

# 2022 Preliminary Weather Normalized MW for the 2023 ICAP Forecast

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Load Forecasting Task Force

November 4, 2022

#### Agenda

- Summary of updates since IRM forecast
- Proportional Loss Reallocation
- 2022 Preliminary Weather Normalized Peak Load
- 2022 Economic Data
- Next Steps



#### **Summary of Updates since IRM Forecast**

- Updated DSS NYCA peak hour load values (July 20, 2022, Hour Beginning 17), resulting in changes relative to the load values assumed in the IRM forecast
- Updated NYCA peak hour demand response impacts
- Actual values for municipal load and self generation have been added
- Resulting changes to Transmission District 2022 weather normalized coincident peak values relative to the IRM forecast:
  - Central Hudson: 20 MW increase due to the DSS load value update
  - LIPA: 2 MW decrease due to a combination of slight changes in the DSS load value and demand response impacts
  - National Grid: 55 MW decrease (74 MW decrease in DSS actual load value, 21 MW increase in municipal self generation value, 2 MW decrease in demand response impacts)
  - NYSEG: 5 MW increase due to updated demand response impacts
  - All other TD weather normalized peak values match those used in the IRM forecast to the nearest MW

### The resulting NYCA aggregate update to the 2022 weather normalized peak is a decrease of 32 MW



#### **Proportional Loss Reallocation**

- For the New York Control Area (NYCA) ICAP Market peak load forecast, bulk power system losses are reallocated among the Transmission Districts proportional to their weather normalized peak loads (less losses). This approach provides that for the NYCA ICAP Market, bulk power system losses are shared equitably among Transmission Owners according to their share of the total statewide peak load.
  - Reallocation of losses is shown in the preliminary 2022 weather normalized peak load presented today
- For the ICAP Locality peak forecasts (Zone J, Zone K, and Zones G-to-J), there is no reallocation of bulk power system losses. These forecasts include local (i.e., Transmission District) bulk power system losses as found. This approach provides that the Locality peak forecasts accurately estimate the total load expected in the Locality during the Locality peak hour.
  - Locality forecasts will be presented during future LFTF meetings



## 2022 Preliminary Weather Normalized Peak Load



2022 Land Damastic for	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
2022 Load Reconciliation		NYISO DS	S Actual M	IW Data							
7/20/2022, Hour Beginning 5 PM	Actual	BPS	M uni	Load +	Percent	Actual Load	Actual	Actual Load	Weather	Demand	TOs' W/N MW
V1 - 10/27/22	Load	Losses	Gen	Losses	Losses	Less Losses	Losses	With Losses	Adjustments	Response	With DR
Consolidated Edison											
Con-Ed LSE Load						11,284.3	154.6	11,438.9	765.7	243.4	12,448.0
Transmission District Load Served						11,284.3	154.6	11,438.9	765.7	243.4	12,448.0
Deduction for BTM:NG						0.0	0.0	0.0			
Transmission District Total Load	11,284.3	154.6		11,438.9	1.4%	11,284.3	154.6	11,438.9			
Central Hudson											
Central Hudson LSE Load						1,011.8	28.6	1,040.4	-1.0	0.0	1,039.4
Transmission District Load Served						1,011.8	28.6	1,040.4	-1.0	0.0	1,039.4
Deduction for BTM:NG					_	0.0	0.0	0.0			
Transmission District Total Load	1,011.8	28.6		1,040.4	2.7%	1,011.8	28.6	1,040.4			
Long Island Power Authority											
LIPA LSE Load						4,852.0	49.1	4,901.1	-71.7	13.5	4,842.9
NYPA Load & Greenport Load						110.8	1.1	111.9	-1.6	0.0	110.3
Freeport & Rockville Centre Load			0.0			108.4	1.1	109.5	-1.6	0.0	107.9
Transmission District Load Served						5,071.2	51.3	5,122.5	-74.9	13.5	5,061.1
Deduction for BTM:NG						0.0	0.0	0.0			
Transmission District Total Load	5,071.2	51.3	0.0	5,122.5	1.0%	5,071.2	51.3	5,122.5			
National Grid											
National Grid LSE						6,015.3	341.0	6,356.3	-70.0		6,526.8
NYPA Load						37.3	2.1	39.4	-0.4	0.0	
NYMPA Load Jamestown Load			59.8			287.8 65.9	16.3 3.7	304.1 69.6	-3.4 -0.8	0.0 0.0	300.7 68.8
Green Island Load			59.0			5.8	0.3	6.1	-0.8	0.0	6.0
Transmission District Load Served						6,412.1	363.4	6,775.5	-74.7		6,941.3
Deduction for BTM:NG					.	0.0	0.0	0.0			
Transmission District Total Load	6,352.3	363.4	59.8	6,775.5	5.4%	6,412.1	363.4	6,775.5			
Totals	29,743.2	676.4	59.8	30,479.4	2.2%	29,805.2	676.4	30,481.6	699.1	562.1	31,742.8

