This paper provides the business case for going solar in your company or organization. Not only is solar now a cost-effective option to other forms of energy, it is also far more profitable in the long run.

The contents of this paper can empower you to make the right decisions for going solar. It can help you minimize the costs of changeover to solar and to reap the benefits thereafter.

Making The Case For Going Solar In Your Business

Before your business decides to changeover to solar power as your main source of energy, three factors must be understood:

- There is no one-size-fits-all solution for different properties of your business in different locations. Solar powering your commercial properties has to be a custom-built solution for every property depending on its geography, climate and other factors.

- While prices of electricity are rising and the relative costs of going solar are much lower these days, the switch-over of solar power is still an evolving situation. Hence, some dynamic factors may still affect costs at the time you take the decision.

- Solar power changeovers don't usually reflect good ROI (Return on Investment) in the short or medium term. To see the real benefits of investment you may rack and monitor ROI over time. Internal champions need to educate all of the stakeholders and decision-makers in the company on this fact.

This paper can help your business identify, authorize and complete the right solar projects with confidence, with an understanding of the factors at play.

Understand your corporate goals

The first step in making in considering solar is to determine your business goals are for this change. Here are some possible corporate goals that may be propelling your solar decisions:

- You want to lower your long term energy costs
- You want more predictable energy costs
- You want greater control over your energy supply as well as costs
- You want to create an additional revenue stream for your business
- You want to satisfy your company's commitment to sustainability and green goals
- You'd like to enhance your brand through community leadership
- You want to satisfy the commitments made on green energy to your investors and other stakeholders

For all such goals, intelligent economic analysis of solar energy as an option is essential. Going solar is not a decision to take lightly because of the complexity of factors involved, which require deep analysis.

Criteria for solar project viability

The energy and financial contributions of a proposed solar project should always be considered within the context of the company's overall energy management strategy.

This strategy should include energy audits, energy efficiency improvements, demand reduction initiatives and LEED building certifications.

Gathering and summarizing all data related to these areas will enable your company's decision-makers to do a cost-benefit analysis of your proposed solar project.

While there may be a minimum ROI expectation within your company, there could also be non-financial criteria that you didn't anticipate.

Here are some typical corporate criteria for solar project viability:

- Minimum ROI expectation
- Payback in less than 10 years
- Prioritizing certain properties you own over others
- Capitalizing on available incentives
- Fitness of your properties for solar installations
- Meeting your company's goals for renewable energy
  Minimizing maintenance costs over time

Choices involved in solar projects

There are four factors to keep in mind when deciding between the choices you have for solar projects:

1. Ownership structure of the project
2. Governmental incentives available
3. Technology options available
4. Vendor selection criteria

Ownership structure of the project

Within solar project ownership, there are four possibilities:

a. Owner invests in and owns the project: The property owner purchases the entire system (design, installation and ongoing operating expenses) from his own finances, and operates and maintains it. The property owner gets the various tax benefits from owning the system.

b. Owner gets debt-financing for the project: The same situation applies as in the previous case, regarding responsibilities and benefits - except that the project becomes profitable after debts are paid off.

c. Owner leases the project from a third party who owns the project: Here the tax benefits accrue to the lessor normally, unless there is an agreement to share in the benefits.

d. Third-party owned Power Purchase Agreement (PPA): Here a third party, normally a "PPA Vendor" builds and operates the system for a contracted time period, and the property owner (also the energy user) pays for the electricity produced by the system for the contracted price. The trade-off here is that the property owner gets no share of the incentive or tax benefits.

Ultimately, most businesses choose one ownership structure or another depending on whether they want to make the financial outlay, and how much of the tax benefits they want to get for themselves.

Governmental incentives available

In recent times, a lot of different kinds of Governmental incentives have made "going solar" far more attractive for many companies.

However, many of these incentives are either time-bound or policies and incentives plans change too often, making things complex for businesses who want to benefit.

