

Long Term Forecast Update

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Demand Forecasting & Analysis

ESPWG

November 19, 2020, Teleconference

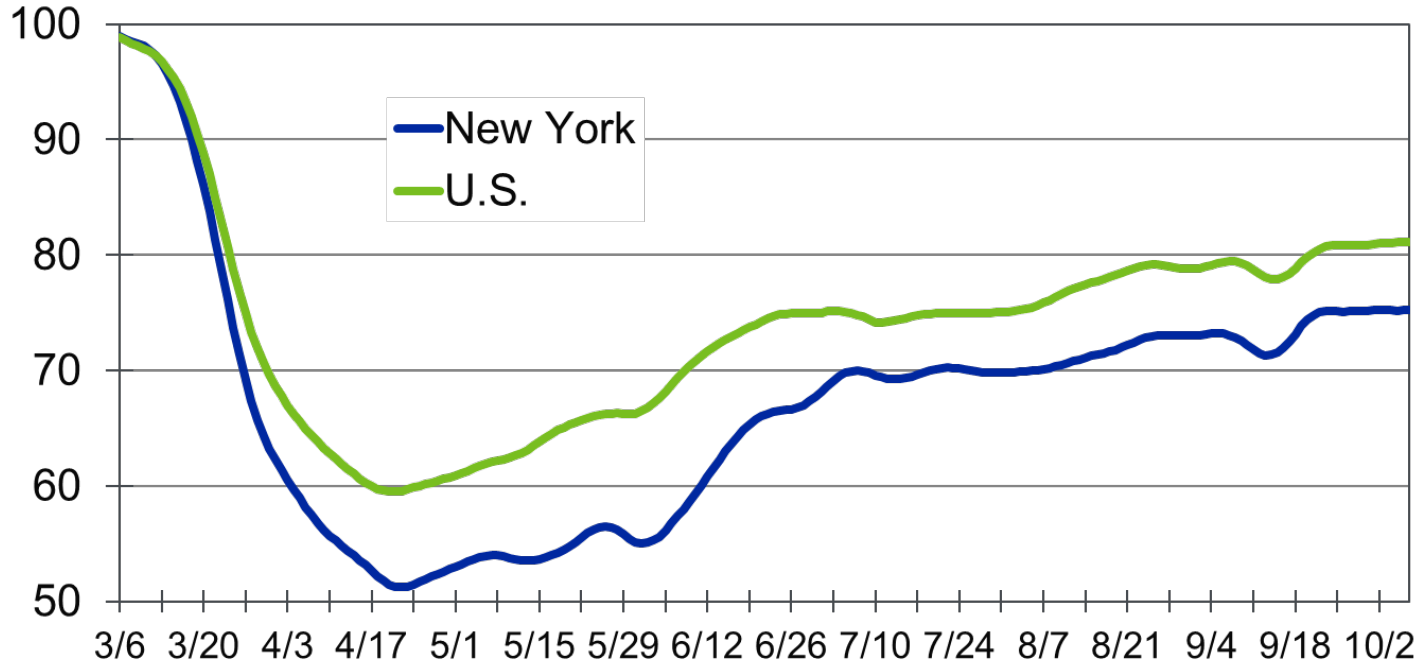
Agenda

- **Economic Conditions & Outlook**
- **10-Year Peak Forecast Update**
- **10-Year Energy Forecast Update**

Economic Conditions & Updated Outlook

Recent Conditions – “Back-to-Normal” Index (Moody’s)

2/29/20=100, 7-day MA

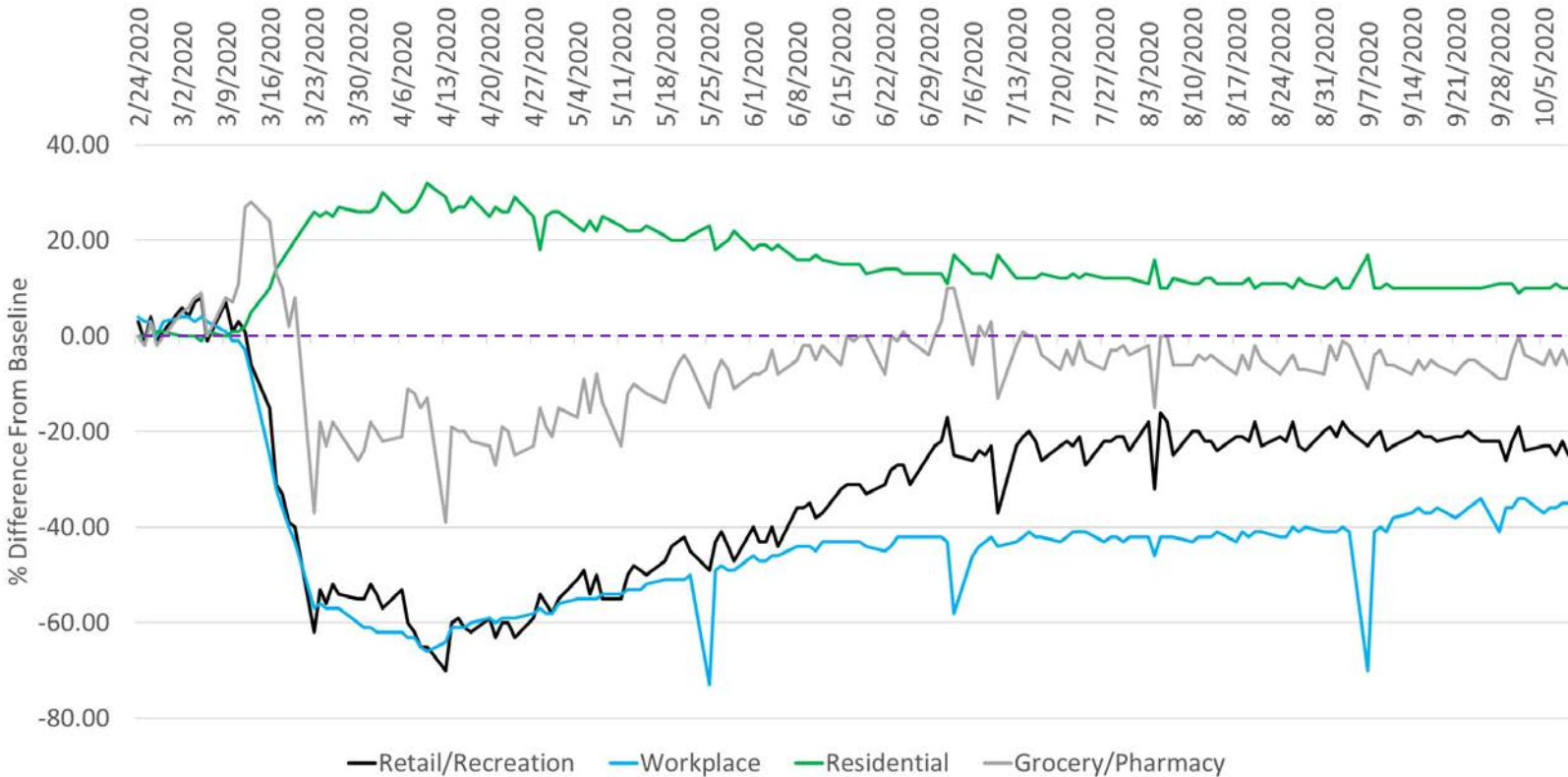


Sources: CNN Business, Moody's Analytics

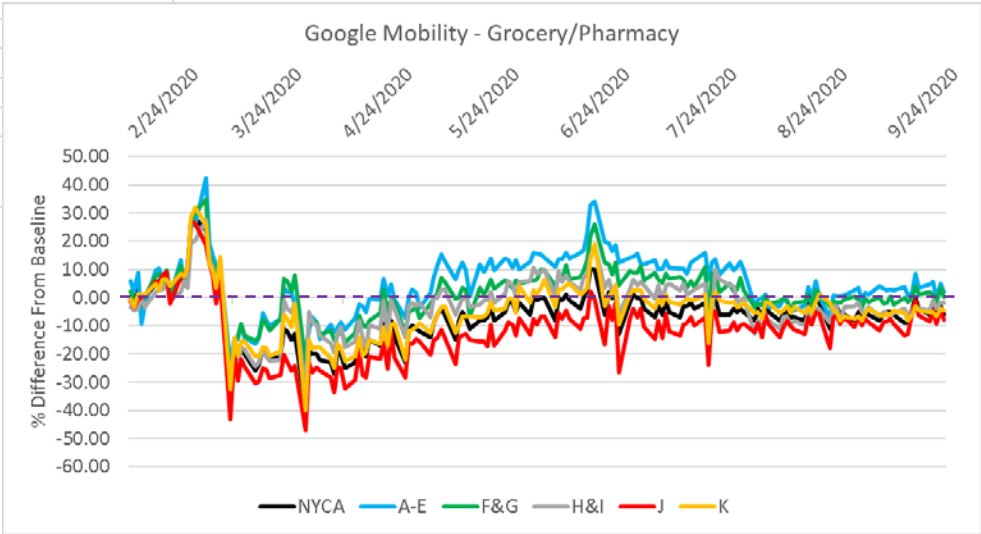
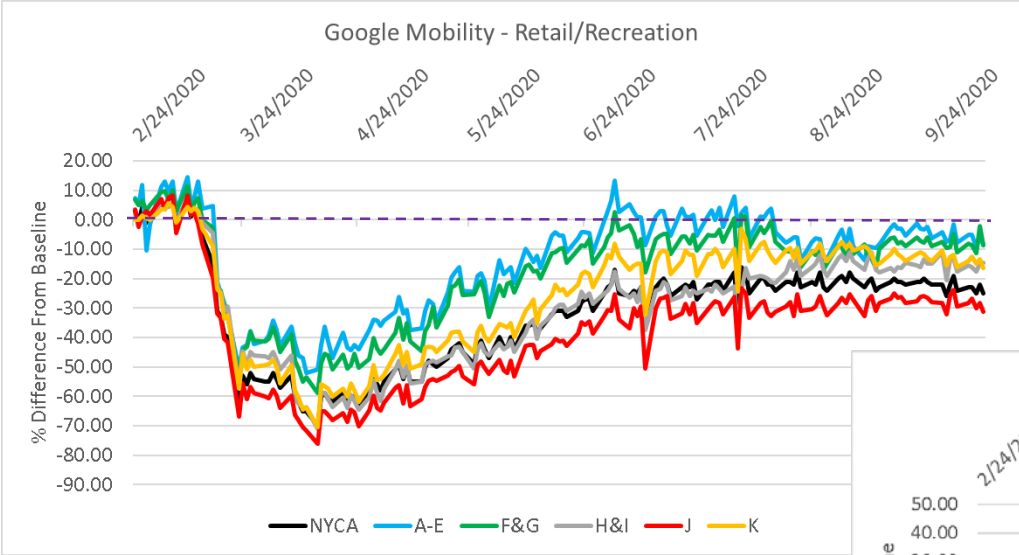


