2018 Long Term Forecast

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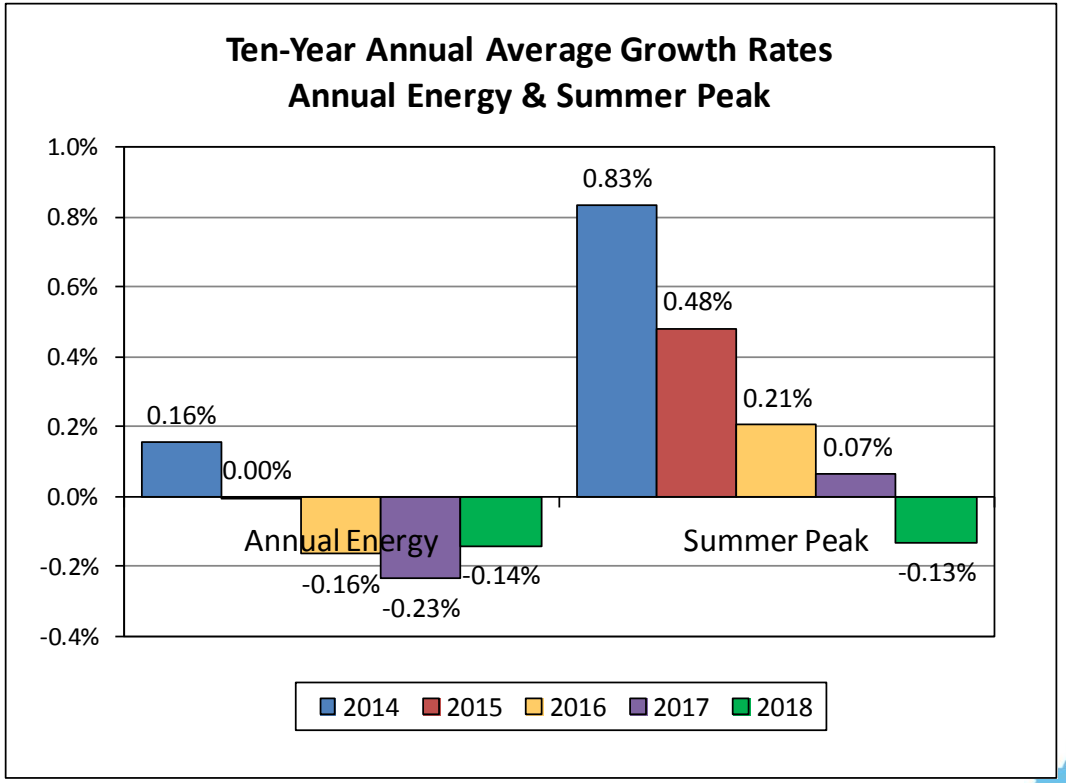
Principal Factors Affecting the 2018 Baseline Peak Forecast

- Larger than expected decline in 2017 of weather-normalized energy throughout the state (labeled 'Normal' on chart).
- Addition of new large load in Zone D.
- Positive growth in energy due to economy & household growth is offset by adoption of less energy intensive technologies and pubic policy programs that reduce usage.
  - Decrease in energy and peak due to long term trend of adoption of LED lighting in both residential and commercial sectors.
  - Continued impacts due to the NY-Sun Initiative.
- Net result is a decrease in peak demand growth as compared to the 2017 forecast.

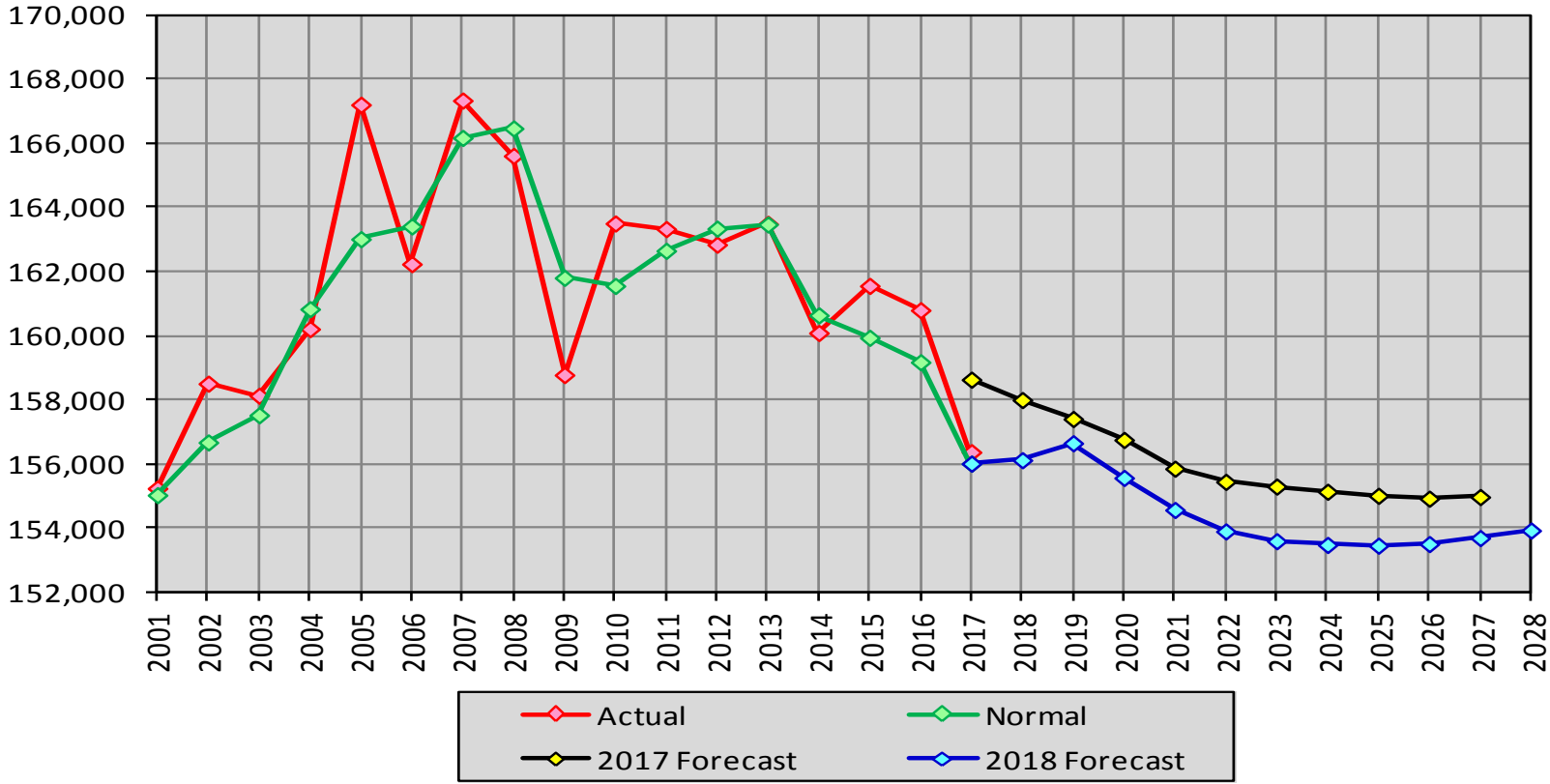
NEW YORK INDEPENDENT SYSTEM OPERATOR

Baseline Growth Rates



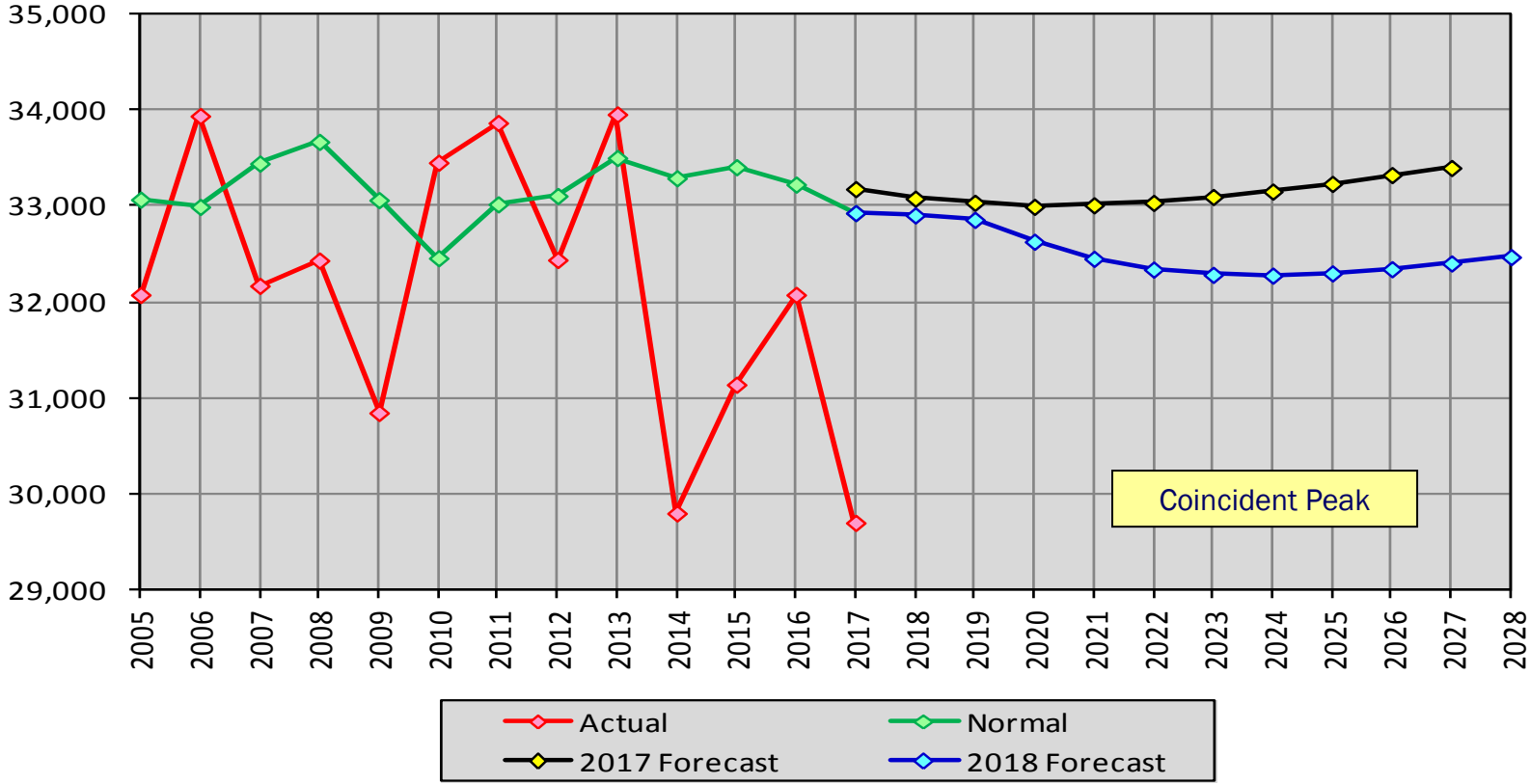
Actual, Normal and Forecast - Annual Energy (GWh)

