

PSE&G Solar Loan Program



Going Solar with PSE&G



Solar Energy 101

Solar Energy 101

Benefits

- Produce some of your own power
- Conserve energy
- Eco-friendly and renewable
- Systems are long-lasting
- Require little maintenance
- Cost of producing electricity is relatively stable and predictable over a long period of time



Solar Energy 101

Considerations

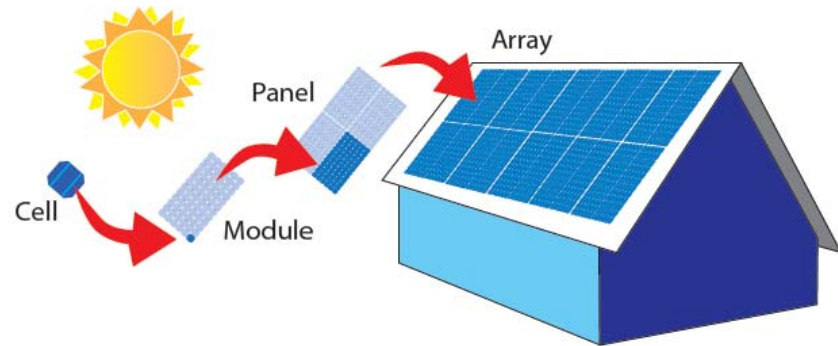
- Cost is a hurdle; systems are expensive
- Solar energy isn't continuous
 - Not available at night
 - Production reduced by clouds, snow, and dirt
 - Need to be connected to utility
- Cannot have neighboring structures or landscaping block system's access to sunlight
- Expected life of roof should at least match solar system
- Roofing types, designs or orientation limit installation or efficient output

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System Components

- Basic unit that converts light to energy is the solar cell
- Multiple solar cells connected to form a photovoltaic (PV) module
- Solar panels include PV modules assembled as a pre-wired unit
- Panels form the entire power-generating unit called a PV array

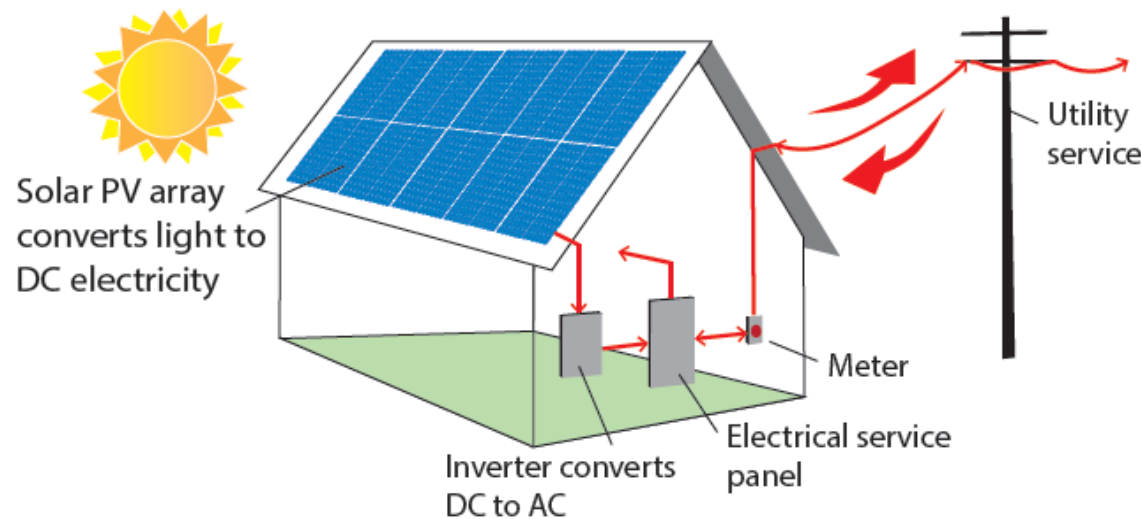
The number of panels for a system array are determined to provide the desired power capacity, typically measured in **kilowatts (kW)**



- A mounting system attaches the array to the roof
- Inverters convert the electricity the array generates from direct current (DC, the type from batteries) to 120 volt alternating current (AC, the same as the electricity delivered to your home by your utility company)

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System Operation



The electricity that a system produces is measured in units of energy, typically in **kilowatts hours (kWh)**

