

Waqas



**ASSIGN
BUSTER**

1. Our Objectives: We care and value contribution of our employees, encourage positive learning, interactive work environment. Encouraging interests for plan, entrepreneurial spirit, open communication, to identify risk and make more innovation. Believe in continuous improvement and innovation in products and services through team effort. We have faith for providing highest standard of quality and to develop customer's trust and satisfaction.

2. Vision Statement & Mission Statements
 Vision Statement " To become a market leader in terms of solar energy and to make solar an economical reliable energy source in Pakistan. "
 Mission Statement " To provide low cost environmentally friendly and innovative form of electrical energy in Pakistan. "

3. Keys to Success: The keys to success in Pakistan Solar Cooperation are:

1. Offering items of a high quality-value solar products which are not available everywhere.
2. Reliable and timely deliveries. Islamabad Light House must make good on its delivery promises as the nature of doing business in Pakistan it requires long-range planning in scheduling orders, taking into account Pakistani holidays and business practices.
3. A reliable management that is ready to serve customers, prepares accurate billing, follow-up on orders and other documentation, and maintains a close watch on expenses and collection of accounts receivable.
4. Company profile Business Ownership There are five owners, who have joined hands together to share profit or loss for Light House in Islamabad Ltd. Each partner has equally contributed to set up such a business enterprise. One partner named Chaudhary Waqas Shabbir working as a sleeping partner

Name of Owners	Contributed
Majid Subhani	RS. 1200000
Waqas Shabbir	RS. (Sleeping partner)
Aisha Rehman	RS. 1200000
Momna Changez	RS. 1200000
Rabia Sajjad	RS. 1200000

4. 1 Company

Facilities Company is offering the following products along with some services; - Solar Water Heating System (geezers) - Solar Lighting System - Solar panels The engineers along with the agents are hired who will visit the customer place to install the equipments of solar purchased from us. The agent will go to customer place time to time for maintained check of product free of cost.. The company is offering one year warranty. The delivery of solar products is free from the charges. Our entire team is well trained and courteous. They treat customer with care and attention to achieve pleasure in the services. 4. 2 Company Hierarchy [pic] 4. 3 Office location Office # 01, 2nd floor, Naseem Arcade, I-9 Markaz Islamabad Pakistan Office # +92 51 4102274, Mobile # 03075000579 Email: info@lighthouse. com. pk 5.

Alternative Energy Comparisons Pakistan's energy infrastructure is not well developed, rather it is considered to be underdeveloped and poorly managed. Currently the country is facing severe energy crisis. Due to these reason there are alternative energies which can be used to reduce energy crisis but the major competitor of solar energy is wind energy it is less expensive than solar energy but Not environmental friendly. The recent innovations in plastic and nanocrystal solar cells which promise to greatly reduce the cost of manufacturing and installation. - The noise pollution from commercial wind turbines is sometimes similar to a small jet engine - A wind turbine with rapidly whirling blades conjures an image of a bird being bludgeoned and then reduced to a cloud of drifting feathers. Many birds die when they collide with turbine blades, but this is not the only way that wind farms kill birds: birds collide with turbine towers and power lines as well, and construction of wind turbines destroys bird nesting and feeding habitat, sometimes reducing the amount of available food. Wind farms constructed in

bird migration routes are particularly worrisome. - Even if wind is more efficient and inexpensive in terms of production, who can afford to build a large wind turbine in their backyard? Other than the rare homeowner who lives atop a large hill with no obstructions, the idea of the wind turbine will almost certainly lose to a solar array, which can be installed on almost any roof.

5. 1 Solar Energy in the future As the number of people longing for a cleaner environment grows, the solar industry. Solar cells are becoming increasingly cost-effective as more distributors enter the market and new technologies continue to offer more choice and new products. Screen-printed solar cells are expected to drive prices down even more. Roofing shingles are capturing the sun's rays and turning them into electricity. Solar panels are being accumulated to the sides of houses when roof space is not an option. Pools are being heated with solar energy as a usual heater does. Solar Energy History has indeed come a long way and has a very positive future ahead.

