



Press Release

On Inauguration of “The Energy Centre”

Smart Micro Grid Solar rooftop system unveiled in Chennai on Wednesday for the first time in India will provide total energy security for the entire family for at least a generation, said Dr. R. Ramarathnam, Chairman of Basil Energetics Private Limited and inventor of the 'Hybrid Appliances & Smart Grid Controller'. Addressing a news conference in Rain Centre in Mandaveli, Chennai, where the mini solar grid has been installed, he said the solar grid designed for domestic and industrial use helps run customized hybrid super-efficient air conditioners, refrigerators, fans, tube lights and bulbs on solar and main power alternatively.

The system has inbuilt smart grid controller that can be used to operate all the Hybrid Appliances including LED Tube Lights and Bulbs. Washing machines, air coolers, wet grinders, food processors, water pumps and mixer blender will be added to the system in the future. The system and solutions address both the demand and supply side of the spectrum.

The use of super-efficient appliances drastically reduces the load demand and eventually leads to wider deployment of the system leading to a power cut free life style. The system is equipped to add other source of renewable energy concurrently such as roof-top micro wind, biogas, and PICO hydel systems generation etc. depending on the size of the terrain, available resources and location. The system will not use conventional power when renewable sources are available.

There are no batteries, no inverters, no replacements, no rusting and no running cost for the next 20 to 25 years. The system also helps to save in electric consumption reducing the electric bill up to 70 per cent.

The system can power about 40 apartments in the ten-storied residential towers as the solar panels occupy very little space ranging from 80 sq. feet to 240 sq. feet per unit depending on the model. The roof top area required for installing the system has been shrunk by all most 60 per cent - small enough for any size of the terrace.

The system also incorporates stabilised power supply whether run on solar, conventional electricity, sunny or cloudy weather resulting in savings as the existing voltage stabilizer consumes considerable of power. The system helps in reduction of power bills by up to 50 per cent if run on conventional power supply. It runs on green technology.

The power factor is pegged at 0.99 compared to 0.8 for existing appliances, resulting in 25 per cent improvement. This acts as a boon for state electricity boards and helps in the possible increase in the connected load by 25 percent from the same distribution transformers. There are some states in India with 10 to 15 hour power cuts.

The system comes with smart grid controller, hybrid appliances such as air conditioners, refrigerator, ceiling fans, tube lights and bulbs offering total solution as a package for home or office. The system can run on solar power from sun rise to sun set with zero cost and on conventional power during the rest of the time with at least 50 percent reduction in electric bills thus making the overall energy savings close to 2/3.

With power shortage looming large over several states in India, the system helps each household to become generators of solar power. It eliminates dependence of power from the utilities and can even feed electricity to the state power grid directly from one's house if net metering is allowed. By widespread deployment and regulations on SPO (Solar Power Obligation) the power shortage of the state can be eliminated. The total power solution is now ready to hit the market and can be customized to suit consumer needs.

The smart grid controller constantly monitors the power in the solar panel and estimates the load requirements. The system comes to the market with four models one with one ton hybrid air conditioners, a 330 liter hybrid refrigerator, four 48" ceiling fans, nine LED lights and a solar panel of 1.44 KW rating. The other models have one or two pieces of one or 1.5 ton air conditioner with other appliances in place. The basic model is without the air conditioner and is suitable for the small homes.

The solution has already been tested in the labs for over four years and the cost of the new solution including the appliances is less than that of conventional system including the subsidy. The invention uses permanent magnet brushless DC or synchronous motors with variable speed compared to the existing solar system with solar panels, battery with charge controllers, inverter for converting DC from panels for running the existing appliances. The payback period is around five years.

The new system completely eliminates winding and carbon brushes for production of magnetic field by the use of permanent magnets and related parts resulting in complete elimination of associated losses. All the new motors in the new system have soft starting, thus eliminating the inrush starting current. Appliances are of hybrid nature and can work directly from AC or DC and no inverter is required. Battery is not needed except for back up requirements and can be given as an extra option.

In case the solar power is not sufficient due to bad light, the system will use the available power and the balance is taken from the AC mains. In case of total absence of solar power, the appliances run automatically on AC mains. The system will not run if both the solar and AC mains power are absent. Most of the value addition with regard to appliances and equipment are made in India unlike Chinese and Korean products that engulf the markets. Plans are afoot to distribute the system through channel partners throughout the country for installation and after sale service through a set of dealers.

What the Government Can DO

The Central Government gives subsidy to solar panels alone now and they should be extended to super-efficient hybrid appliances & the Central Grid Controller also. There will be considerable cost reduction of up to 15 per cent to end user if the central and state governments can extend Excise Duty and Sales Tax concession to the system. The subsidy offered now is 30 percent per KW or Rs 30,000 whichever is less.

The Tamilnadu State Government offer Rs 20,000 for the first KW as additional subsidy on the first come first served basis. We request that subsidy may be increased to Rs.50, 000 for the use of micro grid solar rooftop system.

The Tamilnadu State Government mandates that High Tension (HT) consumers of industrial and commercial sector use at least 6 percent of their consumption from solar. We request the Government to bring in agriculture, big, medium and small industrial users under the umbrella as most of them are power guzzlers leading to wastage. Large domestic users with air conditioners could also be targeted. They can also be brought under the Solar Purchase Obligation (SPO).