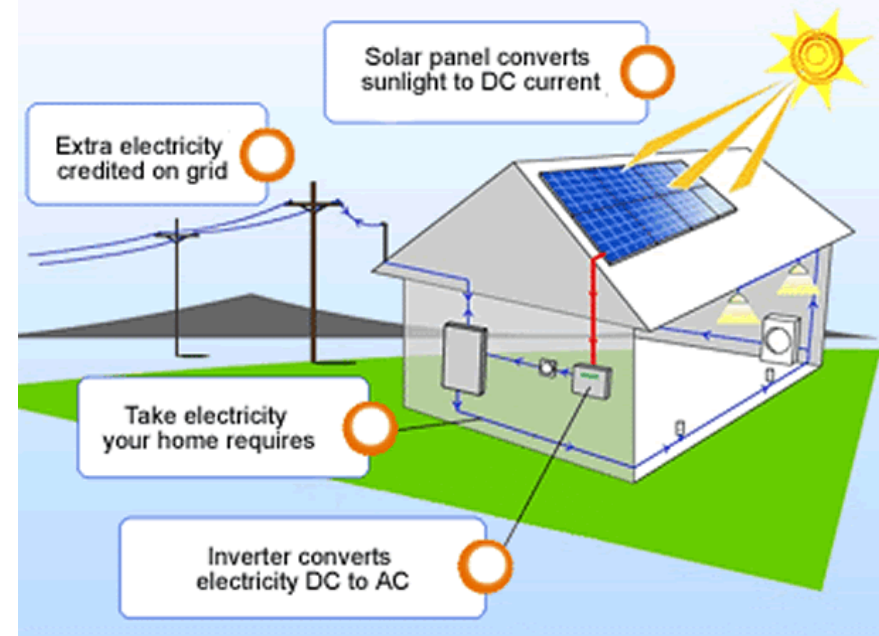
Factors Impacting Output

- System **Components and Design**
- **Orientation** – solar panels work best facing south
- Any **shade** over your system greatly reduces output
- **Weather** – e.g. clouds and snow
- **Dirty panels** are less efficient (cleaned by rain)
- System component **failures**

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Incentives – Net Metering

- Enables customers to obtain full retail credits on their utility bill for each kilowatt-hour of electricity their solar system produces
- If system produces more power than is being used, surplus power is fed into the utility grid
 - The utility meter “spins backwards”
 - Excess kWh usage is banked and applied to future bills



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Incentives – Solar Renewable Energy Certificates



- Clean energy credit issued as a tradable certificate in NJ
- Every generating company selling energy into NJ must generate a percentage (“portfolio standard”) of their energy from solar or pay a penalty
- Can purchase SRECs to meet the portfolio standard
- Solar systems produce SRECs for 15 years
- SREC’s value determined by supply and demand

Solar Energy 101

Incentives – Solar Investment Tax Credit (ITC)

- The ITC is a 30 percent federal tax credit available for solar systems on commercial and residential properties
- A tax credit is a dollar-for-dollar reduction in the income taxes that a person or company would otherwise pay the federal government
- Residential ITC (under section 25D) is used for residential sized projects
 - The homeowner applies the credit to his/her income taxes
 - Credit used when homeowners purchase a solar installation outright for their home
- The ITC is based on the amount of investment in solar property
 - Residential credit equals 30 percent of the basis that is invested in the eligible solar property that is placed in service before December 31, 2016
- After Dec 31, 2016, the residential credit will drop to zero for homeowners

***Please consult a tax professional regarding
any assumed tax benefits***



PSE&G Solar Loan



Public Service Electric & Gas Company

- PSE&G is one of the largest combined electric and gas companies in the United States and recently celebrated its 112th anniversary
- PSE&G was named America's Most Reliable Electric Utility in 2012
- PSE&G ranks highest in customer satisfaction with business natural gas service and large business electric service in the east, according to J.D. Power.
- Our parent company, PSEG, is headquartered in Newark, New Jersey with total assets of \$35 Billion (2014) and approximately 12,000 employees



