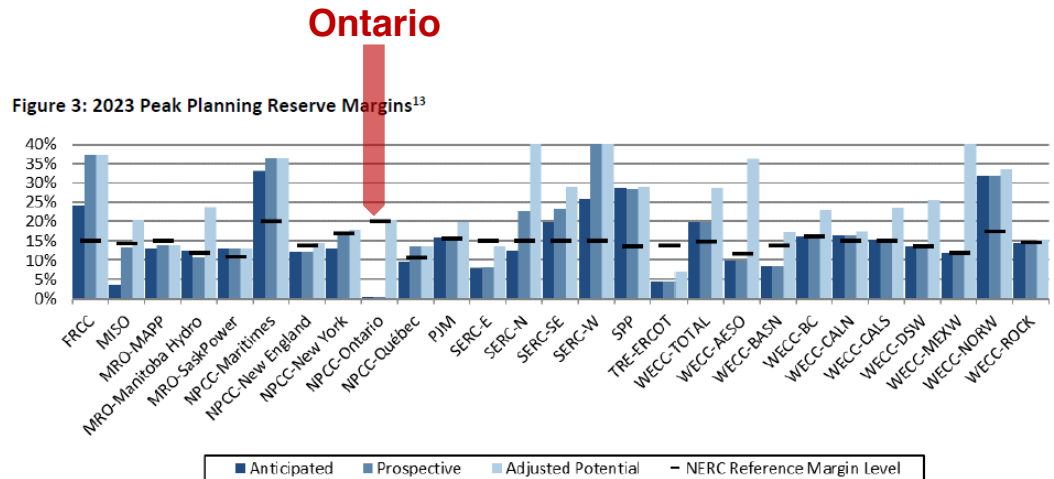
DIRECTLY CONNECTED TO THE ONTARIO GRID VIA 115 KV AND 230 KV LINES

GENERATION: 1,714 GWH

STORAGE: 584 GWH

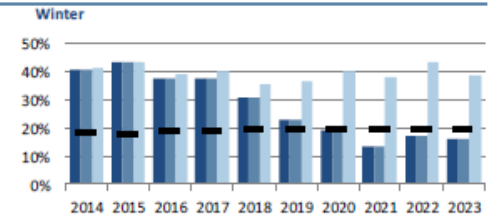
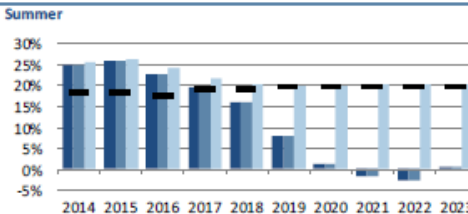


- Charts show NERC 2013 Long Term Reliability Assessment
- Ontario appears to have the tightest outlook in North America
- NERC defines the difference between Prospective and Adjusted Potential resources by the Conceptual resources.
- Will all Conceptual resources come to fruition?



