

What is SOLAR UP?

- SOLAR UP is spearheaded by the Southern New Hampshire Planning Commission (SNHPC), in cooperation with Smart Power, NH Sustainable Energy Association and the NH Local Energy Work Group
- Modeled on similar programs that have been successfully rolled out in CT, MA, and the Upper Valley of NH, SOLAR UP will increase awareness and adoption of residential and small commercial solar throughout participating communities
- SNHPC provides marketing tools, web site management, vendor selection process and guidance to towns through the entire process
- Candia and Deerfield have selected Granite State Solar as their SOLAR UP partner!



Program Goals

- Lower the overall cost of a typical PV installation by aggregating community needs for better vendor pricing
- Double the number of existing solar installations in Deerfield and Candia
- Solarize as many residents as possible by the program end date: November 30th, 2015



Value is added to Homes with Solar

- New and old homes benefit equally from solar investment
- Home buyers are consistently willing to pay more for properties with existing solar installations
- Value is ultimately dependent on the size of the system and the resulting reduction in annual energy costs



Rebates & Incentives

NH Public Utility Commission (PUC) Rebates – May Be Subject to Change

- Residential: \$0.75 per watt up to max of \$3,750
- Commercial: \$0.75 per watt up to max of \$150,000
- The PUC rebate arrives in the form of a check about four weeks after installation
- GSS submits all required rebate paperwork for customers

Federal Tax Credit

- Tax payers will receive a tax credit equal to 30% of the total system cost
- This can encompass make-ready tasks such as tree removal and shingle replacement
- GSS provides the IRS form and all supporting documents to customers for their tax preparations.

RECs – Renewable Energy Credits

- A credit (REC) is generated for each 1,000 kWh of production. Each REC is worth about \$55.00.
- A system generating 10,000 kWh/year could generate about \$550 in annual revenue. After commissions to the company that sells them on your behalf (Knollwood Energy) and annual auditing fees, net income would be about \$471.50.



How do I know if my house or property is right for solar?

Roof Mount Considerations

- An ideal roof will face south and have a pitch of 23-45 degrees (5 to 12 pitch).
 - The alignment of the roof slope is called the “Azimuth”.
 - A perfect azimuth is solar south. Solar south on a compass here is about 194 degrees!
- Obstructions such as chimneys, skylights, vents, and satellite dishes will reduce the size and output potential of the system. Triangles (such as hip roofs) also limit the useable space.
- Roof shingles should be in good to excellent condition. Fair or poor shingle condition warrants roof replacement in advance of solar installation.

Ground Mount Considerations

- Ground mounts need space and sunlight.
- Is the trench run feasible? Cutting septic systems is not an option.
- Is there access for an excavator and cement truck?
- Can we maintain property setback requirements?

Good Roof!



Is Financing Available?

Yes, customers may finance without any out-of-pocket costs

- 2.99% financing for up to 12 years
- Loans are unsecured – no lien on property
- No early payment penalties
- Requires credit score of 650+ and a good debt to income ratio

Example:

Total cost of system: \$23,000

Federal Tax Credit: \$6,900

NH PUC Rebate: \$3,750

Net Solar Cost: \$12,350

Monthly Payments: \$102.17



What products does GSS use?

Solar Panels

- **SunEdison**
 - Made in Canada
- **SolarWorld**
 - Made in the USA
- **LG**
 - Made in Korea

All panels include a 25-year warranty

Inverters

- **Enphase M-215 & M-250 Microinverters**
 - Proposed for all residential systems
 - Made in China
 - 25 year warranty
- **SolarEdge string inverters & optimizers**
 - May be proposed for commercial systems
 - Made in Israel
 - String inverters – 10 year warranty, optimizers – 25 year warranty



What products does GSS use - *continued*

Mounting Systems – all made in USA

- **Snap & Rack**
 - For roof arrays
- **Schletter**
 - For fixed ground arrays
- **AllEarth**
 - For ground-mounted tracking systems systems

Production Meter

- **Hialeah**
 - Made in USA
 - REC meters are installed on every job
- **Data Acquisition**
 - Enphase Enlighten Manager
 - Monitoring lifetime service paid on customer's behalf by GSS



What does solar cost?