Those who benefit most are those who time their decisions correctly. Some of the common incentives available could be these:

- **Investment Tax Credit (ITC):** Tax credit available to offset certain federal tax liabilities for tax-paying entities.

- **Depreciation Benefits:** Offset to income available under certain conditions that result in reduced tax liabilities for tax-paying entities.

- **Capacity-Based Incentive:** Incentive based on the system size. This usually paid upon approval of system installation.

- **Expected Performance-Based Buydown**: Incentive based on expected production of energy of the system. This is also paid upon approval of system installation.

- **Performance-Based Incentive:** Incentive based on actual production of energy from the system, This is normally paid on a pre-determined schedule as production is verified.

- **Feed-In Tariff (FIT):** Payment for energy produced by the system once in service. Payment could come from government entities or utilities.

- **Solar Renewable Energy Credits (SRECS):** Units of "credits" that represent one megawatt hour of solar energy produced. These may be traded among, or purchased by utilities or other entities to meet their renewable energy targets.

Incentives can make or break the business case for a particular solar project, so ensure you compare and evaluate all the options available to you.

Technology options available

Your choice of technology will depend on your goals for the solar system, your property location, weather conditions and the specific property's characteristics.

For commercial solar project, the main technology variables are these

- Photovoltaic Technologies
    - Medium-Efficiency Poly-Crystalline Silicon Photovoltaics
    - High-Efficiency Single-Crystalline Silicon Photovoltaics
    - Thin-Film Photovoltaics
    - Concentrated Photovoltaics
    - Flexible vs. Rigid Panels
    - Building Integrated (PV integrated into building materials)
- Inverter Configurations: Micro Inverters vs. Standard Inverters
- Sun Tracking Options: Single or Dual Axis Tracking

Get to know all your options and their pros and cons without vendors swaying you towards what they specialize in.

Vendor selection criteria

There are a wide variety of vendors you may come across in the area of solar installations. Many do parts of projects or specialize in certain specific phases of projects.

You may believe that if you get a vendor who can do most of the services, the vendor's versatility may help you.

But sometimes your project may need the intervention of specialist vendors, so quite often you may find yourself spearheading a team of disparate vendors rather than hand over your project to a do-it-all kind of vendor.

Here's a quick list of the types of vendors you may get to deal with when "going solar":

- **Engineering company:** Usually provides the solar, structural and electrical engineering work needed to design a system appropriate for a specific property.
- **Procurement company:** Helps source, procure and provide logistics for products required to build the system.
- **Installer/Construction company**: Builds the actual system according to the design specifications provided by the engineering team.

- **EPC (engineering, procurement and construction contractor):** Offers all three of these services.

- **Integrator:** Offers to takes on all responsibility for design, permissions and EPC tasks, and may sometimes even provide financing.

- **Product manufacturer:** Many offer a fully integrated solution, based on the goal of creating demand for
- their own products. They will tend to use their own products exclusively.

- **PPA vendor:** This vendor negotiates and enters into power purchase agreements (PPAs) and then ensures that the solar system is designed and built appropriately to deliver the contracted level of electrical power to the customer. (Probably the most important vendor.)

- **Facilities-related businesses such as roofing and HVAC vendors**: Some of these vendors work in partnership with solar vendors to look at feasibility or customization of solar projects for your property

- **Consultants and brokers:** These are usually the link-forging vendors, who seek out potential projects and provide these leads to the vendors above. They usually stay in the loop till deals are finalized and not thereafter.

Many off these vendors may sub-contract parts of projects to each other.

Sealing the deal

Once decisions on all the above choices are made, there are three steps to sealing the deal.

- **Development of an RFP**, including the property-specific information, a full description of the desired system characteristics, and target energy usage offset.
- **Sending your RFP** to qualified vendors and quickly responding to their questions so they can develop a valid, detailed proposal for your evaluation.
- **Qualification and evaluation** of the bids, and selection of the final team of vendors.