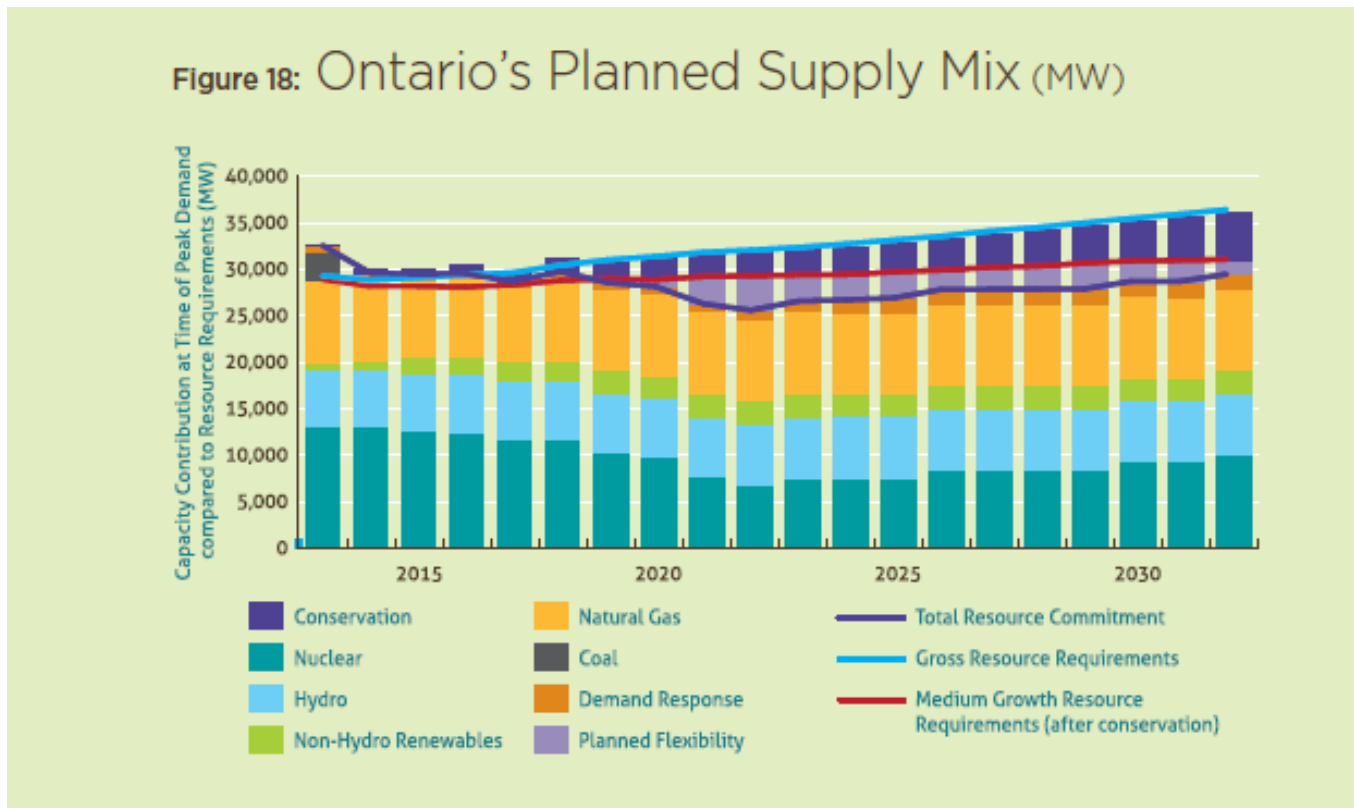
Planning Reserve Margins										
NPCC-Ontario-Summer	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
ANTICIPATED	24.89%	26.05%	22.86%	19.53%	16.00%	7.93%	1.28%	-1.60%	-2.54%	0.43%
PROSPECTIVE	24.89%	26.05%	22.86%	19.53%	16.00%	7.93%	1.28%	-1.60%	-2.54%	0.43%
ADJUSTED POTENTIAL	25.68%	26.22%	24.18%	21.84%	20.29%	20.08%	20.14%	20.21%	20.27%	20.32%
NERC REFERENCE	-	18.60%	18.70%	18.00%	19.10%	19.30%	20.00%	20.00%	20.00%	20.00%

Planning Reserve Margins										
NPCC-Ontario-Winter	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
ANTICIPATED	40.71%	43.35%	37.74%	37.80%	30.61%	22.77%	19.16%	13.63%	17.38%	15.93%
PROSPECTIVE	40.71%	43.35%	37.74%	37.80%	30.61%	22.77%	19.16%	13.63%	17.38%	15.93%
ADJUSTED POTENTIAL	41.32%	43.62%	39.26%	40.54%	35.66%	36.68%	40.14%	38.22%	43.43%	38.70%
NERC REFERENCE	-	18.70%	18.00%	19.30%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%