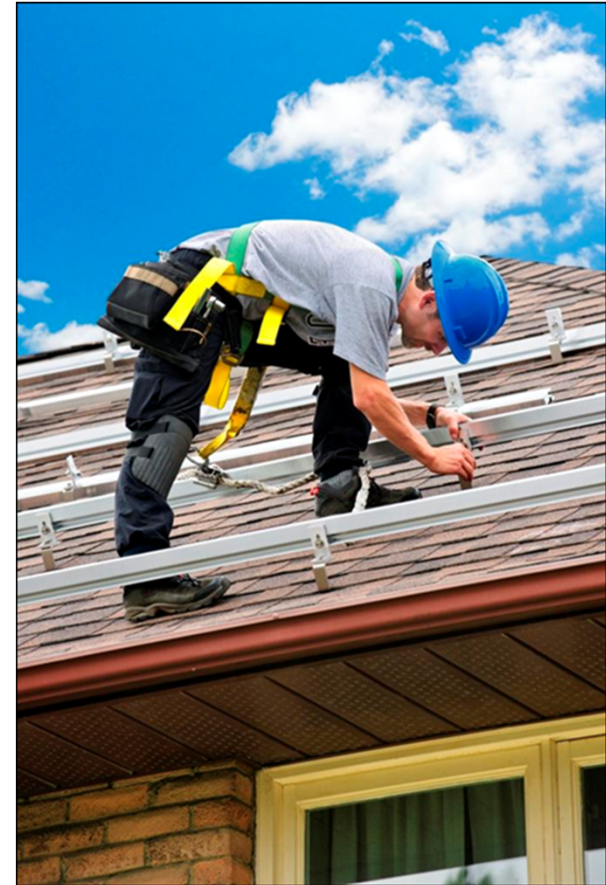
PSE&G Solar Loan Program

- Provides term loans to qualified commercial and residential customers for photovoltaic solar energy systems
- Program established by PSE&G and approved by utility regulator as a means of encouraging solar development in NJ
- Since 2008, more than 1,100 PSE&G customers have financed over 85MW of solar on homes and businesses in NJ
- Solar Loan III was approved in 2013 to support the installation of 97.5 MW of solar capacity over 2 to 3 years



How it Works

- The PSE&G Loan is repaid using Solar Renewable Energy Certificates (SRECs)
- But...What are my SRECs worth?
- Exactly...



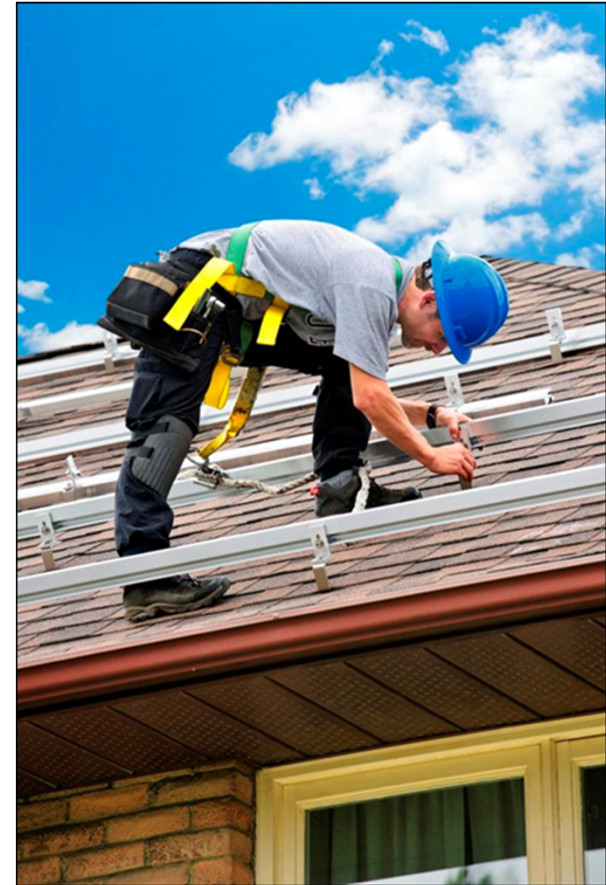
How much are SRECs worth?

