



NYISO Summer 2020 Hot Weather Operations

Wes Yeomans

VICE PRESIDENT, OPERATIONS

Management Committee

September 23, 2020, Rensselaer, NY

Agenda

- **Summer 2020 Hot Weather Operations**
 - Thursday, July 2 – Friday, July 10
 - Saturday, July 18 – Wednesday, July 22
 - Sunday, July 26 – Thursday July 30
- **Summer Ambient Temperatures & Loads**
- **Loads & Peaks**
- **Renewable Forecasting & Actual Generation**

July 2-10 Hot Weather Operations

- More extreme, long duration heat existed in the western part of the state during this time period
- 98°F in Buffalo on 7/9/2020 ties the 2nd highest temperature on record back to 1873
- Buffalo broke its record for the most 90°+ days in a row (8) while Syracuse tied its record (7)
- Met reliability criteria with surplus operating margins
- No activations of SCR/EDRP required (except events noted on slide 27)
- No need for statewide supplemental capacity commitments
- Operations participated in regional coordination conference calls
- Worked with Transmission Owners to restore out of service equipment to support peak loads
- Local reliability commitments per NYSRC Applications of Reliability Rules
- Transmission Owners did activate utility (retail) demand response programs
- No need for emergency actions such as emergency purchases or voltage reduction

July 18-22 Hot Weather Operations

- Governor's office issued extreme heat warning and urged customers to conserve electricity
- Heat index values ranging from the low-90s to 100°F were forecast throughout the entire timeframe and across much of the state
- Met reliability criteria with surplus operating margins
- No activations of SCR/EDRP required (except events noted on slide 27)
- No need for statewide supplemental capacity commitments
- Operations participated in regional coordination conference calls
- Worked with Transmission Owners to restore out of service equipment to support peak loads
- Local reliability commitments per NYSRC ARR rules
- Transmission Owners did activate utility (retail) demand response programs

July 26-30 Hot Weather Operations

- Summer Peak load occurred July 27 HB17 - 30,660MW (95% of the 50-50 forecast of 32,296 MW).
- Daily Max Temperatures were mainly in the lower to mid-90s, mid-to upper-90s downstate
- The National Weather Service posted Heat Advisories across much of the state
- Met reliability criteria with surplus operating margins
- No activations of SCR/EDRP required (except events noted on slide 27)
- No need for statewide supplemental capacity commitments
- Operations participated in regional coordination conference calls
- Worked with Transmission Owners to restore out of service equipment to support peak loads
- Local reliability commitments per NYSRC ARR rules
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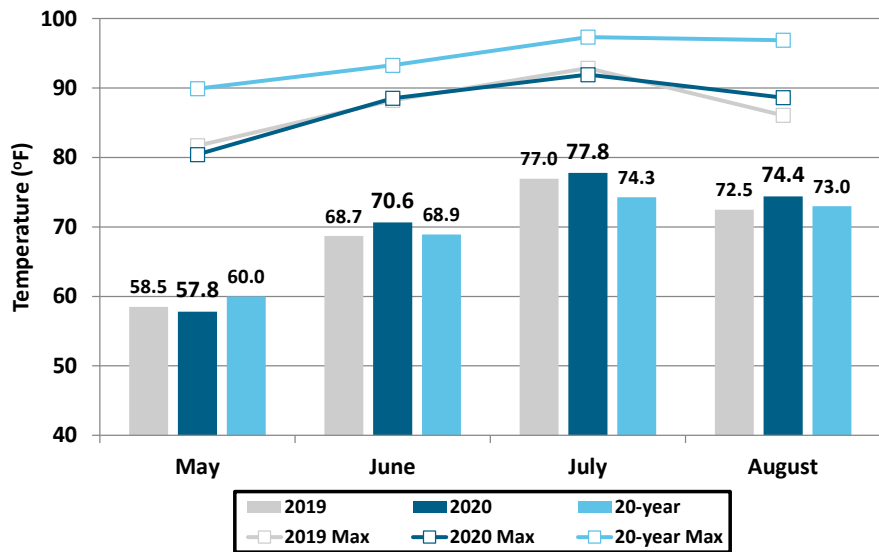
Other noteworthy events

- **First summer without Indian Point 2, Somerset, Cayuga and with the addition of Cricket Valley**
- **Peak load impacts as the result of COVID during heat wave conditions around 0%**
- **Tropical Storm Isaias**
 - Governor declared a state of emergency 8/5/2020.
 - 920,000 customer outages on 8/4/20
 - Multiple Bulk Electric System transmission elements tripped out of service
 - Some generation units unavailable due to transmission outages
- **8/10 NYISO issued a supplemental resource evaluation call (“SREd”) for Danskammer 4 due to an increase in load forecasts after the DAM for statewide capacity needs**
- **8/11 NYISO SREd Danskammer 4 & Saranac Energy due to an increase in load forecasts after the DAM for statewide capacity needs**
- **8/24 NYISO SREd Roseton 1 for statewide capacity needs due to the loss of generation capacity and an increase in load forecasts after the DAM**
- **8/25 NYISO SREd Roseton 1 & Saranac Energy due to the loss of generation capacity from multiple units**

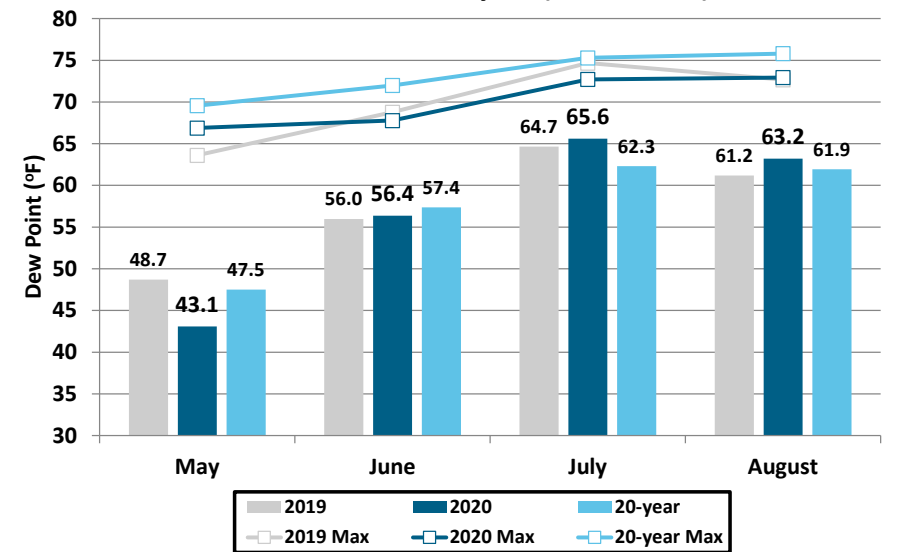
Ambient Conditions

- **Daily mean temperatures were above the 20-year average in June, July, and August; and below average in May**
 - Highest Temperatures: 96 °F at NYC (Central Park) and 95 °F at Albany
 - 20 days with highs above 90 °F at NYC - Central Park (average is 12 days/year from 1981 – 2010)
<https://www.weather.gov/okx/CentralParkHistorical - Seasonal Climate Report>
 - 13 days with highs above 90 °F at Albany (average is 7 days/year from 1981 – 2010)
<https://www.weather.gov/aly/climate - Seasonal Climate Report>
- **The COVID-19 pandemic reduced summer load levels by about 5% relative to expected (total energy)**
 - By month: May -10%; June -6%; July and August -3%
- **Total load (GWh) was below 50/50 projections, driven primarily by a large May deficit**
- **Peak load was below the 50/50 projection for the 7th consecutive summer**
 - Summer 2020 50/50 forecast was 32,296 MW
 - Summer 2020 actual coincident peak load was 30,660 MW (Pi data) (July 27)
 - Summer 2019 actual coincident peak load was 30,397 MW
- **One day with peak loads over 30,000 MW**