2022 Load Reconciliation	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
2022 Load Reconcination		NYISO DS	S Actual N	<b>IW Data</b>			Transm	ission District L	oad Data		
7/20/2022, Hour Beginning 5 PM	Actual	BPS	M uni	Load +	Percent	Actual Load	Actual	Actual Load	Weather	Demand	TOs' W/N MW
V1 - 10/27/22	Load	Losses	Gen	Losses	Losses	Less Losses	Losses	With Losses	Adjus tme nts	Response	With DR
New York Power Authority											
NYPA LSE Load						418.2	2.0	420.2	-0.4	0.0	419.8
NYMPA Load						54.1	0.3	54.4	0.0	0.0	54.4
Transmission District Load Served						472.3	2.3	474.6	-0.4	0.0	474.2
Deduction for BTM:NG						0.0	0.0	0.0			
Transmission District Total Load	473.2	2.3		475.5	0.5%	472.3	2.3	474.6			
New York State Electric & Gas											
NYSEG LSE Load						2,915.5	52.8	2,968.3	42.4	58.0	3,068.7
NYPA Load						45.7	0.8	46.5	0.7	0.0	47.2
NYMPA Load						68.7	1.2	69.9	1.0	0.0	70.9
Transmission District Load Served						3,029.9	54.8	3,084.7	44.1	58.0	3,186.8
Deduction for BTM:NG						0.0	0.0				
Transmission District Total Load	3,026.8	54.8		3,081.6	1.8%	3,029.9	54.8	3,084.7			
Orange & Rockland Utilities											
O&R LSE Load						1,030.7	8.0	1,038.7	29.7	0.0	1,068.4
Transmission District Load Served						1,030.7	8.0	1,038.7	29.7	0.0	1,068.4
Deduction for BTM:NG						0.0	0.0	0.0			
Transmission District Total Load	1,030.7	8.0		1,038.7	0.8%	1,030.7	8.0	1,038.7			
Rochester Gas & Electric											
RG&E LSE Load						1,481.0	13.3	1,494.3	10.5	6.7	1,511.5
NYMPA Load						11.9	0.1	12.0	0.1	0.0	12.1
Transmission District Load Served						1,492.9	13.4	1,506.3	10.6	6.7	1,523.6
Deduction for BTM:NG				-		0.0	0.0	0.0			
Transmission District Total Load	1,492.9	13.4		1,506.3	0.9%	1,492.9	13.4	1,506.3			
Totals	29,743.2	676.4	59.8	30,479.4	2.2%	29,805.2	676.4	30,481.6	699.1	562.1	31,742.8

2022 Load Reconciliation	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
2022 Load Reconciliation			Reallo	cation of Losses		Proportional	Adj. W/N	2022	2022	2022 Adj Load
7/20/2022, Hour Beginning 5 PM	TOs' W/N MW	W/N	Station	Adj. W/N Load	Percent Loss	Allocation	Load Less	Adjusted Actual	BTM:NG	Prior to
V1 - 10/27/22	With DR	Losses	Power	Less Losses	Allocation	of Losses	Losses	Load (MW)	(1 + WNF)	Loss Adjustment
Consolidated Edison										
Con-Ed LSE Load	12,448.0	168.2		12,279.8	39.56%	277.2	12,279.8	12,557.0		
Transmission District Load Served	12,448.0	168.2		12,279.8	39.56%	277.2	12,279.8	12,557.0	1.0226	12,448.0
Deduction for BTM:NG										
Transmission District Total Load										
Central Hudson										
Central Hudson LSE Load	1,039.4	28.6		1,010.8	3.26%	22.8	1,010.8	1,033.6		
Transmission District Load Served	1,039.4	28.6		1,010.8	3.26%	22.8	1,010.8	1,033.6	1.0226	1,039.4
Deduction for BTM:NG										
Transmission District Total Load										
Long Island Power Authority										
LIPA LSE Load	4,842.9	48.5		4,794.4	15.45%	108.2	4,794.4	4,902.6		
NYPA Load & Greenport Load	110.3	1.1		109.2	0.35%	2.5	109.2	111.7		
Freeport & Rockville Centre Load	107.9	1.1		106.8	0.34%	2.4	106.8	109.2		
Transmission District Load Served	5,061.1	50.7		5,010.4	16.15%	113.1	5,010.4	5,123.5	1.0226	5,061.1
Deduction for BTM:NG										
Transmission District Total Load										
National Grid										
National Grid LSE NYPA Load	6,526.8 39.0	349.3 2.2	13.0	6,164.5 36.8	19.87% 0.12%	139.2 0.8		6,303.7 37.6		
NYMPA Load	39.0	16.7		284.0	0.12%	6.4		37.0 290.4		
Jamestown Load	68.8	3.8		65.0	0.21%	1.5		66.5		
Green Island Load	6.0	0.3		5.7	0.02%	0.1	5.7	5.8		
Transmission District Load Served	6,941.3	372.3	13.0	6,556.0	21.13%	148.0	6,556.0	6,704.0	1.0226	6,928.3
Deduction for BTM:NG										
Transmission District Total Load										
Tatala	31,742.8	700.5	12.0	21 020 2	100.000/	700.5	21.020.2	21 720 9	1.0226	21 720 8
Totals	31,/42.8	/00.5	13.0	31,029.3	100.00%	700.5	31,029.3	31,729.8	1.0226	31,729.8