Final considerations

While it's highly likely that installation costs will continue to fall and become more economically viable over time, your company's solar investment decisions must be made based on your own thorough, objective analysis. Your timing has to be right for maximizing your benefits. You cannot wait for the day when prices will be at their lowest.

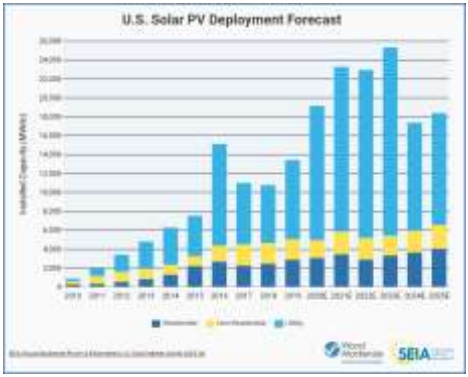
Also, have an unbiased approach towards procurement and vendors. Work only with those you can trust to work on terms you can rely on.

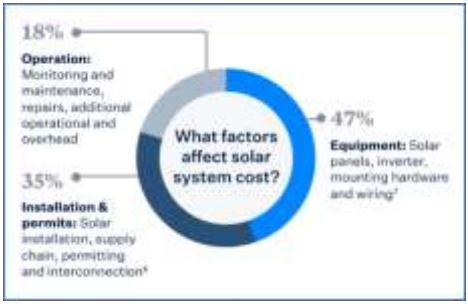
Facts and figures: 1

These charts show you the price decline of "going solar" and the growth of solar among businesses across years.

Facts and figures: 2

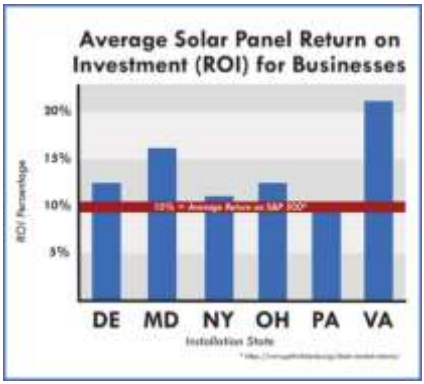
This set of charts show the solar deployment forecasts and the breakup of the costs of "going solar".

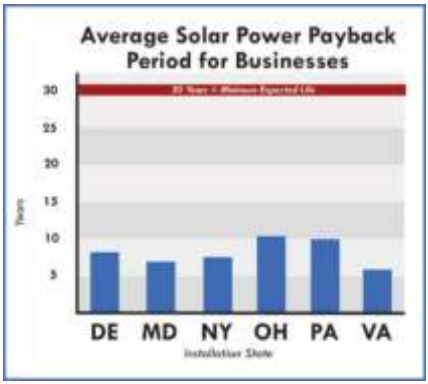




Facts and figures: 3

The two charts below show the average solar ROI and payback periods most businesses have cited.





About Solarizer Pvt. Ltd.

Solarizer Pvt. Ltd. Is based out of India, and offers consultancy on "going solar" to businesses. We are a pure consultancy with no vested interests in recommending brands, products, vendors or other equipment suppliers. Our mandate is to assist with the greening of the businesses in India and to this end we offer advisory services and help educate businesses on the pros and cons of "going solar'

As costs of solar power have dropped considerably, most businesses have begun to see better cost-efficiencies in solar installations, shorter payback periods, and better economic returns from their investments. However, it is important to make the right choices for each business property – because custom-design of solar deployment is crucial to reaping the benefits..

As India spearheads the Global Solar Alliance, a number of new incentives are being announced month to month to aid the adoption of solar power in commercial establishments.

Solarizer helps you stay ahead by holding summits and conferences on solar adoption, mailing out monthly newsletters, and being available to talk to businesses looking to enter the solar space.

Talk to us on our toll free number: 1-800-2354 0600