NYCA Baseline - With Demand-Side Impacts

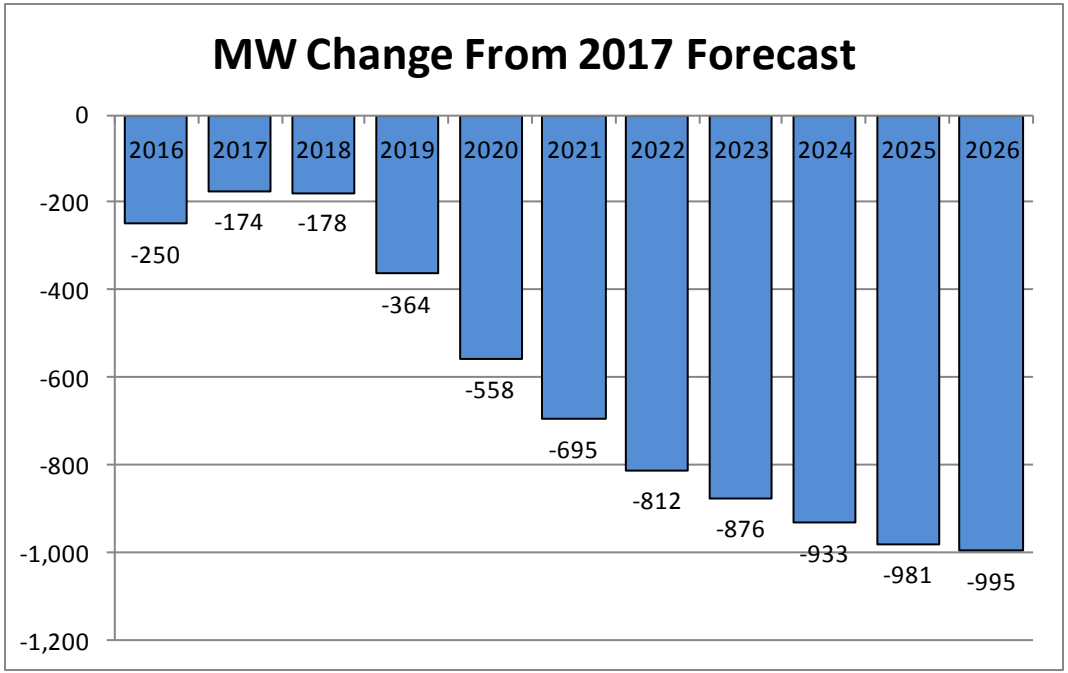


Actual, Normal and Forecast - Summer Peak (MW)

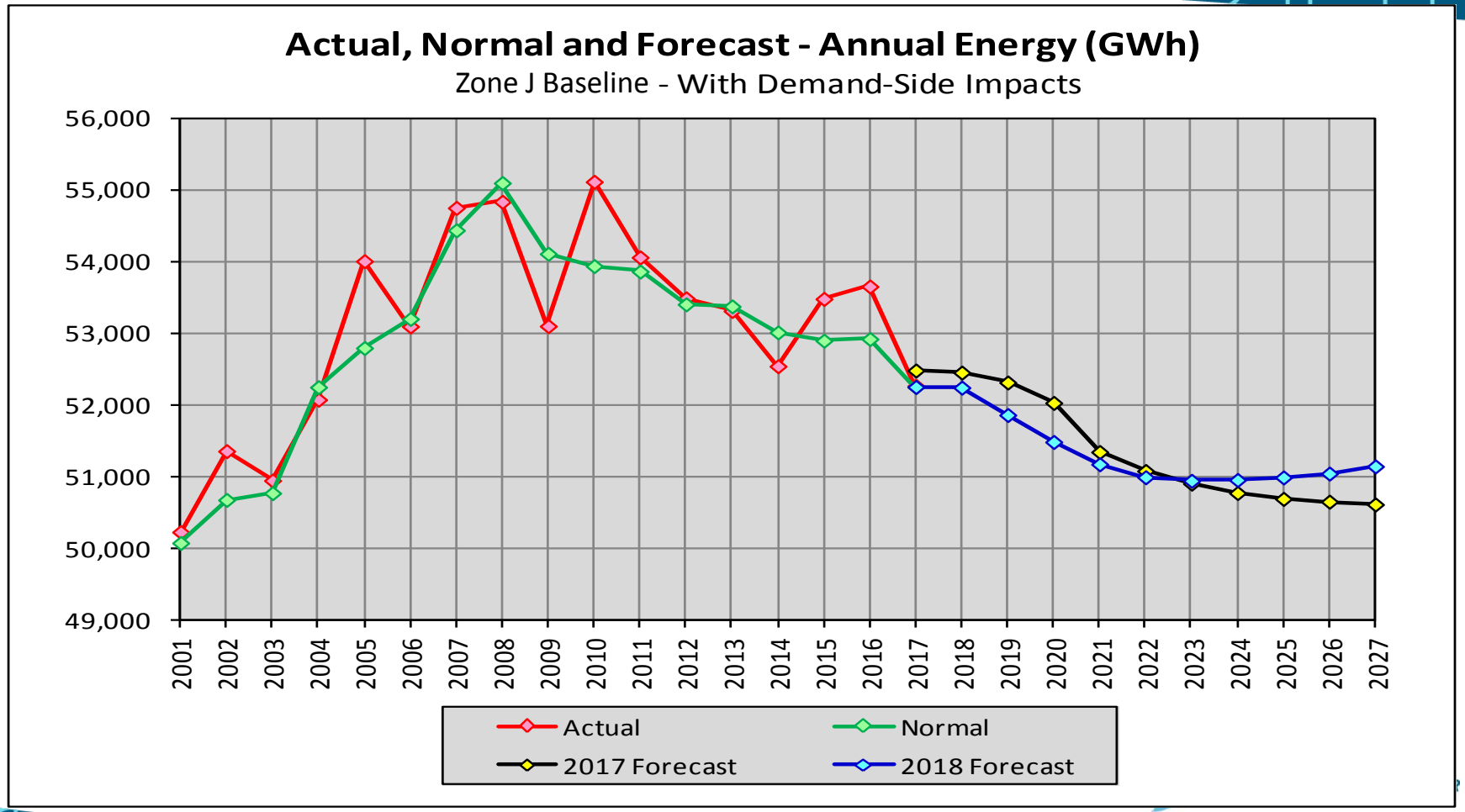
NYCA Baseline - With Demand-Side Impacts



