

Consumer Impact Analysis: Additional Data

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IPPTF Issue Track 5

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General Description and Key Assumptions

	Years	New Renewable Resources	Nuclear Plants	Retirements	Transmission System
Scenario A Reference Case	2020, 2025, and 2030	CARIS, incl. 226 MW off-shore wind; mostly on-shore renewables; reflect latest renewable procurements; stretch-out renewable build-out	Indian Point retired in 2020/21 All Upstate nuclear in service past current license period	All NYCA Coal assumed to be retired.	Western NY and generic AC Transmission upgrades* included
Scenario B <i>Off-Shore Wind</i>	2030 only	2,400 MW off-shore wind by 2030, assume fewer new on-shore renewables			
Scenario C <i>Upstate Nuclear</i>	2030 only	Same as Scenario A	Same except Ginna and NMP1 retire in 2029		

*Not project specific



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Additional Sensitivities

- **Two sensitivities for 2025**
 - State Policy Case, reflecting Energy Efficiency policy
 - High Load Forecast case
- **Built off Scenario A**

Renewable Development for Scenario A

- Utilize the 2017 CARIS 1 “System Resource Shift” case as starting point
- Capture material updates (as available) for three study years (2020, 2025, 2030), including 2018 NYISO Goldbook
- Adjust renewable build-out to meet interim targets and “50 x 30” in 2030, including 2022 Large-Scale Renewable Awards

Renewable Development for Scenario A Sensitivities

- State Energy Efficiency Policy Sensitivity
 - State Policy sensitivity models lower NYCA loads due to higher energy efficiency
 - 2025 load is approximately 15,000 GWh lower than Scenario A reference case
 - Trajectory of renewable build-out reflects lower renewable energy target in 2030
- High-Load Forecast Sensitivity
 - High-Load State Policy sensitivity models higher NYCA loads (e.g., due to higher penetration of electric vehicles)
 - 2025 load is approximately 15,000 GWh higher than Scenario A reference case
 - Trajectory of renewable build-out reflects higher renewable energy target in 2030

Renewable Development for Scenarios B and C

- Scenario B models 2,400 total off-shore wind
 - 800 in 2025 and 1,600 in 2030
 - 1,600 MW in NYC; 800 MW in Long Island
 - Maintain attainment of “50 by 30”
 - Reduce new on-shore wind and solar facilities
- Scenario C models identical renewable build-out as Scenario A

Scenario A Renewable Build-Out

Zone	Capacity (MW)	2020	2025	2030
Total	Land-Based Wind	595	3,621	5,198
	Utility-Scale Solar	-	3,306	6,479
	Offshore Wind	-	-	226
	Imports	-	454	454
Zone A	Land-Based Wind	582	1,807	2,202
	Utility-Scale Solar	-	2	439
	Offshore Wind	-	-	-
Zone B	Land-Based Wind	-	-	-
	Utility-Scale Solar	-	-	210
	Offshore Wind	-	-	-
Zone C	Land-Based Wind	-	1,084	1,283
	Utility-Scale Solar	-	60	383
	Offshore Wind	-	-	-
Zone D	Land-Based Wind	-	275	435
	Utility-Scale Solar	-	-	433
	Offshore Wind	-	-	-
Zone E	Land-Based Wind	-	319	1,118
	Utility-Scale Solar	-	1,442	1,442
	Offshore Wind	-	-	-
Zone F	Land-Based Wind	13	135	161
	Utility-Scale Solar	-	1,512	2,060
	Offshore Wind	-	-	-

Zone	Capacity (MW)	2020	2025	2030
Zone G	Land-Based Wind	-	-	-
	Utility-Scale Solar	-	205	824
	Offshore Wind	-	-	-
Zone H	Land-Based Wind	-	-	-
	Utility-Scale Solar	-	12	12
	Offshore Wind	-	-	-
Zone I	Land-Based Wind	-	-	-
	Utility-Scale Solar	-	-	-
	Offshore Wind	-	-	-
Zone J	Land-Based Wind	-	-	-
	Utility-Scale Solar	-	-	-
	Offshore Wind	-	-	-
Zone K	Land-Based Wind	-	-	-
	Utility-Scale Solar	-	73	676
	Offshore Wind	-	-	226
Imports	LBW Quebec	-	-	-
	Ontario Utility Scale Solar	-	-	-
	LBW Ontario	-	454	454
	LBW PJM	-	-	-
	PJM Utility Scale Solar	-	-	-