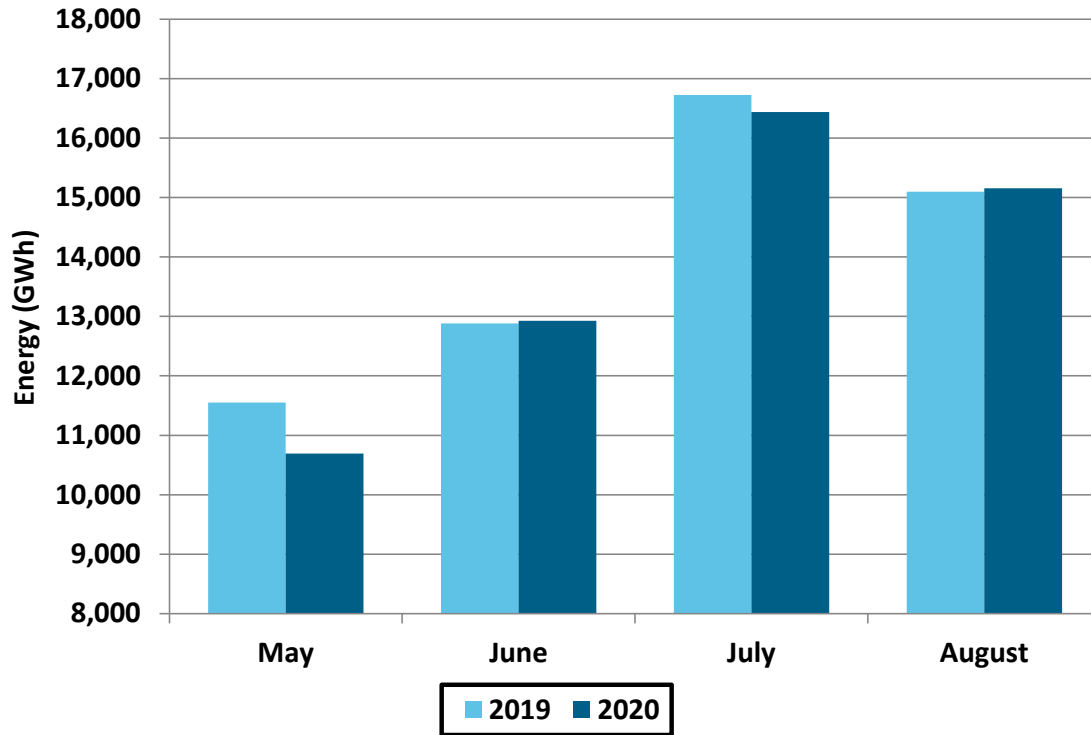
Monthly Average and Max Temperatures
2019, 2020, and 20-year (2000 - 2019)



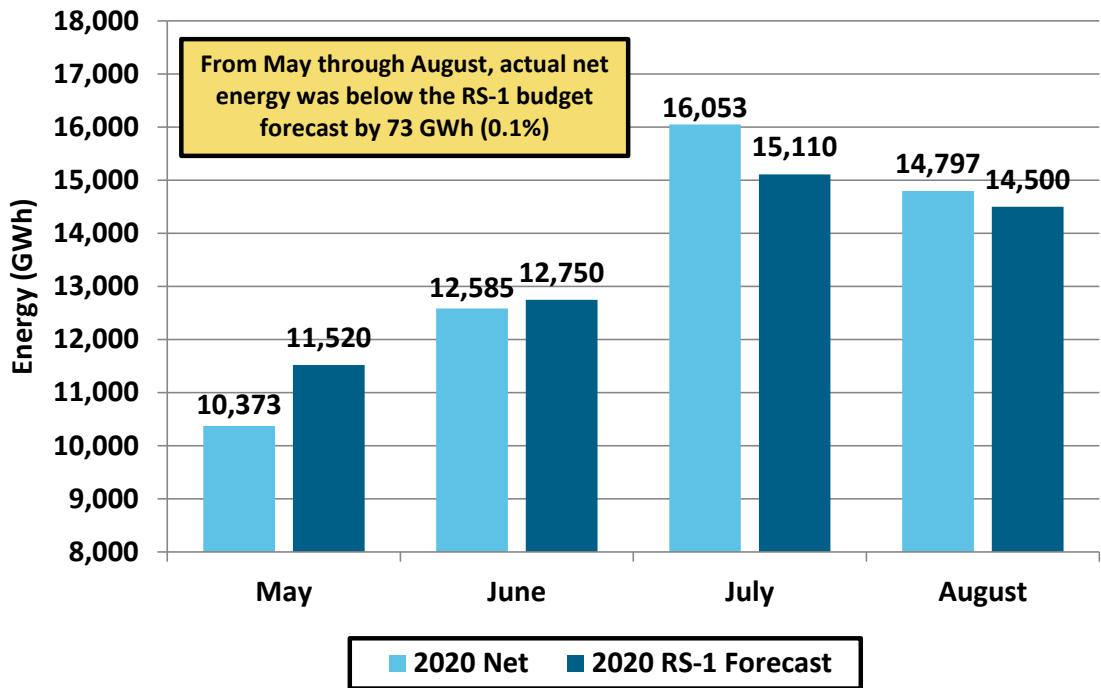
Monthly Average and Max Dew Points
2019, 2020, and 20-year (2000 - 2019)

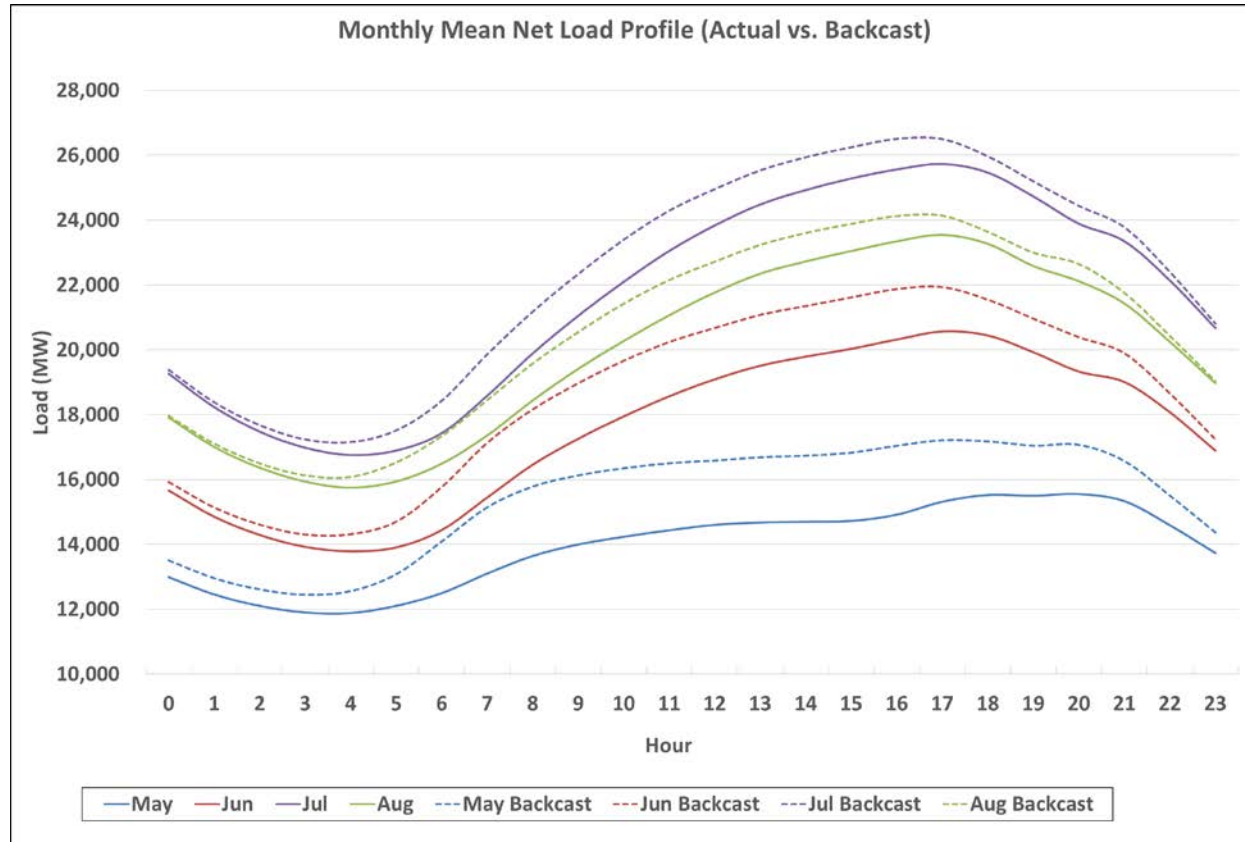


Monthly Send Out - 2019 & 2020 (GWh)

