Solar for San Francisco Small Property Owners

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San Francisco's City Government recently passed the country's most aggressive municipal Solar Incentive program offering up to $6,000 per meter to install Solar. This program has changed the economics of Solar Electric power for San Francisco property owners to such a degree that is important for–property owners to understand how solar can financially benefit themselves and their tenants–while also helping the environment.

Green is gr$$n–why do solar now?

Solar Power has been around for almost 40 years but has been experiencing tremendous growth recently as it reaches several critical milestones of efficiency, availability and especially cost effectiveness. Today in San Francisco being Green truly makes you Gr$$n:

1. Federal, state and local government tax credits, cash payments and incentives can pay for up to 90% of the cost of the system. In addition, as part of the SF Solar Incentive program, you will see NO increase in your assessed value or property taxes. Yes, the move to renewable power is THAT important that government will subsidize it to this degree.
2. Solar reduces landlord and tenant monthly PG&E cost by 65% to 99% typically. As utility rates rise by 10% or more annually, Solar is a great hedge against projected further increases.
3. You can convert your tenant's electric utility expense into NEW INCOME for your building WITHOUT impacting the Tenant's cost of living significantly (less than 1% typical).
4. Typical San Francisco rates of return on solar investment range from 5% per year for 30% depending on the type and size of installation.
5. Installing solar means savings in energy costs which translates into more income for you, increases your property value, and makes your rental units more attractive to green-conscious renters.
6. Solar goes UP in value as time goes along as the cost of power from other sources increases.
7. By installing an appropriately sized system, solar can protect against gas prices as plug-In electric vehicles come to market.

Green is good for homeland security & local economy

Solar power is very high tech and draws on the strengths and resources we have locally (silicon manufacturing, electronic design, local labor) and has tremendous beneficial impacts on not only helping reduce or eliminate greenhouse gas production, but reducing our payments to foreign countries, and reducing the money we have to borrow to pay our bills. Germany declared solar power a national security priority after Russia cut off gas supplies during a dispute and has since become the world's largest solar market.

Solar allows us all to prepare for the future. For example using solar to power a plug in car (like those coming from Toyota, Chevy, Nissan and others) will be like getting gas for $0.40/gallon but without greenhouse gases.

Solar system components

Solar has no moving parts once installed, is silent and when properly designed will last for 30 years or more, is warranteed by law for not less than 10 years and requires only minor cleaning (like window washing) twice a year.

A solar electric system is composed of five main components:

1. Photovoltaic panels chosen based on roof array, alignment and price.
2. Roof, Racking and mounting. Careful design for solid, reliable mounting while protecting your roof(s) in normal and high wind conditions.
3. Synchronous DC inverter that takes the DC power from the modules and converts it to usable AC power. (Chosen based on size and modules).
4. Electrical box interconnection. A new breaker is installed in parallel with your current main breaker and wired to the AC coming from your solar modules and inverter.
5. Your electric rate is changed to allow the power you generate to be sold back to PG&E. (seems like this should go in the first Green is Gr$$n section).

Time lines for solar

Solar is very high tech but design and installation can be a very smooth process. Here's a guideline for smooth installation:

1. Choose a reputable solar company to work with. They will handle all permit applications, set up and communication with PG&E.
2. Check to make sure your roof is in good shape and make any necessary repairs prior to solar installation. A solar system will last for 30 years so it's best to have a good roof in place to avoid extra costs in having to work around or remove and reinstall your solar at a future point.
3. To accurately design your solar system, your solar contractor will need to have a history of utility usage for the past year. PG&E will supply the past year's bills upon request. Tenants need only sign PG&E's simple release form allowing this information to be released.

	2 units/3 meters Light Usage	2 units/3 meters High Usage	5 units/5meters Light Usage	6 units/7 meters Modest Usage
Total project cost	**$39,764**	**$85,523**	**$94,325**	**$119,472**
State rebate (CSI EPBB)	($4,996)	($11,561)	($11,503)	($19,070)
Supplemental rebates/grants	($18,000)	($18,000)	($30,000)	($42,000)
Quick pay discount	($1,150)	($1,478)	($2,075)	($3,054)
Depreciation savings	($6,099)	($21,276)	($19,817)	($21,613)
Tax credit	($4,685)	($16,345)	($15,224)	($16,604)
Net cost (before utility savings)	**$4,833**	**$16,862**	**$15,706**	**$17,130**
Total avoided utility bill	$66,723	$322,072	$152,168	$432,950
% of electric bill eliminated	**52%**	**69%**	**90%**	**98%**
CO_2 reduction (tons)	**95**	**228**	**233**	**318**
Simple payback on system purchase (years)	6	5	8	7
Year 1 Return On Investment (ROI)	7%	10%	5%	5
30-year Internal Rate of Return (IRR)	17%	21%	14%	18%
Net present value of investment	$21,965	$113,502	$44,685	$135,135
Total cumulative cash flow	**$61,889**	**$305,209**	**$136,463**	**$415,821**
Net cost as % of total	12%	20%	17%	14%
Net present value as % of net cost	454%	673%	285%	789%
1st year estimated equity addition:	$16,200	$78,180	$36,940	$41,700
1st year equity increase as % of net cost	335%	464%	235%	243%

Figure 1. Financial Examples of Solar in SF. The following summary shows the actual financial costs for several multi-unit properties that recently decided to go solar.

4. Solar takes only electrical permitting in most cases and does require that the utility meter be changed after the equipment is mounted, installed and checked.
5. You can reasonably expect a solar project to take about 3 months to 4 months total time with labor being onsite for about 1 week in most cases. The rest is paperwork and waiting for PG&E to certify things.

Tenants and solar

A responsible landlord needs to be aware of the necessary steps and benefits for installing solar in tenant occupied properties. Many rental agreements require that Tenants pay their own utility bills. The tenant is usually required to sign off on the installation and your qualified Energy Consultant can guide you presenting solar information to your tenants.

A tenant benefits from solar in several ways:

- The tenant's electric utility bill is reduced
- The tenant knows they are living green
- The net cost to a tenant is near zero
- The tenant does not have to put money forward to install solar

Solar thus presents a situation where Owners and Tenants can BOTH WIN.

Conclusion

As you can see from the table above (Figure 1), solar power is a terrific financial investment for any San Francisco property owner who has at least two units, and their tenants. It is a wise financial investment, protects the owner from future utility cost increases, generates new income and raises property value while protecting the environment. ***Green technology is truly a gr$$n investment.***