6. Target Market Segment Strategy Due to the limited resources and skills available to Islamabad Light House, the company will focus on high and middle class people living in Islamabad. Established connections with more suppliers will help company to provide more products and meet the demand of customer Market Needs

During 2009-10, Energy supply and per capita availability of energy witnessed a decline of 0. 64 % and 3. 09 % respectively in comparison to previous year. â- Available capacity is around 13. 6GW against demand of 16. 5 GW â- Demand is expected to grow at a CAGR of 7. 8% and is likely to reach 28GW by CY2016. â- Currently shortfall is in the range of 4500-6000MW, mainly due to circular debt issue leading to FO shortage.

Industry Analysis Pakistan's energy consumption is met by mix of gas, oil, electricity, coal and LPG sources with

different level of shares. Share of gas consumption stood at 43.7%, followed by oil 29.0 percent, electricity 15.3 percent, coal 10.4 percent and LPG 1.5 percent. Product Analysis Pakistan real GDP size is US\$170bn, or PKR 17.4tn at current price. GDP grew at 4.6% per annum on average over the last twelve years. However for the last two year it remains under 4%. Currently shortfall is in the range of 4500-6000MW, mainly due to circular debt issue leading to FO shortage. To overcome this shortage Government take an initiative to investigate Alternate energy resources in Pakistan developed Alternate Energy Board AEDB like solar energy . Pakistan lies in area one of the highest solar insulation in the world. South Quetta and central Punjab that receive maximum solar radiation which have been recorded 5.5KW/m². According to the Pakistan Energy Book 2004-05, solar energy falling is 0.25% in Baluchistan province, so it leads a good percentage to invest in this industry.

6.1 Competitive Comparison

Probably the most notable competitor seen in retail outlets of the type targeted by ISLAMABAD LIGHT HOUSE is NEXTON GROUP. The NEXTON catalog is excellent and in color. All items in the catalog are available immediately. Below is a SOLAR product comparison:

NEXTON ITEM	SOLAR PANEL	5W, 20W, 40W, 90W, 100W, 120W, 180W, etc.	SOLAR LIGHTS	Backup time: 8 hours	Solar Panel: 5 Watts	Battery: 12 V, 4.5 AH	SOLAR GYSERS	Backup Time: 72 Hours	SOLAR DC LIGHTS	Backup Time: 4 hours	Solar Panel: 20 Watts	Battery: 12V, 18 AH	RECHARGESBLE DC LIGHTS	Backup Time: 3 Hours	Battery Charger: 12V
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This comparison shows that next on group offer more products than us because they have been existing in the solar market since last two years and they attract more customer than us and offer more products. To overcome this deficiency we are giving discount on our

products to attract customer and free maintenance. Main Competitors The most frequently seen competitor of Islamabad Light House is NEXTON SOLAR' its outlet is in Islamabad they provide solar and wind energy products it's done work on following projects: 1. 1000 Watt Solar powered systems at K2 base camp. Nexton Solar team installed a complete solar system included solar panels, solar control charger, solar inverter, batteries to run the whole appliances of several camps based on K2. 2. Solar Street Lights and Solar Powered Systems for houses and schools at Paki Shah Mardan near Kala Bagh. 40 street lights of 20 watt each had been installed at the main street of Paki Shah Mardan village. Nexton had also lightened up several houses and schools (Madrassahs) of this village.