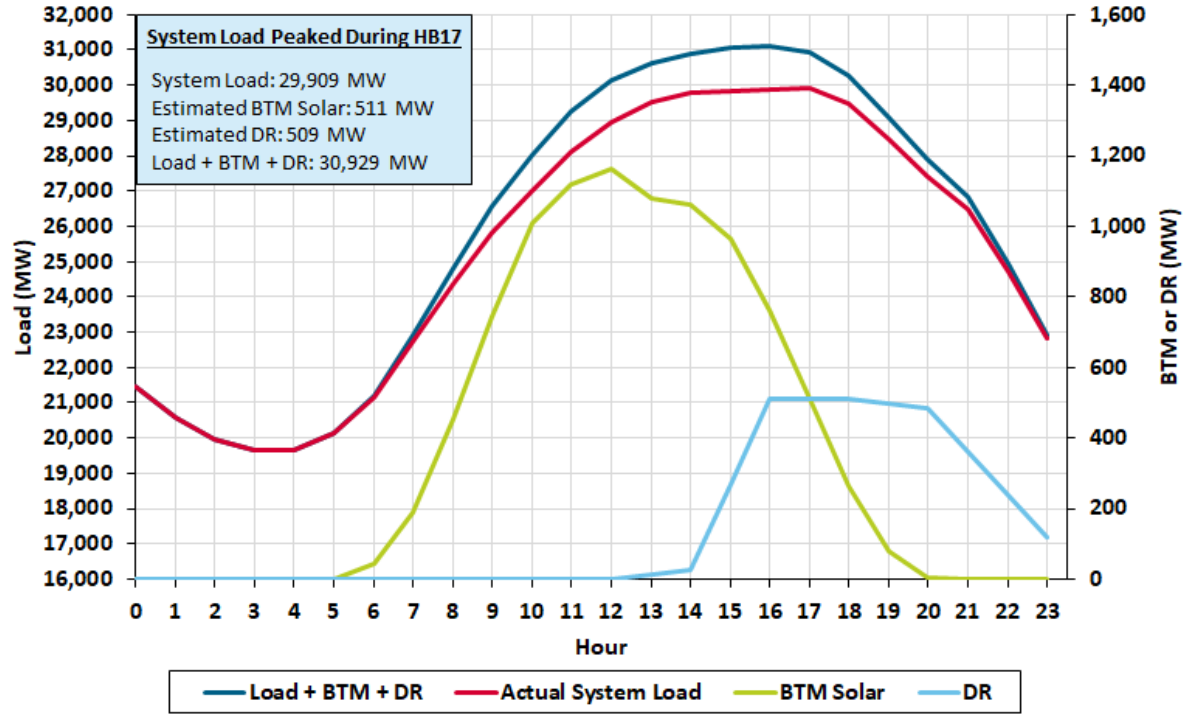


2020 Monthly Net Energy - GWh Actual and RS-1 Budget Forecast

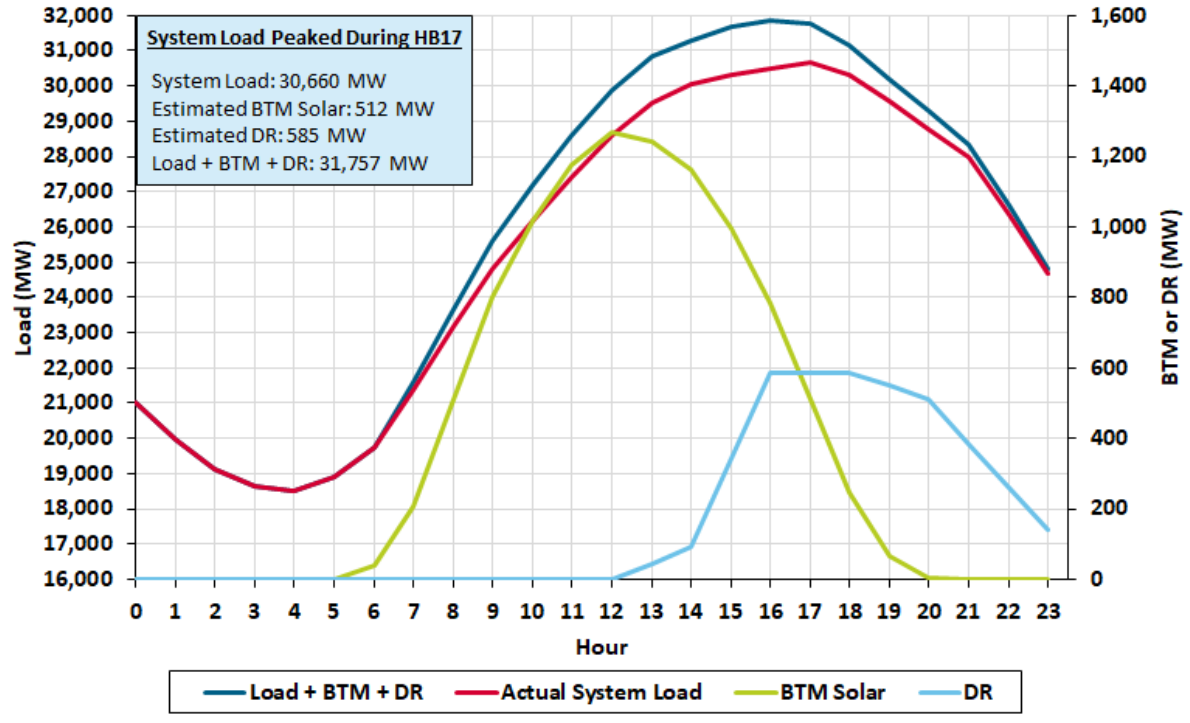




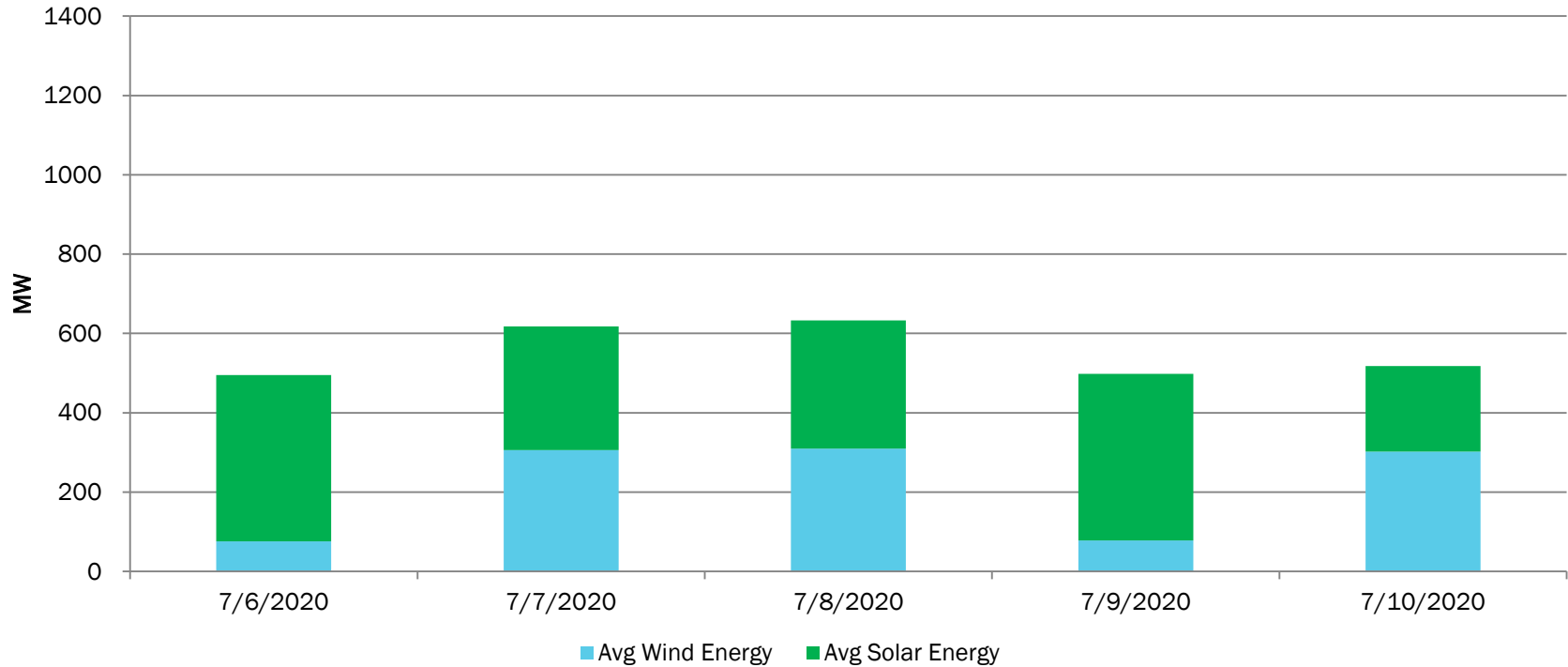
System Load, DR (NYISO- & TO-Initiated), and BTM Generation July 20, 2020



