LI PPTN Evaluation Considerations

NextEra Energy Transmission New York

NYISO ESPWG

July 26, 2022

The importance of enabling OSW with cost effective and flexible access into New York, and providing long-term benefits to Long Island warrant additional evaluation criteria

LI PPTN Evaluation Considerations

- **Alternative Long Island Injection Scenarios**
  - Different scenarios with increased OSW injection into Long Island can be more cost effective and feasible in achieving CLCPA goals
  - Varied injections also can appropriately assess flexibility in accommodating access for both Eastern and Southern BOEM areas
- **Generator Interconnection Costs and Savings**
  - Different projects offer varying benefits/savings for new OSW interconnections
- **Long Island Import Capability**
  - While the goal of the PPTN is to ensure export of OSW, Long Island will likely continue to rely heavily on import capability

NYISO should consider multiple Long Island injection scenarios, total costs including generator IC-related costs, and benefits to Long Island beyond OSW export capability

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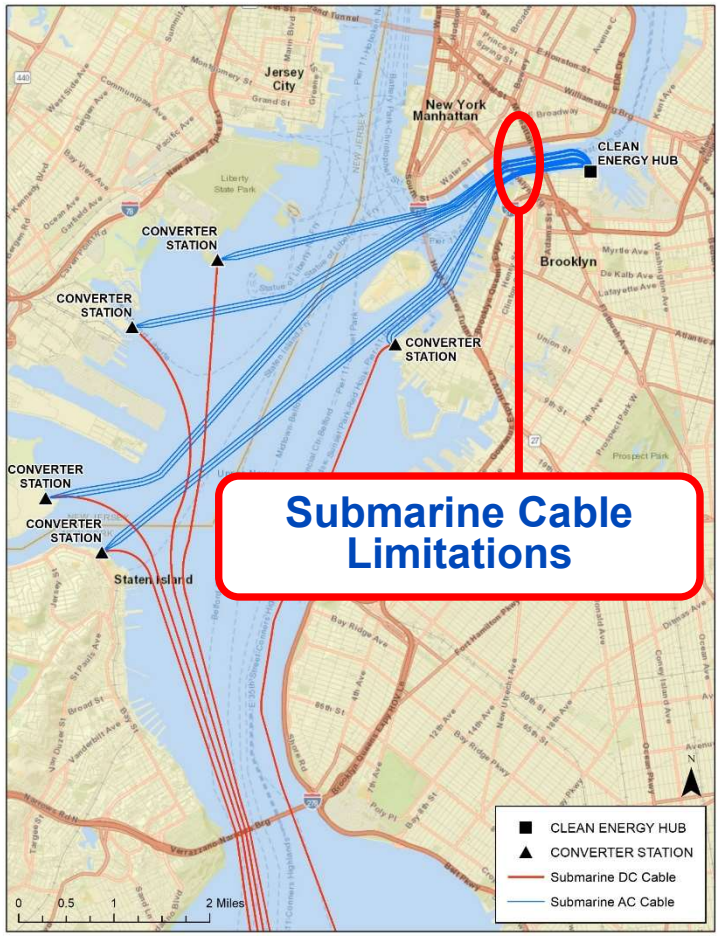
Injecting 6,000 MW into NYC will be challenging, costly, and face higher constructability challenges

Challenges of OSW into Zone I/J

- **NYSERDA's recommendation and constructability challenges will drive future OSW projects to utilize HVDC technology**
  - Siting land-based converter stations in New York City will be extremely challenging
- **Recognizing this challenge, ConEd proposes to site the converter stations around Upper Bay as part of their Clean Energy Hub proposal**
  - However, this design still faces construction feasibility challenges for the HVAC cables connecting the converter stations to the Clean Energy Hub



1) ConEd's filing conveys that an approach by water is preferred given the constraints of trying to connect to Clean Energy Hub by land

