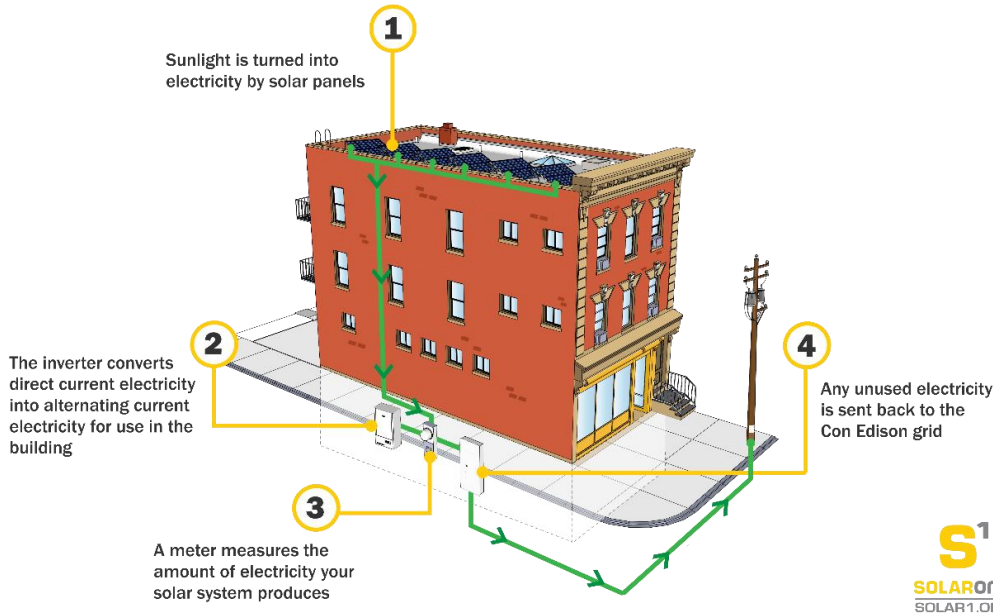




## How Solar Works






### Kilowatts vs Kilowatt-Hours

**Kilowatt (kW)** - A solar energy system's capacity is the amount of power that the system could produce in an instant under ideal conditions. System Capacity is measured in Watts, or *kilowatts*, like lightbulbs.

**Kilowatt Hours (kWh)** - Over time, solar arrays produce a flow of energy, measured in *kilowatt hours*. One kilowatt hour of solar energy offsets the need to purchase one kilowatt hour from the utility.



## Three Types of Solar Installations

Ballasted Array	Mechanically Attached Planar Array	Raised Canopy Array
		
<ul style="list-style-type: none"> <li>• Low profile</li> <li>• Limited roof penetrations</li> <li>• Cheaper and easier for low-rise buildings &lt;100 ft</li> </ul>	<ul style="list-style-type: none"> <li>• More solar production</li> <li>• No inter-row spacing</li> <li>• Best for space-constrained roofs</li> </ul>	<ul style="list-style-type: none"> <li>• Raised at least 9' above roof</li> <li>• Can cover entire roof area</li> <li>• Most expensive, but has co-benefits</li> </ul>



## Solar Operations and Maintenance

- ▶ Almost no maintenance for solar arrays and inverters
- ▶ Online monitoring allows remote diagnosis of performance issues
- ▶ Solar company should do walkthrough with building staff
- ▶ 25-year panel warranty
- ▶ 5 to 10-year workmanship warranties
- ▶ Solar company can work with roofer to maintain existing roof warranty

## ⚡ Solar Financials

### ↑ \$/Watt **increases** when...

- Smaller system
- Mechanically integrated system
- Taller buildings (>7 stories)
- Prevailing Wage
- Creative system designs like canopy

### ↓ \$/Watt **decreases** when...

- Larger system
- Ballasted installation
- Competitive and bulk procurement
- Solar-Ready design

Sample system costs				
System Size	Mounting Method	\$/Watt	Turnkey Price	Annual Savings
8 kW	Mechanically attached	\$5.00	\$40,000	\$2,000
30 kW	Ballasted	\$3.50	\$105,000	\$8,000
40 kW	Canopy	\$4.50	\$116,000	\$11,000

## ⚡ Available Solar Incentives

Building Type	NYSERDA NY-SUN Incentive (paid directly to installer)	Federal Tax Credit* (26% of system cost)	State Tax Credit (25% of system cost)	Accelerated Depreciation (Federal and State Bonus Depreciation)	NYC Property Tax Abatement (20% of system cost)
OWNER-OCCUPIED COOP/CONDO	\$1.20/Watt (\$1.60/Watt for affordable housing)	Likely distributed to shareholders	Must be distributed to shareholders	Only available to businesses	Only eligible if taxes are owed, not compatible with some other abatements
FOR-PROFIT RENTAL	\$1.20/Watt (\$1.60/Watt for affordable housing)	Commercial Tax Credit can be taken	N/A (homeowners only)	Available, pending owners' income tax liability	Only eligible if taxes are owed, not compatible with some other abatements
NON-PROFIT RENTAL	\$1.20/Watt (\$1.60/Watt for affordable housing)	Tax Credit can only be monetized if project has LIHTC investor	N/A (homeowners only)	No tax liability	No tax liability

\*Federal Investment Tax Credit is 26% in 2022, 22% in 2023, 10% in 2024

## 💬 Questions?

In partnership with HPD, Solar One provides free technical assistance to all affordable housing considering solar.

- Resources available on HPD's Solar Where Feasible webpage →
  - Solar Feasibility Analysis Tool
  - HPD Technical Requirements
  - PV System Owner's Guide
  - Instructional Webinar Recordings
- Email [affordable@solar1.org](mailto:affordable@solar1.org) with any questions or to request technical assistance