Change in 2018 Baseline Summer Coincident Peak From 2017 Forecast

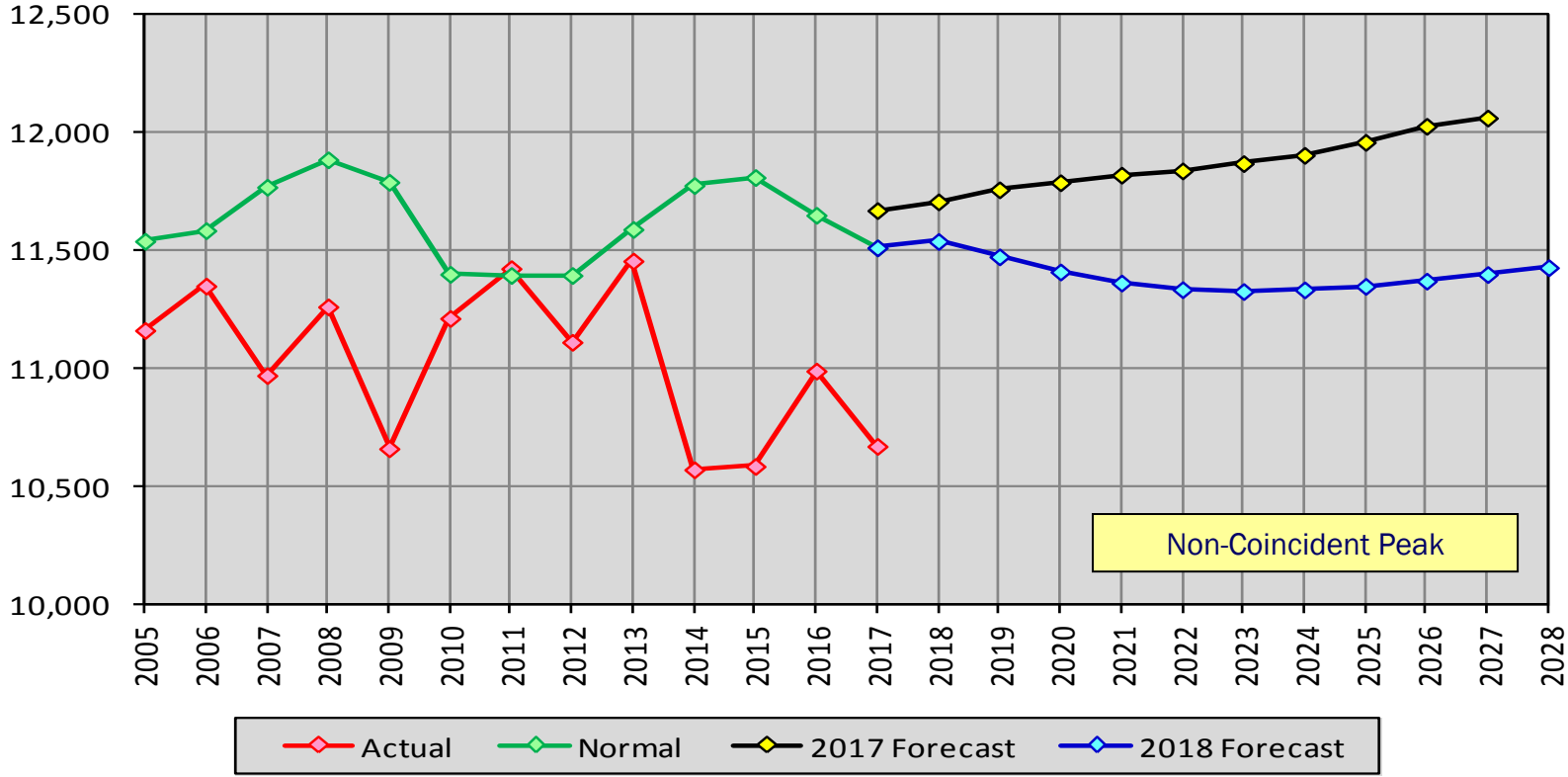


2017 Regional Baseline Forecasts



Actual, Normal and Forecast - Summer Peak (MW)

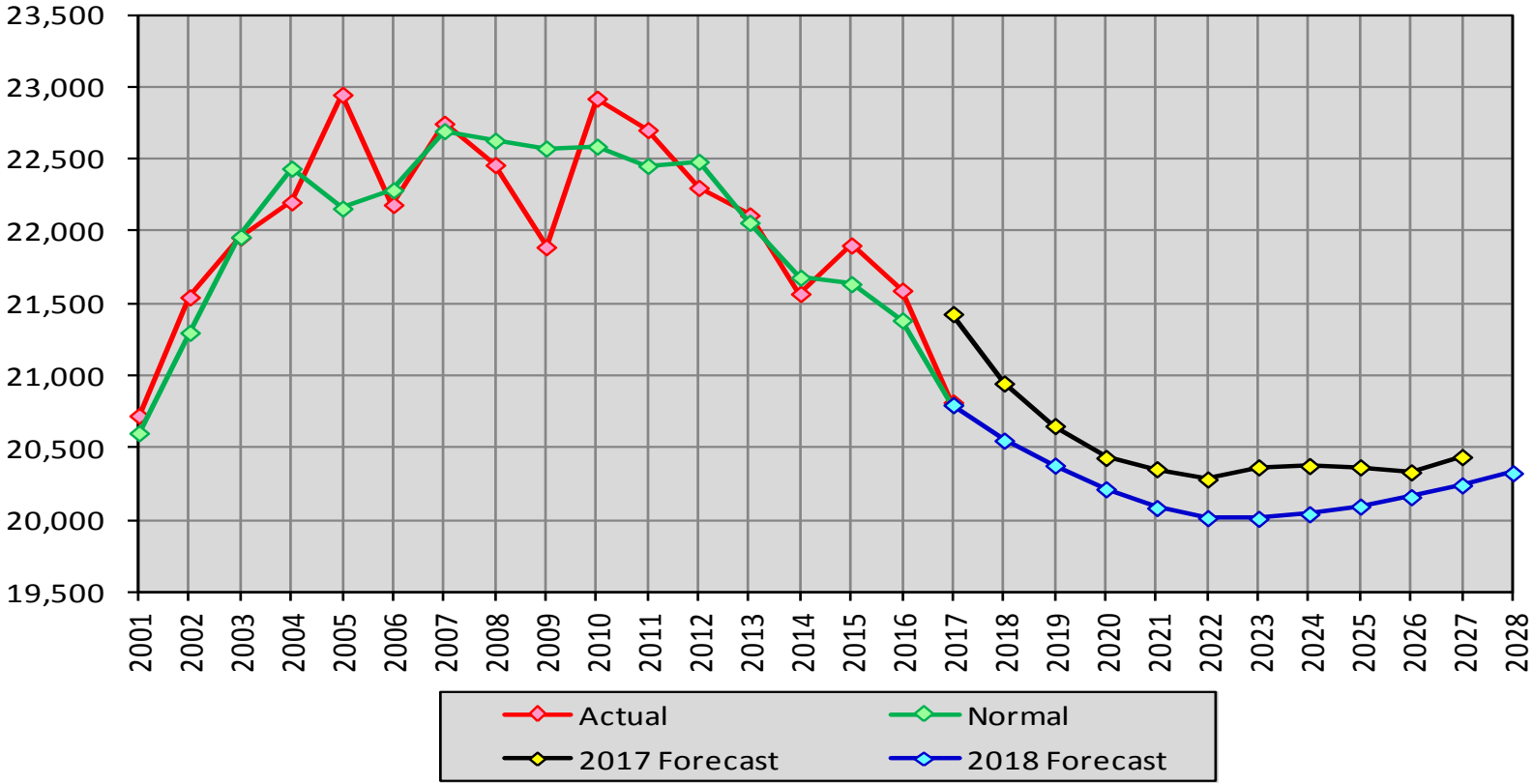
Zone J Baseline - With Demand-Side Impacts

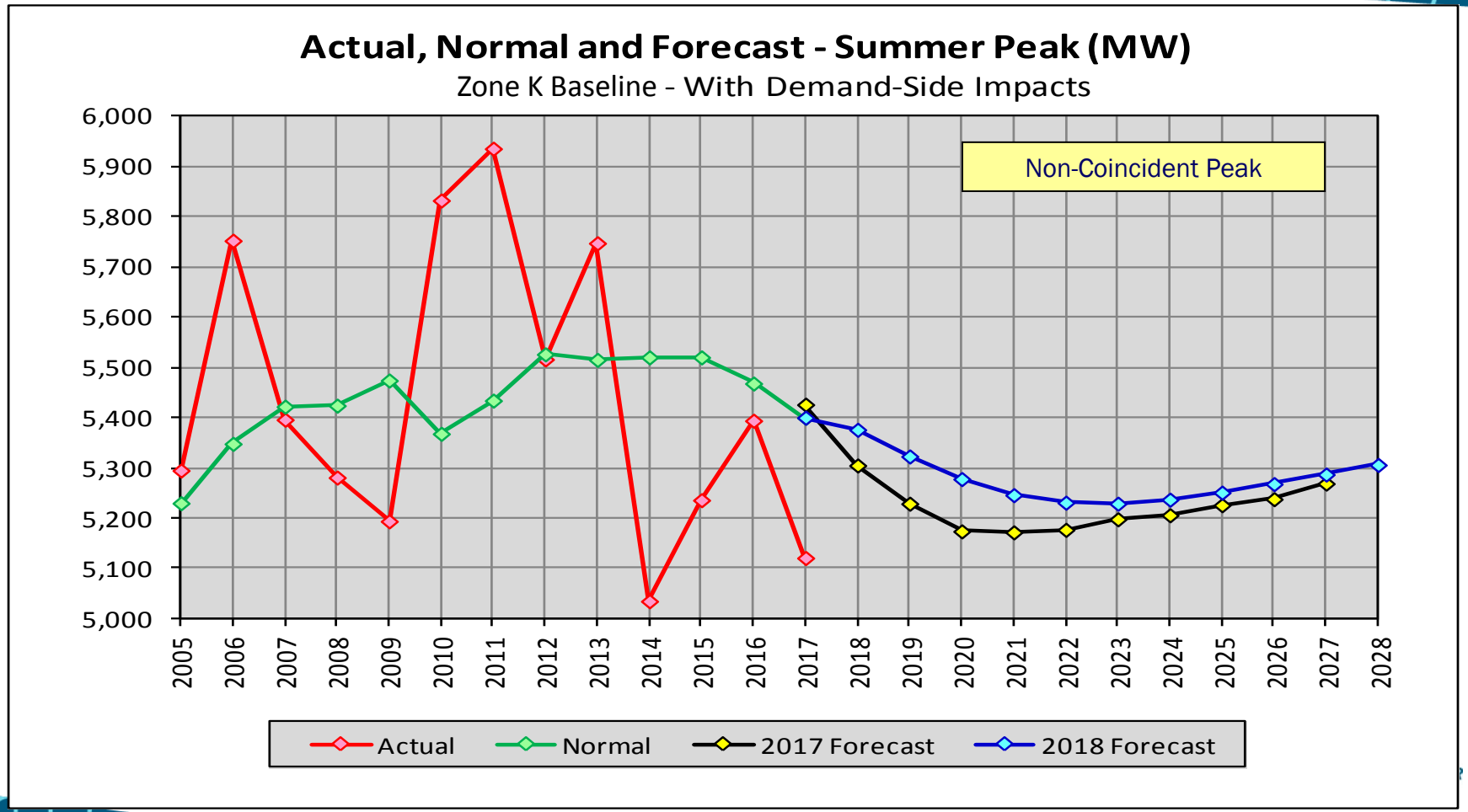


Note: The Zone J peak design criteria is 1-in-3, which is why it's normal values are all greater than actual. The typical design criteria is 1-in-2.