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State Policy Sensitivity Renewable Build-Out

Zone	Capacity (MW)	2025
Total	Land-Based Wind	2,107
	Utility-Scale Solar	2,026
	Offshore Wind	-
	Imports	454
Zone A	Land-Based Wind	1,030
	Utility-Scale Solar	2
	Offshore Wind	-
Zone B	Land-Based Wind	-
	Utility-Scale Solar	-
	Offshore Wind	-
Zone C	Land-Based Wind	618
	Utility-Scale Solar	60
	Offshore Wind	-
Zone D	Land-Based Wind	157
	Utility-Scale Solar	-
	Offshore Wind	-
Zone E	Land-Based Wind	225
	Utility-Scale Solar	822
	Offshore Wind	-
Zone F	Land-Based Wind	77
	Utility-Scale Solar	888
	Offshore Wind	-

Zone	Capacity (MW)	2025
Zone G	Land-Based Wind	-
	Utility-Scale Solar	205
	Offshore Wind	-
Zone H	Land-Based Wind	-
	Utility-Scale Solar	7
	Offshore Wind	-
Zone I	Land-Based Wind	-
	Utility-Scale Solar	-
	Offshore Wind	-
Zone J	Land-Based Wind	-
	Utility-Scale Solar	-
	Offshore Wind	-
Zone K	Land-Based Wind	-
	Utility-Scale Solar	42
	Offshore Wind	-
Imports	LBW Quebec	-
	Ontario Utility Scale Solar	-
	LBW Ontario	454
	LBW PJM	-
	PJM Utility Scale Solar	-

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High-Load Forecast Sensitivity Renewable Build-Out

Zone	Capacity (MW)	2025
Total	Land-Based Wind	5,177
	Utility-Scale Solar	4,728
	Offshore Wind	-
	Imports	454
Zone A	Land-Based Wind	2,584
	Utility-Scale Solar	3
	Offshore Wind	-
Zone B	Land-Based Wind	-
	Utility-Scale Solar	-
	Offshore Wind	-
Zone C	Land-Based Wind	1,550
	Utility-Scale Solar	86
	Offshore Wind	-
Zone D	Land-Based Wind	393
	Utility-Scale Solar	-
	Offshore Wind	-
Zone E	Land-Based Wind	457
	Utility-Scale Solar	2,062
	Offshore Wind	-
Zone F	Land-Based Wind	193
	Utility-Scale Solar	2,162
	Offshore Wind	-

Zone	Capacity (MW)	2025
Zone G	Land-Based Wind	-
	Utility-Scale Solar	293
	Offshore Wind	-
Zone H	Land-Based Wind	-
	Utility-Scale Solar	18
	Offshore Wind	-
Zone I	Land-Based Wind	-
	Utility-Scale Solar	-
	Offshore Wind	-
Zone J	Land-Based Wind	-
	Utility-Scale Solar	-
	Offshore Wind	-
Zone K	Land-Based Wind	-
	Utility-Scale Solar	104
	Offshore Wind	-
Imports	LBW Quebec	-
	Ontario Utility Scale Solar	-
	LBW Ontario	454
	LBW PJM	-
	PJM Utility Scale Solar	-

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Scenario B (Off-Shore Wind)

Zone	Capacity (MW)	2030
Total	Land-Based Wind (Higher CF)	3,883
	Utility-Scale Solar	3,145
	Offshore Wind	2,400
	Imports	454
Zone A	Land-Based Wind	1,645
	Utility-Scale Solar	213
	Offshore Wind	-
Zone B	Land-Based Wind	-
	Utility-Scale Solar	102
	Offshore Wind	-
Zone C	Land-Based Wind	958
	Utility-Scale Solar	186
	Offshore Wind	-
Zone D	Land-Based Wind	325
	Utility-Scale Solar	210
	Offshore Wind	-
Zone E	Land-Based Wind	835
	Utility-Scale Solar	700
	Offshore Wind	-
Zone F	Land-Based Wind	120
	Utility-Scale Solar	1,000
	Offshore Wind	-