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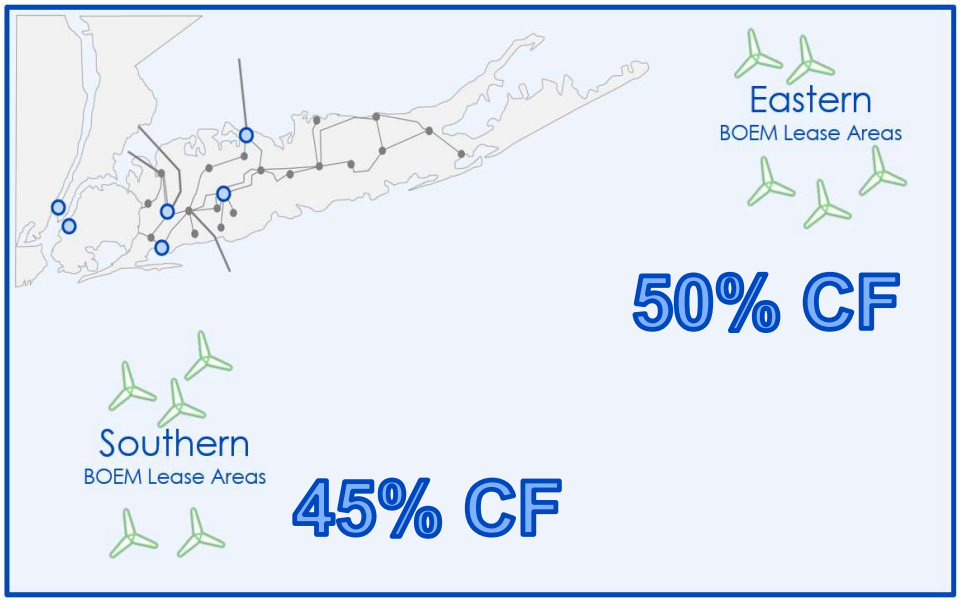
A scenario that involves 4,500+ MW of OSW injected into Long Island is constructable, feasible, and more likely

Long Island OSW Injection Considerations

- Scenarios with 4.5+ GW of OSW in Long Island provides New York with the ability to seek competitive procurements from multiple lease areas
- 2,200+ MW already procured into Long Island
- Future OSW generation projects will likely be interconnected or procured in 1,000+ MW increments
- Long Island offers feasible injection locations for converters and AC ties



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NYISO should consider alternate scenarios 4.5+ GW of OSW into Long Island

Alternate Long Island Injection Scenarios

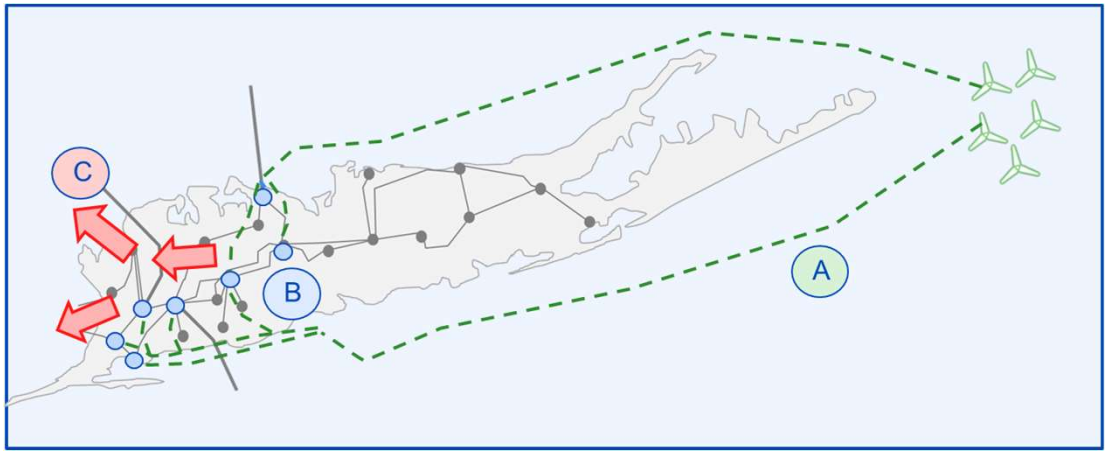
- **Alternate scenarios can provide lower cost and increased feasibility as compared to the proposed VSA assumptions**
  - Scenarios incorporate NYSERDA's recent HVDC technology guidance on future OSW solicitations