Actual, Normal and Forecast - Annual Energy (GWh)

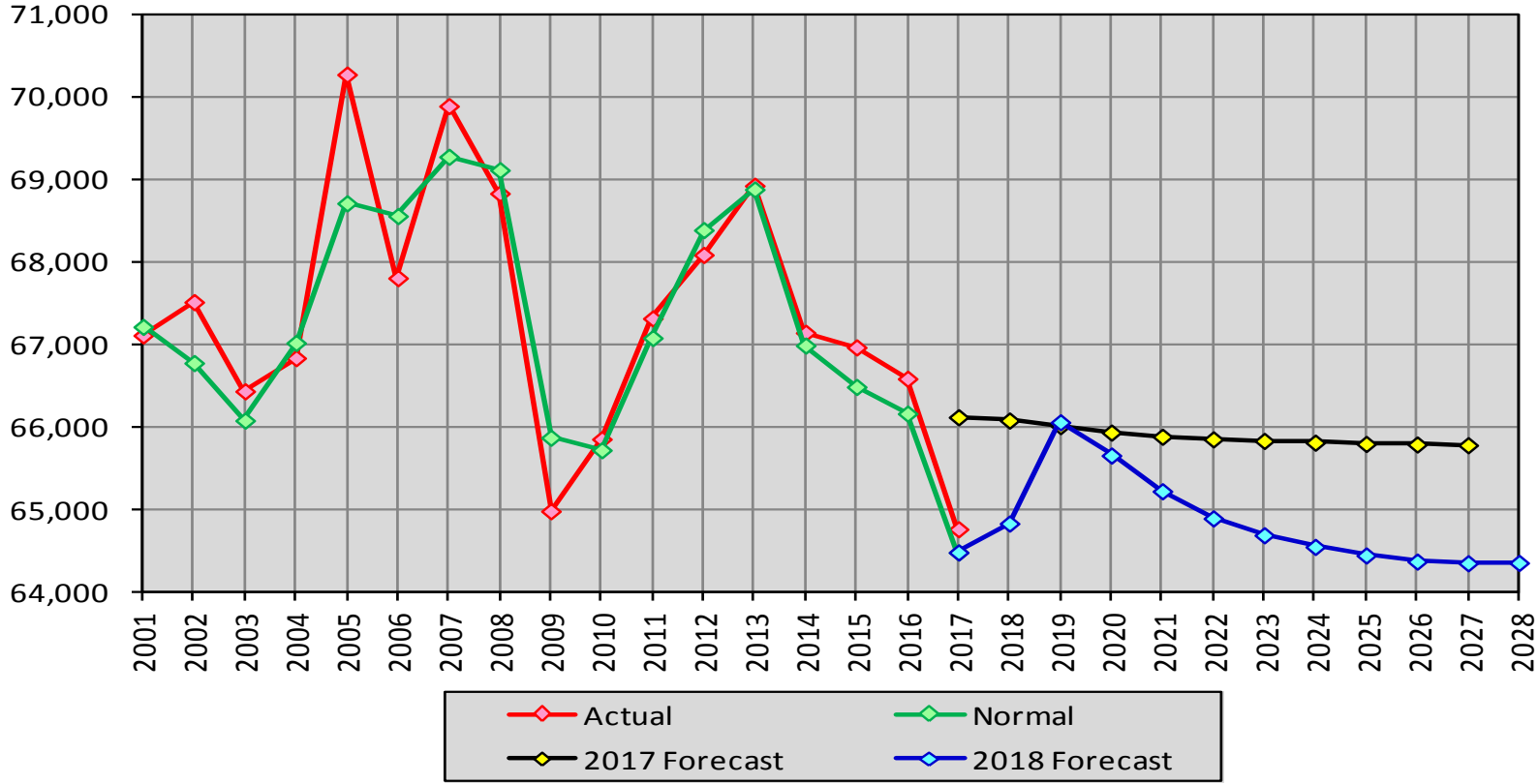
Zone K Baseline - With Demand-Side Impacts

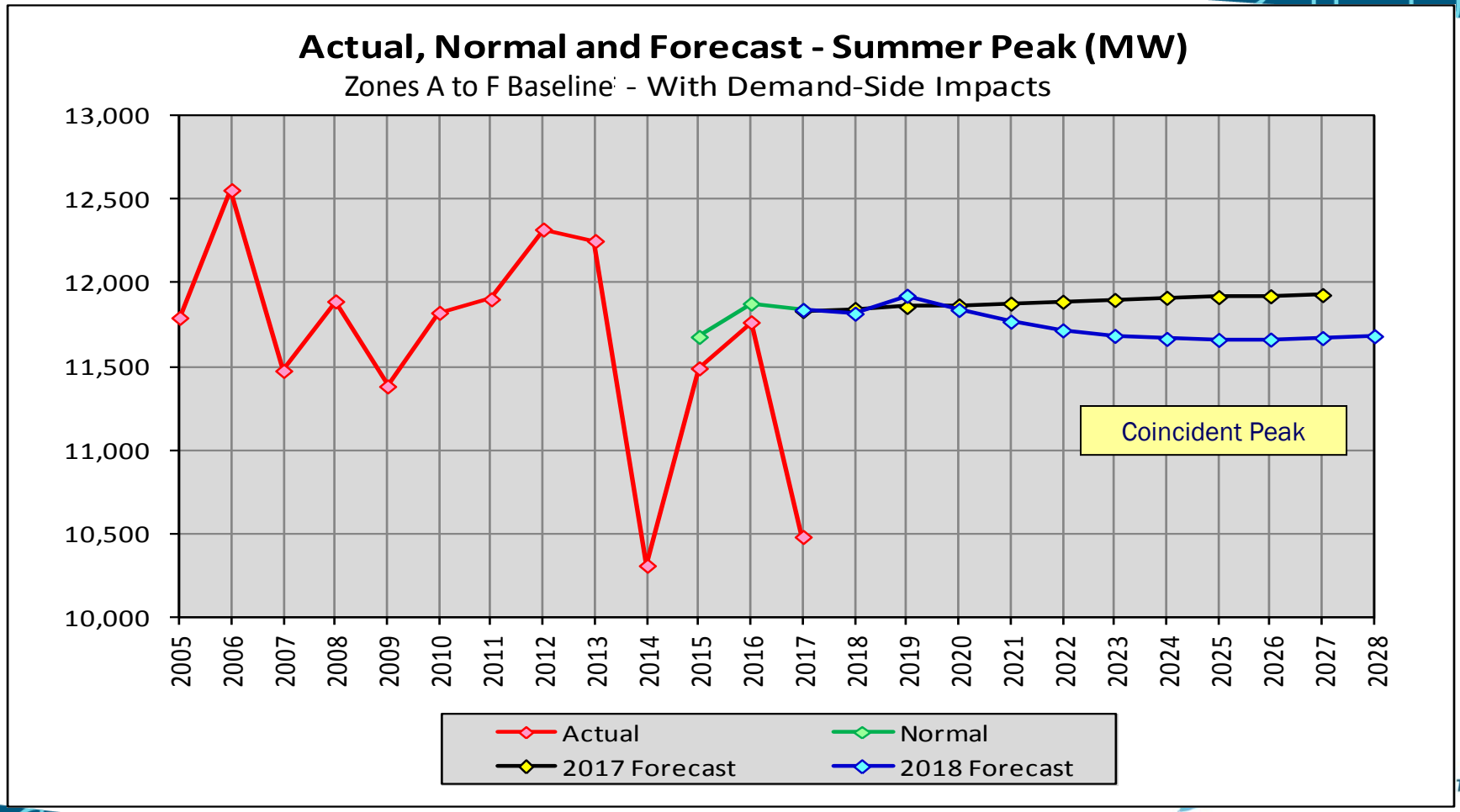




Actual, Normal and Forecast - Annual Energy (GWh)