Recent Conditions – Google Mobility Insights

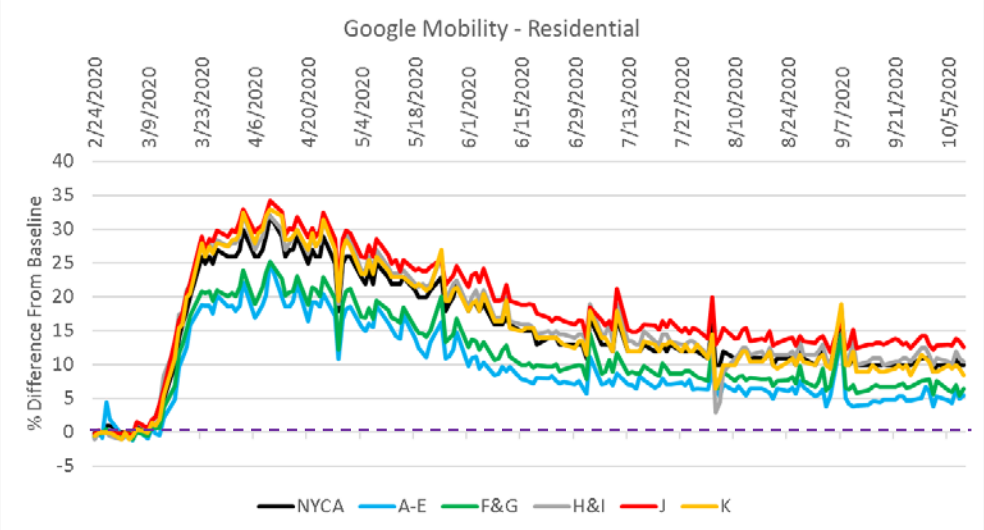
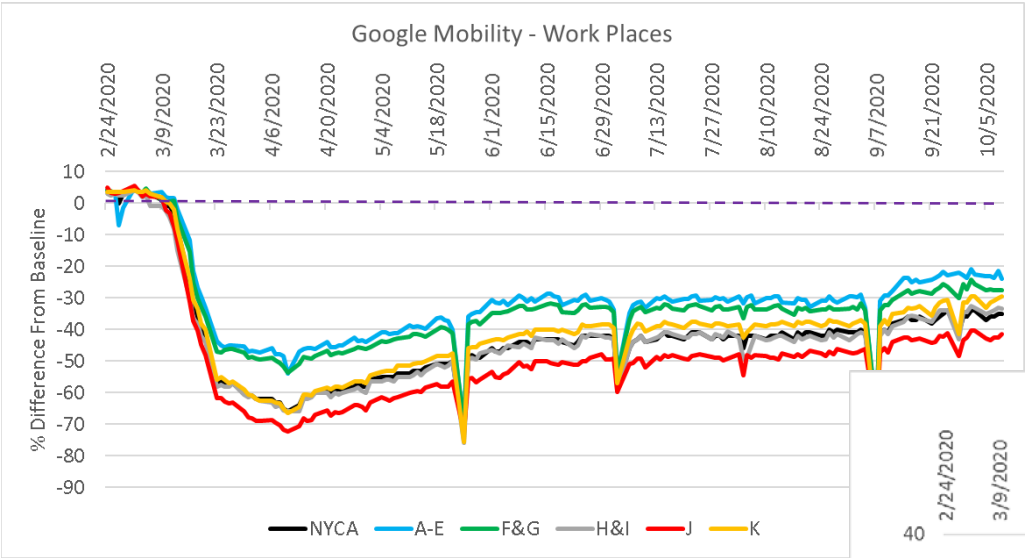
Google Mobility Data - NY State



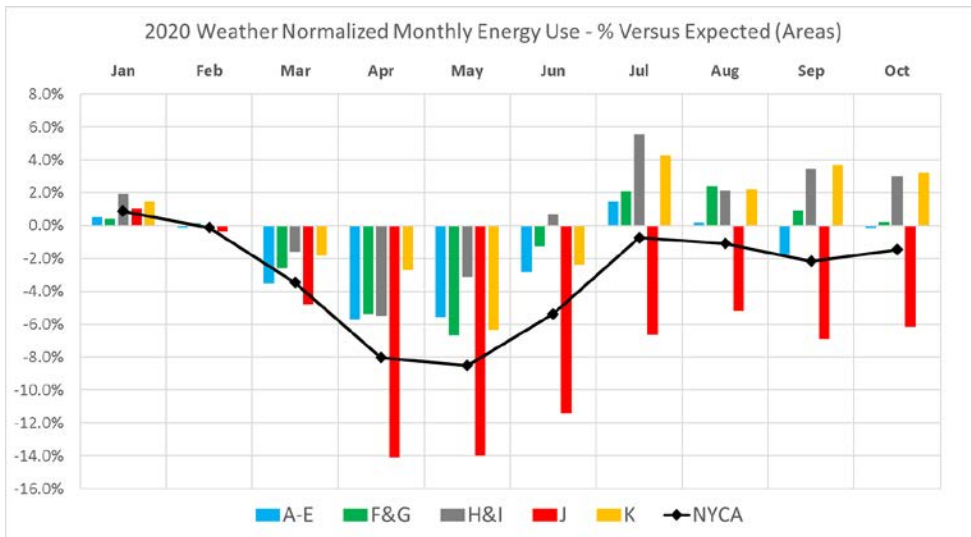
Recent Conditions – Google Mobility Insights



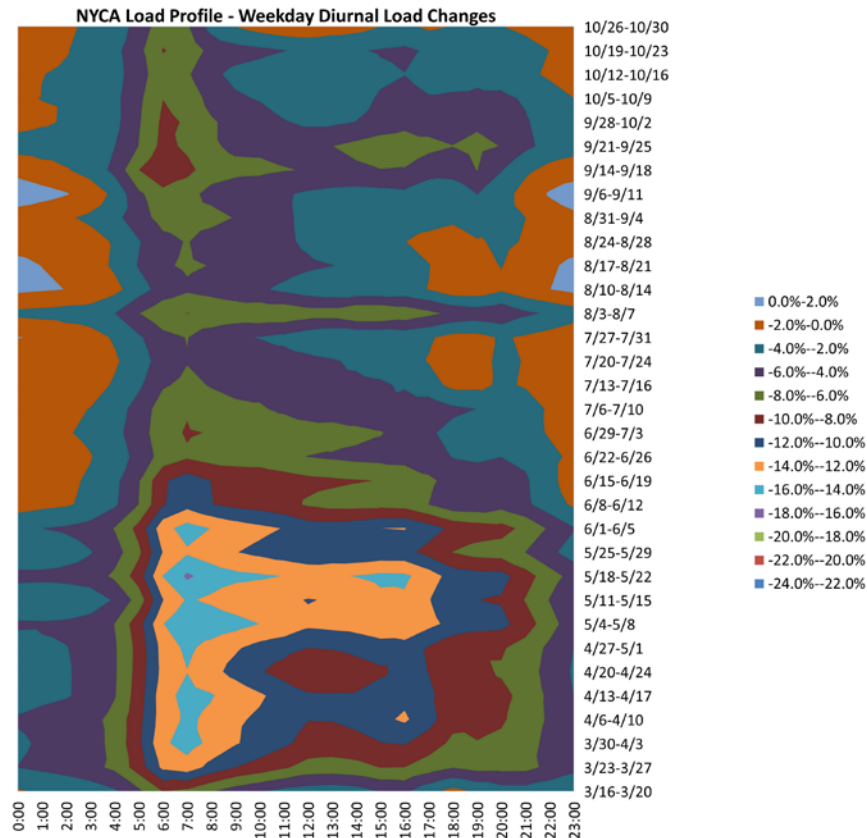
Recent Conditions – Google Mobility Insights



Recent Conditions – COVID Impacts on Load



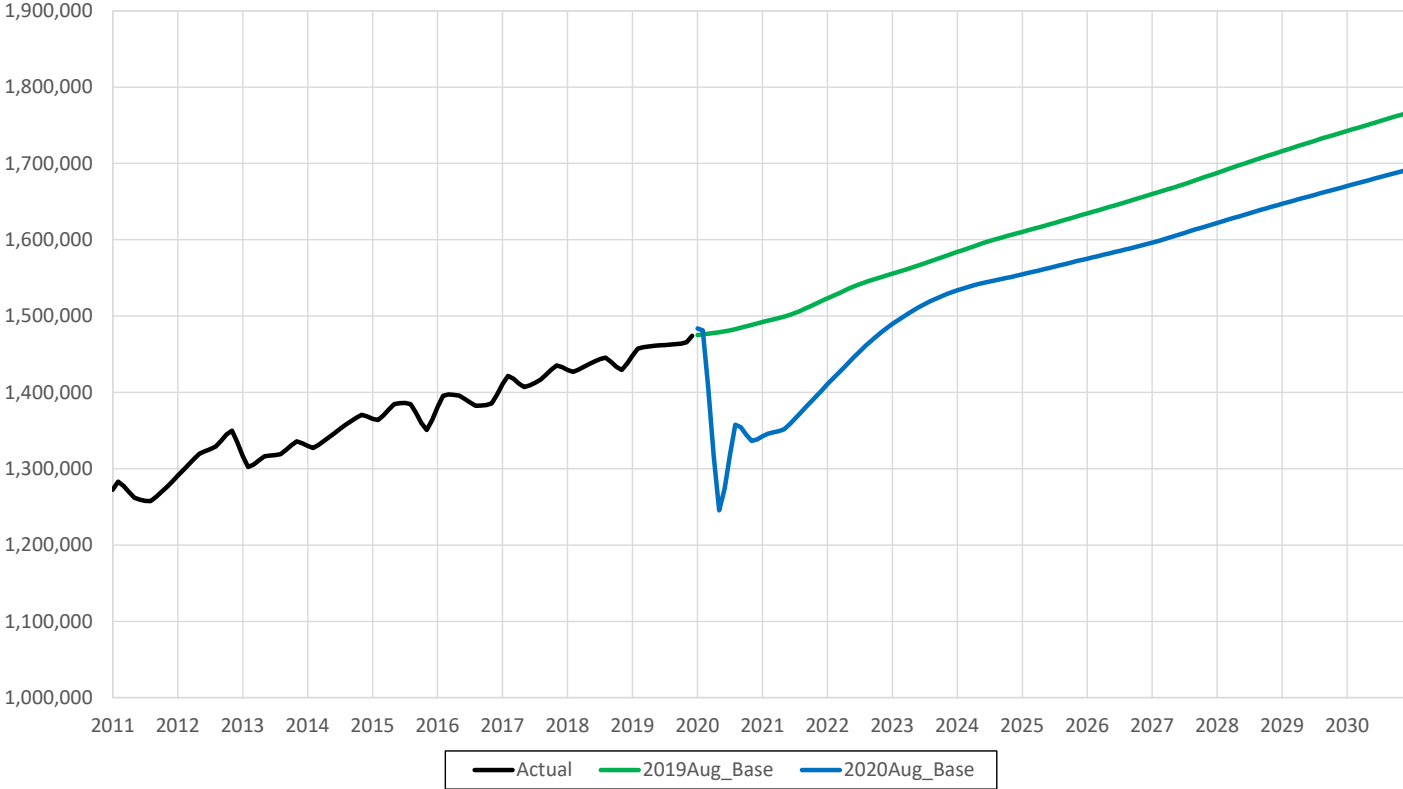
- Through the end of October, NYCA-wide overall energy use averaged approximately 1-2% below expected levels
- Peak energy use for the NYCA averaged between 2-4% below expected values
- Overall energy use in New York City (Zone J) continues to average between 5-7% below typical demand levels



Updated Economic Outlook

- The long term energy and peak forecasts have been updated with guidance from the August 2020 Moody's economic data delivery. These are independent forecast updates, and are not revisions to the 2020 Gold Book forecast.
- The August economic outlook is similar to the Moody's economic outlook presented during the Fall Economic Conference.
- The underlying models use regionally specific economic forecasts.
- The regional forecasts largely follow the trends of the statewide forecasts, with minor differences. Generally, most acute economic impact is observed in the New York City area.