2022 Load Reconciliation	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
2022 Load Reconciliation			Reallo	cation of Losses		Proportional	Adj. W/N	2022	2022	2022 Adj Load
7/20/2022, Hour Beginning 5 PM	TOs' W/N MW	W/N	Station	Adj. W/N Load	Percent Loss	Allocation	Load Less	Adjusted Actual	BTM:NG	Prior to
V1 - 10/27/22	With DR	Losses	Power	Less Losses	Allocation	of Losses	Losses	Load (MW)	(1 + WNF)	Loss Adjustment
New York Power Authority										
NYPA LSE Load	419.8	2.0		417.8	1.35%	9.5	417.8	427.3		
NYMPA Load	54.4	0.3		54.1	0.17%	1.2	54.1	55.3		
Transmission District Load Served	474.2	2.3		471.9	1.52%	10.7	471.9	482.6	1.0226	474.2
Deduction for BTM:NG										
Transmission District Total Load										
New York State Electric & Gas	<del>   </del>									
NYSEG LSE Load	3,068.7	54.4		3,014.3	9.71%	68.0	3,014.3	3,082.3		
NYPA Load NYMPA Load	47.2 70.9	0.9		46.3 69.6	0.15% 0.22%	1.1	46.3	47.4		
		1.3				1.5	69.6	71.1		
Transmission District Load Served Deduction for BTM:NG	3,186.8	56.6		3,130.2	10.09%	70.6	3,130.2	3,200.8	1.0226	3,186.8
Transmission District Total Load										
Orange & Rockland Utilities										
O&R LSE Load	1,068.4	8.2		1,060.2	3.42%	24.0	1,060.2	1,084.2		
Transmission District Load Served	1,068.4	8.2		1,060.2	3.42%	24.0	1,060.2	1,084.2	1.0226	1,068.4
Deduction for BTM:NG										
Transmission District Total Load										
Rochester Gas & Electric										
RG&E LSE Load	1,511.5	13.5		1,498.0	4.83%	33.8	1,498.0	1,531.8		
NYMPA Load	12.1	0.1		12.0	0.04%	0.3	12.0	12.3		
Transmission District Load Served	1,523.6	13.6		1,510.0	4.87%	34.1	1,510.0	1,544.1	1.0226	1,523.6
Deduction for BTM:NG										
Transmission District Total Load										
Totolo	21 742 9	700.5	12.0	21.020.2	100.009/	700.5	21 020 2	21 720 0	1.0226	21 720 0
Totals	31,742.8	/00.5	13.0	31,029.3	100.00%	/00.5	31,029.3	31,729.8	1.0226	31,729.8