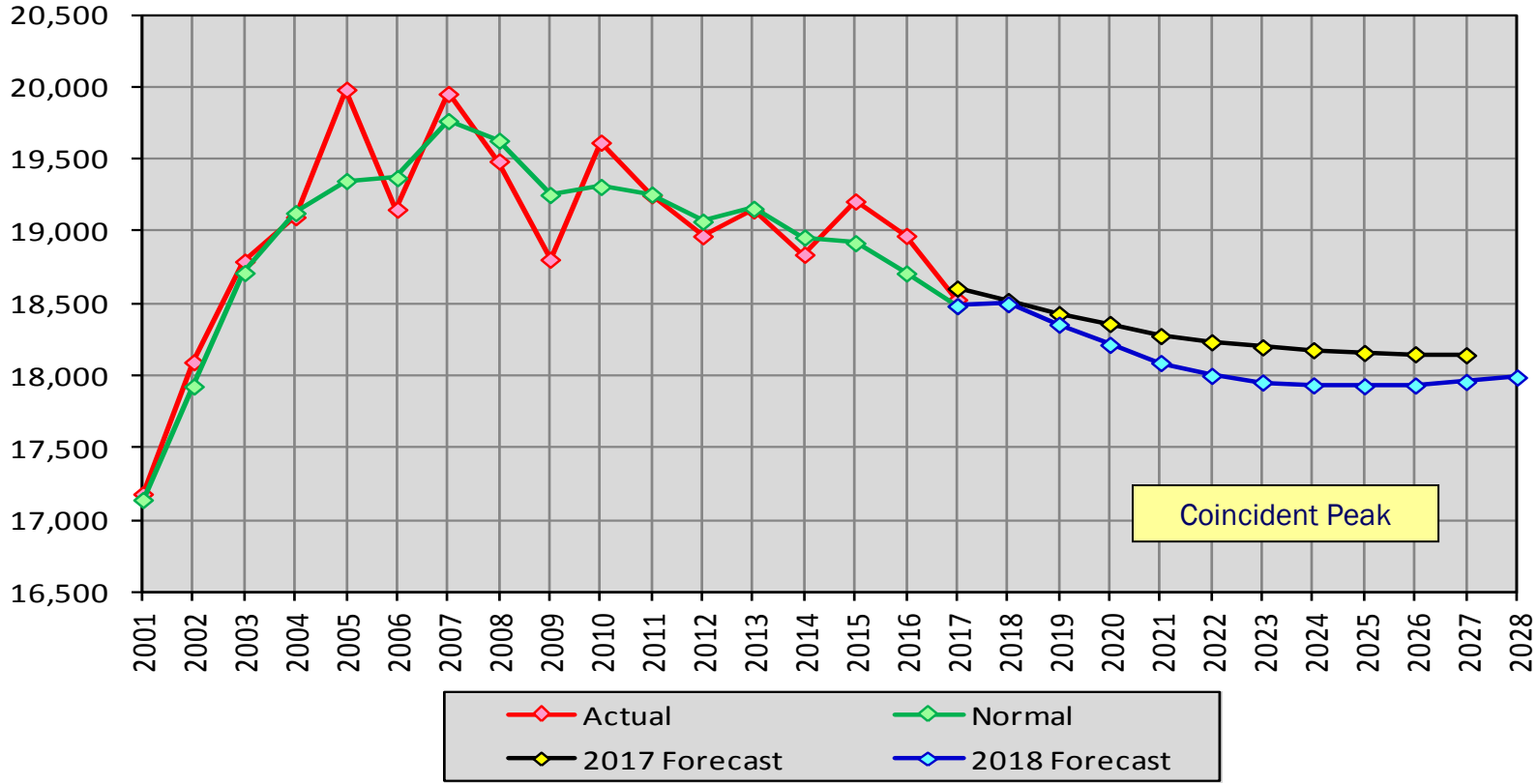
Zones A to F Baseline - With Demand-Side Impacts





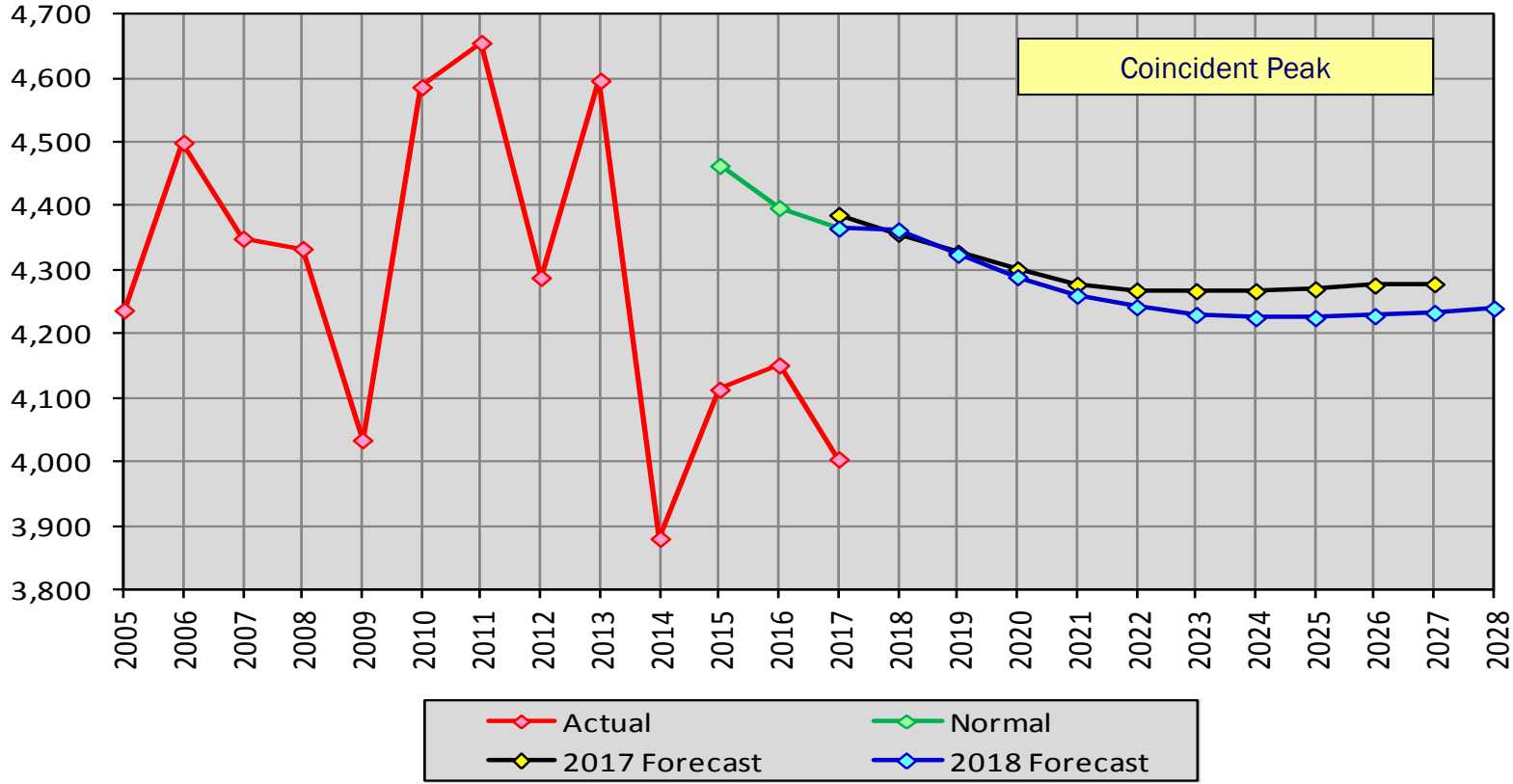
Actual, Normal and Forecast - Annual Energy (GWh)

Zones G to I Baseline - With Demand-Side Impacts



Actual, Normal and Forecast - Summer Peak (MW)

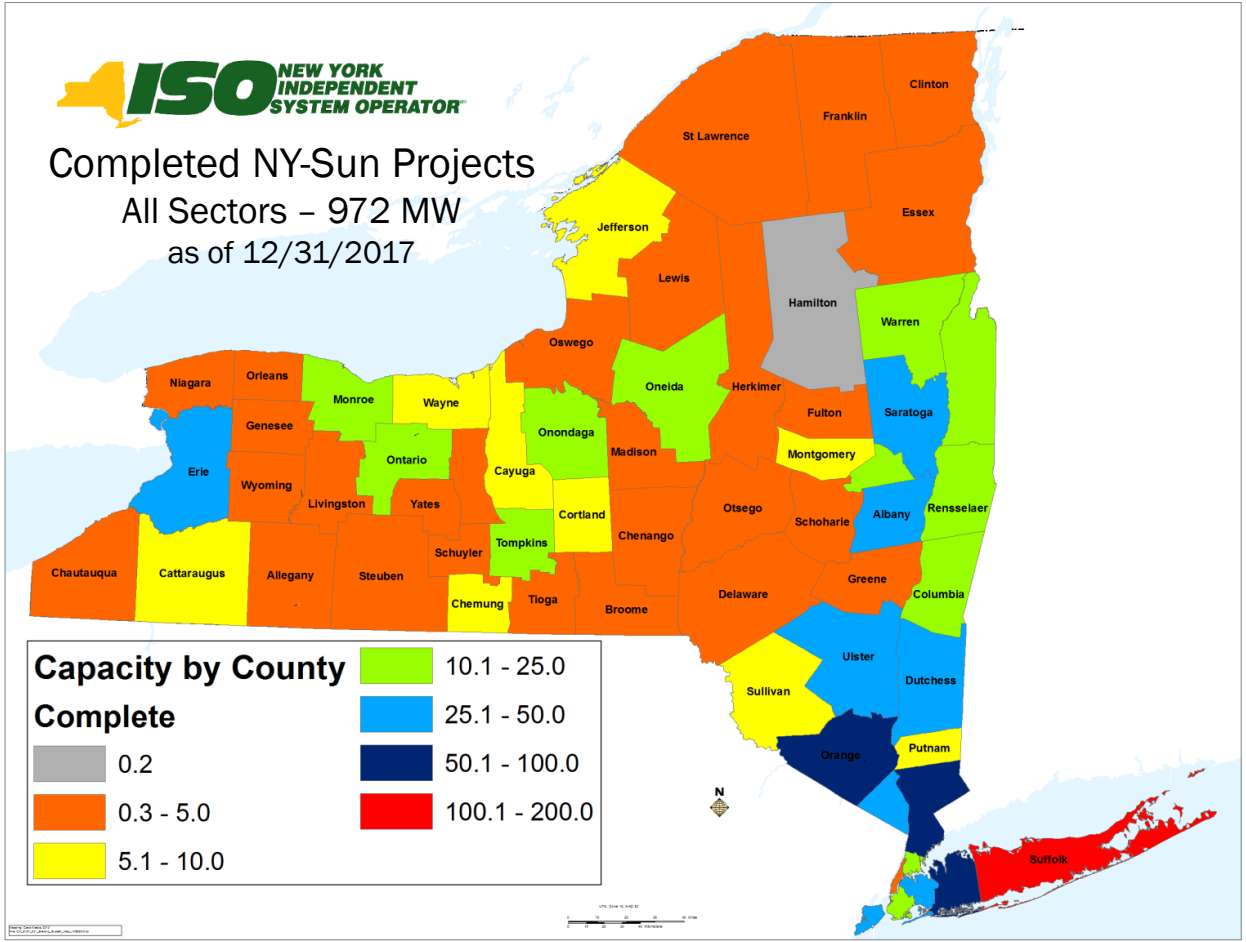
Zones G to I Baseline - With Demand-Side Impacts



