

# POWERING THE FUTURE

## New York State's Energy Landscape

### Basic Terminology:

Kilowatt/Kilowatthour (KW/kWh): A measure of energy. A kilowatt is 1,000 watts. A kilowatthour is 1,000 watts of electricity used over one hour.

Megawatt/Megawatthour (MW/mWh): A measure of energy equal to 1 million watts (or 1,000 kilowatts). A megawatthour is 1 million watts used over one hour. The capacity of commercial power plants is often expressed in terms of megawatts. One megawatt is generally considered sufficient to power 1,000 homes.

Gigawatt (GW): A measure of energy equal to 1 billion watts (or 1,000 megawatts).

Peak demand/load: These terms can be use interchangeably to denote the period of highest electricity usage. Peak demand in New York State generally occurs during the summer months and is driven by air conditioner usage.

Net metering: Net metering is the regulatory framework that enables consumers to essentially sell unused power generated at their home or business back to the utility grid.

Interconnection: Interconnection broadly describes the set of policies adopted by a utility that allows customers to connect distributed generating systems onto the utility grid.

Photovoltaic cell (PV): Photovoltaic cells (PV) are the most common form of solar power generation. Photovoltaics use semiconductors to convert sunlight directly into electricity.

Concentrated solar power (CSP): CSP systems use large mirrors and/or lenses to concentrate sunlight. These systems use the heat from the concentrated sunlight to produce steam and drive electricity-generating turbines.

### Energy Statistics:

?? New York State direct electricity usage (2006): 1,717,878 mWh

?? New York State average retail price (2006): 15.27 cents per kWh

?? New York State record peak load: 33,939 MW (August 2, 2006)

- NYS record winter peak load: **25,540 MW** (December 20, 2004)
- New York City average peak load: **11,400 MW**
- Projected New York City Average in 2030: **14,700 MW** (a 29% increase).  
*PlaNYC 2030* projects a gap of **2,300 MW** between in-city generating capacity and expected peak demand in 2030.

?? Average monthly household consumption: 591 kWh

- Average monthly household consumption in New York City: **300 kWh.**

**State solar PV programs (installed capacity and goals):**

STATE	CUMULATIVE INSTALLED CAPACITY (MW)	GOALS (MW)	TERMINAL DATE
California	327	3000	2017
New Jersey	57.8	1700	2020
Nevada	18.7	400	2020
Arizona	18.6	1500*	2025
New York	15.1	100	2011
Colorado	14.5	200	2020
Connecticut	9.3	17	2010
<b>States with New Solar Set-Aside Programs</b>			
Massachusetts	4.6	250	2017
Pennsylvania		800	2020
Ohio		400**	2024
Maryland		1400	2022

\*Total customer-sited renewables, of which most will be solar PV

\*\*Enacted in 2008 – Annual ramp-up with .5% of retail sales to be from solar by 2024

**New York State electricity generation by fuel type (2006):**