#### **2022 Economic Data**



#### Summary of Economic Data (1 of 2)

								•		-		
Variable & TD	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Con-Ed_Employment	4,452	4,598	4,734	4,823	4,918	4,997	5,186	4,461	4,675	4,917	5,017	5,077
Con-Ed_GDP	758,714	778,822	786,858	811,725	822,064	850,346	889,341	826,615	883,226	905,534	928,235	950,311
Con-Ed_Households	3,583	3,611	3,636	3,656	3,649	3,644	3,636	3,610	3,628	3,636	3,643	3,645
Con-Ed_Income-Real	557,756	578,484	603,517	622,925	668,014	672,588	682,237	710,555	721,681	695,538	723,945	741,801
Con-Ed_Population	9,364	9,403	9,434	9,443	9,407	9,357	9,300	9,270	9,266	9,283	9,299	9,305
Cen-Hud_Employment	191	191	193	195	196	198	200	176	184	189	191	194
Cen-Hud_GDP	23,008	22,924	23,127	23,333	23,381	24,208	24,588	22,238	23,967	24,263	24,907	25,621
Cen-Hud_Households	201	202	202	203	205	206	207	205	205	205	206	205
Cen-Hud_Income-Real	22,880	23,203	24,194	24,512	25,353	25,471	26,193	27,716	28,029	26,356	27,304	28,011
Cen-Hud_Population	525	523	521	519	520	520	519	516	515	515	515	514
LIPA_Employment	1,285	1,297	1,313	1,333	1,347	1,349	1,367	1,190	1,281	1,320	1,347	1,361
LIPA_GDP	172,034	174,759	178,221	179,639	180,604	182,252	183,892	170,252	185,783	188,741	193,131	197,672
LIPA_Households	966	970	973	976	978	982	983	976	981	981	982	982
LIPA_Income-Real	179,713	184,753	192,853	196,815	203,498	206,717	210,585	218,689	224,806	213,979	221,779	226,309
LIPA_Population	2,850	2,851	2,847	2,842	2,841	2,838	2,834	2,823	2,820	2,817	2,817	2,813
N-Grid_Employment	1,817	1,821	1,830	1,849	1,858	1,866	1,883	1,675	1,742	1,799	1,825	1,844
N-Grid_GDP	224,545	230,011	233,510	237,437	238,450	243,093	249,087	232,387	248,926	250,389	255,311	261,773
N-Grid_Households	1,648	1,655	1,659	1,665	1,671	1,679	1,680	1,665	1,671	1,672	1,673	1,672
N-Grid_Income-Real	164,625	166,255	173,352	172,982	180,456	179,811	183,906	198,120	200,779	187,667	192,541	196,231
N-Grid_Population	4,007	4,001	3,987	3,970	3,966	3,959	3,947	3,923	3,917	3,915	3,914	3,908

Variable	Unit
Employment	1,000
GDP	\$ Millions
Households	1,000
Income-Real	\$ Millions
Population	1,000

Data is from Moody's Analytics, August 2022.

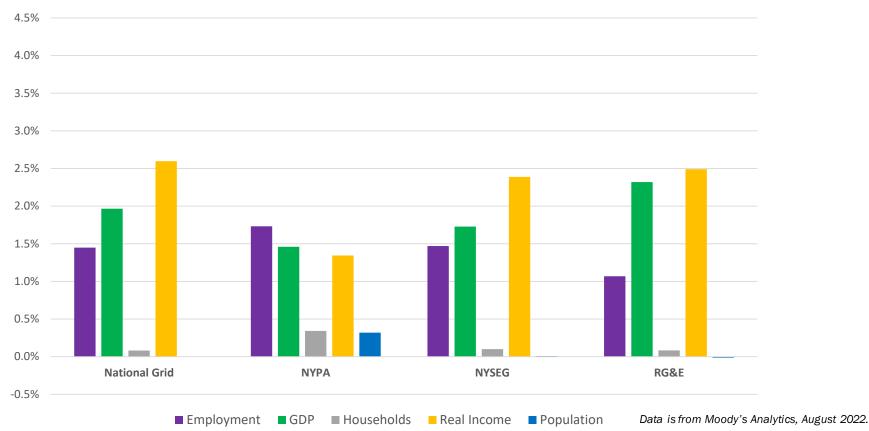
#### Summary of Economic Data (2 of 2)

