

2021 Preliminary Weather Normalized Peak MW for the 2022 ICAP Forecast

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Agenda

- Summary of updates since IRM forecast
- 2021 Preliminary Weather Normalized Peak Load
- Locality NCP to CP ratios
- 2021 Economic Data
- Next Steps

Updates since the IRM Forecast

- **DSS loads were reviewed. The DSS loads for the NYCA ICAP Market coincident peak hour (August 26, 2021, Hour Beginning 16), and for the Locality peaks have not changed since the IRM forecast.**
- **Demand response impacts for the coincident peak hour are estimates and have not been updated. We expect to have finalized DR values for the November 16th LFTF presentation.**
- **There has been a minor change to the NYPA weather normalized peak load.**
- **Actual values for municipal load and self generation have been added.**

2021 Preliminary Weather Normalized Peak Load

2021 Load Reconciliation		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
8/26/2021, Hour Beginning 4 PM		NYISO DSS Actual MW Data					Transmission District Load Data					
V1 - 10/26/21		Actual Load	BPS Losses	Muni Gen	Load + Losses	Percent Losses	Actual Load Less Losses	Actual Losses	Actual Load With Losses	Weather Adjustments	Demand Response	TOs' W/N MW With DR
Consolidated Edison												
Con-Ed LSE Load							11,429.5	158.5	11,588.1	624.3	0.0	12,212.4
Transmission District Load Served							11,429.5	158.5	11,588.1	624.3	0.0	12,212.4
Deduction for BTM:NG							0.0	0.0	0.0			
Transmission District Total Load		11,429.5	158.5		11,588.1	1.4%	11,429.5	158.5	11,588.1			
Central Hudson												
Central Hudson LSE Load							1,026.5	27.2	1,053.7	31.1	0.0	1,084.8
Transmission District Load Served							1,026.5	27.2	1,053.7	31.1	0.0	1,084.8
Deduction for BTM:NG							0.0	0.0	0.0			
Transmission District Total Load		1,026.5	27.2		1,053.7	2.6%	1,026.5	27.2	1,053.7			
Long Island Power Authority												
LIPA LSE Load							4,749.9	52.9	4,802.7	47.2	68.0	4,917.9
NYPA Load & Greenport Load							103.4	1.2	104.6	1.0	0.0	105.6
Freeport & Rockville Centre Load							109.9	1.2	111.1	1.1	0.0	112.2
Transmission District Load Served							4,963.2	55.3	5,018.4	49.3	68.0	5,135.7
Deduction for BTM:NG							0.0	0.0	0.0			
Transmission District Total Load		4,963.2	55.3	0.0	5,018.4	1.1%	4,963.2	55.3	5,018.4			
National Grid												
National Grid LSE							6,038.5	283.2	6,321.7	46.6	210.5	6,578.8
NYPA Load							36.5	1.7	38.2	0.3	0.0	38.5
NYMPA Load							291.6	13.7	305.3	2.2	0.0	307.5
Jamestown Load							65.8	3.1	68.9	0.5	0.0	69.4
Green Island Load							5.8	0.3	6.1	0.0	0.0	6.1
Transmission District Load Served							6,438.2	302.0	6,740.2	49.6	210.5	7,000.3
Deduction for BTM:NG							0.0	0.0	0.0			
Transmission District Total Load		6,399.3	302.0	38.9	6,740.2	4.5%	6,438.2	302.0	6,740.2			
Totals		29,673.9	622.7	38.9	30,335.5	2.1%	29,712.8	622.7	30,335.5	890.3	328.2	31,554.0

