



Innovative Business Proposal on Solar Power Rooftops

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Abstract:

This business plan is centered on a firm that installs, maintains, and fixes solar panels. We will keep a conventional office building in a prime location in Bangalore, as well as a straightforward and user-friendly website. In the fiercely competitive market for solar panel installation, maintenance, and repair services, we are a firm that installs, maintains, and repairs solar panels. Services including solar panel sales, installation, repair, servicing, and maintenance are among those that will be provided under our company model. We will make sure to do everything in our power to compete favorably with leaders in the industry, including solar panel manufacturing firms that are also engaged in solar panel repairs, in order to achieve our business goal of becoming one of the top solar panel installation, maintenance, and repair companies in Karnataka. The interests of our clients will always come first, and our values and code of conduct will govern all we do. By accurately and totally addressing our clients' demands, we will make sure that we hold ourselves to the highest standards. For all of our partners, workers, and customers, we will foster a work environment that offers a humane, sustainable way to making a livelihood and living in our world.

Keywords: solar panel installation, solar energy, solar power rooftop, solar maintenance and repair

1. INTRODUCTION

A rooftop solar PV power plant is not only cost-effective for businesses looking to switch from using conventional energy to solar power, but it can also make money by selling surplus energy to the utilities (into the grid). Experts believe that solar rooftop installations can become the hottest green technology trend of the future with the right policies and the right execution because this concept holds lucrative business prospects and is therefore a good viable investment option. The Ministry of New and Renewable Energy (MNRE), however, is still in the process of laying down specifications for incentives. Rooftop power plants are created when solar photovoltaic (PV) modules are put on the roofs of structures to produce solar energy. Rooftop PV systems may either be used independently or fed into the grid. Large, flat roofs with direct sunshine and no shadows from nearby buildings are the greatest places to put rooftop solar arrays. The following fundamental component systems make up PV solar power systems, which are extremely simple electric power producing facilities:

- A set of PV panels that transform sunlight (photons) into DC electricity:
- A racking system that securely fastens the solar panels to the roof and angles them to the sun.
- Inverters that convert DC power into AC electricity
- Wiring that links everything together.
- Energy meters to track the energy that is supplied to the grid, junction boxes, earthing kits, storage batteries (in the case of a grid-fed power plant, a large-sized battery is not required to store and use that power after sunset), various ways to tilt the panels toward the sun to produce more electricity.

Both captive power use and grid export are possible with the energy so produced. A solar inverter receives the DC electrical energy or solar power produced by the solar PV modules and turns it into AC.

Space availability: Unobstructed flat rooftops are ideal for solar power installations.

Investing activities: The solar module, which may cost up to 70% of the entire project cost, is the most expensive of all the components. We have a capable quality assurance team in place to make sure that every repair completed or associated service provided meets and even exceeds our customers' expectations since we want to compete favorably with the top solar panel installation, maintenance, and repair firms in India. Below is a list of the goods and services we provide,

- Servicing, maintenance and repair of solar panels

- Roof mounted panel installation
- Monitoring services
- Other related solar panel installation, maintenance and repair services

Economic Advantages

Many people are unaware that the overall investment in a small power plant, such one with 100 x 50 kW, will be equal to or lower than that of a larger plant with 5 MW. Therefore, choosing small grid-fed or freestanding plants is a reasonable option. Solar energy may thus be a financially effective investment that instantly lowers electricity bills and serves as a buffer against local utility price rises in the majority of Indian regions. The local copper grid will provide cleaner, continuous electricity to all customers in the region if solar energy is channeled into a small city grid, such as those in Miraj, Ratnagiri, or Ratlam. Because of this, all other nations in the globe let owners of solar power plants to feed electricity into the local grid at the low voltage end. Therefore, if a location has a severe power deficit or no electricity at all, it makes sense to invest in a solar rooftop plant.

2. MARKETING IDEAS

Market Analysis

This business plan is for a company that will install, maintain, and repair solar panels. It will begin small in Bangalore, Karnataka, but it hopes to expand significantly in order to compete favorably with other top solar panel installation, maintenance, and repair businesses both domestically and internationally.

The need for solar panel installation is anticipated to increase over the next several years. Future revenue growth is anticipated to be far faster thanks to ongoing government support in the form of tax credits and subsidies as well as improvements in solar energy technology.