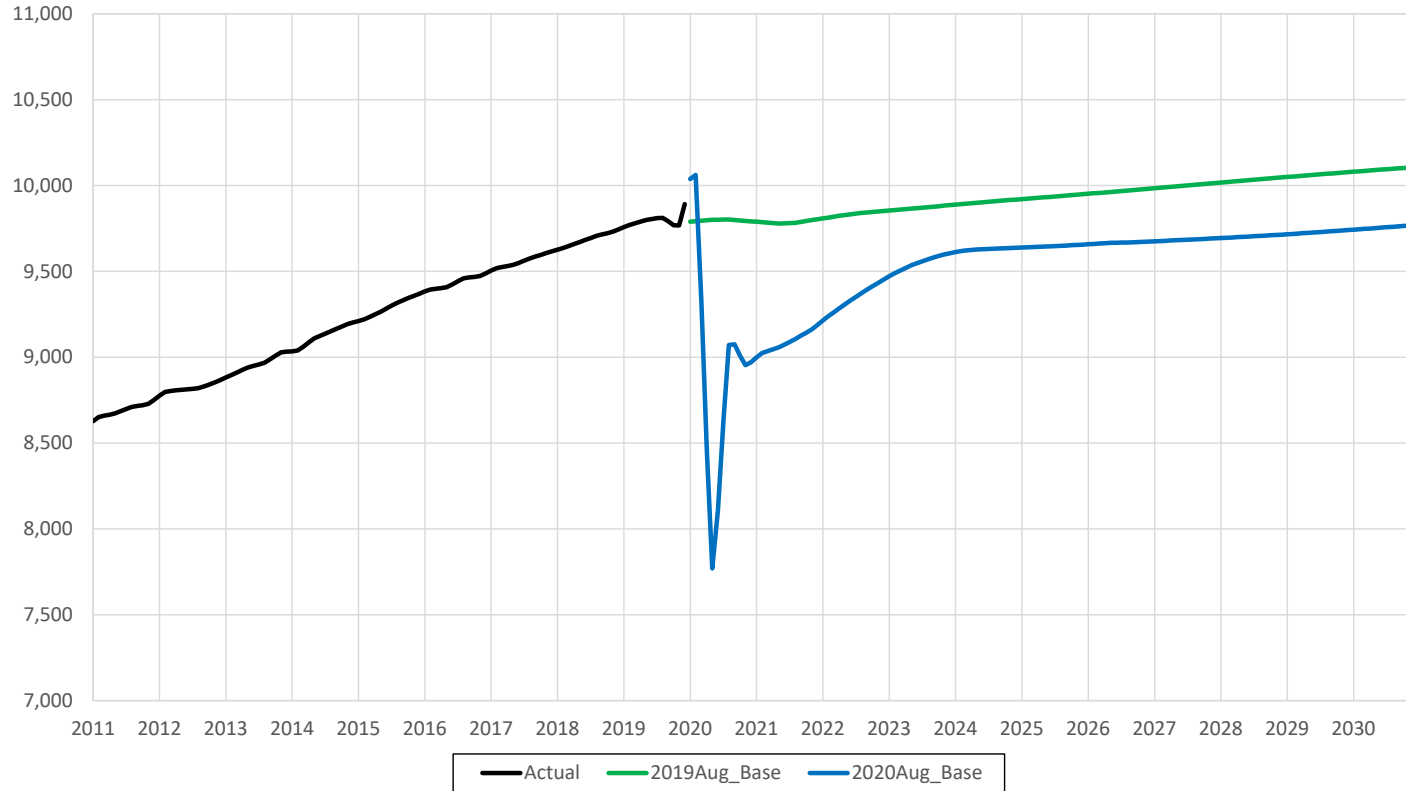
Statewide Total GDP - Actual & Forecast (2012 \$M)



Note: The GDP forecast level remains lower than pre-pandemic forecast levels, even following the economic recovery.

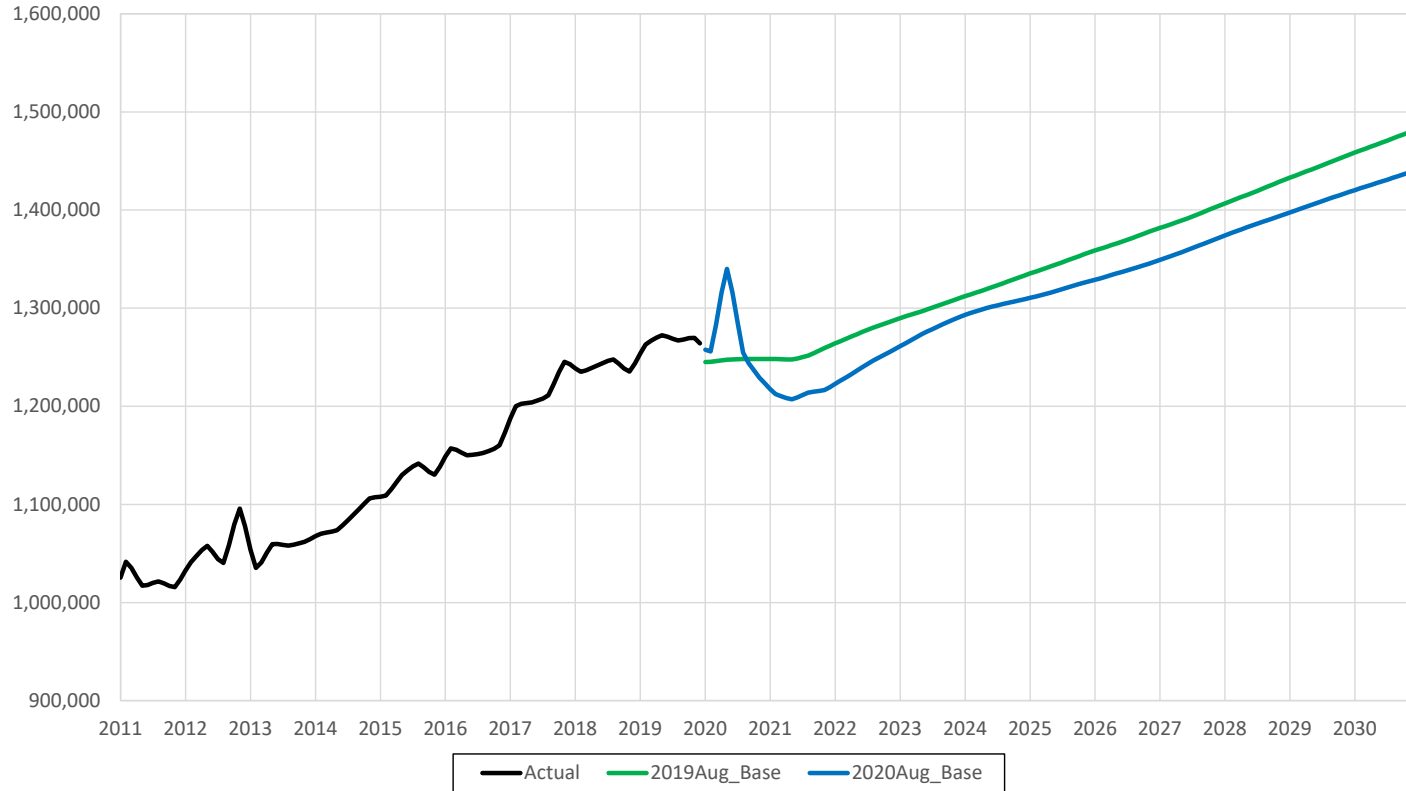


Statewide Employment - Actual & Forecast (Thousands)



Note: Forecasted employment remains lower than pre-pandemic forecast levels, even following the economic recovery.

Statewide Real Income - Actual & Forecast (2012 \$M)



Note: Following a short term increase in personal income due to the stimulus, real income levels remain lower than their pre-pandemic forecast levels in the long run.

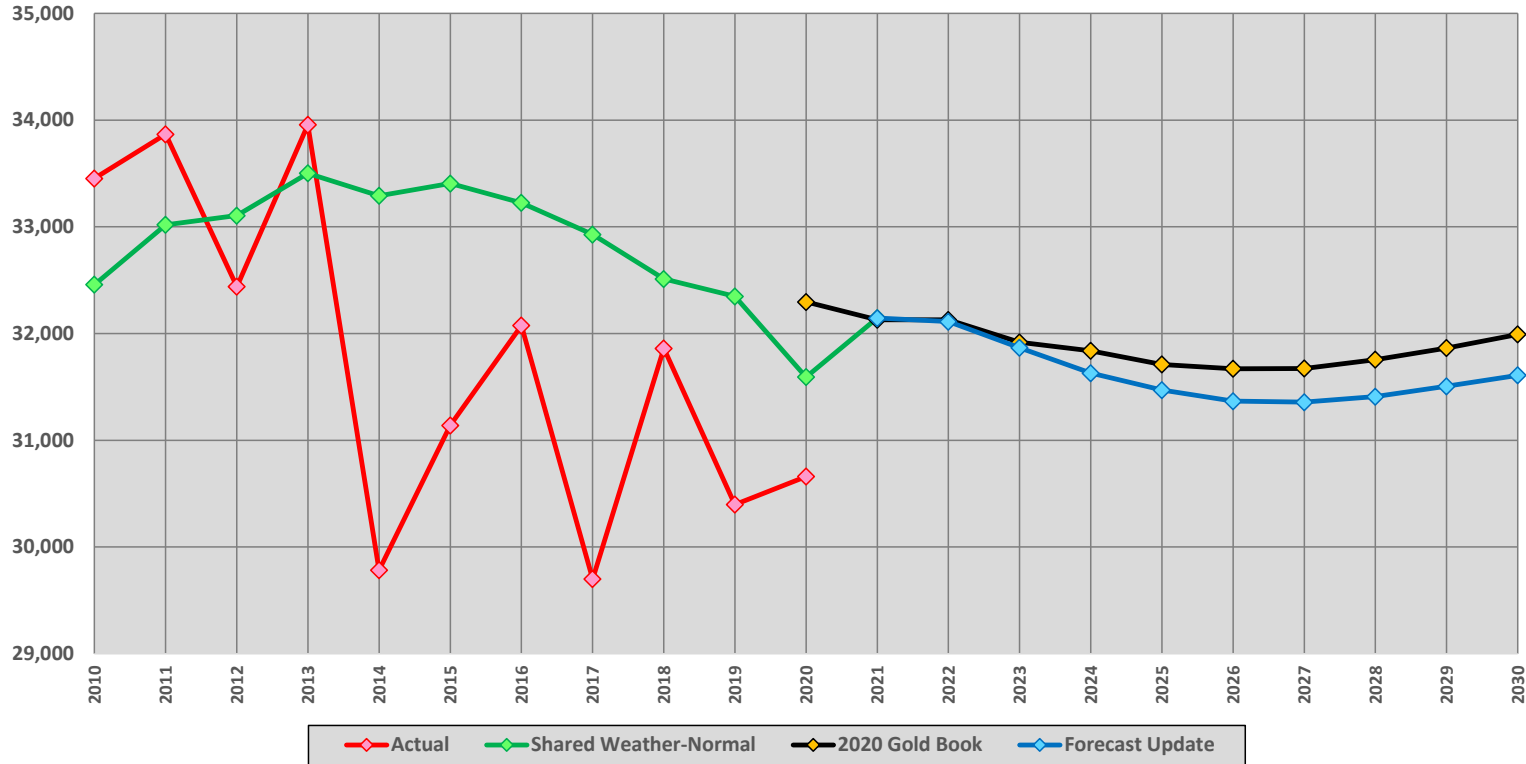
10-Year Peak Forecast Update

10-Year Summer Peak Forecast Update

- The Summer 2021 NYCA, Transmission District, Zonal and Locality peaks have been finalized for the 2021 IRM study. The summer peak forecast update uses the 2021 IRM study zonal coincident peak forecasts as the starting point.
- The 2022 through 2030 zonal coincident peak forecasts were updated using our Statistically Adjusted End-use (SAE) models. The models utilized updated load, weather, and economic data.
- Certain Transmission Owners have provided long term peak forecast updates, which were discussed and compared with the NYISO forecast, and utilized to the appropriate extent.
- Due to Covid-19 and its economic impacts, observed New York City load levels in 2020 were much lower than expected. Forecast load levels for 2021 through 2030 have been lowered.
- 2020 load levels in other regions of New York were generally higher than forecast. The resulting 2021 IRM forecast in these areas has also increased. There are relatively minor changes to the long term peak forecast in these areas.
- This is an independent forecast update, and is not a revision to the 2020 Gold Book forecast.