2021 Load Reconciliation		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
8/26/2021, Hour Beginning 4 PM		NYISO DSS Actual MW Data					Transmission District Load Data					
V1 - 10/26/21		Actual Load	BPS Losses	Muni Gen	Load + Losses	Percent Losses	Actual Load Less Losses	Actual Losses	Actual Load With Losses	Weather Adjustments	Demand Response	TO's W/N MW With DR
New York Power Authority												
NYPA LSE Load							296.9	3.7	300.6	-0.5	0.0	300.1
NYMPA Load							56.0	0.7	56.7	-0.9	0.0	55.8
Transmission District Load Served							352.9	4.4	357.3	-1.4	0.0	355.9
Deduction for BTM:NG							0.0	0.0	0.0			
Transmission District Total Load		352.9	4.4		357.3	1.2%	352.9	4.4	357.3			
New York State Electric & Gas												
NYSEGLSE Load							2,825.0	50.2	2,875.2	35.7	46.0	2,956.9
NYPA Load							46.0	0.8	46.8	0.6	0.0	47.4
NYMPA Load							68.7	1.2	69.9	0.9	0.0	70.8
Transmission District Load Served							2,939.7	52.2	2,991.9	37.2	46.0	3,075.1
Deduction for BTM:NG							0.0	0.0	0.0			
Transmission District Total Load		2,939.7	52.2		2,991.9	1.7%	2,939.7	52.2	2,991.9			
Orange & Rockland Utilities												
O&R LSE Load							1,032.1	6.2	1,038.2	78.8	0.0	1,117.0
Transmission District Load Served							1,032.1	6.2	1,038.2	78.8	0.0	1,117.0
Deduction for BTM:NG							0.0	0.0	0.0			
Transmission District Total Load		1,032.1	6.2		1,038.2	0.6%	1,032.1	6.2	1,038.2			
Rochester Gas & Electric												
RG&E LSE Load							1,519.2	16.9	1,536.1	21.2	3.7	1,561.0
NYMPA Load							11.5	0.1	11.6	0.2	0.0	11.8
Transmission District Load Served							1,530.7	17.0	1,547.7	21.4	3.7	1,572.8
Deduction for BTM:NG							0.0	0.0	0.0			
Transmission District Total Load		1,530.7	17.0		1,547.7	1.1%	1,530.7	17.0	1,547.7			
Totals		29,673.9	622.7	38.9	30,335.5	2.1%	29,712.8	622.7	30,335.5	890.3	328.2	31,554.0

2021 Load Reconciliation	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
	8/26/2021, Hour Beginning 4 PM V1 - 10/26/21	TOs' W/N MW With DR	Reallocation of Losses			Proportional Allocation of Losses	Adj. W/N Load Less Losses	2021 Adjusted Actual Load (MW)	2021 BTM:NG (1 + WNF)	2021 Adj Load Prior to Loss Adjustment
			W/N Losses	Station Power	Adj. W/N Load Less Losses					
Consolidated Edison										
Con-Ed LSE Load	12,212.4	167.0		12,045.4	38.99%	252.3	12,045.4	12,297.7		
Transmission District Load Served	12,212.4	167.0		12,045.4	38.99%	252.3	12,045.4	12,297.7	1.0209	12,212.4
Deduction for BTM:NG										
Transmission District Total Load										
Central Hudson										
Central Hudson LSE Load	1,084.8	28.0		1,056.8	3.42%	22.1	1,056.8	1,078.9		
Transmission District Load Served	1,084.8	28.0		1,056.8	3.42%	22.1	1,056.8	1,078.9	1.0209	1,084.8
Deduction for BTM:NG										
Transmission District Total Load										
Long Island Power Authority										
LIPA LSE Load	4,917.9	54.1		4,863.8	15.74%	101.9	4,863.8	4,965.7		
NYPA Load & Greenport Load	105.6	1.2		104.4	0.34%	2.2	104.4	106.6		
Freeport & Rockville Centre Load	112.2	1.3		110.9	0.36%	2.3	110.9	113.2		
Transmission District Load Served	5,135.7	56.6		5,079.1	16.44%	106.4	5,079.1	5,185.5	1.0209	5,135.7
Deduction for BTM:NG										
Transmission District Total Load										
National Grid										
National Grid LSE	6,578.8	294.1	15.4	6,269.3	20.29%	131.3	6,269.3	6,400.6		
NYPA Load	38.5	1.8		36.7	0.12%	0.8	36.7	37.5		
NYMPA Load	307.5	14.2		293.3	0.95%	6.1	293.3	299.4		
Jamestown Load	69.4	3.2		66.2	0.21%	1.4	66.2	67.6		
Green Island Load	6.1	0.3		5.8	0.02%	0.1	5.8	5.9		
Transmission District Load Served	7,000.3	313.6	15.4	6,671.3	21.60%	139.7	6,671.3	6,811.0	1.0209	6,984.9
Deduction for BTM:NG										
Transmission District Total Load										
Totals	31,554.0	647.1	15.4	30,891.5	100.00%	647.1	30,891.5	31,538.6	1.0209	31,538.6