Market Segmentation

Geographic Segmentation	Demographic Segmentation	Psychographic Segmentation	Behavioral Segmentation
State- Karnataka Region- Urban area Climate- Where Sun Light is more	Gender- Male/Female Age- 25 and above Family-Income- 15,00,000 and above. Education- Who is educated enough and know about environment.	Social Class- Upper class and Middle-class people who are environmentally friendly. Lifestyle- who believe in saving money.	Benefits- Less expenditure in Electricity bills, Environment friendly. Attitude- Who believe on long term investment with high return on investment.

Technology

Monocrystalline solar panels: Due to their superior quality, monocrystalline solar panels are the costliest and offer the best efficiency. These feature rounded corners, a black appearance across the panel, and are manufactured of mono-crystalline silicon. The panel efficiency range for them is 17%, 18%, and 19%.

Polycrystalline solar panels: Their manufacturing process is based on melting unprocessed silicon. They are blue and have an exterior structure with square cells and uncut angles. They are less expensive than Mono-SI because they use more room to produce the same amount of energy, are less efficient, last less time, and cannot withstand very high temperatures.

Target Market

In light of this, we have developed tactics that will allow us to connect with different business entities and homes that we are aware will benefit from our service. The persons and organizations that we primarily target with our goods and services are listed below;

- Corporate Organizations
- Banks, Insurance Companies and other related Financial Institutions
- Manufacturers and Distributors
- Real Estate Owners, Developers, and Contractors
- Research and Development Companies
- The Government (Public works department)
- Schools (High Schools, Colleges and Universities)
- Hotels
- Sport Facilities
- Religious Organizations
- Television Stations
- Printing Press (Publishing Houses)
- Branding and Advertising agencies
- Individuals and households
- Entrepreneurs and Start – Ups

Market Strategies

We will inform them that, although we all want to protect the environment, hearing that they can save thousands on their power bill garners more attention than explaining the long-term financial advantages offered by solar systems. People are still getting used to how everything works, and the idea of "going solar" hasn't really taken off. This suggests that people will research solar technology at their own pace, acquire input from actual users, and choose the system type that will work best for them. Early leads should be attracted by our marketing, and these leads should be nurtured along the sales funnel until they decide to make a purchase. Eight marketing ideas are provided below to get us started.

1. Create a conversion-based website
2. Solar Marketing: Create a Unique Value Proposition
3. Reputation, reviews, and testimonials
4. Create a Referral Program
5. Content marketing
6. Take Control of Search Engine Marketing
7. Social Media Advertising
8. Create a Facebook and LinkedIn Business Page

Pricing strategy

By keeping overhead low and requiring upfront payment from corporate organizations that would use our services, we will keep the costs of our services below the average market rate for all of our clients. Additionally, we will sometimes give all of our clients exceptional reduced pricing.

Industry Analysis**• Market overview**

Over the course of the projected period, the Indian solar energy market is anticipated to grow at a CAGR (Compound Annual Growth Rate) of over 8%. Compared to 2019, the installed solar Photovoltaic (PV) capacity in 2020. In 2020, the steady increase in power production from solar energy sources also quickened. The market for solar energy in India is primarily being driven by the flexibility and dropping cost of solar technology.

- There are numerous potentials to use solar energy in India because of the country's abundant solar irradiation and year-round solar energy supply. This aspect, together with foreign investment and significant R&D initiatives to advance the technology, offers considerable room for the Indian solar energy industry to expand.
- Government policies that are supportive of the market are also helping to advance it, notably those established by the Ministry of New & Renewable Energy (MNRE) to promote the production of electricity from renewable sources.

Potential Barriers

Consumers	Developers	Financier
Lack of awareness	Lack of access to finance	Credit worthiness of consumers
High capital cost	Fragmented distribution of installations	Small size of rooftop projects
Lack of access to finance	Delay in regulatory approvals	Lack of legal enforceability
Issues with roof ownership and access	Availability of shadow free area	Transaction cost
Need for regular operations and maintenance		
Long payback period		

3. FINANCIAL PROJECTIONS AND ESTIMATIONS

Our start-up funding of 13,00,000 will cover both start-up expenses and initial assets. specifically:

Start-up expenses of 7,00,000 incurred before launch: These pre-launch, pre-revenue expenses show up in our financials as negative retained earnings in the Balance Sheet at launch.