Summary of Demand-Side Program Impacts

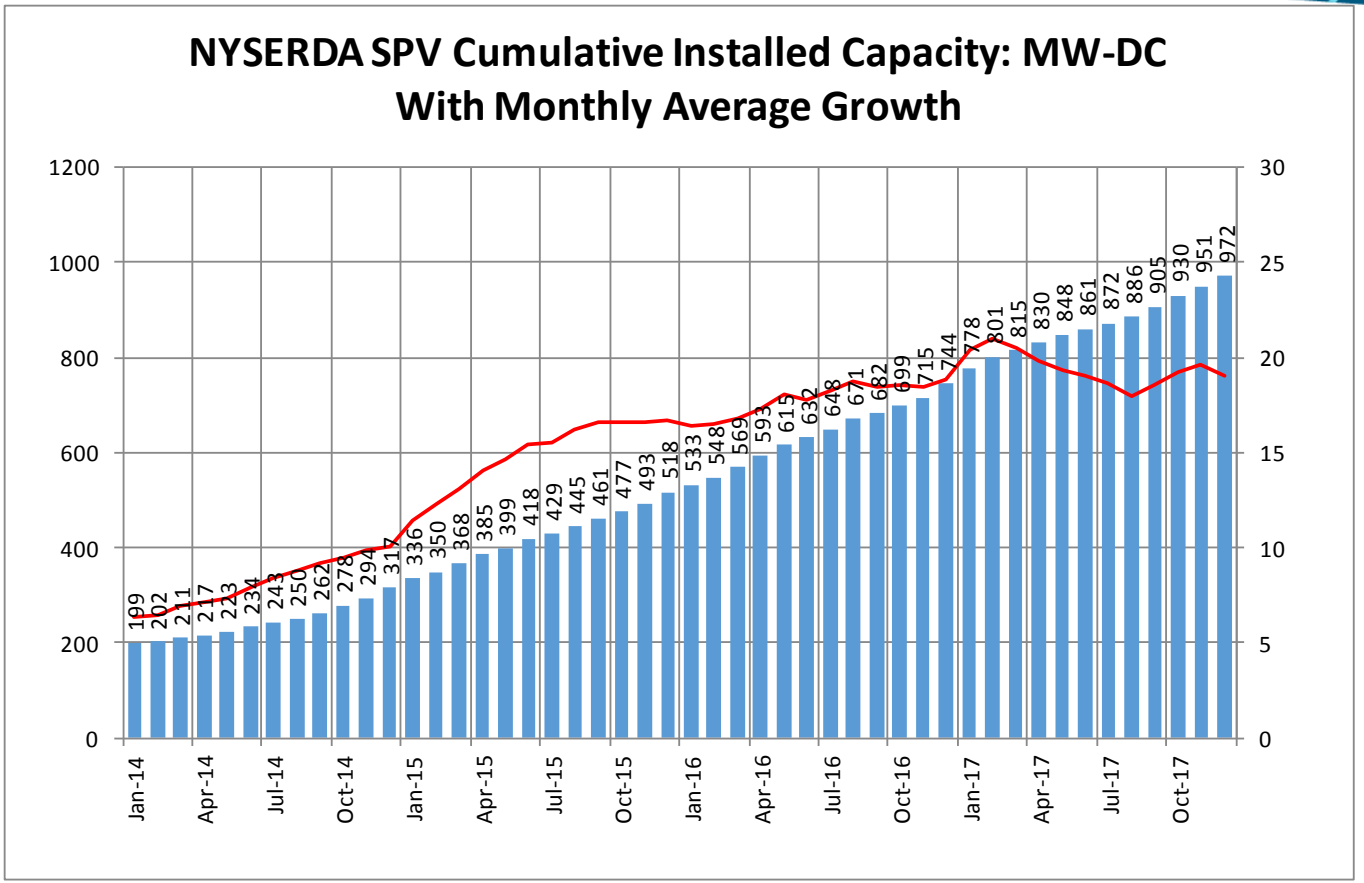
Demand-Side Impacts

- **NY-Sun Solar PV**
- **Technology-driven Demand-Side Impacts**
  - Energy efficiency impacts in residential and commercial sectors due to public policy programs, building codes and appliance efficiency standards
  - Distributed Energy Resources
  - Electric Vehicles
- **Continued widespread adoption of LED lighting**



https://data.ny.gov/Energy-Environment/Solar-Electric-Programs-Reported-by-NYSERDA-Beginn/3x8r-34rs

NEW YORK INDEPENDENT SYSTEM OPERATOR



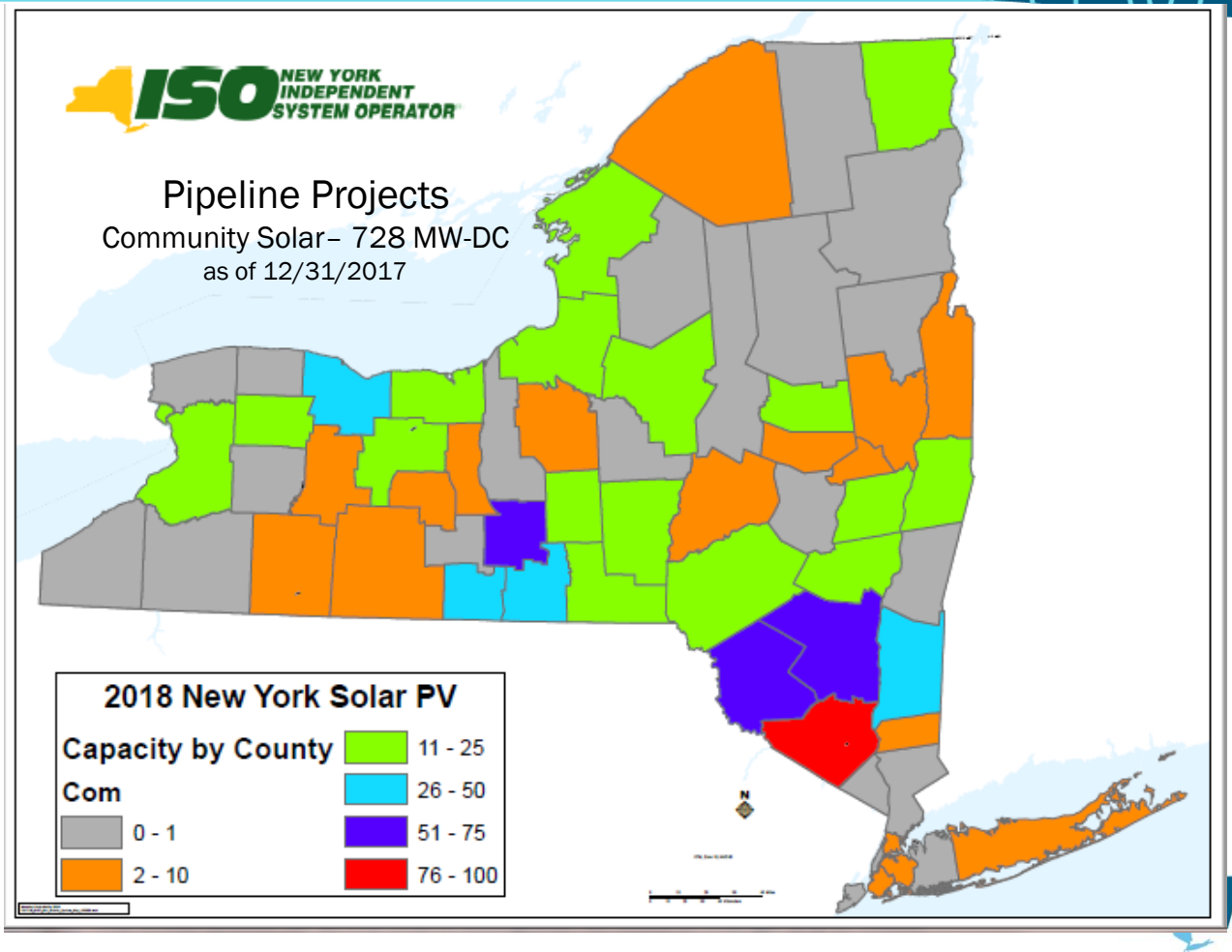
https://data.ny.gov/Energy-Environment/Solar-Electric-Programs-Reported-by-NYSERDA-Beginn/3x8r-34rs
12/31/2017 report

