

## **Holistic Solution for Electricity Access in Rural/Remote Areas**

Basil Energetics is a Chennai based Green Energy Solutions provider. The company has come out with a holistic solution for the energy needs of the people with their Super Efficient DC Appliances and Smart Nano/Micro Grid. DC appliances include Air Conditioners, Refrigerators, Freezers, Fans, Lights, E Cycle, Power Train for Electric 2 Wheelers & Pumps. Solution for operating small motorised equipments directly from DC of solar panels is available. The idea is to give **PURE** (Productive Use of Renewable Energy) solution for small & micro enterprises with reliable and affordable electricity. The following needs of the people are addressed in an efficient, comprehensive and cost effective manner:

### **Water:**

- Direct Solar operated pumps. Presently surface pumps are available. Submersible pumps will be added soon. This is used for pumping water to fields or overhead tanks.
- Direct solar operated high pressure pumps for RO water purification. Clean drinking water is stored on SS tanks. The RO system is also supplied along with the pump.
- Solar operated micro irrigation solution (Drip & Sprinkler) to the people in semi-arid arid areas to conserve water.

### **Healthcare:**

- Refrigerator with Freezer, Deep Freezer, Fans, Lights and Air Conditioner, which run directly from Solar panels are available. No inverter is required. The DC appliances are super efficient and the Refrigerator and Fan won the Global LEAP award for being the most efficient in 2017. They can be deployed usefully in PHC (Primary Health Centre).
- Due to the very low power consumption, a battery back up can be provided for 24 x 7 operation. The battery size is drastically reduced. Lithium battery can also be given for long life. Storage of medicines and vaccines are enabled. For bulk storage Freezers are provided.

**Sanitation:** The waste water from RO plant can be used for cleaning & sanitation requirements.

**Cold Storage:** With the combination of air conditioning and refrigeration equipments available, a variety of cold storage systems can be designed. Bulk storage of Vegetables, Fruits, Flowers, Milk, Fish and Meat are possible and round the clock cold storage is done, if needed with batteries. The size and capacity of the battery is drastically reduced due to the super efficiency of the DC appliances.

### **Home Needs:**

- DC operated fans & LED lights can be given to individual homes. They operate directly from the solar panels.
- TV, Set Top Box, PC/Laptop can be given to village officials and they can operate as a part of the system. These can be procured from the open market.
- Mobile charging points can be given to homes to use the existing charger work directly from solar panels.

### **Transportation:**

- Power trains (Motor & Controller) for electric 2 wheelers, including retrofits.
- Basil's Electric Bicycle and Tricycle (iZip) provide connectivity to nearest town/market as well as intra village mobility. These are fitted with Lithium battery which charges quickly and provide for a range of about 30 KM.
- The battery is charged directly from solar panels within 2 hours. The life of the battery is nearly 10 years.

### **PURE Solution:**

**Productive Use of Renewable Energy** is made possible with our range of Electric Motors & Controls. The equipment coupled directly to DC of solar panels or existing power grid enables artisans and small crafts persons to use solar energy for their work. Equipments like drills, lathes, grinders and compressors can be powered with our Brushless Motors and controls, operating directly from DC of the solar panels. This gives them reliable and cheap access to electricity. Their earning capacity is increased multifold. Presently we have drives in the range of 0.5 ~ 3 HP and it can be increased further if large needs are there.

BASIL can take up and execute Nano/Micro DC grids to improve the 'Electricity Access' to the deprived sections of the society.