Zone	Capacity (MW)	2030
Zone G	Land-Based Wind	-
	Utility-Scale Solar	400
	Offshore Wind	-
Zone H	Land-Based Wind	-
	Utility-Scale Solar	6
	Offshore Wind	-
Zone I	Land-Based Wind	-
	Utility-Scale Solar	-
	Offshore Wind	-
Zone J	Land-Based Wind	-
	Utility-Scale Solar	-
	Offshore Wind	1,600
Zone K	Land-Based Wind	-
	Utility-Scale Solar	328
	Offshore Wind	800
Imports	LBW Quebec	-
	Ontario Utility Scale Solar	-
	LBW Ontario	454
	LBW PJM	-
	PJM Utility Scale Solar	-

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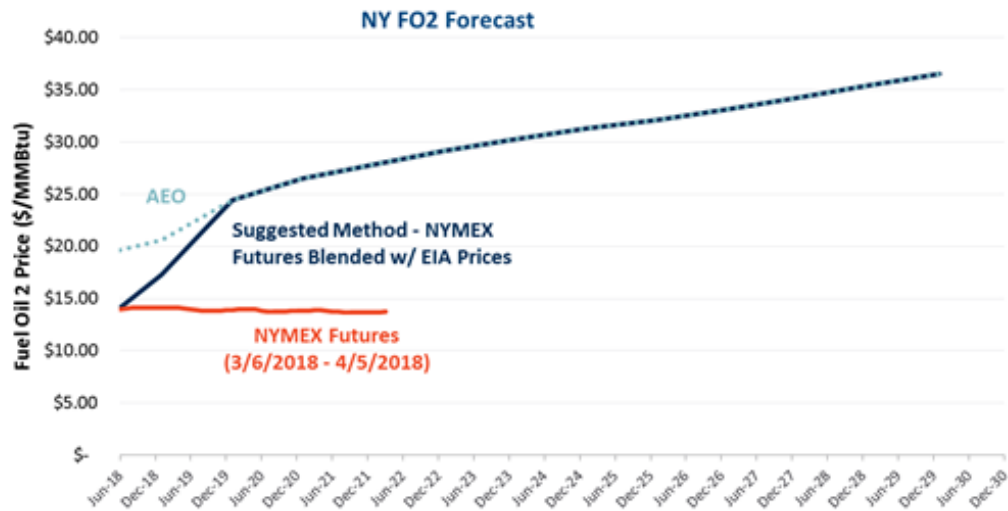
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Oil Price Forecast

- **Constructed for Fuel Blends #2 and #6**
- **Similar approach to Natural Gas price forecasts**
 - Utilized NYMEX for 2018
 - Utilized a 50/50 blend of NYMEX and AEO for 2019
 - Utilized AEO for 2020 and beyond

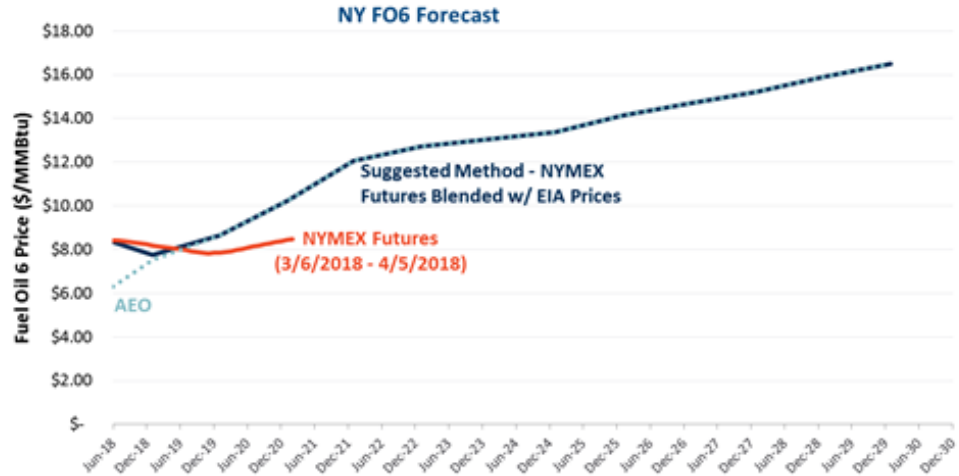
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Fuel Oil #2



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Fuel Oil #6



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Next Steps for IT5

- Begin simulation work
- August 6th - IT5 Assumptions – Dynamic Change Case
- Review results September/October

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Feedback?

- Questions and/or comments can be sent to IPP_feedback@nyiso.com

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