System Load, DR (NYISO- & TO-Initiated), and BTM Generation July 27, 2020

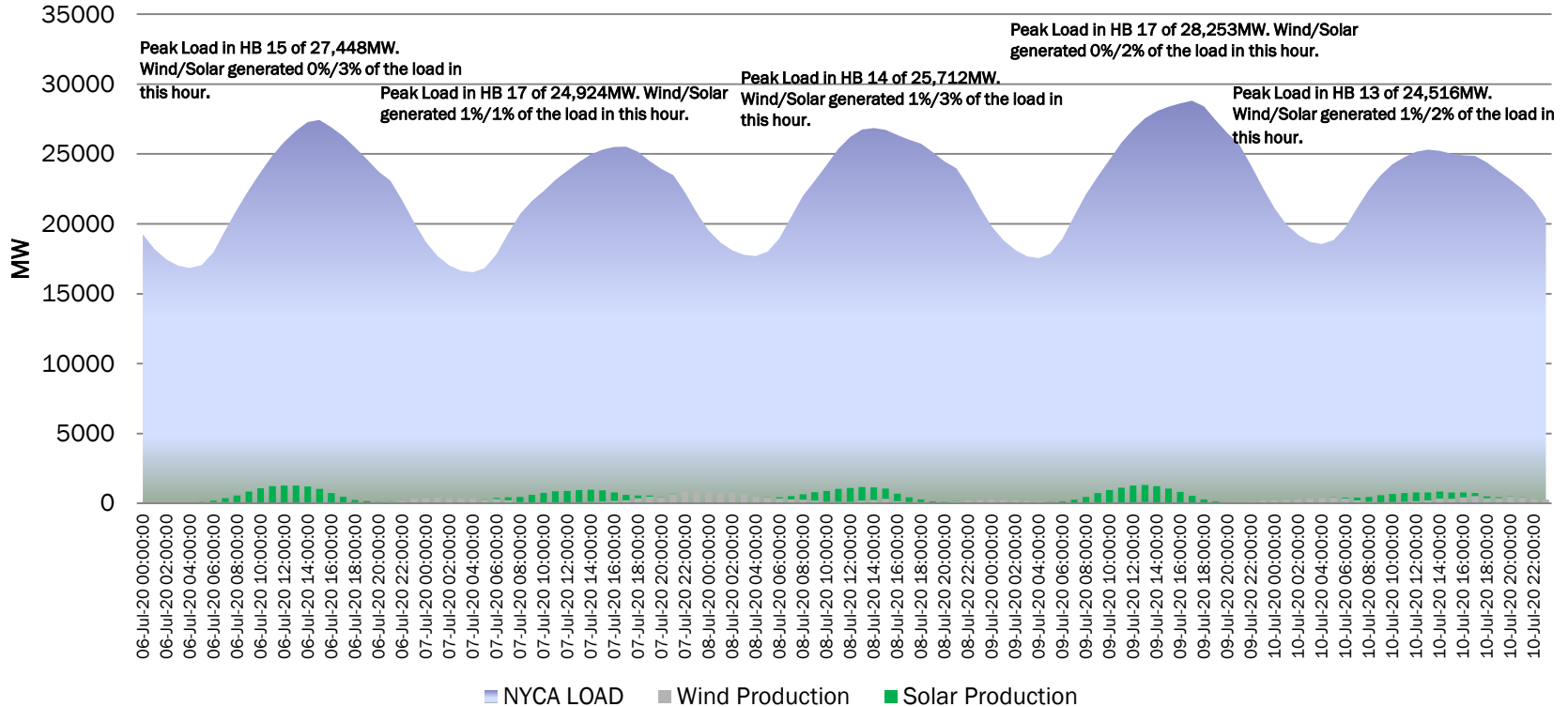


Daily Wind & Solar Production 07/6/2020 - 07/10/2020



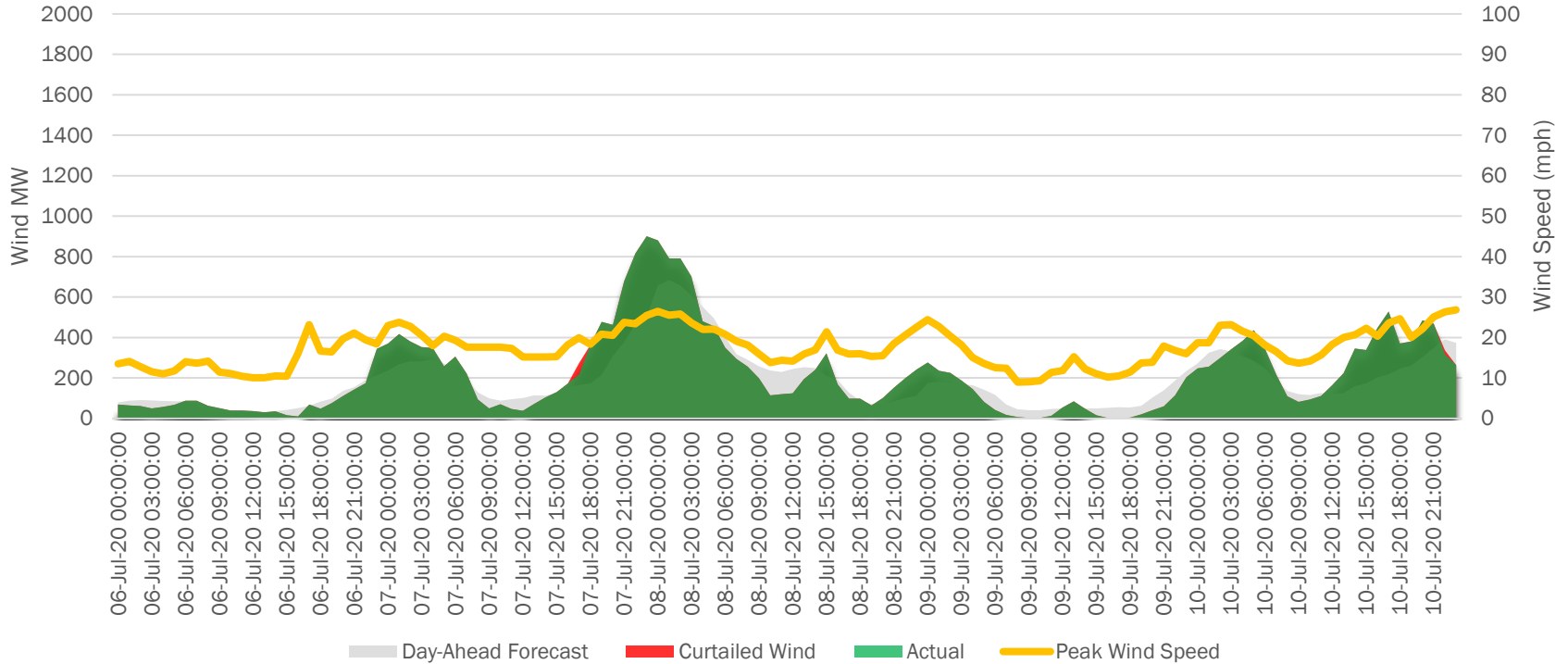