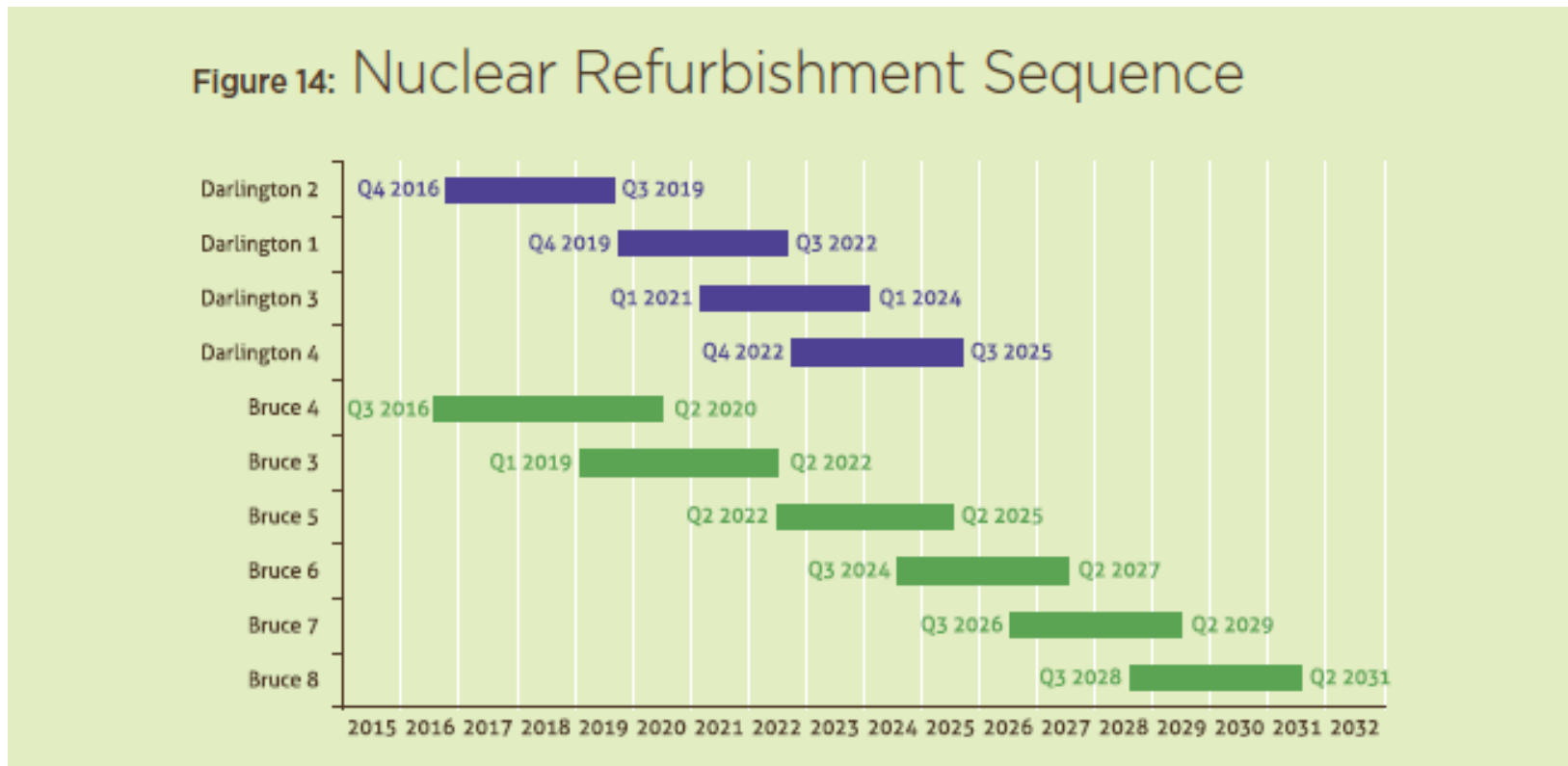
Source: NERC 2013 Long Term Reliability Assessment, Dec 2013

- Ontario has supply needs as early as 2017
- Current plan predicated almost entirely upon nuclear refurbishment and conservation
- Contingency planning?