- Legal: 38,000
- Furniture and interior: 2,20,500 (We discussed calling these assets, but we think we can legitimately expense them instead; that's better for tax treatment)
- Rent: 1,94,500 We need five weeks in the location for fixup and such before we launch.
- Branding: 45,400 . Includes imagery, website, logo, social media accounts, etc.
- Location fixup: 1,29,600
- Other: 25,900

- Total: 6,54,900

Current assets required:

- Cash: 6,48,400 to cover early deficits, working capital, etc.
- Inventory: 1,29,600
- Plates, napkins, etc. 51,800 (other current assets in starting balance)

Assets

- Fixtures: 2,85,300

Total Start-up Costs:

- 7,06,700 in expenses incurred before launch
- 11,15,300 in assets required at launch, including 38,90,600 cash reserve.
- Total: 18,22,100 start-up cost

Sources of Funds:

Investment will be in equal parts from all four founders. We expect to invest 13,00,000 to start and an additional 12,96,000 at the beginning of the second year. We plan to avoid commercial borrowing.

Projected Profit & Loss

	FY2019	FY2020	FY2021
Revenue	7031370	13167920	24788430
Direct Costs	2742240	513540	9667480
Gross margin	4289000	8032000	1512000
Gross margin%	61%	61%	61%
Operating expenses			
Salaries & Wages	1140000	3968000	6269000
Employee Related Expenses	228040	793640	1253800
Rent	2249380	3206010	3852380
Utilities	116340	193910	310250
Marketing expenses	281250	526720	991530
Amortization of other current Assets	142202	400751	649610
Total Operating Expenses	4157420	9089255	13327080
Operating income	131705	1056821	1793868
Interest incurred			
Depreciation and amortization	40631	52291	73854
Gain or loss from sale of Assets			
Income Taxes	22765	22765	175490
Total Expenses	6963061	14254273	23243910
Net profit	68308	10863480	1544523
Net Profit/Sales	1%	8%	6%

PROJECTED BALANCE SHEET

	Starting Balances	FY2019	FY2020	F72021
Cash	646370	336480	340780	2056740
Accounts Receivable	0	0	0	0
Inventory	129275	427955	805620	805620
Other currentassets	51700	84020	148665	188145
Total currentassets	827360	848480	1295070	3059530
Long termAssets	284400	284405	349025	413670
AccumulatedDepreciation	0	40630	92922	166777
Total Long term assets	284405	243775	2561110	246900
Total assets	1111765	6553530	1551180	3306435
Accountspayable	420145	344470	566430	617575
Income Taxes Payable	0	40165	22765	103845
Sales Taxespayable	0	28015	41330	74165
Short term debt				
Prepaid revenue				
Total currentliabilities	420145	332320	584865	213840
Long term debt	0	0	0	0
Long termliabilities	0	0	0	0
Total liabilities	420145	332320	584865	213840
Paid in capital	1292740	1292740	2585490	2585495
Retainedearnings	601125	601125	532810	1619160
Earnings	0	68260	1086360	1544525
Total ownersequity	691610	759920	96620	2510850
Total liabilities& Equity	1111760	10922580	1551180	3306435

PROJECTED CASH FLOW STATEMENT

	FY2019	FY2020	FY2021
NET CASH FLOW FROM OPERATIONS			
Net profit	68360	1087190	1545735
Depreciation & Amortizations	182970	453411	724014
Change in accounts receivable	0	0	0
Change in inventory	298910	377972	0
Change in Accounts payable	75725	222125	51180
Change in income tax payable	40190	17415	126710
Change in sales tax payable	28035	13195	32990
Change in prepaid revenue	0	0	0
Net cash flow from operations	135460	759030	2480645
Investing & financing			
Assets purchased for sold	174660	530440	763320
Net cash from investing	174660	530445	763320
Investment received	0	1293760	0
Dividends & Distributions	0	0	0
Change in short term debt	0	0	0
Change in long term debt	0	0	0
Net cash from financing	0	1293760	0
Cash at the beginning of the period	646880	336753	34103
Net change in cash	310127	4282351	1717326
Cash at the end of the period	336753	342715	2058361