Hourly Wind & Solar Production

7/6/2020 - 7/10/2020

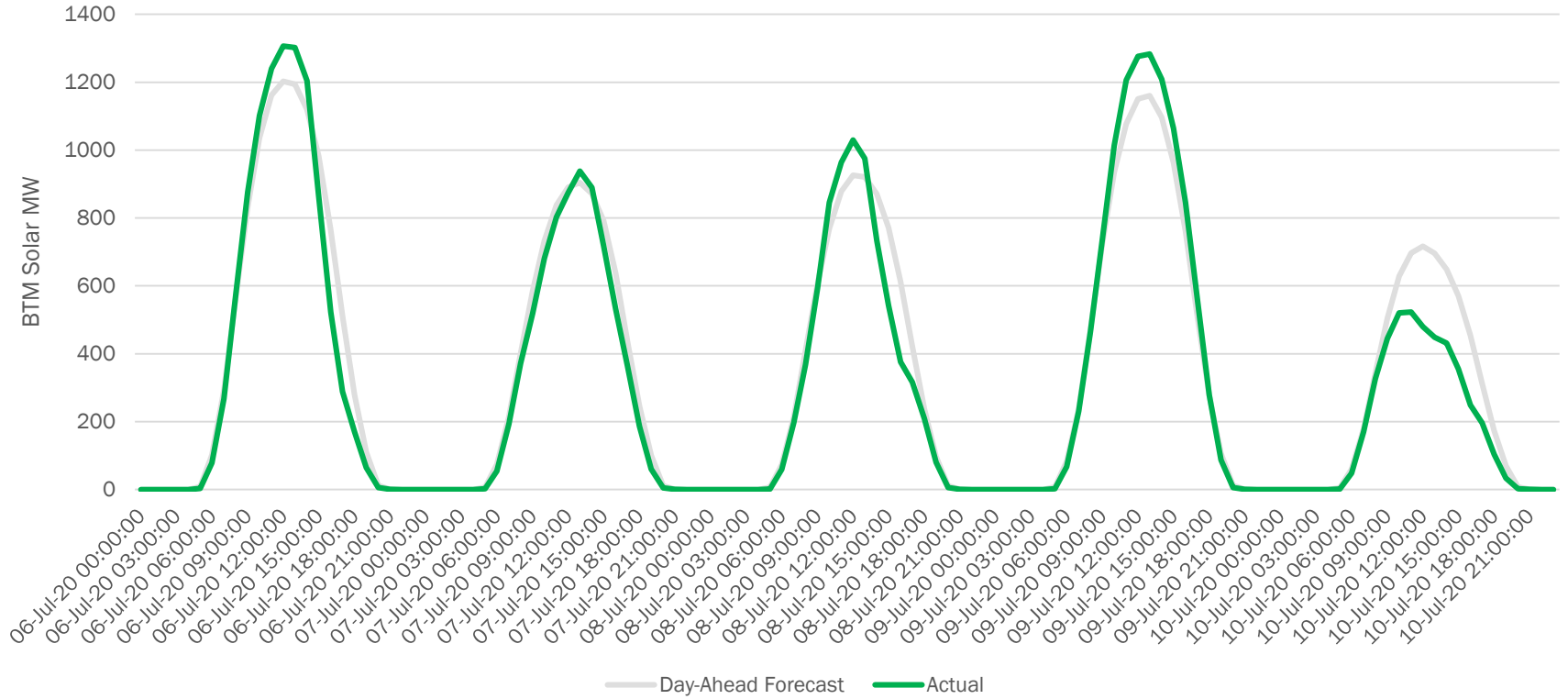


NYCA Wind Profile

7/6/2020-7/10/2020

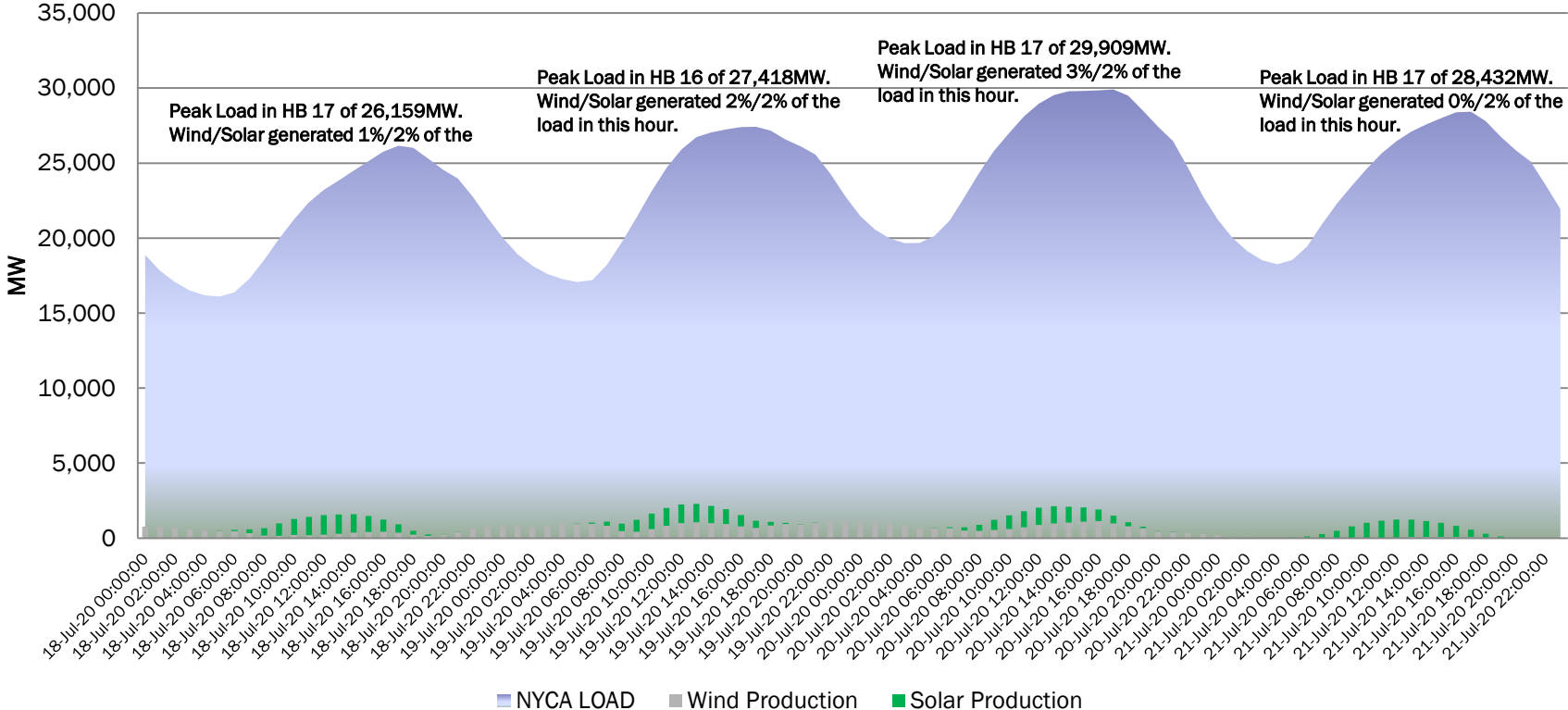


July 06-10- NYCA BTM Solar Profile (~1,979MW)