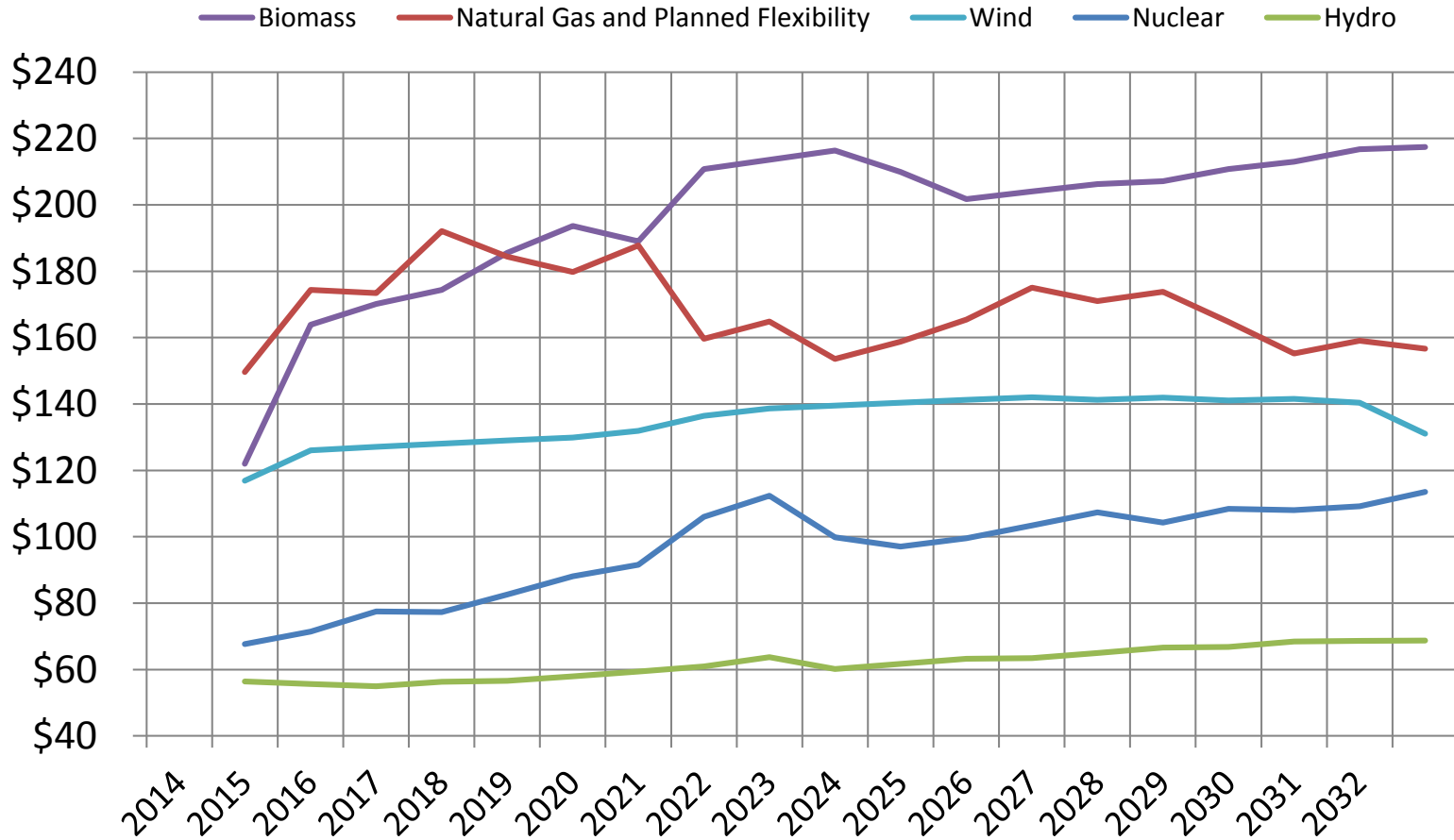
Source: ON LTEP 2013

- Nuclear capacity and generation are a hugely critical component of supply in the province.
- Scope of refurbishment is unprecedented
 - Darlington 1 – 4: ~4,000 MW
 - Bruce 3 – 8: ~4,500 MW