- SREC prices fluctuate
- Over last four years, prices varied from >\$600 to <\$100 per SREC
- Current market prices on NJ Clean Energy website
- Can't predict future values

Lock in value long term with PSE&G Solar Loan

How it Works (Continued)

- PSE&G provides a minimum floor value for the SRECs
 - Provides SREC price certainty
 - Guaranteed for life of loan
 - Determined by borrower's bid price
- Loan repaid with Solar Renewable Energy Certificates (SRECs)
 - Structured so SRECs cover monthly principal and interest payment
 - No out of pocket payments required if system performs as planned
 - Cash payments are also permitted



Program Benefits

Long Term SREC Price Certainty

- SREC market is unpredictable making financial returns unpredictable
- Our loan is a hedge against market uncertainty
 - Provides stability and long term SREC price certainty
 - Guarantees a minimum SREC value or “floor price” regardless of market price fluctuation or shocks
 - Customers realize the benefit of increasing SREC prices while protected against downside volatility (unique to the PSE&G program)
 - Allows for predictable economic returns

System Ownership

- Take advantage of tax benefits (ITC, depreciation) as appropriate
- SREC sales a source of additional revenue after the loan is re-paid



Key Terms of Solar Loan Program

- 10-year loan term
- Guaranteed SREC floor price based on borrower's bid price
- 11.179% interest rate
 - Cost of both term financing and a long-term SREC hedge
- Fees charged to fund program administrative costs
- Loan sized according to:
 - SREC floor price
 - Interest rate
 - Loan term
 - Expected generation of the solar system over the loan term
- Loan funds disbursed post construction
- First priority security interest in all system assets, including equipment and project documents



How Much Loan Might I Get?

Loan Sizing	
System Size	10 kW
System Cost (\$4,000/kW)	\$40,000
Gross Loan Amount (@\$295/SREC & 13.5% capacity factor)	\$20,040 48% of System Cost
Less: Application Fee (\$20/kW)	\$200
Less: Administration Fee (\$85/kW)	\$850
Less: SREC Processing Fee (\$120/kW)	\$1,200
Net Loan Amount:	\$17,790

- Loan typically funds 35-65% of project costs
- Depends on the system price from your contractor
- A loan calculator is available on the PSE&G website at:
www.pseg.com/solarloan

Additional Incentives:

Federal Residential Renewable Energy Tax Credit

New Jersey Sales Tax Exemption

New Jersey Property Tax Exemption

30% of qualified project costs

See www.dsireusa.org

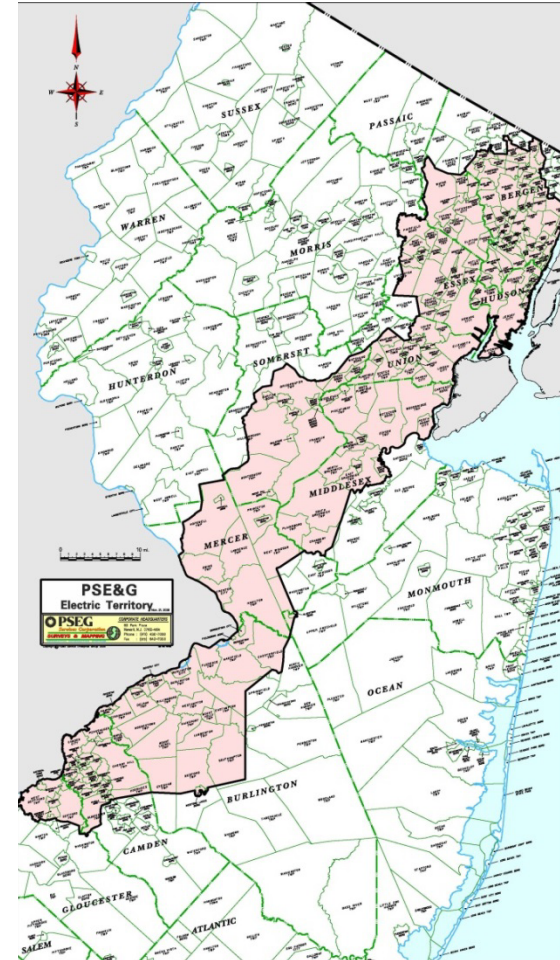
See www.dsireusa.org

The above scenario is for illustrative purposes only. SREC floor prices are subject to the solicitation process. Please consult your tax professional regarding any assumed tax benefits. PSE&G is not affiliated with any solar installation companies and does not provide construction financing. PSE&G only funds the loan once the project has been built, all required inspections have been completed and all conditions precedent within the loan commitment have been met.



