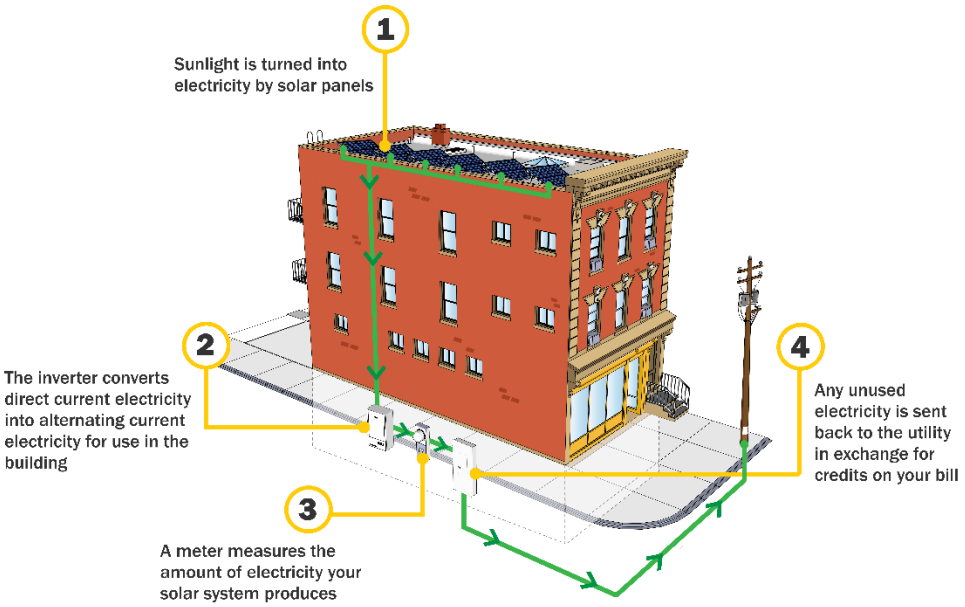
HERE COMES SOLAR

SOLAR 101

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
		
• Low profile • Limited roof penetrations • Cheaper and easier for low-rise buildings <100 ft	• More solar production • No inter-row spacing • Best for space-constrained roofs	• Raised at least 9' above roof • Can cover entire roof area • Most expensive, but has co-benefits

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

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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	Planar	$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* (30% 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-OCUPIED 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 30% + adders for certain buildings in low-income census tract or projects benefitting low-income tenants. See Inflation Reduction Act IRS guidance.*

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 with any questions or to request technical assistance