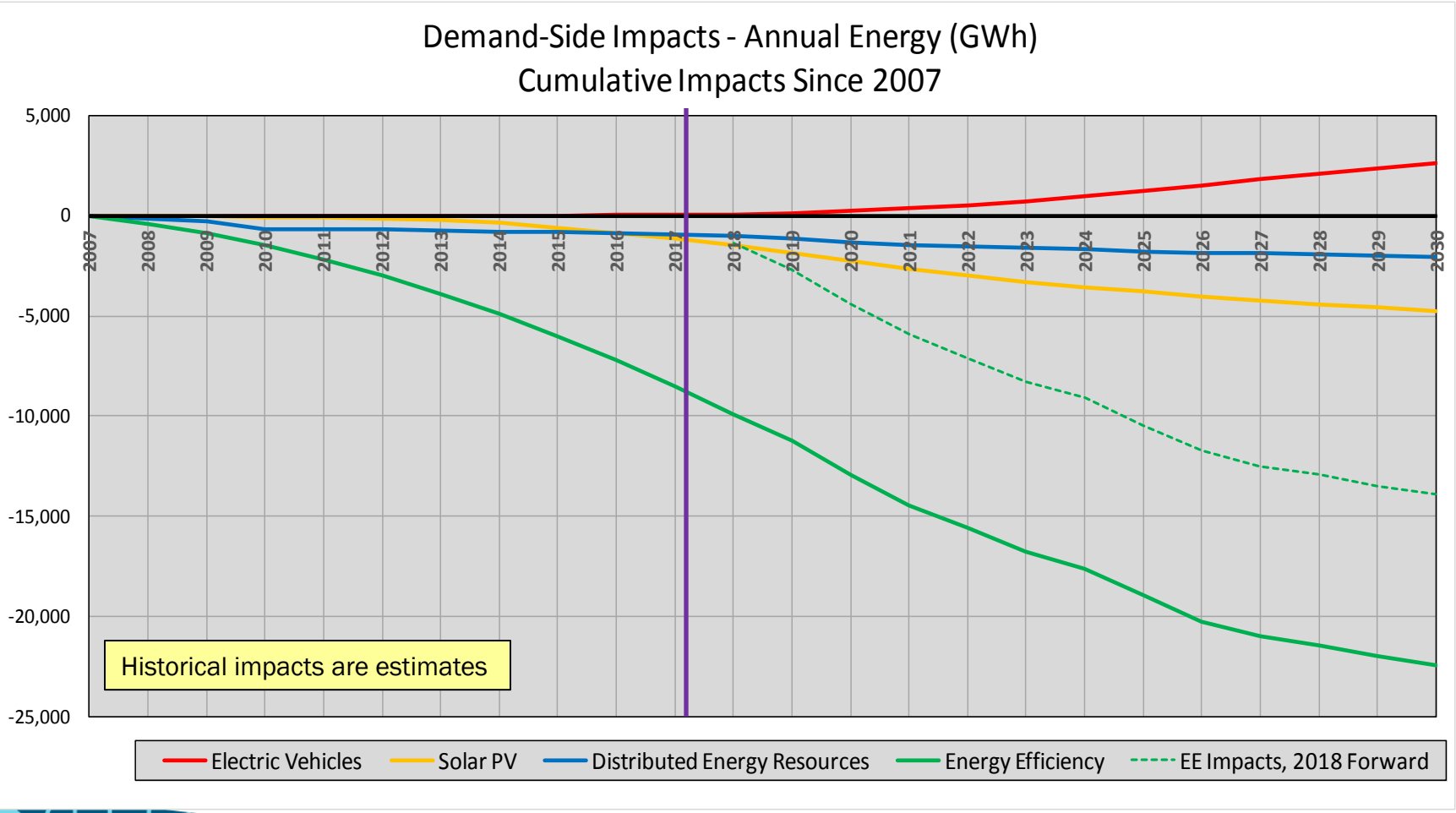
DPS Standard Interconnection Queue

SIR Queue: Number of kW (PV ONLY) by kW Range as of December 2017

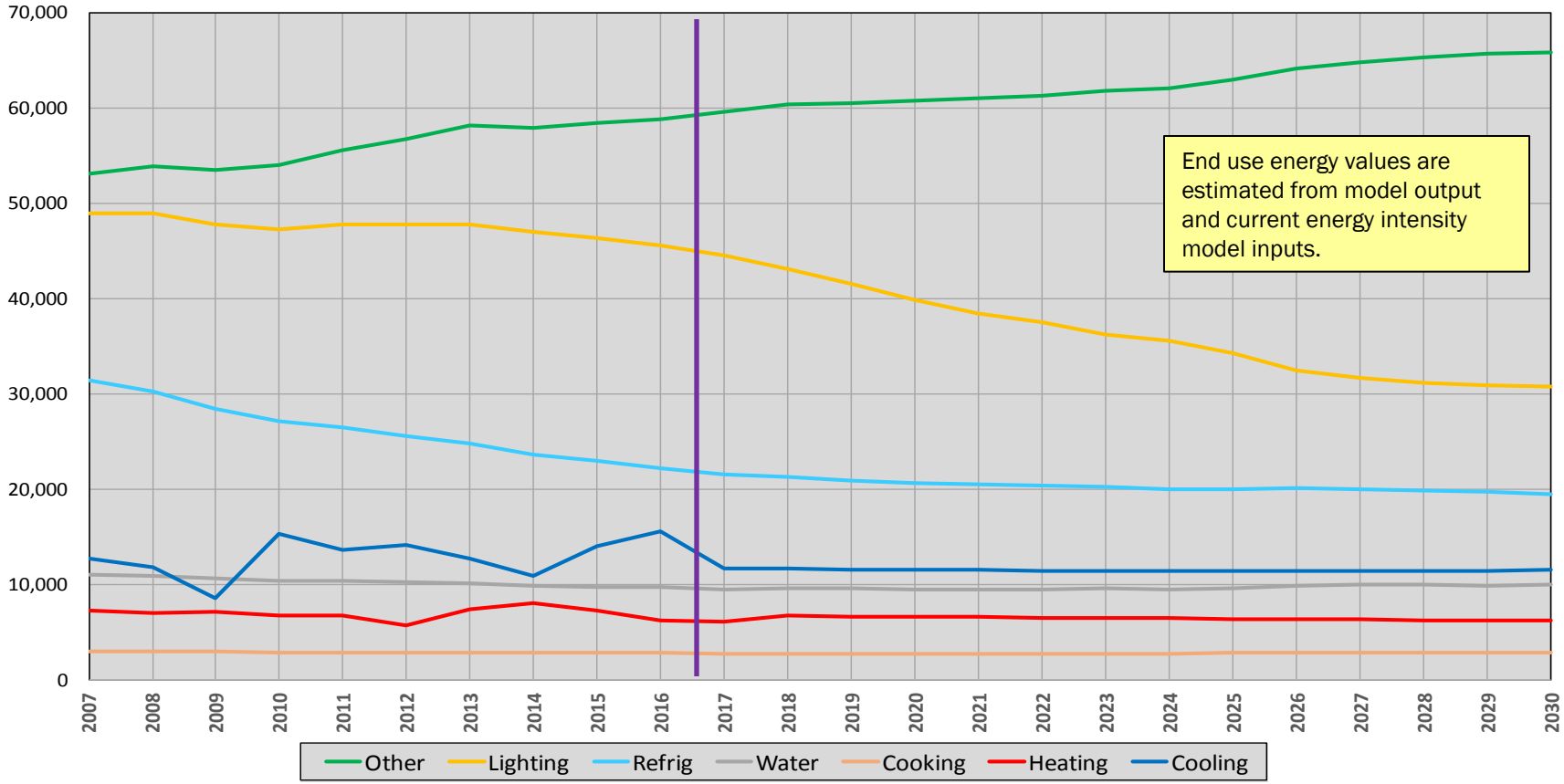
	kW Range					
Company	0-50	50-300	300-1000	1000-2000	2000-5000	Total
National Grid	9,805	17,784	13,761	282,844	-	324,194
Con Edison	17,717	15,232	17,555	12,818	-	63,322
Central Hudson	1,903	1,625	4,364	129,854	9,996	147,742
Orange and Rockland	5,310	1,170	3,304	136,370	-	146,154
NYSEG	3,130	3,144	7,249	221,042	4,000	238,565
RGE	728	1,006	4,049	93,357	4,234	103,373
PSEG	38,834	7,726	26,152	6,076	-	78,788
Total	77,427	47,687	76,434	882,360	18,230	1,102,138