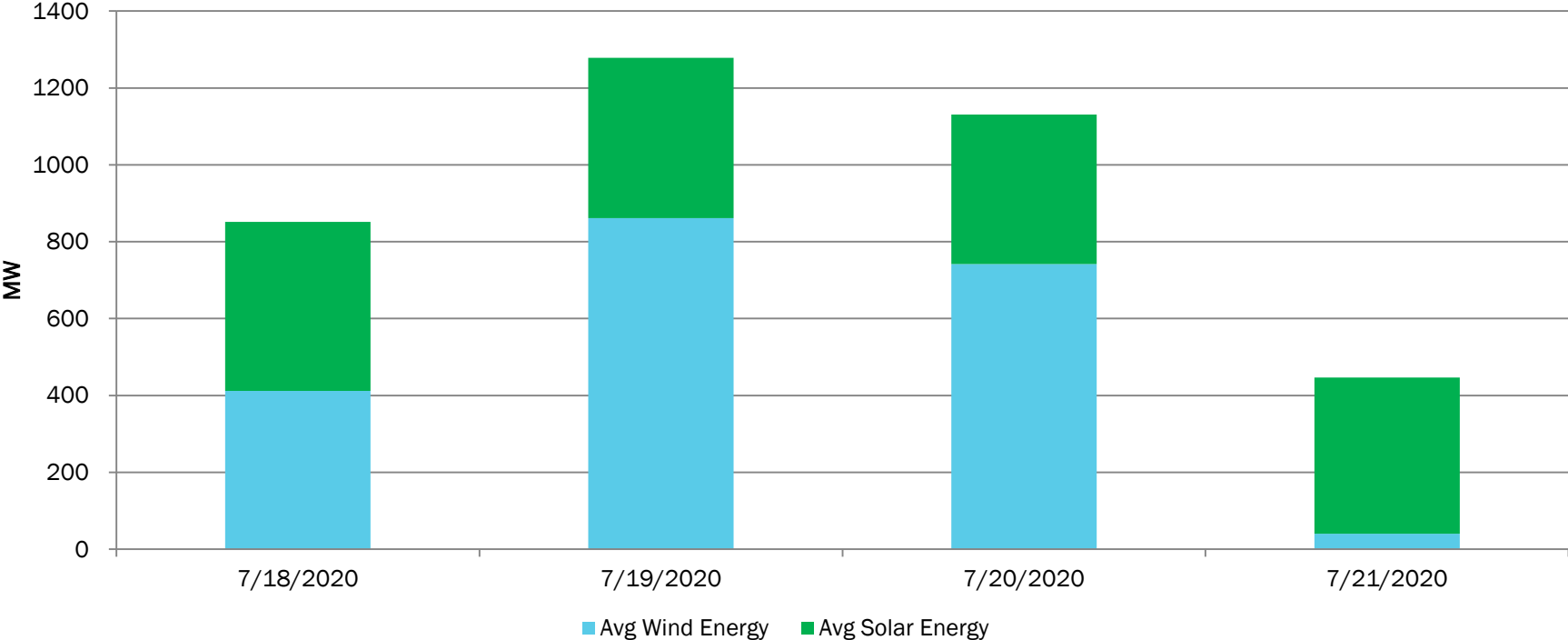


Hourly Wind & Solar Production

7/18/2020 - 7/21/2020

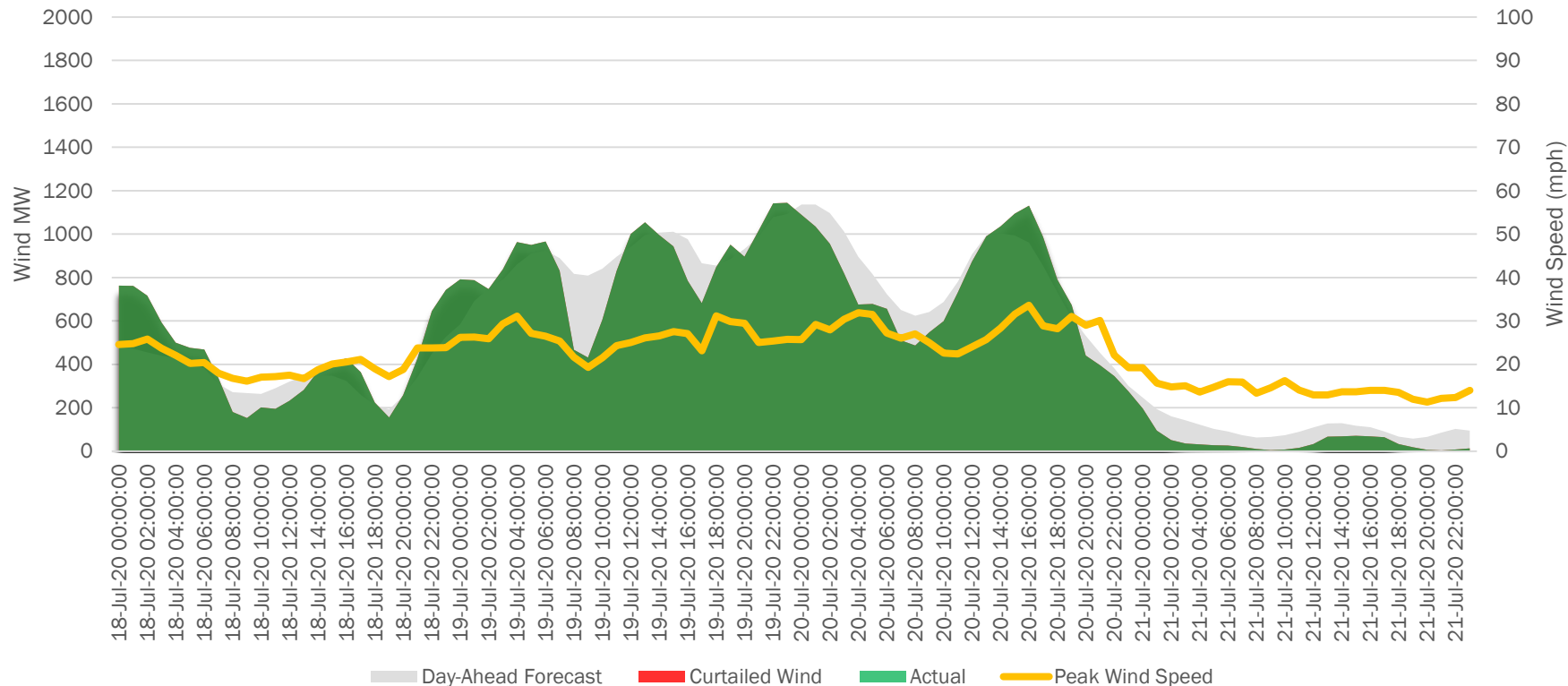


Daily Wind & Solar Production 07/18/2020 - 07/21/2020