Eligibility Criteria

- ☑ Solar system must be in PSE&G's electric service territory
- ☑ System must be eligible for net-metering & SREC generation
- ☑ System must be maintained for the duration of the loan term
- ☑ Application must be complete and all required fees paid



Credit Requirements

- Applicants must:
 - ☑ Have a PSE&G account in good standing
 - ☑ Agree to a credit check
 - ☑ Have an Experian FICO score ≥ 680
 - ☑ Not have filed for bankruptcy in previous 7 years
- PSE&G will:
 - Review debt-to-income (DTI) ratio
 - Request additional financial information/analysis as needed
 - Maintain a lien position on the solar equipment



PSE&G Solar Loan Program In Summary

Own Your System & Finance a Significant Portion of Costs

- Typically between 35% to 65% of System Costs

Benefit from System Ownership

- Achieve meaningful energy cost savings
- Get value from the SRECs of your system
- Keep the SRECs generated after the loan is repaid
- Realize or monetize certain tax benefits (ITC)

Secure Long Term SREC Price Certainty

- No need to “play” in the SREC market and take downside exposure
- Hedge against SREC market volatility with guaranteed floor price
- Repay the loan with the SRECs generated and priced at this floor value



Your Next Steps

- First step is to engage an installer
 - Help evaluate whether solar is right for you
 - Visit pseg.com/solarloan for list of installers with Program experience
 - Get at least three estimates!
- Your installer will help you put the application together
 - There are technical requirements that you can't provide yourself
- Web based application process makes applying easy
- Applications are accepted based on your SREC bid price and then on a first-come-first-serve basis.
- We close the loan AFTER system has been built and inspected.

Application Window Open Every Other Month



Resources

- **Learn the Basics:** www.energy.gov
www.solar.energy.gov
www.ases.org
- **Understand the NJ Market and SRECs:** www.njcleanenergy.com
- **Consult a tax professional:** Please contact a tax professional to discuss the tax implications of an investment in solar
- **Find a Solar Professional:** www.njcleanenergy.com/findavendor
www.pseg.com/solarloan
- **Understand the Program and FAQs:** www.pseg.com/solarloan
- **Contact us with questions:** solarloan@pseg.com

Residential Installers

The following companies have installed two or more solar electric generating systems for residential borrowers under the Solar Loan Program since it was launched in 2008.

This list is for informational purposes and does not constitute an endorsement by PSE&G of any particular solar installer. Interested customers should consult the yellow pages, the internet, NJCEP and other sources for referrals to an installer.

Installer	Headquarters	High Program Experience ¹	Active Participant ²
1st Light Energy	South Plainfield, NJ	✓	✓
Absolutely Energized Solar	Monroe Township, NJ		
Accord Power	East Brunswick, NJ		
American Renewable Energy	Piscataway, NJ	✓	
American Solar Partners	Tuckahoe, NY		✓
Amped on Solar	Florence, NJ	✓	✓
Ampericon	Monmouth Jct, NJ	✓	✓
Arrow Electric Services	Maple Shade, NJ	✓	
Aston Solar	Piscataway, NJ		
Blue Sky Technologies	Edison, NJ		
Corbin Solar Solutions	Manalapan, NJ		
DPR Electric	Bound Brook, NJ	✓	

1. Installed systems for 10 or more Solar Loan Borrowers with closed loans since the Program launched in 2008.
2. Installer to Borrowers active (applied or closed) under Solar Loan III.

Residential Installers (Continued)

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Installer	Headquarters	High Program Experience ¹	Active Participant ²
Exact Solar	Yardley, PA		✓
Green Sun Energy Services	Middletown, NJ		
Greentech Solar USA	Piscataway, NJ	✓	✓
Jersey Solar	Lambertville, NJ		
NJ Solar Power	Bayville, NJ		
Pro Custom Solar	Edison, NJ	✓	
Quantum Solar Solutions	Marlton, NJ		✓
REC Solar	Somerset, NJ	✓	
Sea Bright Solar	Ocean, NJ	✓	✓
Sky High Energy	Princeton, NJ	✓	
Solar Energy World	Whippany, NJ	✓	✓
Spectrum Energy	Maple Shade, NJ		✓
Trinity Solar	Wall, NJ		

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