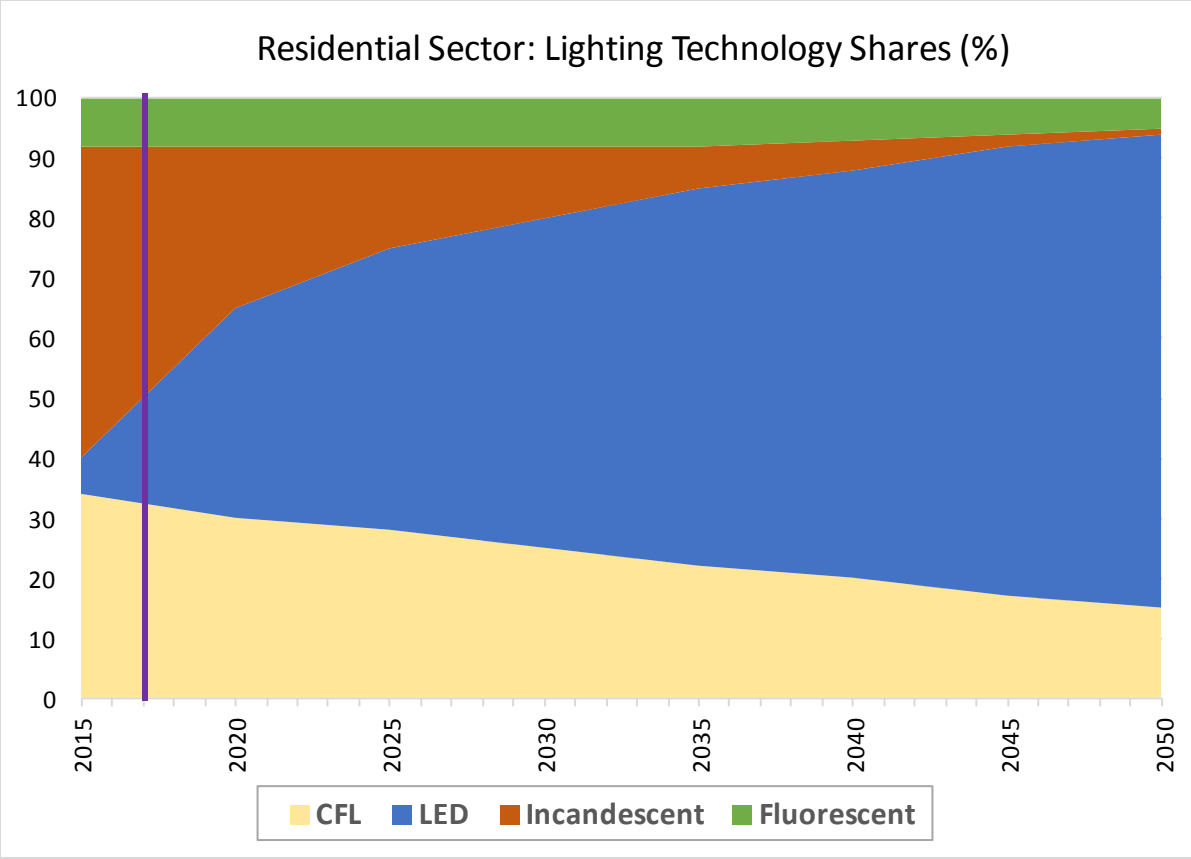
http://www3.dps.ny.gov/W/PSCWeb.nsf/96f0fec0b45a3c6485257688006a701a/286d2c179e9a5a8385257fbf003f1f7e/$FILE/Dec%202017%20Queue%20Data.pdf



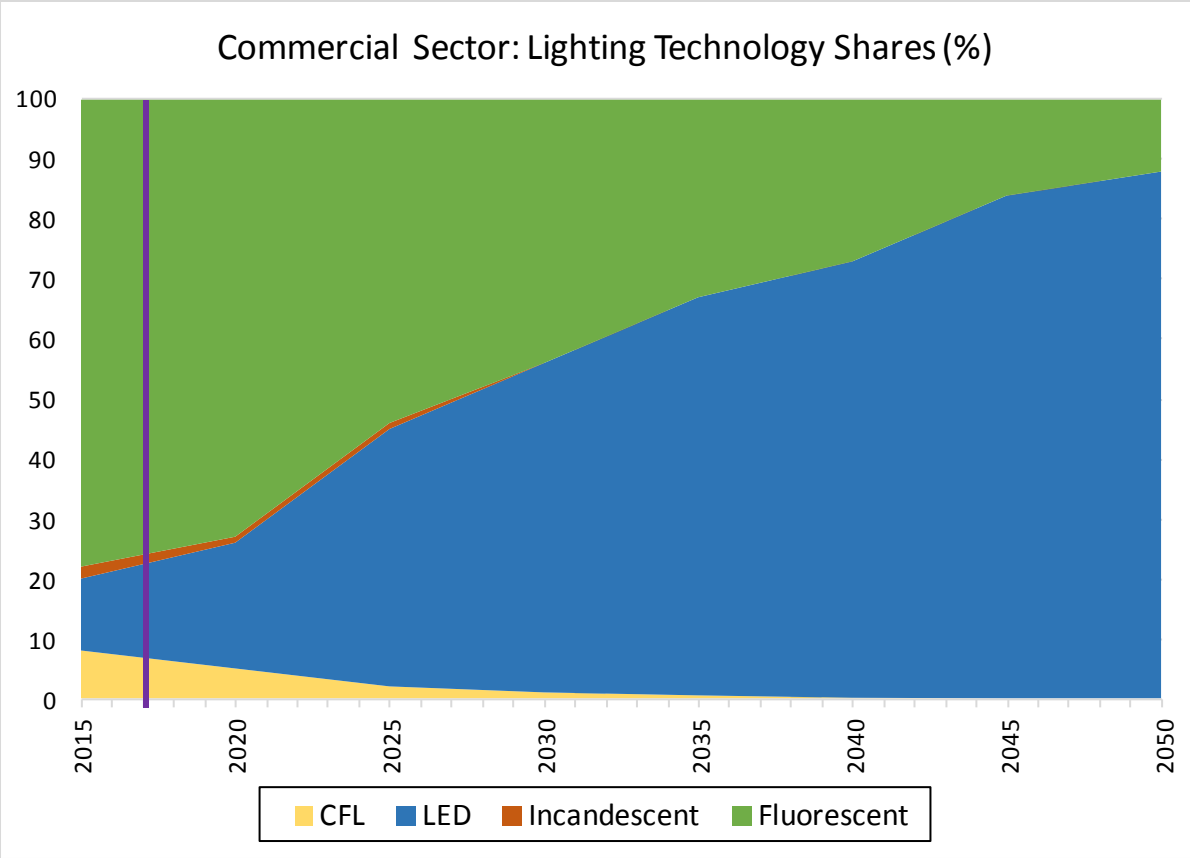


NYCA Annual Energy - End Use Distribution (GWh)





EIA 2018 Annual Energy Outlook



EIA 2018 Annual Energy Outlook

Preliminary 2018 Baseline Forecast

2018 Preliminary Baseline Forecast: Annual Energy

Includes Demand-Side Impacts

Forecast of Annual Energy by Zone - GWh

Year	A	B	C	D	E	F	G	H	I	J	K	NYCA
2018	15,211	9,841	15,894	4,320	7,681	11,883	9,653	2,928	5,916	52,242	20,551	156,120
2019	15,135	9,776	15,773	5,990	7,605	11,777	9,561	2,913	5,881	51,860	20,378	156,649
2020	15,052	9,709	15,648	6,049	7,529	11,667	9,469	2,899	5,847	51,484	20,214	155,567
2021	14,972	9,648	15,533	6,039	7,460	11,569	9,382	2,887	5,820	51,173	20,084	154,567
2022	14,908	9,605	15,444	6,031	7,408	11,496	9,310	2,882	5,808	50,992	20,014	153,898
2023	14,869	9,582	15,386	6,026	7,374	11,451	9,259	2,884	5,811	50,942	20,009	153,593
2024	14,842	9,570	15,346	6,022	7,349	11,418	9,222	2,889	5,823	50,954	20,041	153,476
2025	14,821	9,565	15,315	6,019	7,330	11,393	9,194	2,896	5,838	50,989	20,094	153,454
2026	14,806	9,566	15,292	6,017	7,315	11,373	9,174	2,904	5,855	51,043	20,159	153,504
2027	14,803	9,575	15,284	6,016	7,307	11,364	9,165	2,915	5,878	51,143	20,241	153,691
2028	14,805	9,588	15,281	6,016	7,303	11,360	9,162	2,926	5,901	51,259	20,325	153,926

2018 Preliminary Baseline Forecast: Summer Peak

Includes Demand-Side Impacts

Forecast of Coincident Summer Peak Demand by Zone - MW

Year	A	B	C	D	E	F	G	H	I	J	K	NYCA
2018	2,801	2,014	2,841	521	1,308	2,332	2,233	674	1,455	11,403	5,322	32,904
2019	2,784	2,001	2,816	719	1,293	2,311	2,205	671	1,448	11,339	5,270	32,857
2020	2,769	1,990	2,792	717	1,279	2,292	2,179	668	1,442	11,276	5,225	32,629
2021	2,757	1,981	2,772	715	1,267	2,277	2,157	666	1,437	11,229	5,193	32,451
2022	2,748	1,974	2,757	714	1,259	2,265	2,141	666	1,435	11,202	5,178	32,339
2023	2,742	1,971	2,747	713	1,253	2,258	2,129	666	1,435	11,194	5,176	32,284
2024	2,739	1,970	2,741	713	1,249	2,254	2,121	667	1,437	11,201	5,184	32,276
2025	2,739	1,972	2,738	712	1,247	2,252	2,117	668	1,440	11,216	5,198	32,299
2026	2,740	1,974	2,738	712	1,246	2,252	2,115	670	1,443	11,238	5,215	32,343
2027	2,743	1,978	2,739	712	1,246	2,253	2,114	672	1,447	11,265	5,234	32,403
2028	2,746	1,982	2,741	712	1,246	2,255	2,115	674	1,451	11,294	5,253	32,469

The mission of the New York Independent System Operator is to:

- Serve the public interest and
- Provide benefit to stakeholders 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 policy makers, stakeholders and investors in the power system

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