2021 Load Reconciliation	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
	8/26/2021, Hour Beginning 4 PM	TOs' W/N MW With DR	Reallocation of Losses			Proportional Allocation of Losses	Adj. W/N Load Less Losses	2021 Adjusted Actual Load (MW)	2021 BTM:NG (1 + WNF)	2021 Adj Load Prior to Loss Adjustment
			W/N Losses	Station Power	Adj. W/N Load Less Losses					
New York Power Authority										
NYPA LSE Load	300.1	3.7		296.4	0.96%	6.2	296.4	302.6		
NYMPA Load	55.8	0.7		55.1	0.18%	1.2	55.1	56.3		
Transmission District Load Served	355.9	4.4		351.5	1.14%	7.4	351.5	358.9	1.0209	355.9
Deduction for BTM:NG										
Transmission District Total Load										
New York State Electric & Gas										
NYSEG LSE Load	2,956.9	51.5		2,905.4	9.41%	60.9	2,905.4	2,966.3		
NYPA Load	47.4	0.8		46.6	0.15%	1.0	46.6	47.6		
NYMPA Load	70.8	1.3		69.5	0.22%	1.4	69.5	70.9		
Transmission District Load Served	3,075.1	53.6		3,021.5	9.78%	63.3	3,021.5	3,084.8	1.0209	3,075.1
Deduction for BTM:NG										
Transmission District Total Load										
Orange & Rockland Utilities										
O&R LSE Load	1,117.0	6.6		1,110.4	3.59%	23.2	1,110.4	1,133.6		
Transmission District Load Served	1,117.0	6.6		1,110.4	3.59%	23.2	1,110.4	1,133.6	1.0209	1,117.0
Deduction for BTM:NG										
Transmission District Total Load										
Rochester Gas & Electric										
RG&E LSE Load	1,561.0	17.2		1,543.8	5.00%	32.4	1,543.8	1,576.2		
NYMPA Load	11.8	0.1		11.7	0.04%	0.3	11.7	12.0		
Transmission District Load Served	1,572.8	17.3		1,555.5	5.04%	32.7	1,555.5	1,588.2	1.0209	1,572.8
Deduction for BTM:NG										
Transmission District Total Load										
Totals	31,554.0	647.1	15.4	30,891.5	100.00%	647.1	30,891.5	31,538.6	1.0209	31,538.6

Locality NCP to CP Ratios

NCP to CP Ratios

- **The Non-Coincident Peak to Coincident Peak (NCP to CP) ratios are calculated using peak day loads from the past 15 summers. Outlier years are taken out of the ratio calculation. Outlier years are defined as those that have an NCP to CP ratio of over 1.65 standard deviations above the historical average, representing the upper 5% tail of the distribution.**
- **The NYCA and Locality peak hours used in the calculations are restricted to the ICAP Market peak day period (July and August non-holiday weekdays).**
- **As the DSS data for the 2021 NYCA and Locality peaks has not changed, the Locality NCP to CP ratios are equivalent to those used in the IRM forecast.**

