

What Questions to Ask When Considering a Roof-top Solar System

General/initial assessment

- What energy efficient improvements should be made to my home before investing in a solar energy system?
- Should my roofing be replaced before installing a solar system? Will installing a PV system void my roofing warranty?
- What renewable energy alternatives are available such as community solar or utility renewable energy programs?
- How much electricity did my home use last year? How much is it likely to use in the next year (considering energy efficiency and household changes)? What is my average kilowatt-hour use per month (estimate for next year)?
- What is the current rate I pay for electricity (cents per kilowatt-hour) from my utility company? What is my average monthly electricity cost (estimate for next year)?

System design

- Would I prefer a thin film system that blends into my roofing or a crystalline type of photovoltaic technology for higher efficiency in less area? Can it withstand hail and my area's wind risk? What is the expected service life? What are common problems with each type of system? What is the reputation of the manufacturer?
- What monitoring systems are available? What information do they provide? What do they require and what do they cost?
- How much unshaded roof area facing south, southwest or southeast is available? How much faces west? What is the roof slope?
- Can the roof structure withstand the additional weight and stress (wind) of the additional solar system?
- Does the system use smart inverters, micro inverters, or optimizers?

Energy production

- How much solar power (kilowatt-hours per month) would I like to generate? Should my home solar PV system be sized to avoid producing more power than I use (surplus)?
- What is my area's solar resource (average amount of sunshine per day)?
- Do you guarantee a minimum amount (a production guarantee)?
- What solar power capacity (kilowatts) will fit on my available roof area (of the type I want)? How much electricity (kilowatt-hours) is it expected to generate (energy output) in the first year? How was that determined? What is the expected annual degradation rate (reduction in electricity produced)?

HOA

- In many states, laws prevent homeowner associations (HOAs) from restricting rights to install a solar system. What are the rules in my state and can you help me work with my HOA?

Investment

- How many years will it take to recoup my net purchase cost (payback period)? What will my annual utility bill savings be after payback? What is the equipment's expected service life? What is my estimated total return on investment? (Use an online calculator.) Does the return on investment factor in general inflation?
- What is your timeline for this investment? Do you want a short term arrangement or a long-term asset?
- How long do you plan to live in the house?

Cost considerations

- What is the total installed cost of the PV systems I'm considering? What is the typical cost per watt in my area? How much will the available tax credits, exclusions and rebate solar incentives reduce my cost?
- Are there any low cost solar loan programs available to me? If not, do I qualify for a VA, FHA, USDA or HUD home improvement loan? Or could I qualify for a home equity or second mortgage loan? What are the available interest rates, down payment requirements, closing costs, other terms and tax advantages?
- How much do I pay up front, and how much over time, for how long?
- What is the history of electricity price changes for my utility company? What annual electricity inflation rate trend is predicted by my utility company, state regulators, U.S. Department of Energy, local university or other reliable source?
- What is the monthly payment to finance the net purchase cost (after incentives), with and without a down payment? How does that compare to predicted monthly utility bill savings – both initially and as electric rates rise?
- How will a rooftop solar system affect my home's market value? Do I need to inform my homeowners' insurance company? How will a solar system or batteries (off-grid) affect my premiums? Will my property taxes change?
- What electrical system connection upgrades are required? What are my costs for those upgrades?

Incentives

- Would my home be eligible for net metering? If so, are there system size limits to qualify? Could it change or expire for me in the future? How does the program treat energy I produce in excess of my use? If I'm not eligible, what is the rate (cents per kilowatt-hour) the utility will credit or pay for surplus power I generate? Is the rate higher at peak demand times (usually late afternoon)?

- What incentive tax credits, exclusions and rebates are available that would reduce the cost of buying a home PV system? What are their limits and requirements? When does each expire?