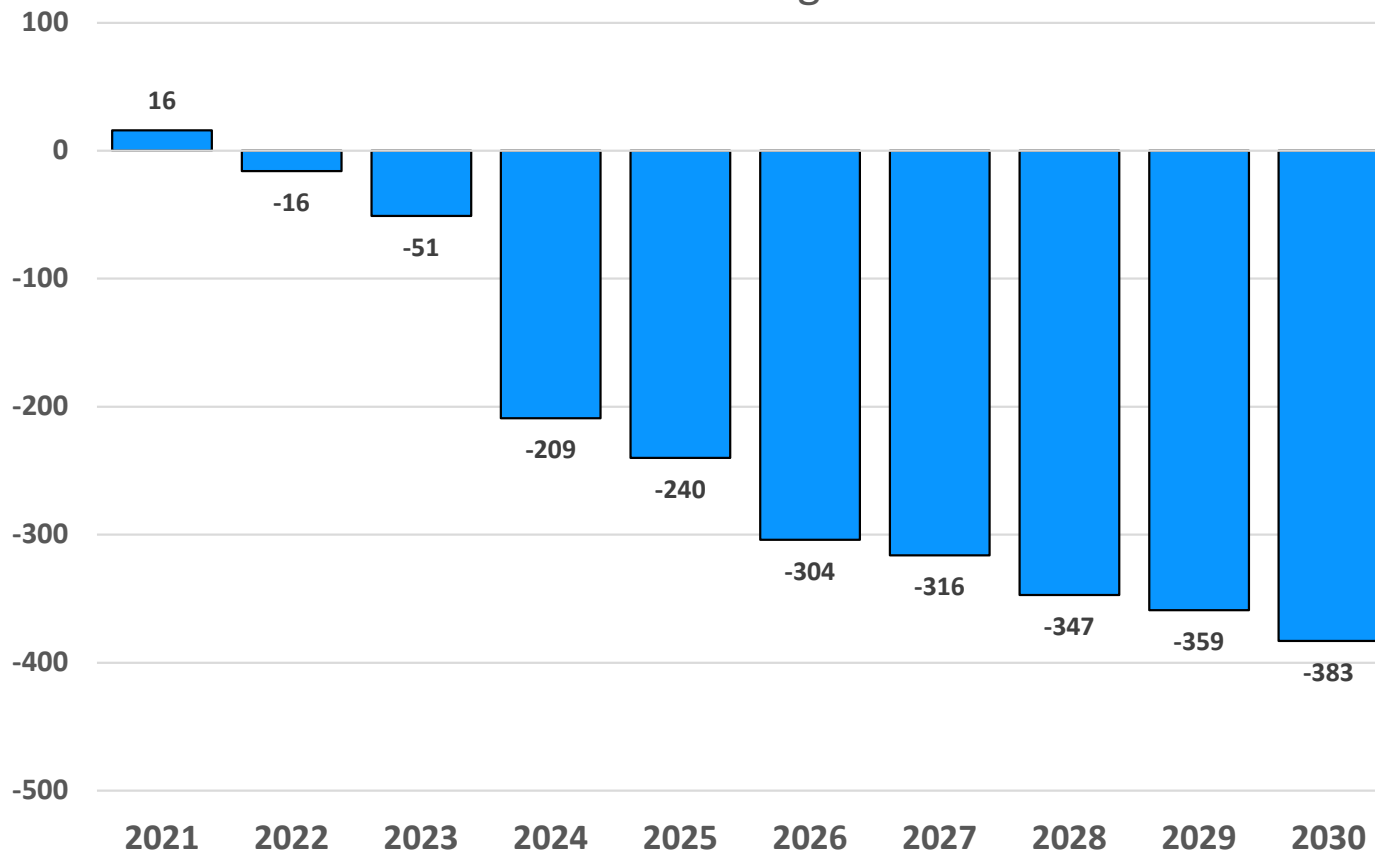
NYCA Baseline - Summer Peak (MW)

Actual, Normal and Forecast - With Demand-Side Impacts



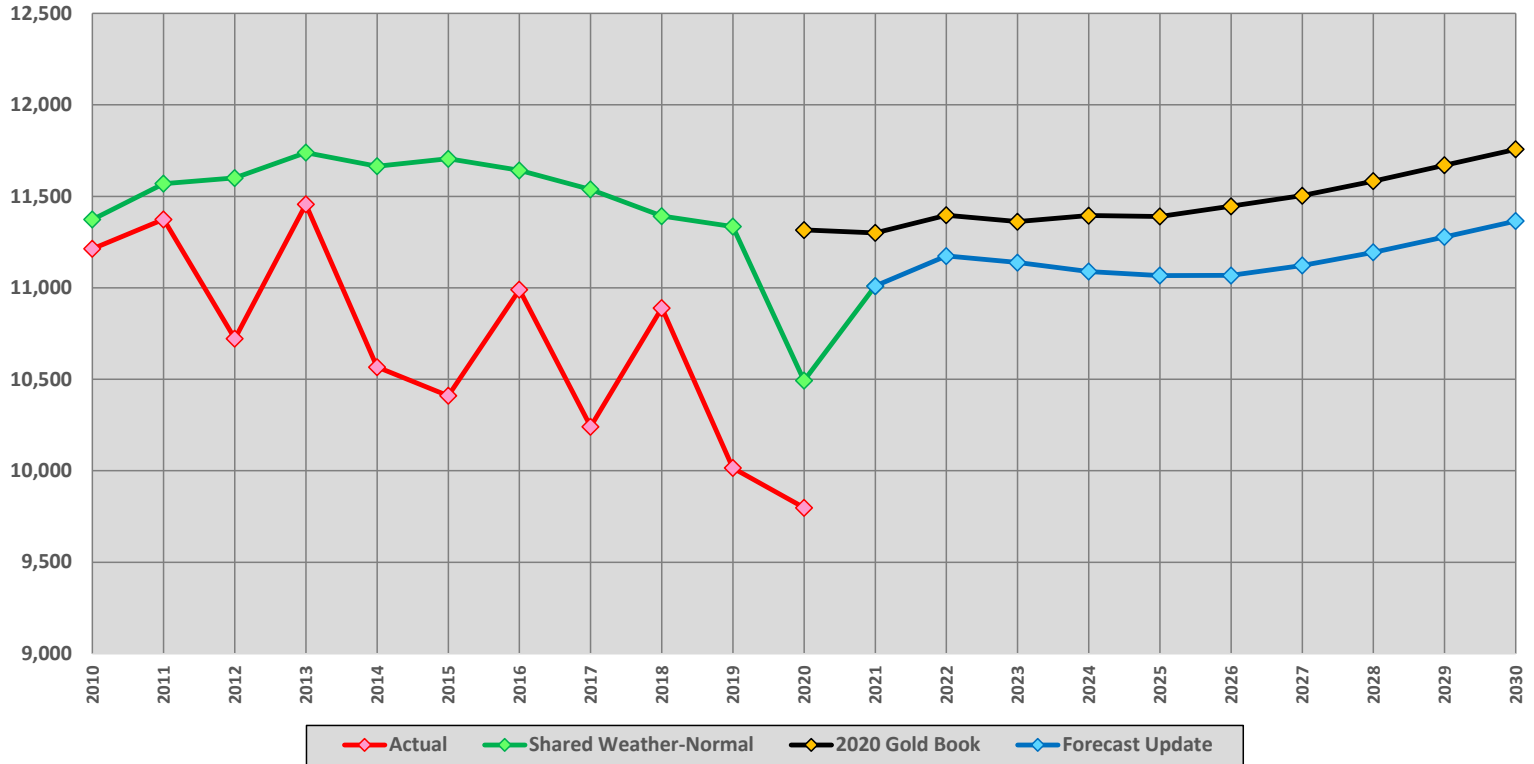
Note: Forecast and weather-normalized values include demand response addbacks, actual values do not. The NYCA design condition is the 57th percentile.

NYCA Summer Peak MW Change from 2020 Gold Book



Zone J Baseline - Summer Peak (MW)

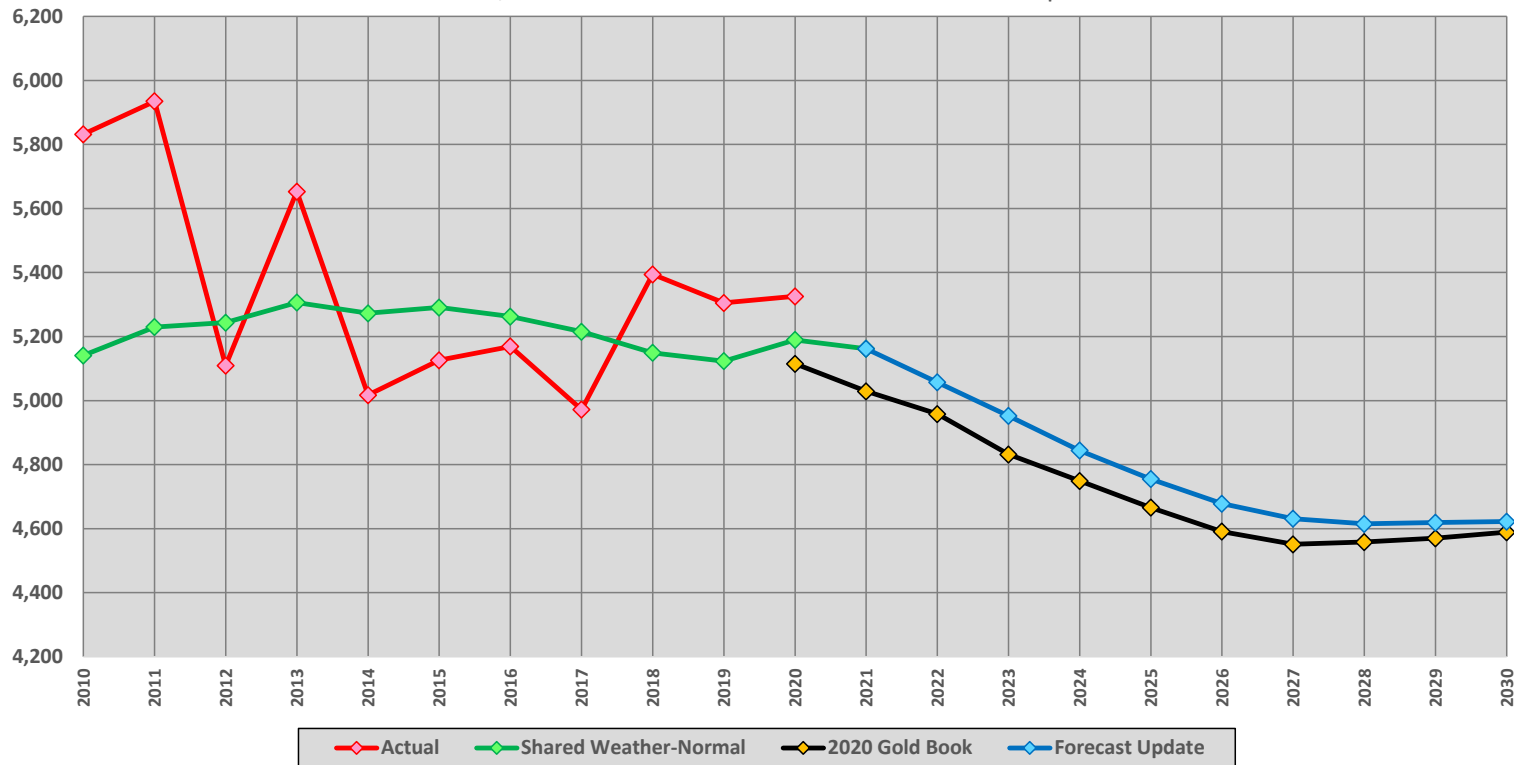
Actual, Normal and Forecast - With Demand-Side Impacts



Note: Forecast and weather-normalized values include demand response addbacks, actual values do not. The Con Ed design condition is the 67th percentile.