6. 2 Strategy and Implementation

The Climate and suitable weather conditions in Pakistan are ideal for Solar Energy use . To overcome energy shortage; Pakistan needs to develop its indigenous energy resources like hydropower, solar and wind. Pakistan lies in an area of one of the highest solar insolation in the world. This vast potential can be exploited to produce electricity, which could be provided to off-grid communities in the northern hilly areas and the southern and western deserts. The Climate and suitable weather conditions in Pakistan

Competitive Edge - No installation costs - No wiring costs - No electricity bills - No maintenance bills - No backup systems needed - Clean and elegant installations - Green energy - Totally recyclable - Freedom from noisy generators - Works even in cold climates

6. 3 Marketing Strategy

The following sections illuminate the pricing, promotion and distribution strategies for

1. Product

There are different products offered by solar companies but our main focus is on;

- Solar geysers
- Solar bulb
- Solar panel

a. Solar Geesers - Availability of free hot water 24 hrs a day. -

Designed to heat water to 60°C, even in cold climates. - Save up to 80% of Domestic Gas bills in the winter season. - Environment friendly. - 20 year life time expectancy.

b. Solar Blubs - High output LED with magnifying lens - Adjustable head - Charging time: around 4 hours - Lighting time: around 6 hours when battery is full - Bottle diameter size: 28mm (1.1") (standard size)

c. Solar panels A solar panel (photovoltaic module or photovoltaic panel) is a packaged interconnected assembly of solar cells, also known as photovoltaic cells.

- Multi-crystalline (Polycrystalline) Solar Panels A polycrystalline cell contains many crystals. It has similar life span to the Monocrystalline cell type, but it has lower efficiency and cost per watt.

- Mono-crystalline Solar Panels A Monocrystalline cell is made of a single crystal. Monocrystalline solar panels are high efficiency solar panels.



2. Pricing Strategy The present pricing structure for our products to customer we will allow 5% discount on all product. Solar System related accessories are available at different prices starting from Rs. 6550 to 465,500 and its capacity is 10W to 1000W. While the Solar Geezers are also offered by the Company its price range is Rs. 19500 to Rs. 38900. On the other hand the capacity of water in solar Geezers is 75 Liters TK to 270 Liters TK.

3. Promotion Strategy Many companies are producing solar products but unable to attract market that why we will emphasis on promotion and make our distribution system effective - Broacher will be distributed door to door - An advertisement is in progress which will be shown on TV channels & cables - Local Centaury shopkeepers plays a vital role in selling these type of products so far they can able to guide peoples our sales team guide them through small presentations

4. Distribution & Installation Strategy As it is already described that it's a trading business so it will be easy for customer

to buy solar items according to his requirements at any time. - Customer can purchase directly from Our Outlets. - Our customer service representatives will guide you the whole process of Installation. - In case of big Quotations an engineer will be available for installation. - Home delivery facility of our products will be available. - Any claim regarding to products delivered will be accepted within 10 days.

7. Technical Details The basic components of a solar panel system are the panels themselves. When making the decision, there is a need to consider their size and durability. For the size, the power output can vary depending on the technology (single crystal, thin film, or polycrystalline) but in general, a two square foot panel will output 50 watts, while an eight square foot panel will output 190 watts. Durability-wise, most solar panels are framed in aluminum to minimize the effects of weather.

Monocrystalline panel Polycrystalline panel  The second component of a solar panel system is the inverter. An inverter converts DC to AC and is required because the power coming from the panel array is direct current (DC) while a home circuit only accepts alternating current (AC). Inverters must be judged on their automatic shutoff capacity, battery charging capabilities, and surge capacity i. e. capacity to withstand overload of power.

This surge capacity may range from as little as 20% to as much as 300%.

Finally, every solar panel system utilizes a large array of batteries to store and regulate power flow to the home, but a charge controller must be in place to prevent damage from occurring. If the battery is full then “ voltage regulating” begins and the power is cut-off. There is a need to use such controllers that feature maximum power point tracking or MPPT. This technology is in place to optimize panel energy production by changing charge rates at specific voltages. Also, the controller should feature battery

temperature compensation or BTC. This system modifies the charge rate in relation to temperature, as the batteries are sensitive above and below 75-

77F. Inverter[pic] Battery [pic] Charge Controller [pic] Solar photovoltaic panels can be installed on many different types of roofs. Whenever possible it is best to install solar panel mounts while a home is being re-roofed. Solar panels mounted during the roofing process will eliminate any possibility of roof leaks. All mounts need to be secured onto the roof with stainless steel lag bolts bolted through into rafters.