NCP / CP Ratio – Zone J Locality

Zone J Locality Peak Ratio									
Year	Zone J Date	J Hr Beg	NCP MW	NYCA Date	NYCA Hr Beg	CP MW	Delta	Ratio	Outlier
2007	8/8/2007	16	10,919	8/8/2007	16	10,919	0	1.0000	FALSE
2008	7/18/2008	16	10,476	7/18/2008	15	10,414	62	1.0060	FALSE
2009	8/21/2009	15	10,656	8/17/2009	15	10,387	269	1.0259	FALSE
2010	7/6/2010	16	11,213	7/6/2010	16	11,213	0	1.0000	FALSE
2011	7/22/2011	11	11,399	7/22/2011	15	11,319	80	1.0071	FALSE
2012	7/18/2012	12	11,138	7/17/2012	16	10,721	417	1.0389	FALSE
2013	7/19/2013	16	11,411	7/19/2013	16	11,411	0	1.0000	FALSE
2014	7/8/2014	16	10,094	7/1/2014	16	9,565	529	1.0553	TRUE
2015	7/20/2015	16	10,598	7/29/2015	16	10,386	212	1.0204	FALSE
2016	8/11/2016	16	10,966	8/11/2016	16	10,966	0	1.0000	FALSE
2017	7/20/2017	16	10,642	7/19/2017	17	10,224	418	1.0409	FALSE
2018	8/29/2018	16	10,878	8/29/2018	15	10,802	76	1.0070	FALSE
2019	7/17/2019	17	10,756	7/29/2019	16	10,199	557	1.0546	TRUE
2020	7/28/2020	14	10,106	7/27/2020	17	9,786	320	1.0327	FALSE
2021	8/27/2021	14	10,046	8/26/2021	16	10,021	25	1.0025	FALSE
Average			10,753			10,556	198	1.0187	
Std Dev								0.0198	
Average (Excluding Outliers)			10,804			10,659		1.0136	

NCP / CP Ratio – Zone K Locality

Zone K Locality Peak Ratio									
Year	Zone K Date	K Hr Beg	NCP MW	NYCA Date	NYCA Hr Beg	CP MW	Delta	Ratio	Outlier
2007	8/8/2007	17	5,384	8/8/2007	16	5,363	21	1.0039	FALSE
2008	7/18/2008	16	5,201	7/18/2008	15	5,181	20	1.0039	FALSE
2009	8/21/2009	15	5,191	8/17/2009	15	5,060	131	1.0259	FALSE
2010	7/6/2010	16	5,822	7/6/2010	16	5,822	0	1.0000	FALSE
2011	7/22/2011	15	5,914	7/22/2011	15	5,914	0	1.0000	FALSE
2012	7/18/2012	13	5,456	7/17/2012	16	5,111	345	1.0675	TRUE
2013	7/18/2013	16	5,764	7/19/2013	16	5,673	91	1.0160	FALSE
2014	7/3/2014	16	4,868	7/1/2014	16	4,579	289	1.0632	TRUE
2015	7/20/2015	16	5,247	7/29/2015	16	5,136	111	1.0216	FALSE
2016	8/12/2016	16	5,411	8/11/2016	16	5,190	221	1.0426	FALSE
2017	7/20/2017	16	5,137	7/19/2017	17	4,989	148	1.0297	FALSE
2018	8/29/2018	16	5,411	8/29/2018	15	5,359	52	1.0097	FALSE
2019	7/17/2019	16	5,057	7/29/2019	16	4,947	110	1.0222	FALSE
2020	7/20/2020	17	5,433	7/27/2020	17	5,344	89	1.0167	FALSE
2021	8/13/2021	17	5,138	8/26/2021	16	5,018	119	1.0237	FALSE
Average			5,362			5,246	117	1.0222	
Std Dev								0.0201	
Average (Excluding Outliers)			5,393			5,307		1.0161	