Zone K Baseline - Summer Peak (MW)

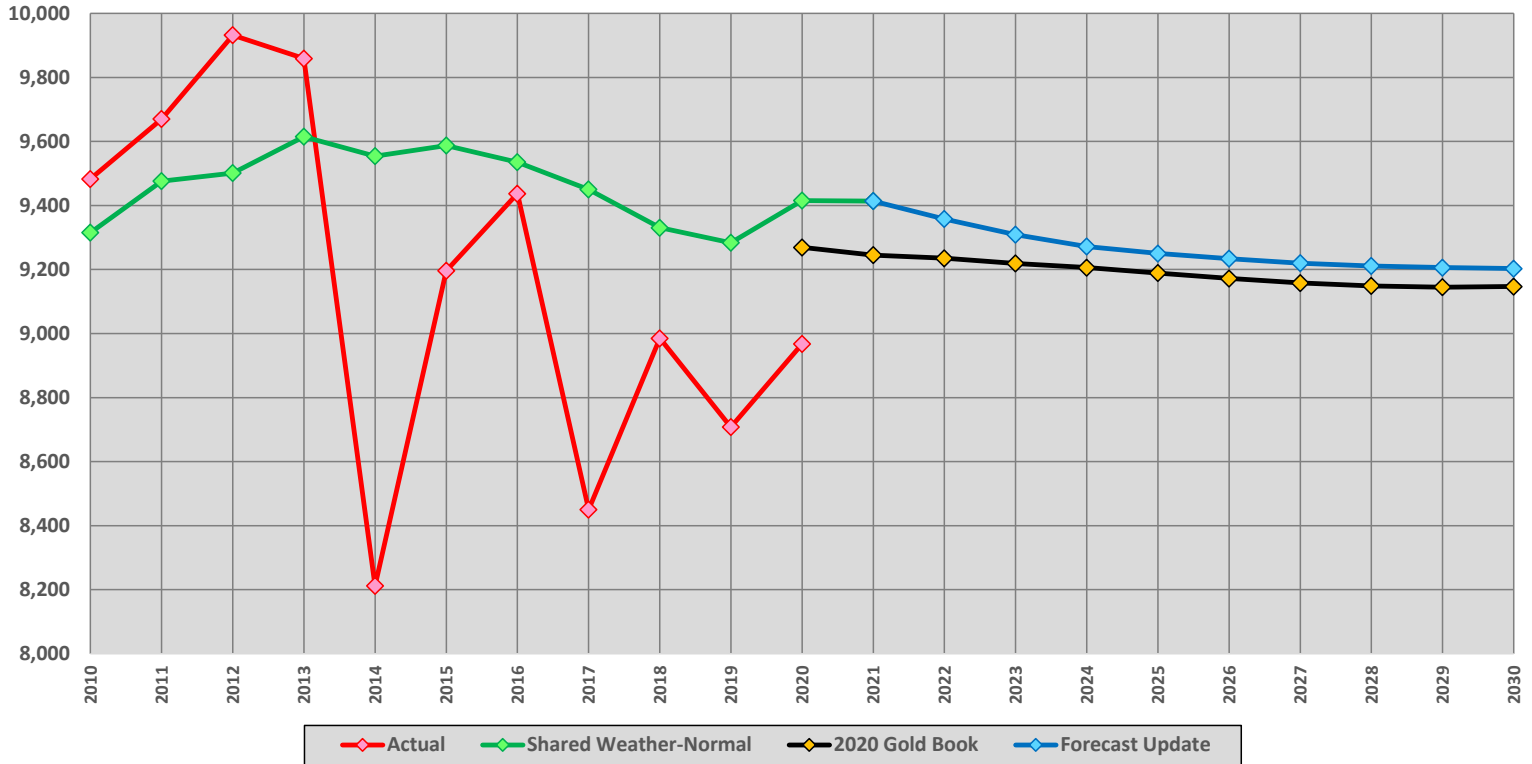
Actual, Normal and Forecast - With Demand-Side Impacts



Note: Forecast and weather-normalized values include demand response addbacks, actual values do not.

Zones A to E Baseline - Summer Peak

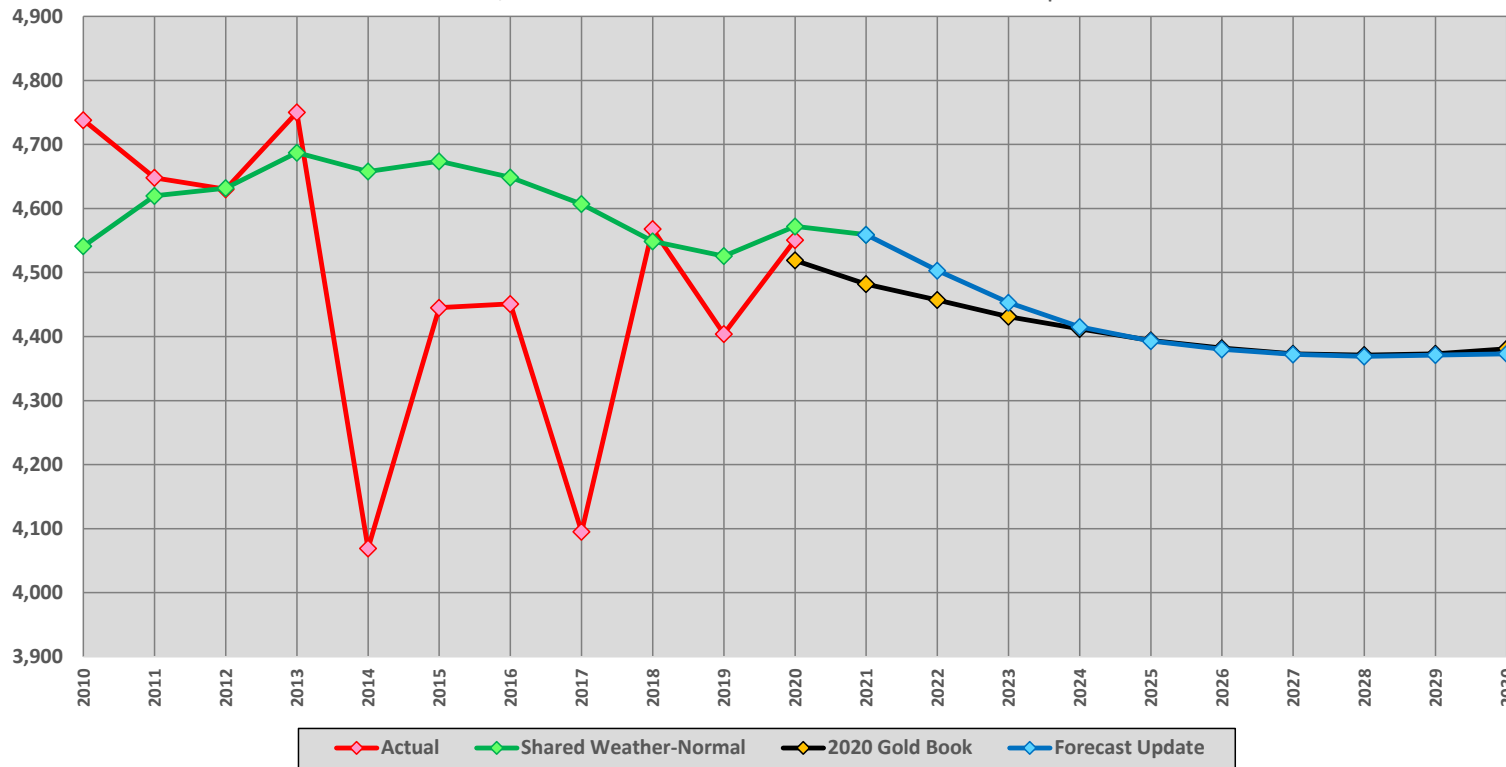
Actual, Normal and Forecast - With Demand-Side Impacts



Note: Forecast and weather-normalized values include demand response addbacks, actual values do not.

Zones F & G Baseline - Summer Peak

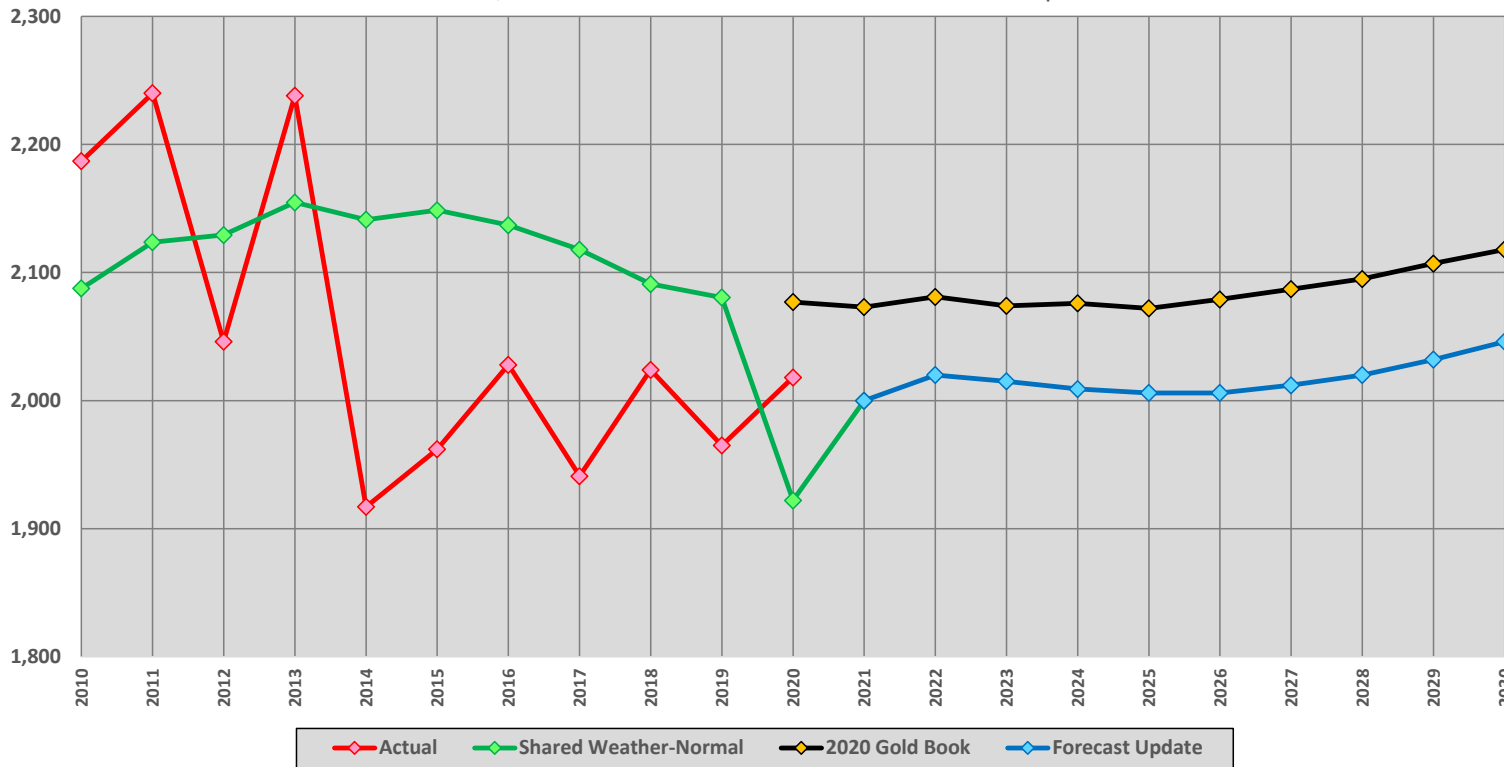
Actual, Normal and Forecast - With Demand-Side Impacts



Note: Forecast and weather-normalized values include demand response addbacks, actual values do not.

Zones H & I Baseline - Summer Peak

Actual, Normal and Forecast - With Demand-Side Impacts



Note: Forecast and weather-normalized values include demand response addbacks, actual values do not.