Source: ON LTEP 2013

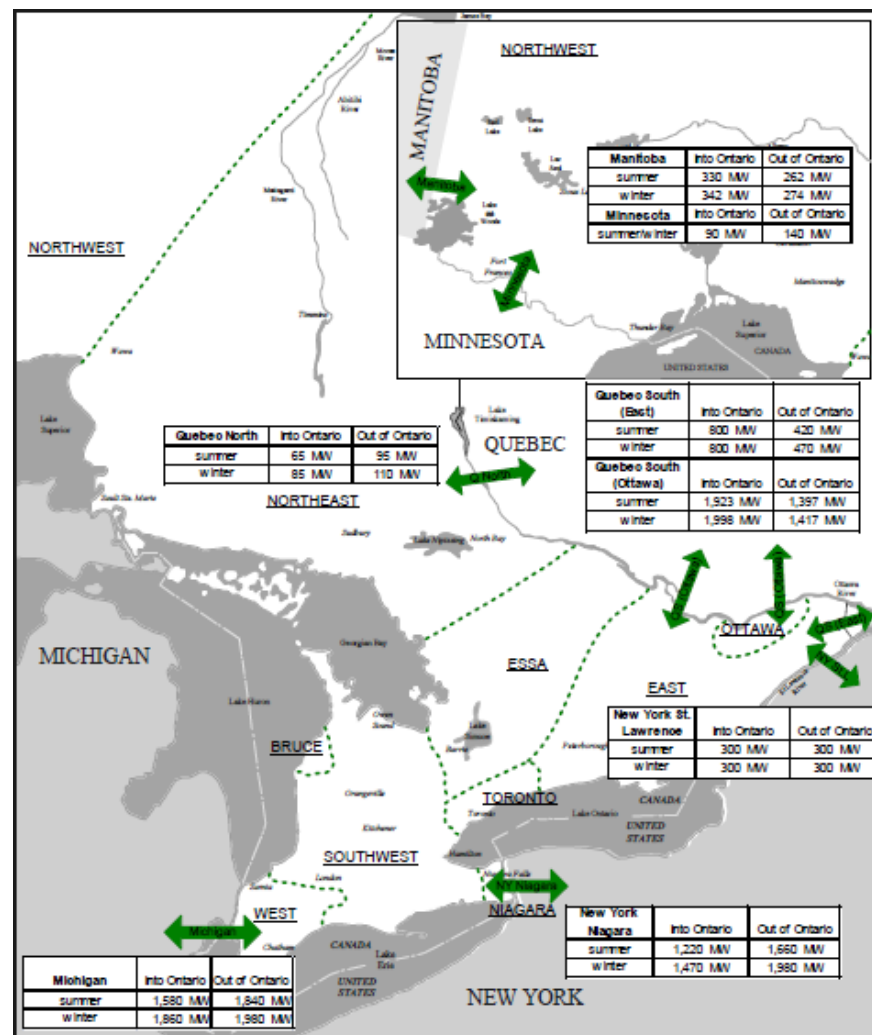
Generation Unit Cost By Resource (\$/MWh)



Source: OPA Cost of Electricity Modules. Real data adjusted for inflation

- Ontario ratepayers have paid for 6300 MW of transmission infrastructure with neighboring jurisdictions.
- Those interties are capable of providing short term energy balancing as well as long term capacity and renewable energy needs.
- Today, the province only uses its 6300 MWs of existing infrastructure for short term energy balancing needs.

	Into Ontario
Manitoba	330
Minnesota	90
Michigan	1580
New York	1520
Quebec	2788
Total	6308



Source: IESO

- Implemented in 2009, the New England States Committee on Electricity (NESCOE) is a not-for-profit FERC-approved Regional State Committee, representing the collective interests of all 6 New England (NE) States in securing long term, renewable, non-emitting generation via coordinated procurement.
- With the support of all NE Governors and the active involvement of ISO-NE, NESCOE has been very active and engaged with all stakeholders for preparing the landscape for long-term joint-procurement:
 - Performed several extensive studies and analysis on the regional integration of large system hydro and the development of new gas-electric transmission infrastructures
 - Published various blue prints and white papers following RFIs processes
 - Implemented various focus group created and stakeholders consultations forums
 - One or more RFPs to be issued in 2014 to facilitate the development of transmission infrastructure to deliver between 1,200 and 3,600 MW of incremental clean energy to New England
- In addition to the NESCOE activities, Massachusetts has passed Global Warming Solutions Act which binds the state to aggressive carbon reduction goals.
- Massachusetts and Rhode Island have also initiated draft legislation for import of up to 20 TWh of renewable, non-emitting, hydro generation.
- Key Drivers:
 - Timing and structure of expected RFPs to be launched
 - Results of upcoming state elections and impact of energy programs
 - Massachusetts commitment to the Global Warming Solutions Act could trigger solo actions

Key Takeaways: *These regional initiatives could result in removing from the Northeast energy markets some of the most economic, low carbon resources currently available to the potential future detriment of Ontario rate payers*