About the installer

- Have any complaints been filed against the vendor, manufacturer or installer with the state licensing board, consumer protection agency or the Better Business Bureau? Are their customers satisfied with their work quality and follow-up service?
- Will the firm providing a quote on the system install it or hire installers? What are the qualifications, certifications and licenses of the installers? Are they bonded and have liability and workmen's compensation insurance? How long have they been installing PV systems on homes? How long have they been in business?
- Does your company follow the *SEIA Solar Business Code* or *other Solar Business Code*? Do you agree to abide by SEIA's or Other Complaint Resolution Process?

Installation

- Is the installation company licensed and insured?
- Does the contract state in detail the system components, timeline for completion, payment schedule, a lien waiver and who is responsible for any damages, injuries and permitting? What are my rights if my roof, home or contents are damaged, the installation is poor or someone is hurt by the installation? Who will be responsible for repairs?
- Do system output calculations consider actual installation details of the system?
- What will the system look like once installed? Will I receive a system design for my review and approval before installation?
- Who should I contact if I have a question about the system following the installation?

Maintenance

- What does the warranty cover (solar panels, inverter, mounting rack, labor, etc.) and how long? Who is responsible to make warranty repairs? What maintenance does the warranty require?
- Are there separate warranties for parts and labor?
- What type of maintenance or cleaning is required? Are any maintenance services included?

Additional Questions to Ask When Considering a Solar Lease or PPA (Power Purchase Agreement)

- Would I rather pay a set amount each month (rental-type solar lease) or pay only for the solar power my home uses (power purchase agreement, or PPA)? Which method would likely result in a lower total cost over time?
- Can I lease the solar system type, capacity and installer of my choice? If the leasing company makes the choice, why is its selected system recommended?

- What is the lease term (years)? What happens at the end of the lease? Is it renewable? If I don't renew, who is responsible for removing the PV system and restoring my home?
- What incentives will the leasing company receive? With a solar lease, am I eligible for any incentives such as property tax exclusions or others that the leasing company cannot use?
- What will be my monthly payment or power purchase agreement rate (cents per kilowatt-hour) for the first year? How does that compare to my electric utility rate or average monthly bill?
- What is the lease annual escalation rate (percentage the payment or power purchase agreement rate will rise each year)? What will my payment or rate become each year of the lease (payment escalation schedule)? When will it exceed a loan payment amount?
- How does the lease escalation rate compare to my utility company's historical and predicted inflation rate? What are the basis and assumptions of the leasing company's projected utility inflation rate and total predicted savings over the entire lease term?
- Do I have a legal right to rescind (back out of) the lease after signing it? If so, how many days is the right in effect?
- Could my lease be sold to another company or investor? Who could be the future owner of my system? Do they have the expertise and capacity to fulfill all obligations under the lease agreement?
- What are my responsibilities in maintaining and operating the solar system? What are the leasing company's responsibilities? What do I do if the system isn't working or is damaged? Will my monthly lease payment be reduced or suspended when the system is not operating?
- When my roofing needs replacement, who is responsible for removing and reinstalling the solar panels?
- Under what circumstances can the lease be terminated (ended) by me or the leasing company? What can I do if the company doesn't maintain the system, goes out of business or uses illegal or deceptive practices?
- What happens if I can't make payments and default on the lease? What if my payment is late?
- If I want to sell my home, what does the lease require from the buyer and from me? What if the buyer doesn't want to assume the lease? How will a leased solar system affect my home's marketability and value in my location?
- If I ever want to buy the leased system, how is the fair market value determined? Can I buy it at any time?
- Do you use the Solar Energy Industries Association (SEIA) Residential Lease Disclosure Form?
- What is the length of the lease or PPA?
- Who receives solar tax incentives and how are they factored into the cost?
- What happens if I wish to end the lease or PPA early?

- Are there fees to transfer the PPA or lease agreement to the new homeowner?
- Do I have to pay off the lease when my home is sold?
- Do Renewable Energy Certificates (REC) apply to my transaction? If so, can you explain how RECs work in my situation?
- If I want to sell my home and don't own the Renewable Energy Credits (RECs), how can I describe my home to potential buyers?

References

SEIA-Residential Consumer Guide to Solar Power
LSU-Solar Power for Your Home