Coincident Peak Forecast Update

Baseline Coincident Summer Peak Demand by Zone - MW

Forecast Update

Year	A	B	C	D	E	F	G	H	I	J	K	NYCA
2021	2,627	1,955	2,818	618	1,396	2,366	2,193	631	1,369	11,010	5,162	32,145
2022	2,603	1,933	2,804	643	1,375	2,342	2,161	632	1,388	11,174	5,057	32,112
2023	2,582	1,912	2,793	665	1,357	2,322	2,131	632	1,383	11,138	4,952	31,867
2024	2,565	1,899	2,785	682	1,341	2,307	2,108	633	1,376	11,089	4,844	31,629
2025	2,553	1,892	2,782	694	1,329	2,298	2,095	633	1,373	11,067	4,755	31,471
2026	2,543	1,891	2,779	700	1,321	2,293	2,087	633	1,373	11,068	4,678	31,366
2027	2,537	1,889	2,777	702	1,315	2,291	2,081	633	1,379	11,122	4,631	31,357
2028	2,535	1,887	2,775	701	1,313	2,292	2,077	633	1,387	11,194	4,615	31,409
2029	2,536	1,884	2,774	699	1,313	2,295	2,076	633	1,399	11,278	4,619	31,506
2030	2,537	1,882	2,773	698	1,313	2,297	2,076	633	1,413	11,365	4,622	31,609

Locality Peak Forecast Updates

G-to-J Locality Summer Peak Demand by Zone - MW
Forecast Update

Year	G	H	I	J	G-J
2021	2,217	638	1,383	11,126	15,364
2022	2,184	639	1,403	11,292	15,518
2023	2,154	639	1,398	11,256	15,447
2024	2,130	640	1,391	11,207	15,368
2025	2,117	640	1,388	11,184	15,329
2026	2,109	640	1,388	11,185	15,322
2027	2,103	640	1,394	11,240	15,377
2028	2,099	640	1,402	11,313	15,454
2029	2,098	640	1,414	11,398	15,550
2030	2,098	640	1,428	11,486	15,652

Locality Summer Peaks - MW
Forecast Update

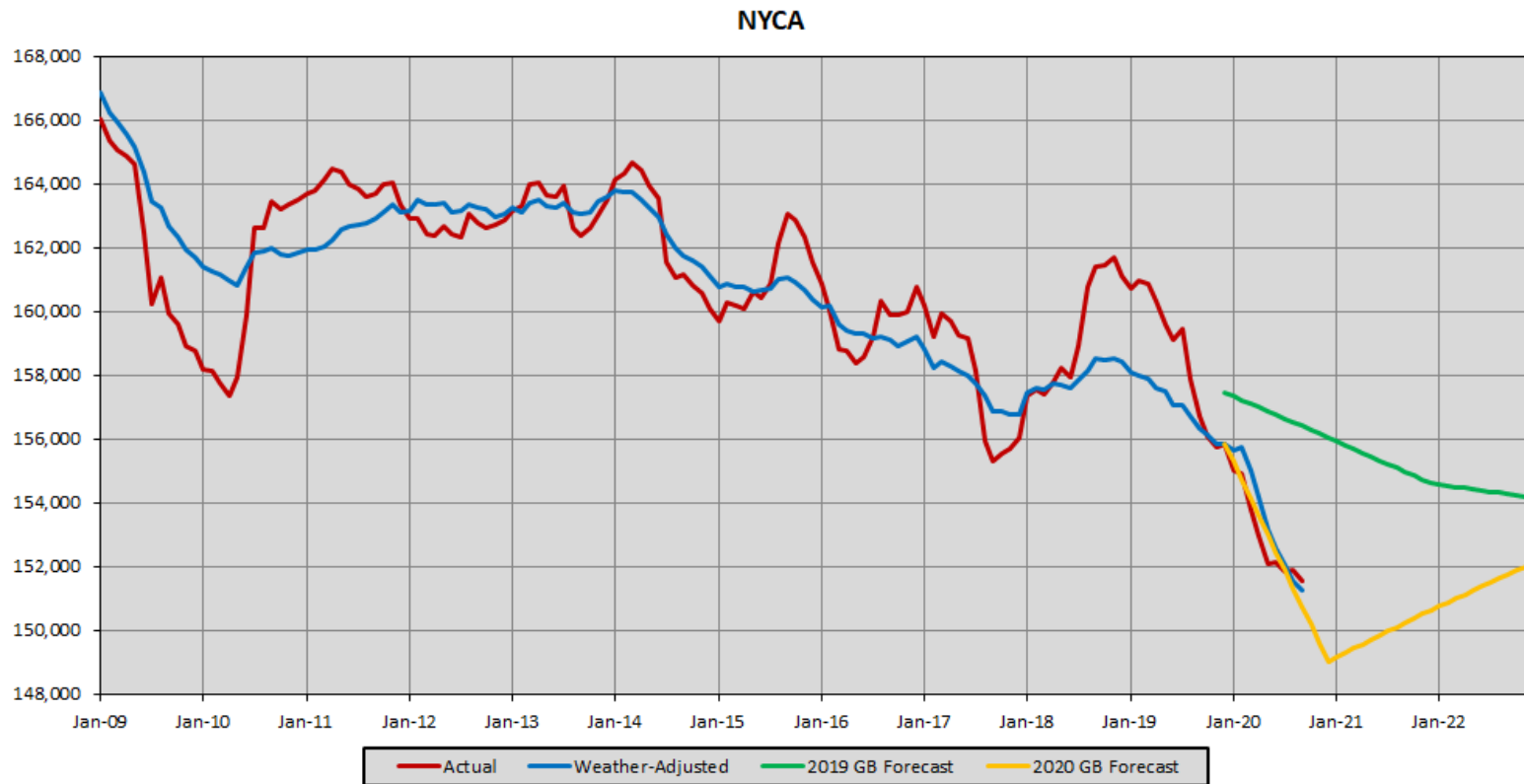
Year	J Locality	K Locality
2021	11,211	5,240
2022	11,378	5,134
2023	11,342	5,027
2024	11,292	4,918
2025	11,270	4,827
2026	11,271	4,749
2027	11,326	4,701
2028	11,399	4,685
2029	11,484	4,689
2030	11,573	4,692

10-Year Energy Forecast Update

10-Year Energy Forecast Update

- The 2020 annual energy forecast includes actual loads through October and projected loads through the end of the year. 2020 total energy use is currently projected to finish at 149,500 GWh, relatively close to the Gold Book forecast (approximately 149,000 GWh). For reference, the pre-Covid baseline forecast was approximately 154,300 GWh.
- The 2021 through 2030 zonal energy forecasts were updated using our Statistically Adjusted End-use (SAE) models. The models utilized updated load, weather, and economic data.
- Additional forecast updates were made to a few zones to better calibrate to historical energy usage trends.
- Similar to the peak forecast update, the forecasted long-term negative energy impact is concentrated in Zone J.
- This is an independent forecast update, and is not a revision to the 2020 Gold Book forecast.

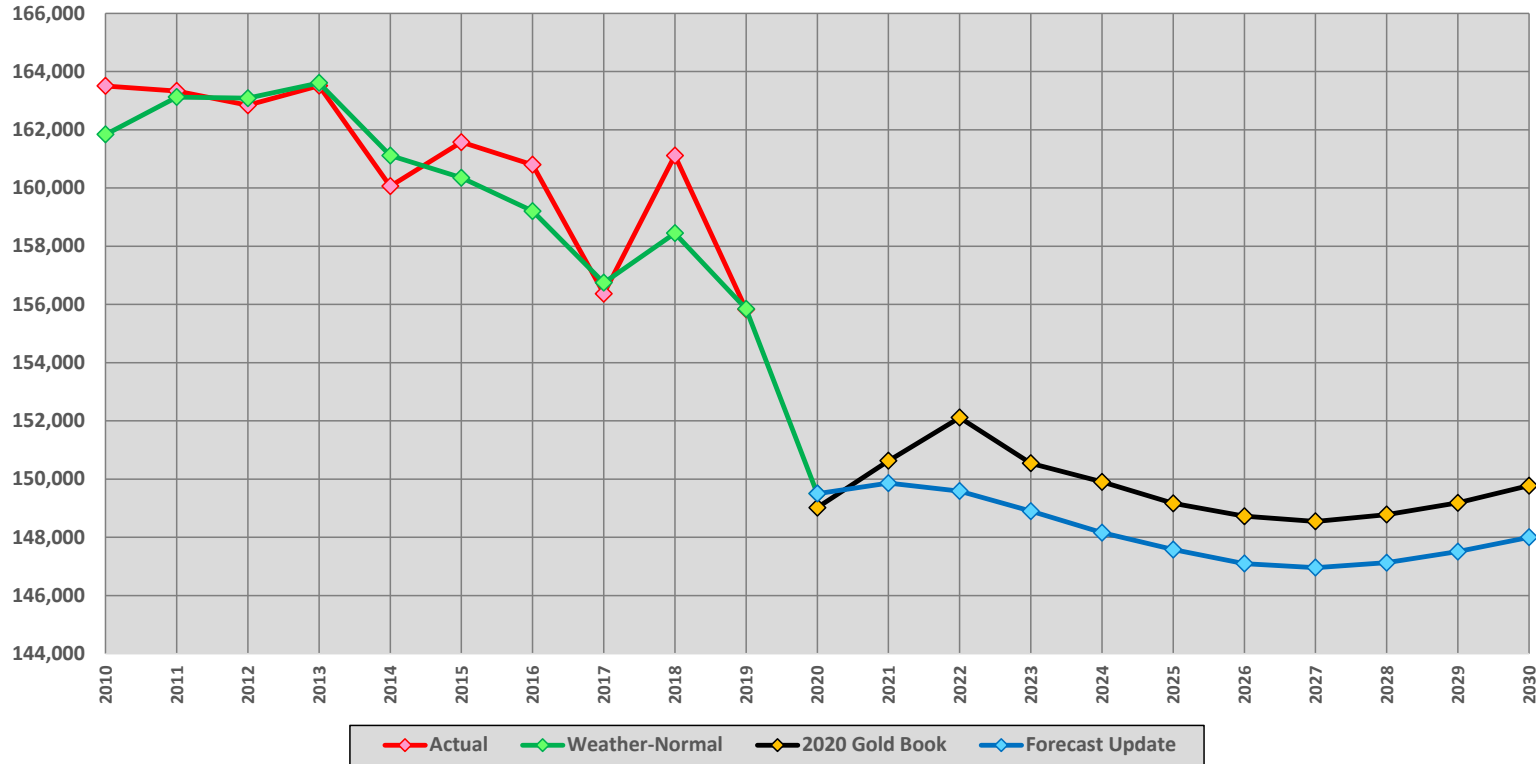
NYCA Total Energy – 12 Month Moving Sum (GWh)