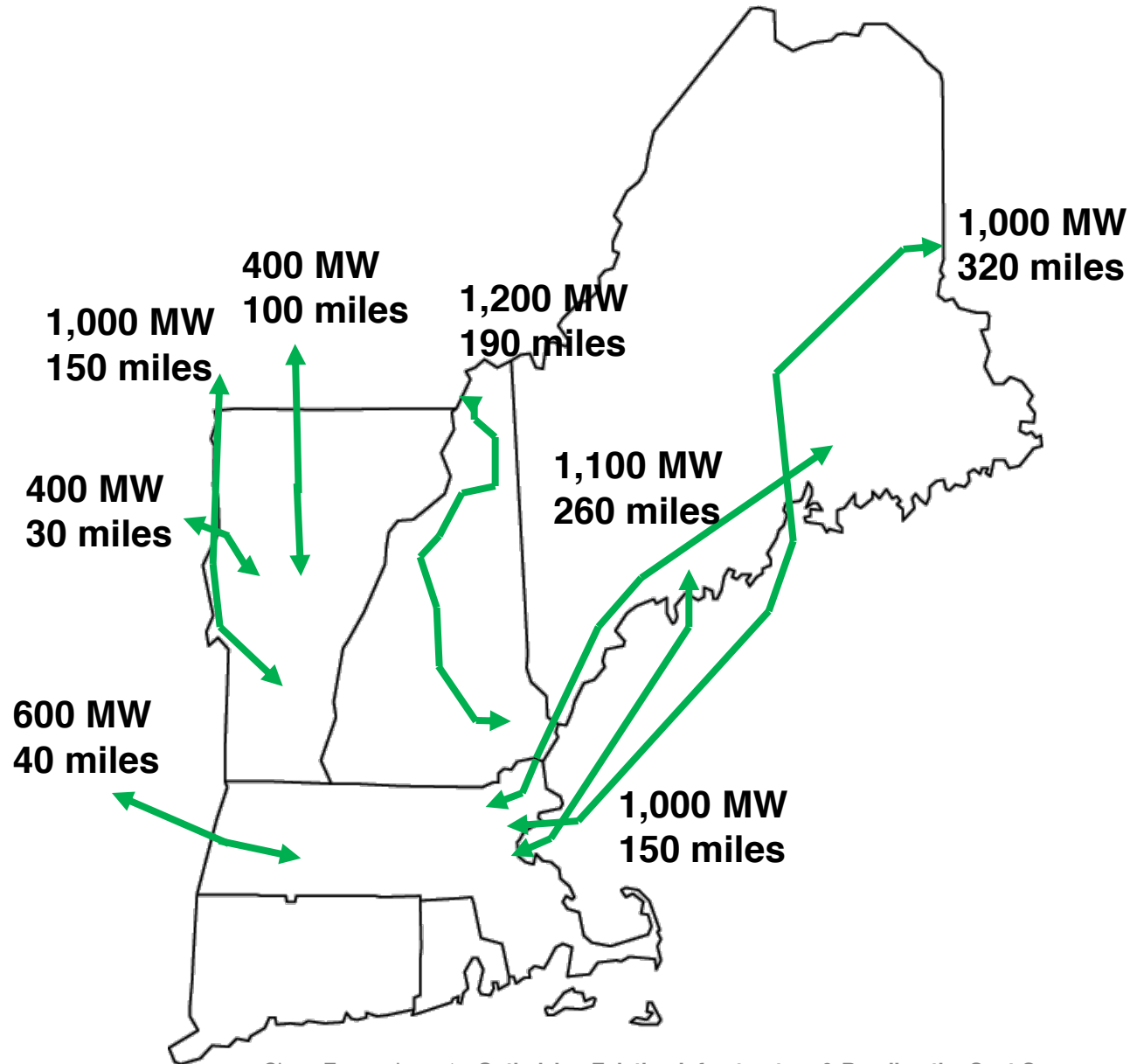
Key Considerations

- Cost-effectiveness
- System mix
- Feasibility/Local Support
- Cost-recovery
- Market Sustainment
- Recognition of reliability benefits