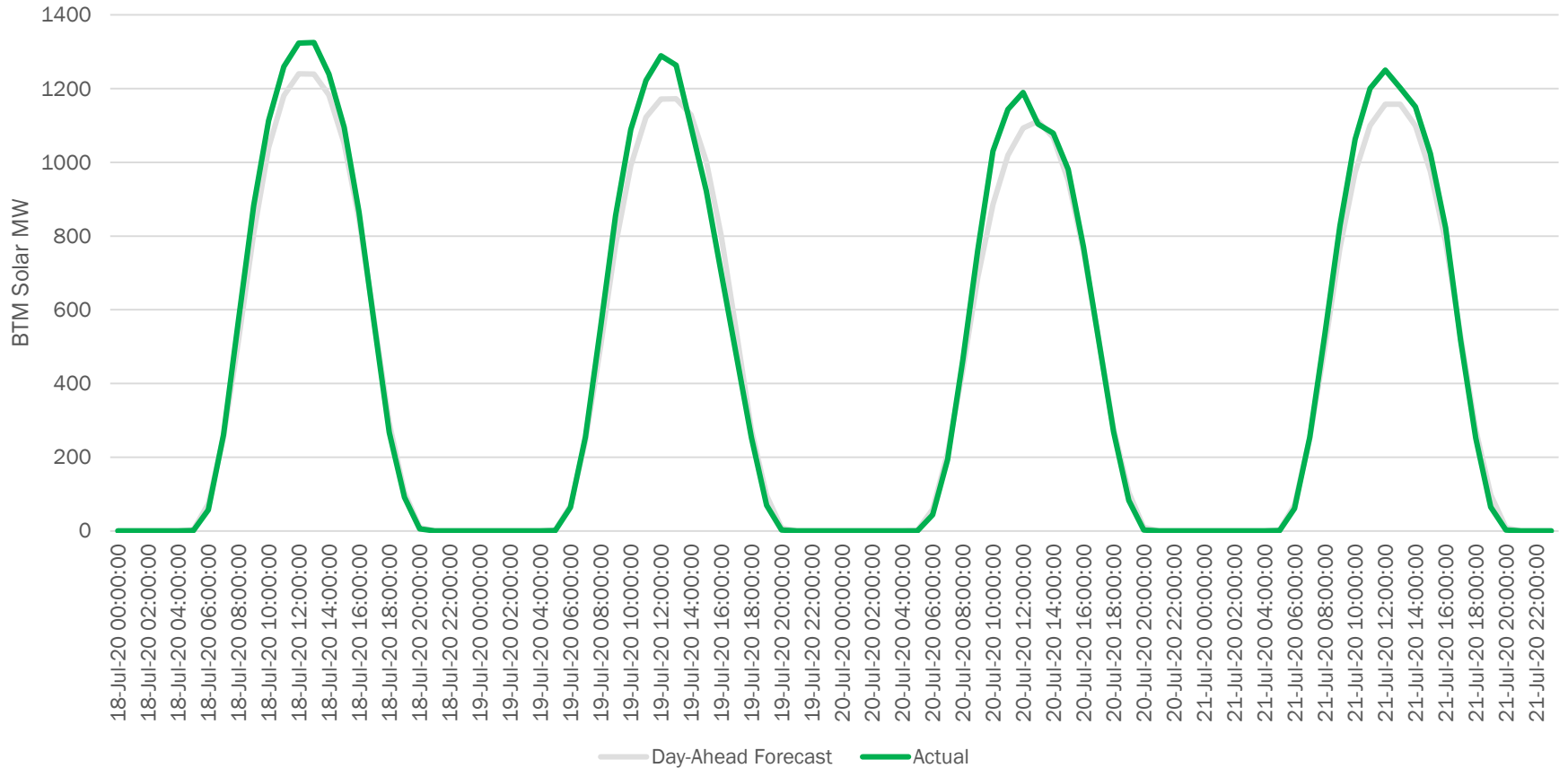


NYCA Wind Profile

7/18/2020-7/21/2020

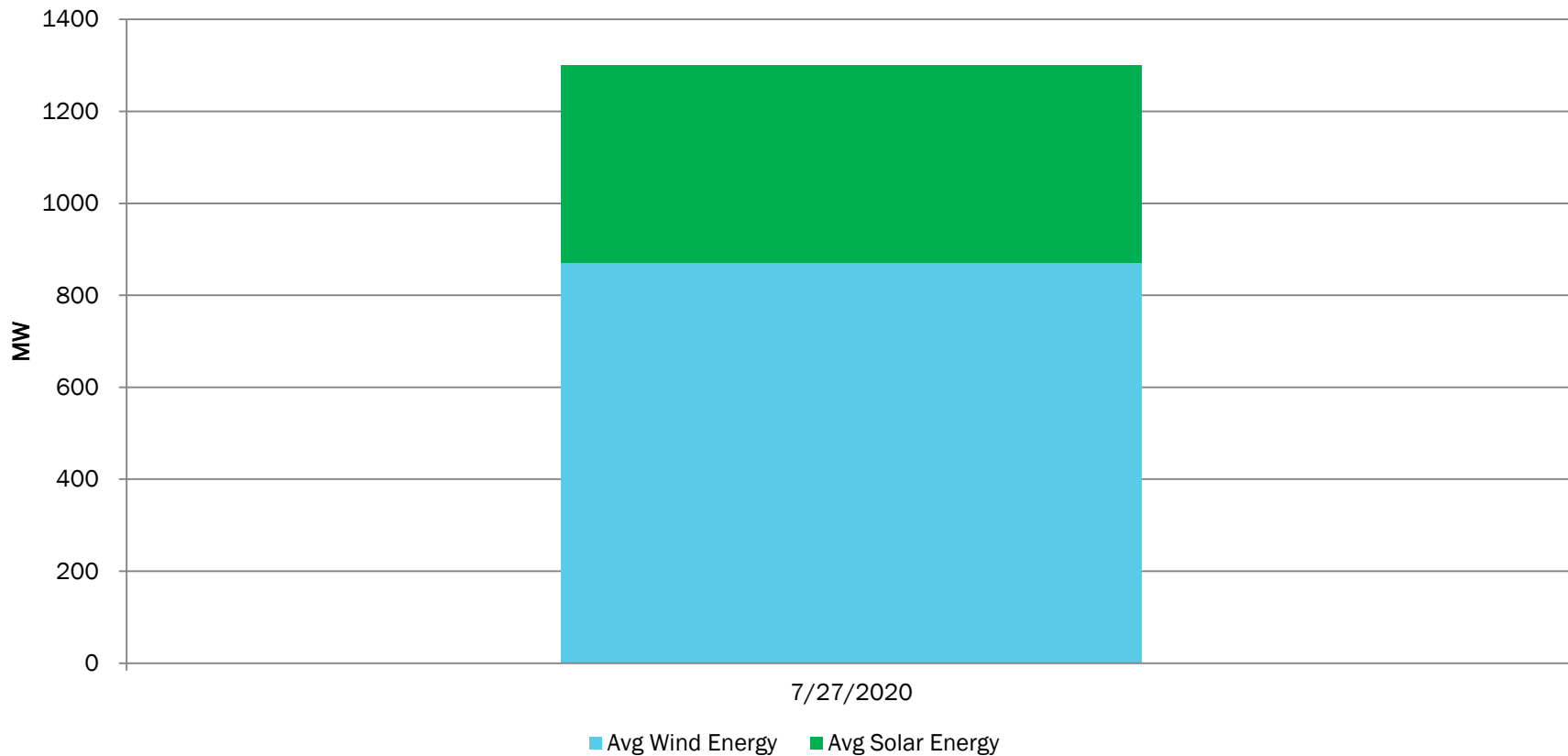


July 18-21- NYCA BTM Solar Profile (~1,978MW)