NCP / CP Ratio – G-to-J Locality

G-to-J Peak Ratio									
Year	G-to-J Date	G-to-J Hr Beg	NCP MW	NYCA Date	NYCA Hr Beg	CP MW	Delta	Ratio	Outlier
2007	8/8/2007	16	15,253	8/8/2007	16	15,253	0	1.0000	FALSE
2008	7/18/2008	16	14,603	7/18/2008	15	14,538	65	1.0045	FALSE
2009	8/21/2009	14	14,585	8/17/2009	15	14,388	197	1.0137	FALSE
2010	7/6/2010	16	15,809	7/6/2010	16	15,809	0	1.0000	FALSE
2011	7/22/2011	15	15,972	7/22/2011	15	15,972	0	1.0000	FALSE
2012	7/18/2012	13	15,420	7/17/2012	16	14,993	427	1.0285	FALSE
2013	7/19/2013	16	15,981	7/19/2013	16	15,981	0	1.0000	FALSE
2014	7/8/2014	16	13,959	7/1/2014	16	13,374	585	1.0437	TRUE
2015	7/20/2015	16	14,708	7/29/2015	16	14,440	268	1.0186	FALSE
2016	8/11/2016	16	15,067	8/11/2016	16	15,067	0	1.0000	FALSE
2017	7/20/2017	16	14,678	7/19/2017	17	14,163	515	1.0364	FALSE
2018	8/29/2018	16	15,033	8/29/2018	15	14,943	90	1.0060	FALSE
2019	7/17/2019	15	14,602	7/29/2019	16	14,157	445	1.0314	FALSE
2020	7/28/2020	14	14,077	7/27/2020	17	13,911	166	1.0119	FALSE
2021	8/12/2021	16	14,078	8/26/2021	16	14,034	44	1.0032	FALSE
Average			14,922			14,735	187	1.0127	
Std Dev								0.0145	
Average (Excluding Outliers)			14,990			14,832		1.0107	

2021 Economic Data

Summary of Economic Data (1 of 2)

Variable & TD	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Con-Ed_Employment	4,358	4,451	4,598	4,734	4,823	4,918	4,999	5,159	4,438	4,660	4,968	5,071
Con-Ed_GDP	761,404	754,985	773,487	786,846	806,889	828,234	855,856	884,263	812,252	899,003	960,026	975,237
Con-Ed_Households	3,550	3,583	3,611	3,636	3,656	3,649	3,644	3,636	3,606	3,634	3,639	3,651
Con-Ed_Income-Real	566,869	566,756	589,330	614,098	634,158	683,043	692,086	709,246	733,810	721,858	707,778	727,385
Con-Ed_Population	9,311	9,364	9,403	9,434	9,443	9,406	9,358	9,297	9,301	9,260	9,274	9,285
Cen-Hud_Employment	190	191	191	193	195	196	198	201	176	185	194	197
Cen-Hud_GDP	22,816	22,947	22,837	23,100	23,200	23,500	24,350	24,689	22,269	24,488	25,808	26,315
Cen-Hud_Households	200	201	202	202	203	205	206	207	205	206	206	206
Cen-Hud_Income-Real	23,049	22,688	23,079	24,077	24,449	25,348	25,548	26,350	27,287	27,413	26,000	26,661
Cen-Hud_Population	527	525	523	521	519	520	520	519	519	515	514	514
LIPA_Employment	1,264	1,285	1,297	1,313	1,333	1,347	1,348	1,367	1,186	1,255	1,333	1,361
LIPA_GDP	171,971	171,602	173,748	177,791	178,496	180,581	183,326	183,602	166,710	187,204	197,663	200,575
LIPA_Households	960	966	970	973	976	978	982	983	975	982	982	985
LIPA_Income-Real	184,071	177,496	182,838	191,024	194,743	202,227	206,945	211,797	218,184	215,358	211,331	215,984
LIPA_Population	2,846	2,850	2,851	2,847	2,842	2,841	2,839	2,833	2,832	2,818	2,815	2,813
N-Grid_Employment	1,806	1,817	1,821	1,830	1,849	1,858	1,866	1,890	1,673	1,770	1,847	1,876
N-Grid_GDP	227,176	224,756	229,519	233,517	236,260	238,205	245,246	249,674	228,823	252,654	264,411	268,214
N-Grid_Households	1,638	1,648	1,655	1,659	1,665	1,671	1,679	1,679	1,665	1,674	1,674	1,678
N-Grid_Income-Real	166,618	165,407	167,477	174,641	174,196	182,402	182,246	186,417	199,394	197,611	186,041	189,725
N-Grid_Population	4,011	4,007	4,001	3,987	3,970	3,966	3,960	3,944	3,946	3,914	3,912	3,910

Data is from Moody's Analytics, August 2021.