OSW Points of Injection		VSA (MW)	9A (MW)	9B (MW)	9C (MW)	9D (MW)	9E (MW)	9F (MW)
NYC & Other	NYC Awarded	2,046	2,046	2,046	2,046	2,046	2,046	2,046
	W 49th	1,310	--	--	--	--	--	--
	Farragut	2,620	2,400	2,400	2,400	2,400	2,400	2,400
	SubTotal	5,976	4,446	4,446	4,446	4,446	4,446	4,446
LI	LI Awarded	2,279	2,279	2,279	2,279	2,279	2,279	2,279
	Ruland	800	--	1,200	--	1,200	--	1,200
	Northport	--	1,200	1,200	1,200	--	--	--
	East Garden City	--	--	--	1,200	--	1,200	1,200
	Barrett/ Valley Stream	--	1,200	--	--	1,200	1,200	--
	SubTotal	3,079	4,679	4,679	4,679	4,679	4,679	4,679
Total OSW Injection (MW):		**9,055**	**9,125**	**9,125**	**9,125**	**9,125**	**9,125**	**9,125**
Incremental IC Costs ($M)		**$8,750**	**$7,960**	**$8,390**	**$8,430**	**$8,500**	**$8,720**	**$8,970**

NYISO should consider how different projects can reduce the cost of offshore wind generation interconnections

Generator Interconnection Cost Savings

- **Cost savings can come in different ways:**
  - A Reducing the length of terrestrial and marine cables needed
  - B Reducing the cost to interconnect to an existing or new substation
  - C Avoided cost of downstream upgrades necessary to deliver OSW



- **In turn, this may help streamline the generator interconnection process studies and in-service lead-times**

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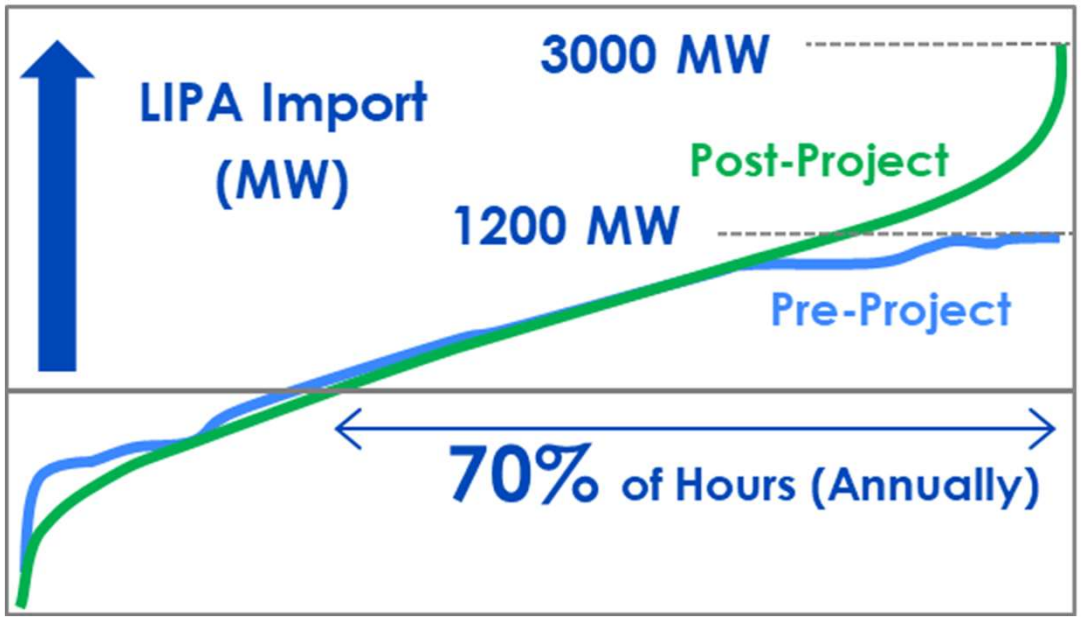
Projects should be evaluated not only for their Long Island export capability, but for their import capability as well

Long Island Import Capability

- Long Island will still depend heavily on imports, even with significant OSW injections
- Supports reliability during storms, and outages of coastal units
- Even more critical with potential future system retirements



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