Opportunities for
Blended Wind & Hydro
Clean, Firm deliveries

Status

NESCOE Studies
State RPS programs
State climate action plans



- **Next wave of tight reserves margins is in the making pushing capacity prices higher relative to recent auctions**
 - Tougher EPA regulations translating into significant coal plant retirements and need for new flexible units (likely gas fired generation)
 - Strong mitigation rules approved by FERC preventing market power from the buyer side and removing out-of-market payments to new resources (Minimum Offer Price Rules)
 - Governor Cuomo objective to remove 2000+ MW Indian Point nuclear generating station from service
 - ISNOE FCA 8 cleared \$15/kW-month

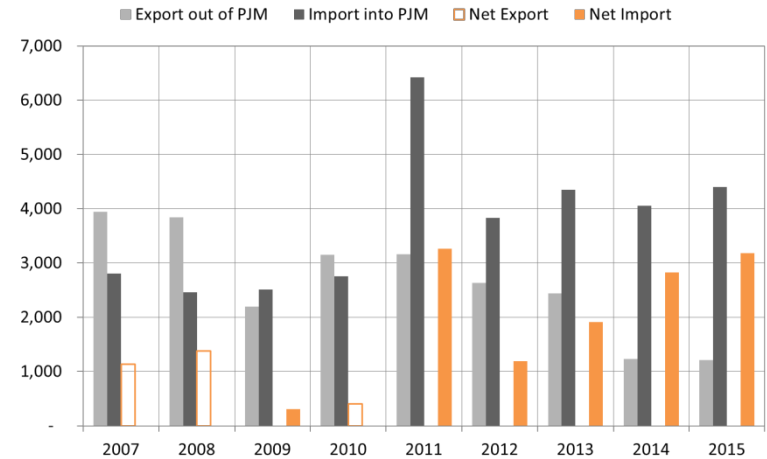
- **Moreover, growing dependency on natural gas and energy market reforms are likely to increase energy prices and associated heat rates over the medium term**
 - Historically cold weather and record-high natural gas prices and electricity consumption triggered high electricity prices this winter (gas prices over \$50/mmbtu across the east)
 - RTOs in the Northeast and Mid-Atlantic had to make an unusually high number of make-whole or "uplift" payments to generators (out of market payment)
 - Various initiatives currently underway to provide accurate price signals through existing market
 - Growing reliance on natural gas resources will increase the commodity cost and add price volatility (specially during periods of high demand)

Capacity Transfers Across Northeast Markets

- Capacity is a fungible product that can be transacted between power pools to provide increased reliability on a least-cost basis
- Capacity transfers occur as a result of long term bilateral transactions as well as short term arbitrage of capacity price differential between pools
- PJM, NYISO and ISONE all import and export capacity on an annual basis. Total net capacity transactions are a small percentage of peak loads
 - PJM: Peak Load ~155,000
 - NYISO: Peak Load ~33,000
 - ISONE: Peak Load ~28,000

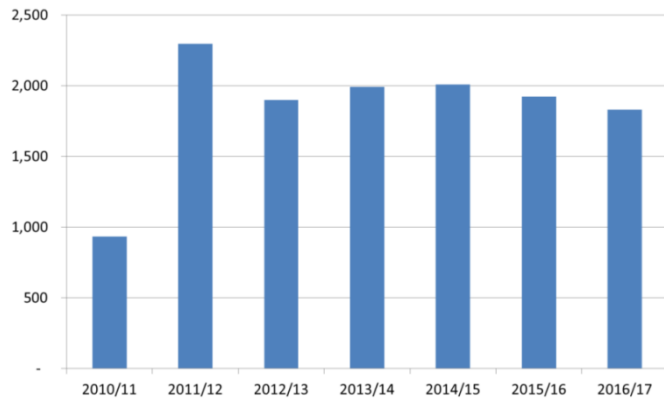
PJM Capacity Transfers - MW

Source: PJM, State of the Market Report



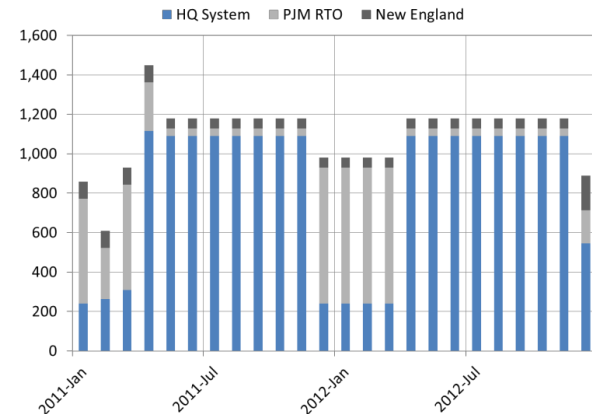
New England Imports - MW

Source: ISO New England, FCM Auction Reports



New York Imports - MW

Source: NYISO, External Rights Availability Reports



Brookfield has significant experience moving capacity across multiple RTOs in the Eastern Interconnect.