								<u> </u>				
Variable & TD	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
NYPA_Employment	34	34	33	34	35	35	35	31	32	34	34	35
NYPA_GDP	3,729	3,711	3,764	3,859	3,987	4,125	4,168	3,604	3,950	3,974	4,032	4,124
NYPA_Households	32	32	32	33	33	33	33	33	33	33	33	33
NYPA_Income-Real	3,042	3,039	3,211	3,163	3,287	3,209	3,253	3,488	3,446	3,301	3,346	3,413
NYPA_Population	81	82	81	80	81	81	81	80	80	80	81	80
NYSEG_Employment	420	418	416	418	420	424	426	376	391	403	409	413
NYSEG_GDP	48,928	48,933	49,140	49,470	49,511	51,093	52,170	47,228	50,876	51,028	51,910	53,229
NYSEG_Households	421	421	421	422	421	423	422	418	420	420	420	420
NYSEG_Income-Real	40,252	40,765	41,981	41,582	43,221	43,250	44,100	47,254	47,701	44,724	45,792	46,693
NYSEG_Population	1,052	1,046	1,039	1,033	1,027	1,024	1,019	1,011	1,009	1,009	1,009	1,007
OR_Employment	261	267	272	276	282	286	298	264	277	293	300	306
OR_GDP	32,416	32,990	33,904	34,585	34,947	35,972	37,720	35,069	37,573	38,241	39,062	40,317
OR_Households	229	231	232	233	235	236	238	237	240	242	244	245
OR_Income-Real	32,733	33,188	34,741	34,747	35,873	36,156	37,024	39,641	40,075	39,299	40,595	41,754
OR_Population	694	696	699	701	705	708	711	711	714	720	725	730
RGE_Employment	501	504	507	512	513	517	522	464	484	499	504	510
RGE_GDP	62,436	63,502	64,512	66,174	65,157	66,836	68,250	62,736	67,228	68,112	69,692	71,683
RGE_Households	427	429	431	432	433	436	437	433	435	435	436	435
RGE_Income-Real	44,122	44,307	46,649	46,288	48,221	48,021	48,889	52,370	52,557	48,838	50,055	50,897
RGE_Population	1,055	1,053	1,049	1,046	1,043	1,043	1,041	1,035	1,033	1,032	1,032	1,031
Employment_NYCA	8,961	9,130	9,299	9,439	9,568	9,672	9,916	8,637	9,066	9,453	9,629	9,739
GDP_NYCA	1,325,809	1,355,653	1,373,035	1,406,222	1,418,101	1,457,926	1,509,216	1,400,130	1,501,529	1,530,281	1,566,281	1,604,730
Households_NYCA	7,508	7,552	7,586	7,620	7,625	7,640	7,636	7,578	7,614	7,625	7,637	7,638
Income_NYCA	1,045,125	1,073,995	1,120,497	1,143,012	1,207,924	1,215,224	1,236,186	1,297,832	1,319,075	1,259,703	1,305,357	1,335,110
Population_NYCA	19,628	19,653	19,656	19,634	19,589	19,529	19,451	19,369	19,355	19,371	19,392	19,388

Data is from Moody's Analytics, August 2022.

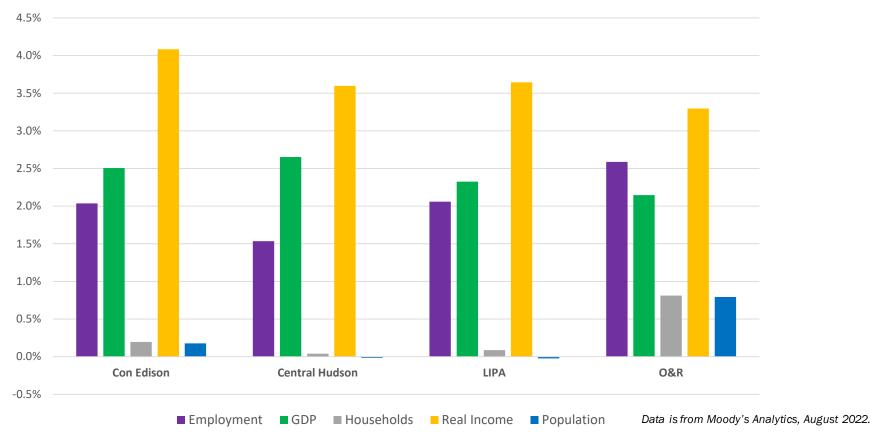
#### Transmission District Economic Indicators (1 of 2)

Forecasted percent growth – July 2022 to July 2023



#### **Transmission District Economic Indicators (2 of 2)**

Forecasted percent growth – July 2022 to July 2023



#### **Next Steps**

- Transmission Owner updates to actual load, demand response, weather adjustments, and station power values will be reviewed and incorporated as appropriate
- Updated 2022 weather normalized peak information will be reviewed during the November 17 LFTF
- Transmission Owners are to provide final large load facility forecasts by 11/21, and any updates to final Regional Load Growth Factors (RLGFs) by 11/23
- Results from the NYISO Criteria evaluation of Transmission District RLGFs will be reviewed during the 12/5 LFTF
- 2023 NYCA, Locality, and Zonal forecasts will be reviewed during the 12/5 and 12/19 LFTF meetings

# **Questions?**



#### **Our Mission & Vision**

 $\checkmark$ 

#### **Mission**

Ensure power system reliability and competitive markets for New York in a clean energy future



#### Vision

Working together with stakeholders to build the cleanest, most reliable electric system in the nation