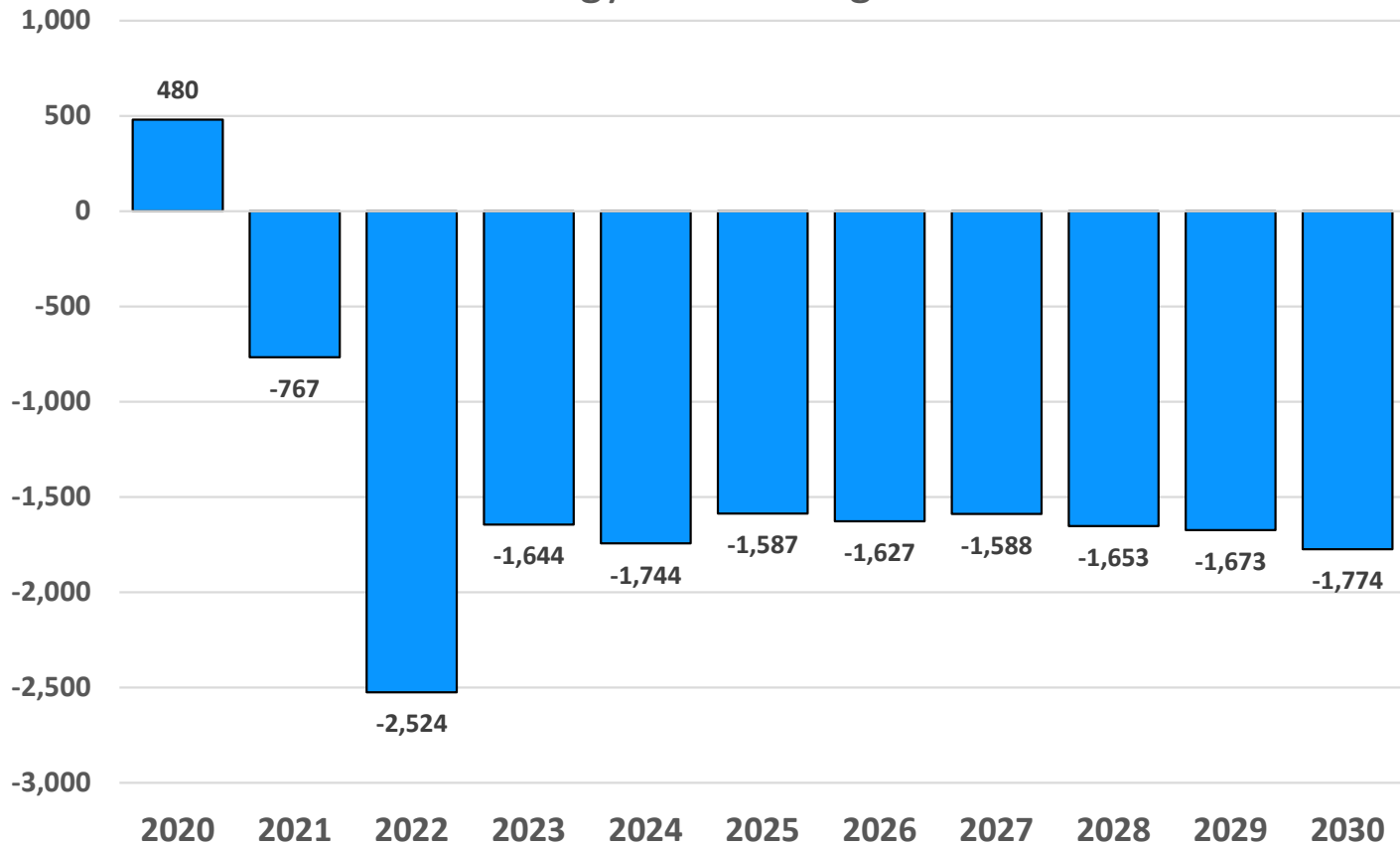
Note: 2020 values through September.

NYCA Baseline - Annual Energy (GWh)

Actual, Normal and Forecast - With Demand-Side Impacts

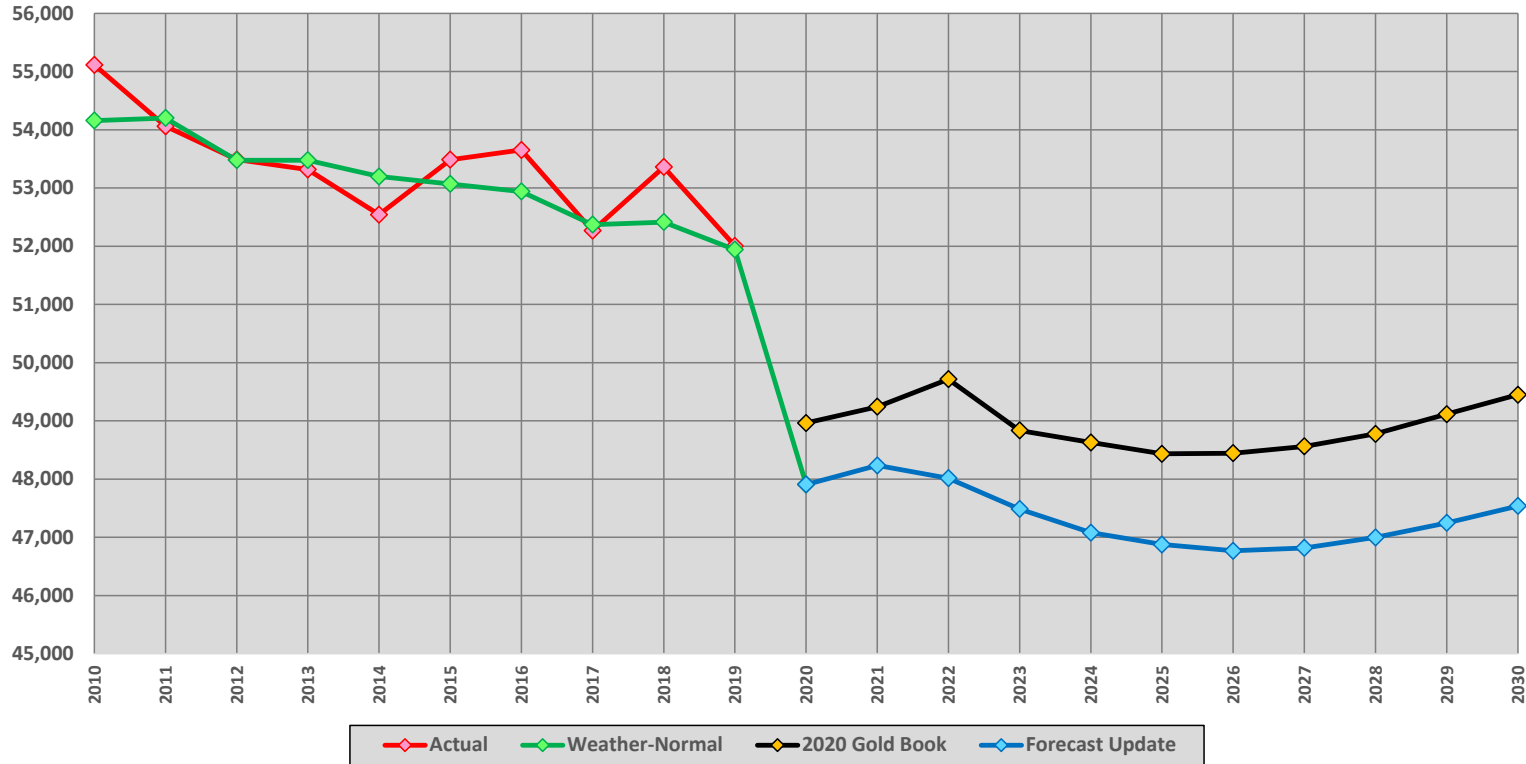


NYCA Annual Energy GWh Change from 2020 Gold Book



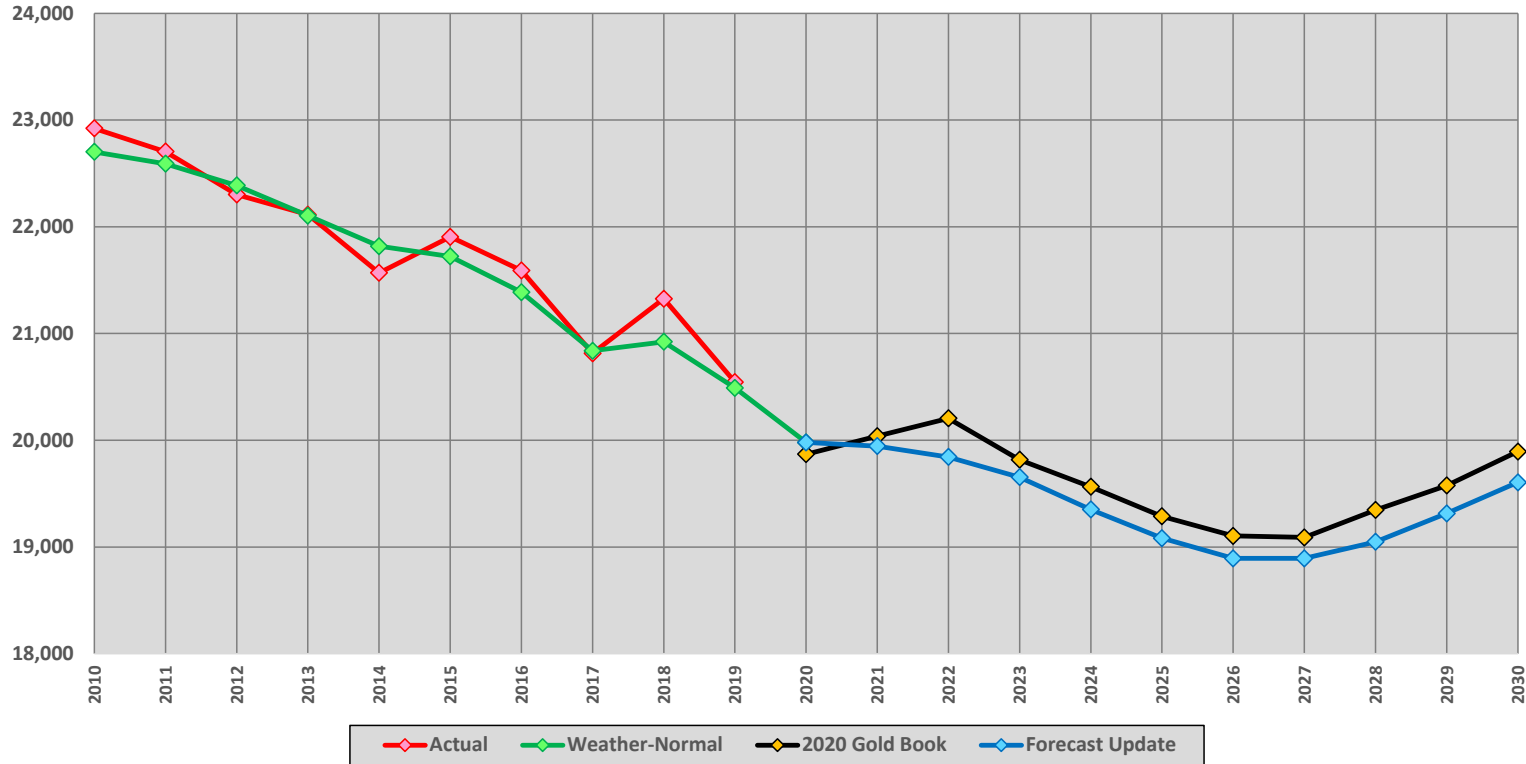
Zone J Baseline - Annual Energy (GWh)