4. OPERATION DESIGN**Human Resource**

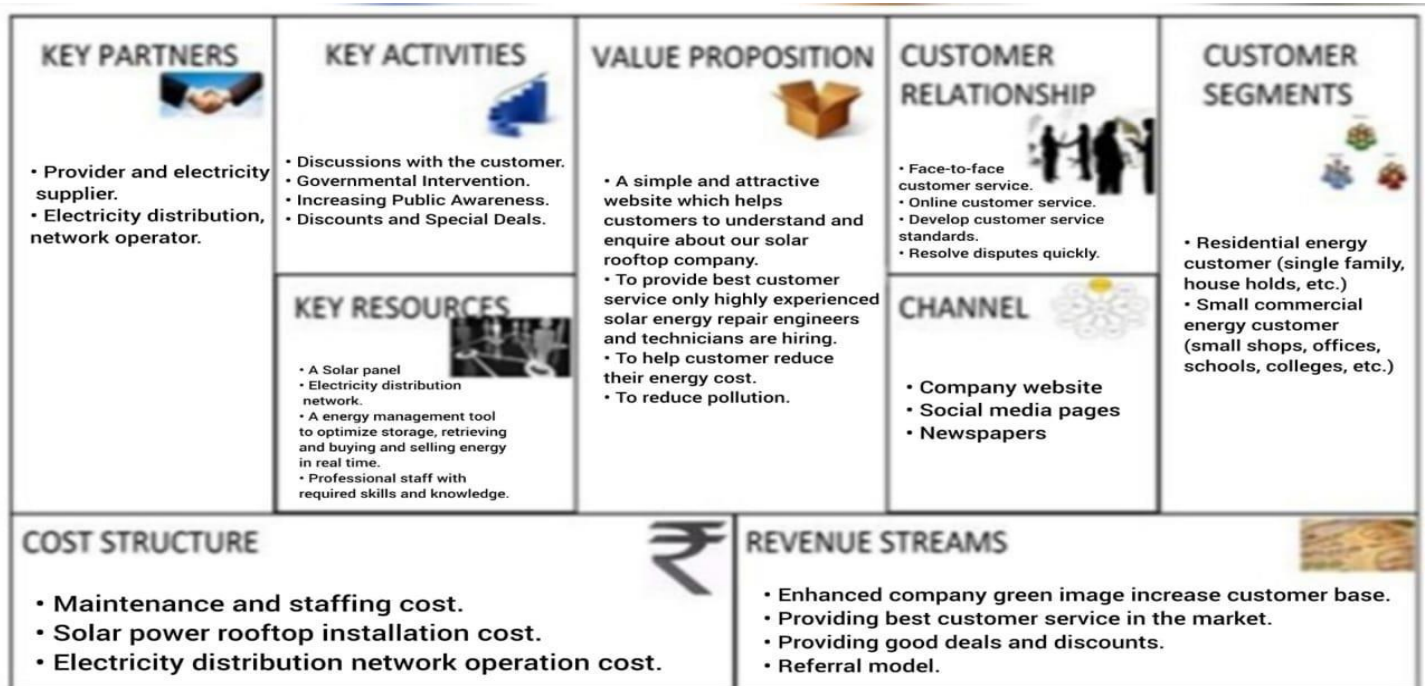
1. Chief Executive Officer – CEO
2. Head, Technical Services
3. Human Resources and Admin Manager
4. Sales and Marketing Manager
5. Accountant/Cashier
6. Computer Repair and Maintenance Engineers and Technicians
7. Client Service Executive

Facilities and Technology

1. Site Survey
2. PV Design
3. Impact Modelling
4. Installation
5. Maintenance

Licenses and IPR Requirements

1. Certificate of Incorporation
2. Memorandum of Association
3. Articles of Association
4. Tax Deduction Account Number (TAN)
5. Permanent Account Number (PAN)
6. Goods and Services Tax (GST)

6. BUSINESS MODEL CANVAS**7. CONCLUSION**

The installation of solar panels at the homes, school, colleges, offices etc. is economically feasible for the management; due to the fact that accelerated depreciation and subsidy are available. Installing these panels will not only decrease the costs of conventional energy, it will also provide many benefits for society and the environment. Solar panels would enhance the school's, college's or company's image, promote environmental awareness, act as an educational tool, and generate commitment to the community.

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