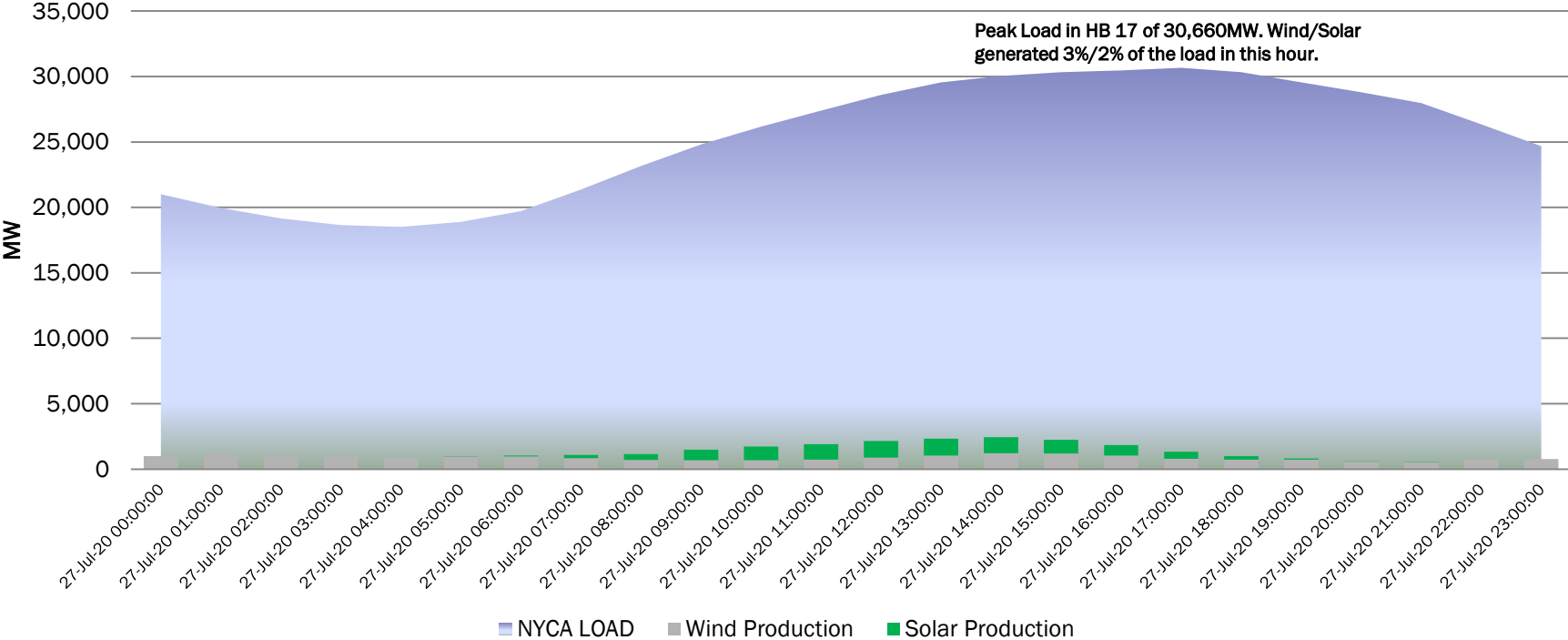
Daily Wind & Solar Production

07/27/2020

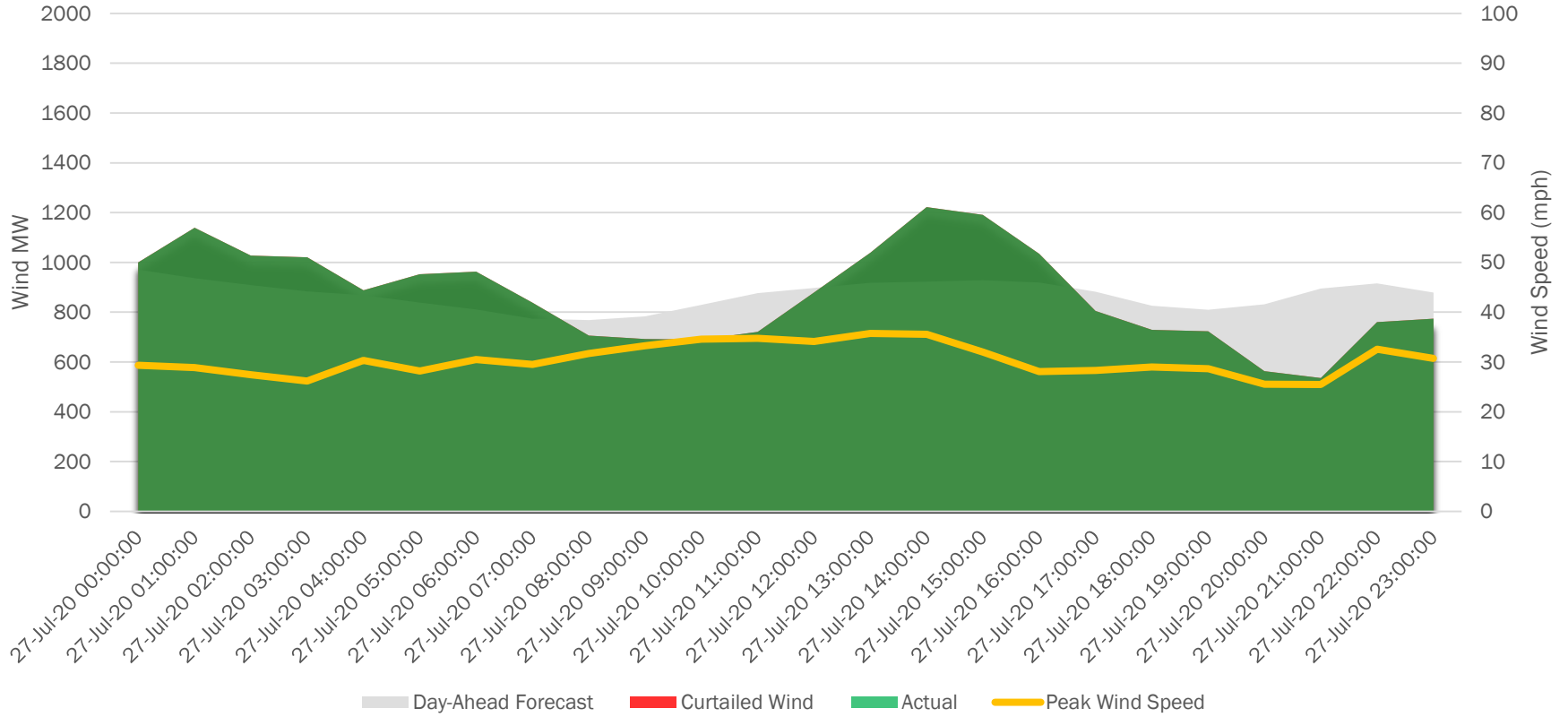


Hourly Wind & Solar Production

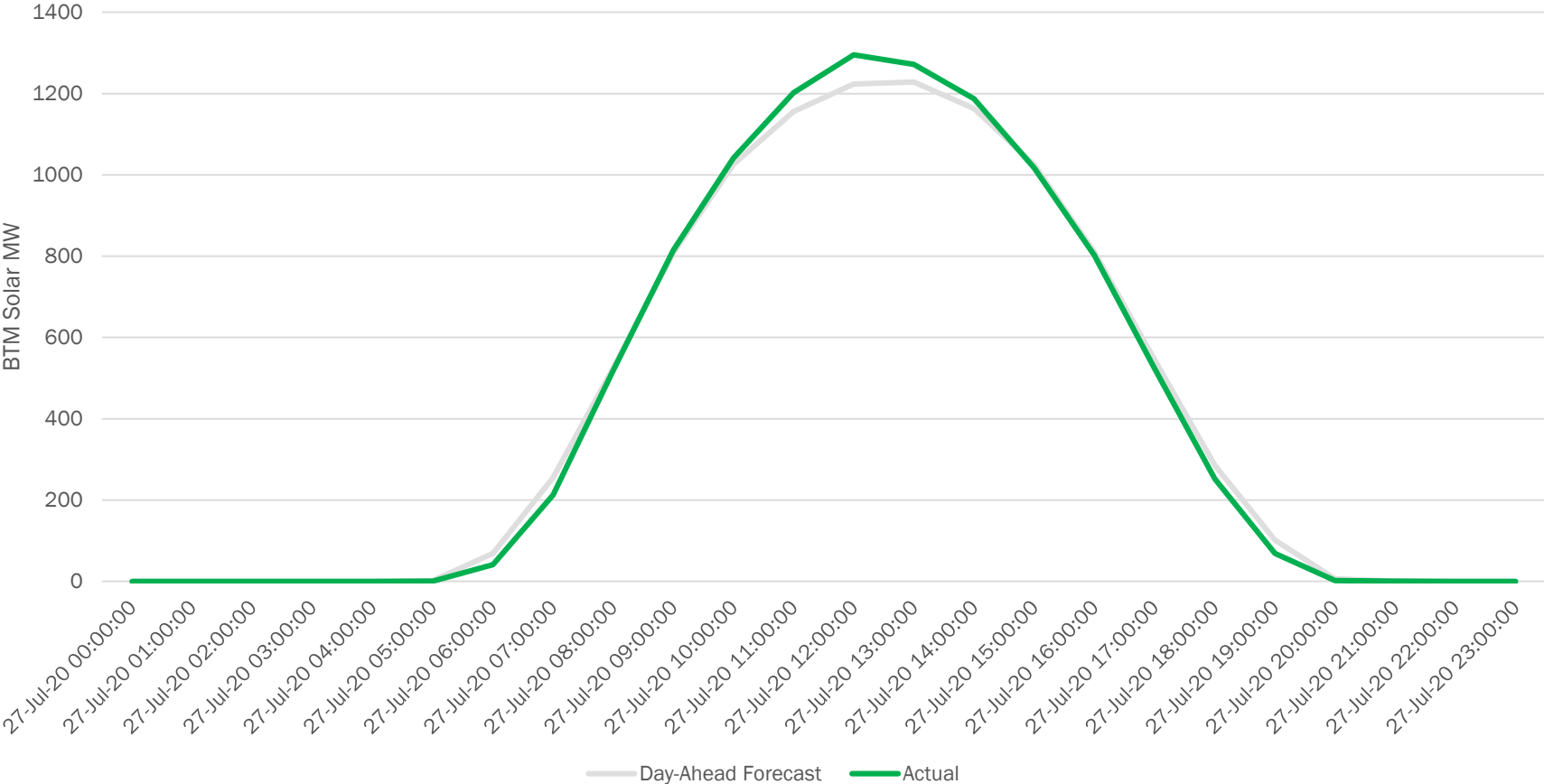
7/27/2020



NYCA Wind Profile 7/27/2020



July 27- NYCA BTM Solar Profile (~1,978MW)



Retail Demand Response Program Activations

Date	Transmission Owner
June 21, 2020	Con Ed
June 22, 2020	Con Ed
June 25, 2020	Con Ed
June 26, 2020	Con Ed
June 27, 2020	Con Ed
June 28, 2020	Con Ed
June 29, 2020	Con Ed
June 30, 2020	Con Ed
July 01, 2020	Con Ed
July 02, 2020	Con Ed
July 05, 2020	Con Ed
July 06, 2020	Con Ed, RG&E
July 07, 2020	Con Ed, RG&E
July 08, 2020	National Grid, RG&E

Date	Transmission Owner
July 09, 2020	Con Ed, National Grid, NYSEG, RG&E
July 10, 2020	National Grid, RG&E
July 20, 2020	Con Ed, LIPA, National Grid
July 21, 2020	Con Ed, LIPA
July 22, 2020	Con Ed, LIPA
July 23, 2020	LIPA
July 27, 2020	Con Ed, LIPA, National Grid, NYSEG, O&R
July 28, 2020	Con Ed, LIPA
July 29, 2020	Con Ed, LIPA
July 30, 2020	Con Ed, LIPA
August 11, 2020	Central Hudson, NYSEG, RG&E
August 24, 2020	Con Ed
August 25, 2020	LIPA
August 28, 2020	Con Ed

Targeted Demand Response Program Activations

Date	Transmission Owner	Sub-load Pockets Called
July 6, 2020	Con Ed	J8
July 7, 2020	Con Ed	J8
July 20, 2020	Con Ed	J1, J2, J3, J4, J5, J7, J8
July 27, 2020	Con Ed	J1, J2, J3, J4, J5, J8
July 28, 2020	Con Ed	J1, J2, J3, J4, J5, J8

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



Questions?