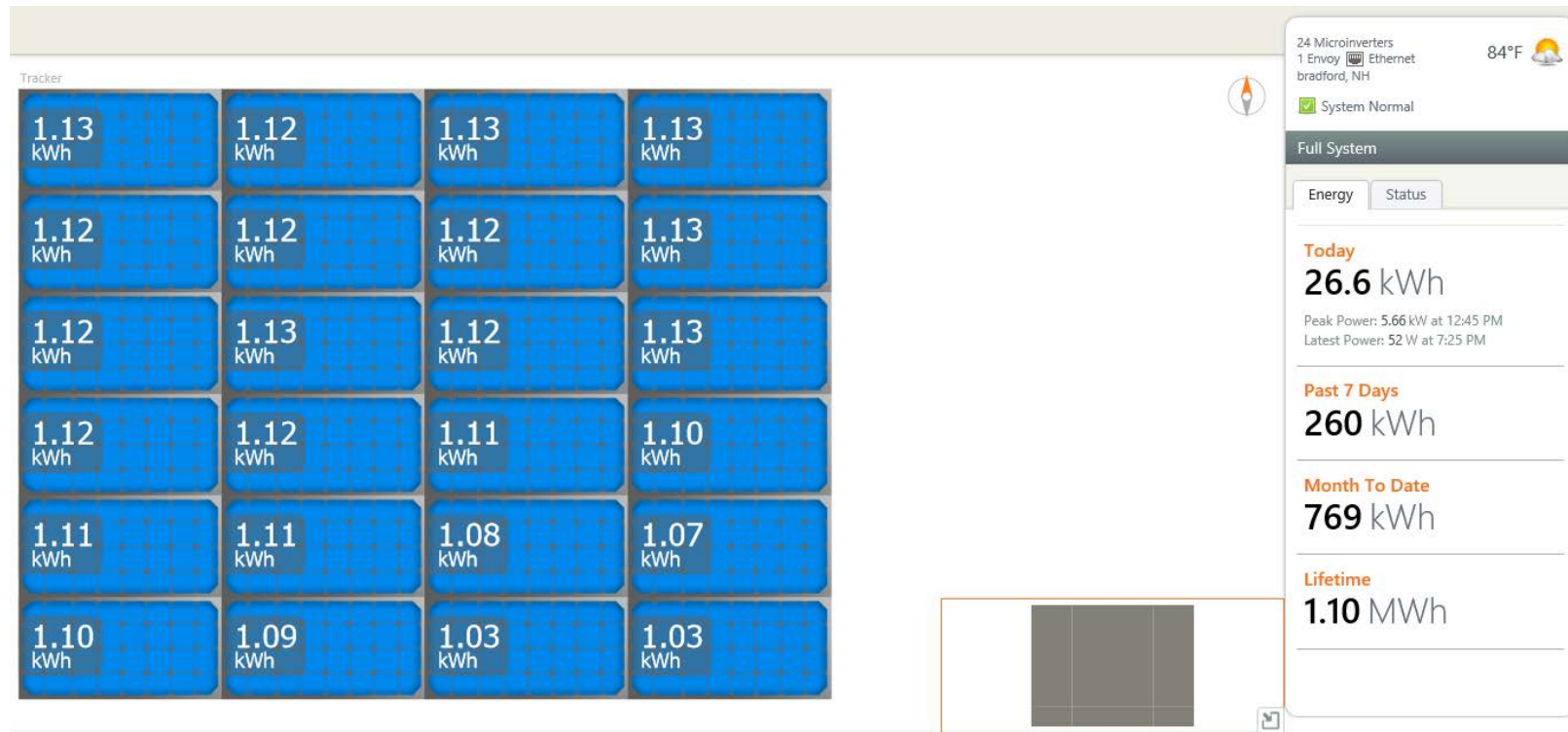
- Every job is custom quoted, but GSS cannot charge more than set agreed-upon amounts as determined by the SOLAR UP contractual arrangements. We can always charge less!
- Costs for go down for everyone as more people sign up.
- The “group buy” model - gives individuals leverage by purchasing as a group and ensuring volume discounts to all participants.

SOLAR UP Pricing Tiers	Tier One	Tier Two	Tier Three
Tier Bracket	0-34kW	35-99kW	100kW and up
About how many installations are needed to hit these tiers?	Up to 4	4-11	12 plus!
Cost per watt (panel count times panel output = watts)	\$3.80	\$3.62	\$3.52
Add \$0.45/watt for fixed ground arrays.			
Trackers are custom quoted.			
Add \$0.15/watt for LG 305-watt panels			



How do I know I will get what I've paid for?

- Enphase has built a beautiful monitoring system called the Enlighten Manager.
- It allows consumers to monitor the production of their array in real-time and over time.
- Both the customer and GSS will receive email alerts should anything ever go wrong.



What are the warranties?

- Granite State Solar's workmanship guarantee is 12 years
- All solar panels GSS offers have a 25 year warranty
- Enphase microinverters have a 25-year warranty



Interested in Learning More?

- Sign up for a site visit – forms are located at the GSS table
- Check out the SOLAR UP website at solarupnh.com
- Visit the GSS website at GraniteStateSolar.com



Thank You!

Questions?