7. 1 Process of installation 1. The biggest factor in a solar panel installation is the mounting. Align mounts on top of rafters then pre-drill with a pilot bit to avoid splitting the rafters. [pic]

[pic] 2. Secure the mounts to the roof with stainless steel lag bolts. [pic] [pic]

3. Metal flashings are placed over the mounts and metal rails are secured to the posts with 3/8' stainless steel bolts. Metal flashings Stainless steel bolts

[pic] 4. Next the solar panels are installed and connected into an array. [pic]

5. A thin layer of reflective roof coating is applied on the roof. [pic] 6. The final step is to connect the panels to the inverter. [pic] | | | | | | | | | |

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Commencement of Business is Rs. 6 million. 4265000 is in the form of Capital & 1735000 is in the form of working capital. 8. 1 Project Investment |

Description | Rupees | | Capital Investment | 4265000 | | Working capital requirement | 1735000 | | Total Investment | 6000000 | 8. 2 Other

Requirements & Expenses | Description | Amount in Rupees | | Office Equipments | 105200 | | HR Requirements & salaries | 1284000 | | Marketing

& selling | 204000 | | Building & Furniture | 2900000 | | Vehicle & Motorcycle | 1365000 | | Depreciation | 10 % & 15% respectively | | Other Miscellaneous

Expense | 1158000 | | Including Legal Expenditures | | | Sales growth | 10 %

Annually | 8. 3 Project Parameters | Project Cost | NPV (Rs) | Payback Period |
 | 6000000 | 52730819 | 13 years | | 8. 4 Calculation of cash Flows & NPV | | |
 Years | Net Profit | Interest | Cash Flows | NPV | | years | | | Building |
 20000000 | |-Depreciation(Current+ Accumulated) |- (200000+200000)
 1600000 | | Furniture | 400000 | |-Depreciation(Current+ Accumulated) |-
 (40000 + 40000) 320000 | | Vehicle & Motor Cycle | 1365000 | |-
 Depreciation(Current+ Accumulated) |-(204750 + 204750) 955500 | |
 Debtors | 370000 | | Cash | 1781294 | | Investments | 1199406 | | Initial
 Investment Expenses | 105200 | | Total Assets | 6120570 | | Liabilities &
 Capital | Rs. | | Majid Subhani 20 % 1375000 |- | | Aisha Rehman 20%
 1375000 |- | | Momna Changez 20 % 1375000 |- | | Rabia Sajjad 20%
 1375000 | 5500000 | | Bank Loan 12 % for 5 years | 500000 | | Profit |
 120570 | | Total Liabilities & Capital | 6120570 | 8. 6 Cash Flow Statement |
 Years 2012 | Particulars | Rs. | Years 2013 | Particulars | Rs. | Conclusion It is
 concluded that in the light of our projection and analysis regarding market
 feasibility, technical analysis and the financial analysis we find that
 PAKISTAN market is feasible to start this project. It is also suggested that it is
 a best source of alternative energy in Pakistan as compare to other sources
 like Wind, thermal and hydro. Market feasibility tells us that there is too
 much market potential to invest in this sector. The solar power is cheap and
 easy to control. There is no fear of over-using it because it is not exhausted.
 A miniscule amount of energy of the sun is enough to carry out the function
 needed for a year. The rising levels of pollution have made the Pakistan
 scientists think of solar power as it does not release the pollution. To set up
 the solar plant it does not requires complicated machinery. After doing this
 project we are been able to know the real scenario of energy crises in

Pakistan and we are able to explore new dimensions in energy sector in Pakistan.