



NAPA GREEN

SOLAR INSTALLATION CONSIDERATIONS

COMMERCIAL SOLAR PV ARRAY REQUIREMENTS - ROOFS AND PROJECT

BIDS Roof Concerns

- Review the roof plans for roof equipment and roof access points to see what best fits for you to place panels, access them for cleaning, and clearance for fire response access
- Then have a structural engineer review the roof in those areas and assume a 6 psf (pounds per square foot) additional dead load (sometimes agencies will allow you to take this from the live load allowance -your structural engineer will verify this), and that the roof is adequate to support the solar equipment
- These plans should be a part of your bids
- Get a cross section of the roof assembly showing the structural supports, insulation, and the roof material. It is important to have a good detail down to the structural member for rack supports showing how attached, the roofing/insulation penetration (make sure there is no sweating due to the temperature difference -Not important in residential), and a good flashing detail. This should be in bid and warranted for leaks, as leaks can be hidden by insulation.
- Review roof access points and show on plans so that panel layout allows for that and fire clearances

Request 3 bids, and prepare a scope that includes all your concerns

For the system you will want in bids:

- The number of panels, and projected production (you will need to supply electrical use data to them) and expectations of how much you want to produce (around 80% of usage)
- With the new Tariffs/Rate structures, consider battery storage for your system
- The PV panel specifications and warranty, inverter specifications and warranty, and estimated production degradation (usually about 25 years life for panels with 0.5% degradation year-design should allow for that) and 15 years for the inverters
- Show the panel layout that allows for roof equipment, access, and fire code setbacks, and specifies racking system, support points, and loads. Also be sure to identify any trees and shading
- Provide wind, seismic and vertical load calculations for the panels
- Support details, roof penetrations and flashing details, thermal isolation, and anchorage
- Electrical plan and conduit path for solar power, and tie in details, how conduit will be supported to not damage roofing (avoid “sleeper” supports)
- Monitoring system and how you can verify production meets design (get what you pay for!) and how get alerts on system failures (you may want a screen in tasting room to show what you are producing)
- Review the electrical plans and layout to see where the electrical tie do in—vendor should provide a single line diagram with bid requests
- Establish a service plan and panel cleaning plan—include in bids
- Have an economic analysis done that includes new B tariffs and pay close attention to the inflator value for energy as part of bid.

https://www.pge.com/includes/docs/pdfs/myhome/saveenergymoney/solarenergy/csi_bid_protection_form.pdf

PG&E's solar website:

https://www.pge.com/en_US/residential/solar-and-vehicles/options/option-overview/how-to-get-started/find-a-contractor.page

List of vendors:

<http://www.gosolarcalifornia.ca.gov/database/search-new.php>

These vendors have done work in the Napa Area:

West Coast Solar Energy

Jason Cross - GM

Mike Bohn- Lead service tech

Direct: 707.919.0809

Cell: 707.599.7926

Jason@westcoastsolarenergy.com

They use “Also Energy” for monitoring

Green Stock Solar

Jae Chyun

Office: 707.260.5548

Cell: 925.998.8929

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First Edison

Bruno Bardet

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BPI Solar

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Solar Craft

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REC Solar

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Sun System Technology

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Sunlight Electric

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