Northeast Power Coordinating Council

1. HQ CA to NYISO
2. NYISO to HQ CA
3. HQ CA to ISO NE
4. ISO NE to HQ CA
5. NY ISO to ISO NE
6. ISO NE to NY ISO

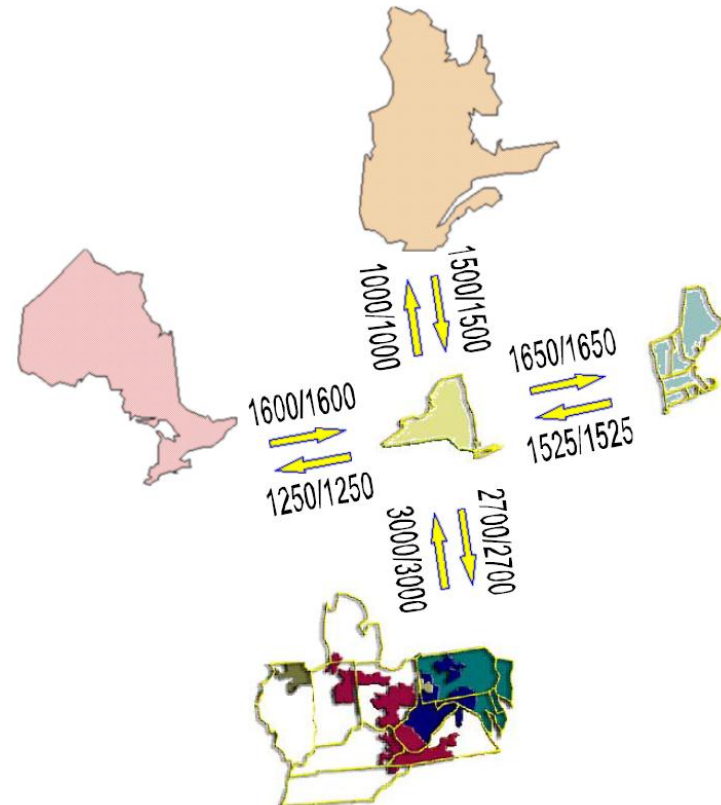
Reliability First Corporation

7. PJM RTO to NYISO
8. NYISO to PJM RTO

SERC Reliability Corporation

9. Entergy to Associated Electric Coop CA
10. MAPP to Associated Electric Coop CA
11. SPP to Associated Electric Coop CA

**Inter-Area Thermal Transfer Capabilities
Summer 2012 (MW)**
Source: NYISO, Operating Study, Summer 2012



- While the province has been slow to include clean energy imports in its supply plan in the past, this reluctance appears to be shifting in the face of the overwhelmingly compelling arguments in its favor.
- *“Clean Imports: Ontario will consider opportunities for clean imports from other jurisdictions when such imports would have system benefits and are cost effective for Ontario ratepayers.” (Achieving Balance: Ontario’s Long Term Energy Plan, p. 6, November 2013)*
- *“The OPA shall review and report back with options to enable hydro-electric projects located outside of Ontario that are or will be connected to the Ontario transmission system or an Ontario distribution system to participate in this competitive procurement process” for renewable energy (Ministry of Energy Directive to the OPA, Dec 16, 2013)*
- *“I am writing to you to request that the IESO work with the OPA to study the impact of intertie capacities to support demand and reliability requirements from a power system planning perspective, including the potential benefits of various contracting arrangements for bringing energy and capacity for the province... I look forward to receiving a joint IESO and OPA report that will explore the potential benefits and challenges associated with out of province generation, in particular clean energy imports.” (Ministry of Energy Letter to the IESO, April 2, 2013)*

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