Actual, Normal and Forecast - With Demand-Side Impacts



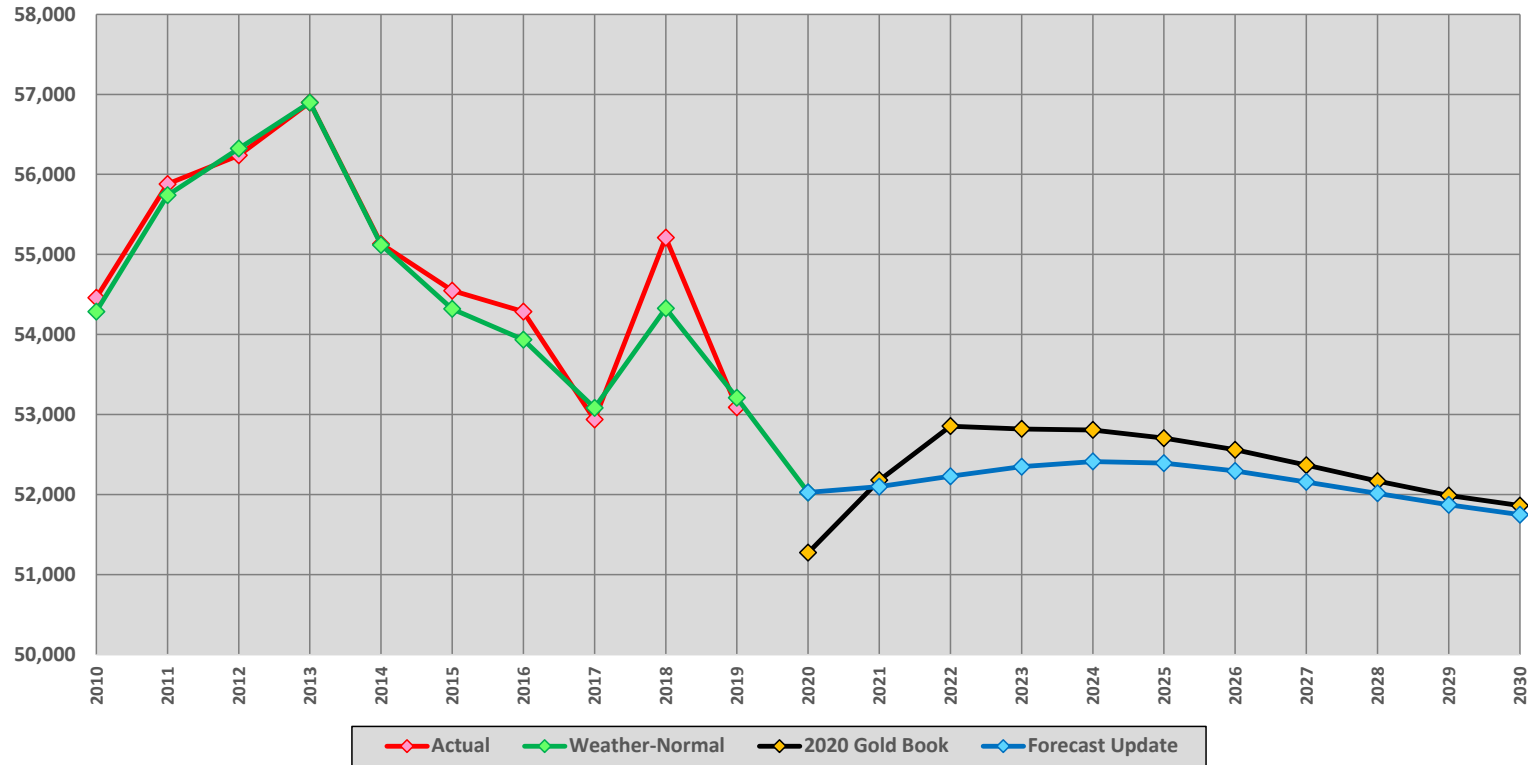
Zone K Baseline - Annual Energy (GWh)

Actual, Normal and Forecast - With Demand-Side Impacts



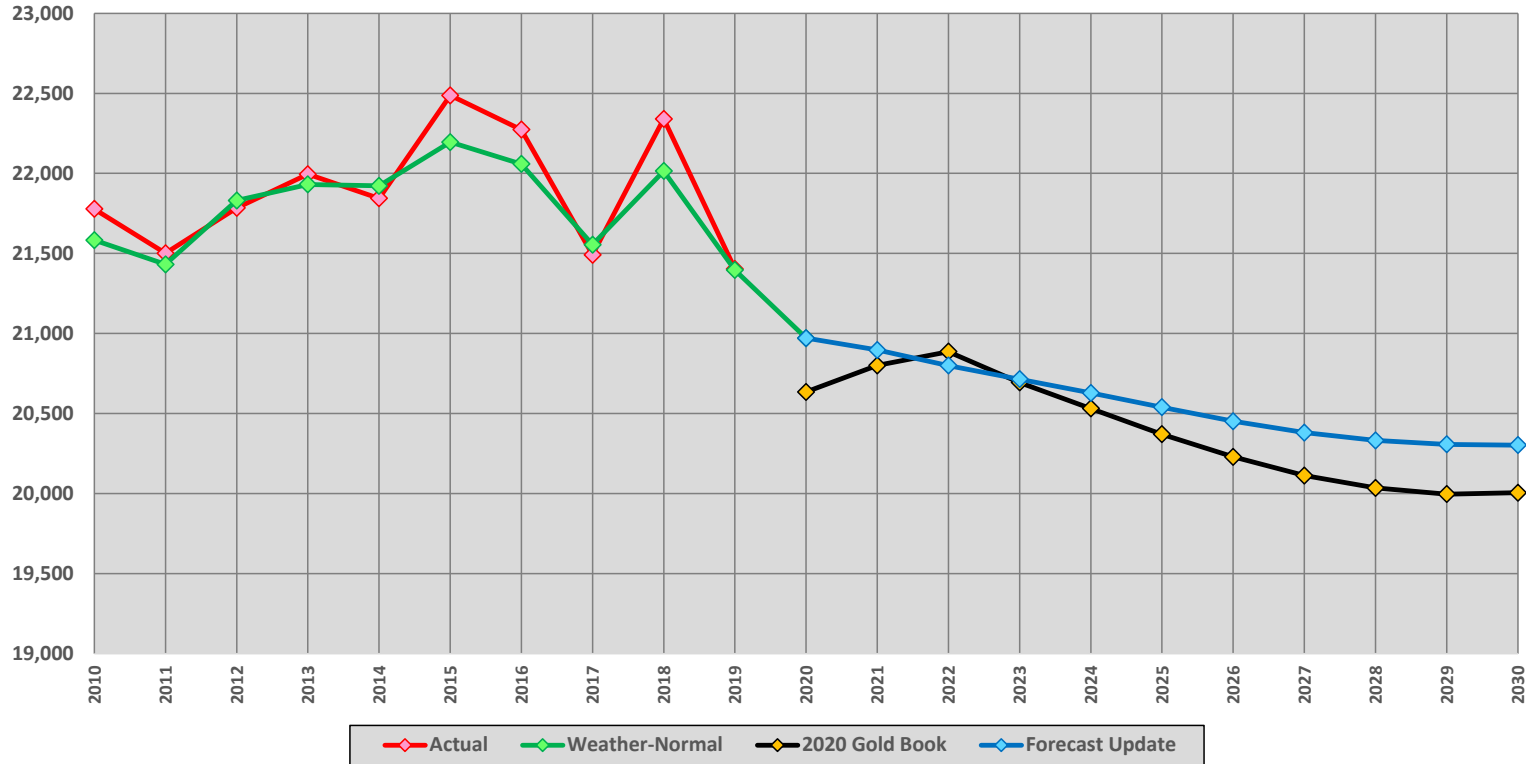
Zones A to E Baseline - Annual Energy (GWh)

Actual, Normal and Forecast - With Demand-Side Impacts



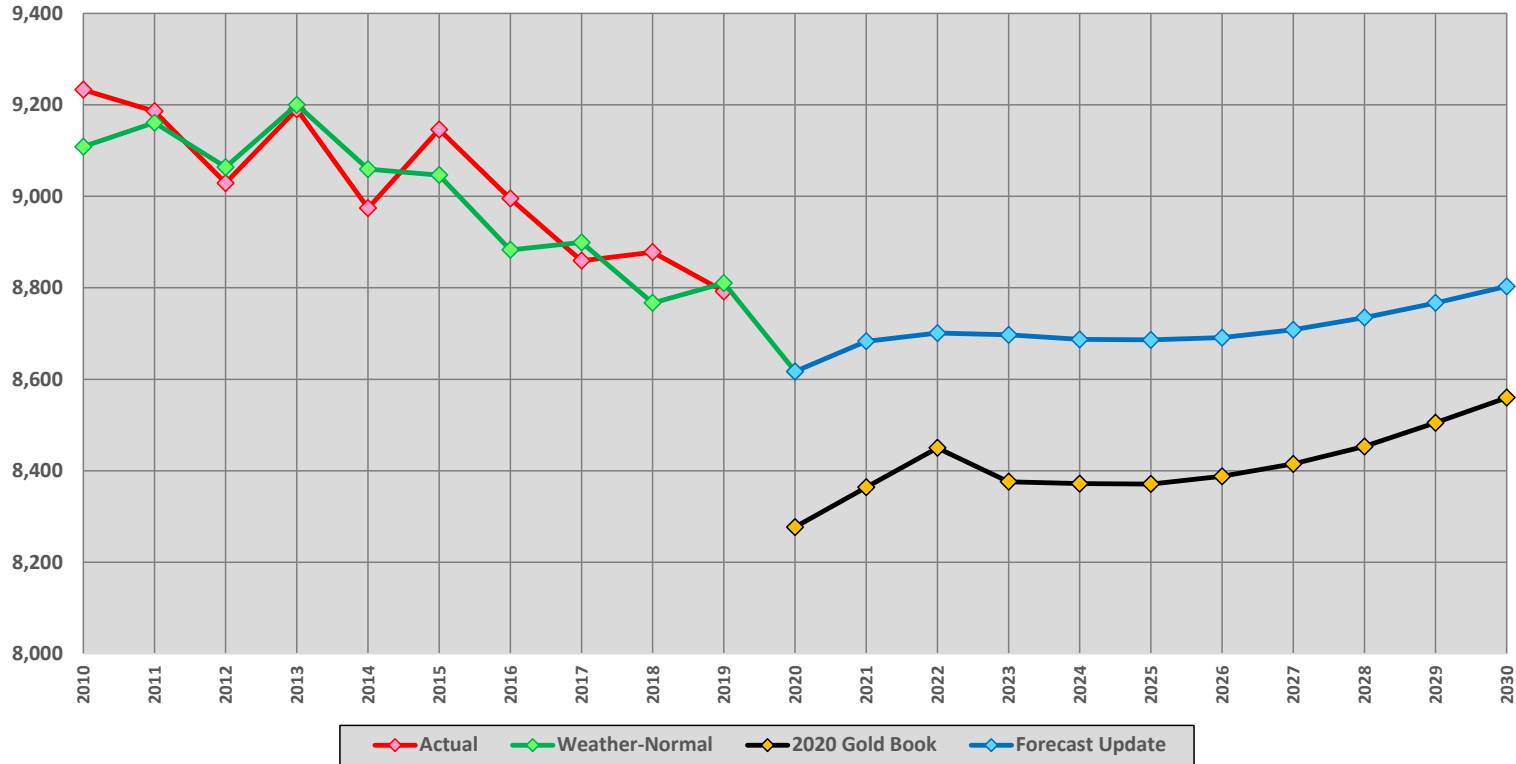
Zones F & G Baseline - Annual Energy (GWh)

Actual, Normal and Forecast - With Demand-Side Impacts



Zones H & I Baseline - Annual Energy (GWh)

Actual, Normal and Forecast - With Demand-Side Impacts



Energy Forecast Update

Baseline Annual Energy by Zone - GWh

Forecast Update

Year	A	B	C	D	E	F	G	H	I	J	K	NYCA
2020	14,467	9,643	15,356	4,948	7,613	11,756	9,215	2,840	5,777	47,906	19,979	149,500
2021	14,415	9,575	15,337	5,193	7,580	11,701	9,196	2,876	5,807	48,235	19,945	149,860
2022	14,356	9,567	15,349	5,410	7,547	11,649	9,151	2,895	5,806	48,016	19,844	149,590
2023	14,302	9,561	15,374	5,592	7,520	11,606	9,109	2,911	5,786	47,485	19,654	148,900
2024	14,243	9,552	15,385	5,742	7,491	11,566	9,063	2,925	5,762	47,080	19,351	148,160
2025	14,173	9,531	15,383	5,845	7,462	11,525	9,015	2,934	5,752	46,877	19,083	147,580
2026	14,093	9,500	15,364	5,904	7,434	11,483	8,969	2,942	5,749	46,769	18,893	147,100
2027	14,018	9,465	15,337	5,929	7,410	11,450	8,931	2,950	5,758	46,818	18,894	146,960
2028	13,951	9,430	15,314	5,932	7,390	11,426	8,906	2,958	5,777	46,998	19,048	147,130
2029	13,893	9,401	15,282	5,924	7,373	11,412	8,896	2,965	5,802	47,247	19,315	147,510
2030	13,843	9,378	15,255	5,913	7,360	11,405	8,898	2,973	5,830	47,539	19,606	148,000

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