Summary of Economic Data (2 of 2)

Variable & TD	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
NYPA_Employment	33	34	34	33	34	35	35	36	31	33	34	35
NYPA_GDP	3,750	3,798	3,778	3,823	3,911	4,015	4,214	4,317	3,861	4,171	4,359	4,417
NYPA_Households	32	32	32	32	33	33	33	33	33	33	33	33
NYPA_Income-Real	3,025	3,019	3,033	3,216	3,149	3,304	3,224	3,302	3,458	3,594	3,298	3,368
NYPA_Population	82	81	82	81	80	81	81	80	80	80	80	80
NYSEG_Employment	418	420	419	416	418	420	424	428	377	392	411	417
NYSEG_GDP	49,673	49,425	49,309	49,500	49,631	49,877	51,765	52,403	47,048	50,929	53,276	54,034
NYSEG_Households	420	421	421	421	422	421	423	422	419	420	420	421
NYSEG_Income-Real	41,624	40,208	40,783	42,053	41,712	43,487	43,563	44,573	47,746	47,595	44,484	45,384
NYSEG_Population	1,055	1,052	1,046	1,039	1,033	1,027	1,024	1,018	1,019	1,009	1,008	1,007
OR_Employment	257	261	267	271	276	282	286	298	256	270	289	296
OR_GDP	32,161	32,377	32,887	33,911	34,475	34,894	36,245	37,767	34,107	37,408	40,104	41,017
OR_Households	228	229	231	232	233	235	236	239	236	239	241	243
OR_Income-Real	32,956	32,495	33,147	34,646	34,618	35,864	36,301	37,585	38,695	39,272	37,754	38,769
OR_Population	691	694	696	699	701	705	708	711	710	711	715	720
RGE_Employment	499	501	504	507	512	513	517	524	461	493	513	521
RGE_GDP	63,051	62,398	63,307	64,543	65,969	65,340	67,395	68,452	62,150	68,194	71,776	73,045
RGE_Households	425	427	429	431	432	433	436	437	433	436	436	437
RGE_Income-Real	45,534	44,164	44,427	46,837	46,519	48,598	48,516	49,619	53,045	52,706	49,732	50,730
RGE_Population	1,055	1,055	1,053	1,049	1,046	1,043	1,043	1,040	1,040	1,032	1,032	1,031
Employment_NYCA	8,825	8,961	9,130	9,299	9,439	9,568	9,674	9,902	8,597	9,057	9,589	9,775
GDP_NYCA	1,332,002	1,322,288	1,348,873	1,373,032	1,398,831	1,424,645	1,468,398	1,505,167	1,377,221	1,524,051	1,617,424	1,642,855
Households_NYCA	7,453	7,508	7,552	7,586	7,620	7,625	7,640	7,636	7,572	7,625	7,632	7,653
Income_NYCA	1,063,746	1,052,234	1,084,113	1,130,590	1,153,544	1,224,272	1,238,428	1,268,889	1,321,618	1,305,407	1,266,418	1,298,007
Population_NYCA	19,577	19,628	19,653	19,656	19,634	19,588	19,531	19,443	19,447	19,338	19,351	19,360

Data is from Moody's Analytics, August 2021.

Next Steps

- **A general summary of the ICAP forecast process will be presented at the 11/16 LFTF.**
- **Updated demand response, Transmission District load, municipal load and self generation, weather adjustments, and station power values will be updated as received for the 11/16 LFTF presentation.**
- **Results from the NYISO Criteria evaluation of Transmission District Regional Load Growth Factors (RLGFs) will be reviewed at the 11/30 LFTF. Transmission Owners are to provide finalized RLGFs by November 15.**
- **2022 NYCA, Locality, and Zonal forecasts will be reviewed during the 11/30 and 12/13 LFTF meetings.**

Questions?

Our mission, in collaboration with our stakeholders, is to serve the public interest and provide benefit to consumers by:

- Maintaining and enhancing regional reliability
- Operating open, fair and competitive wholesale electricity markets
- Planning the power system for the future
- Providing factual information to policymakers, stakeholders and investors in the power system

