

**ADDRESS BY THIRU BANWARILAL PUROHIT, HON'BLE GOVERNOR OF
TAMIL NADU AT THE WORKSHOP ON ADVANCED SOLAR PV
TECHNOLOGIES AND VENDORS MEET - 2018 AT IIT CAMPUS, CHENNAI
ON 21/06/2018 AT 11.00 AM**

Anaivarukkum Kaalai Vanakkam
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Distinguished Invitees
Ladies & Gentlemen

It is a pleasure to be here at the “Workshop on Advanced Solar PV Technologies” organised by the Andhra Chamber of Commerce in association with the Micro, Small and Medium Enterprises Development Institute (MSME DI) and Tamil Nadu Energy Development Agency (TEDA).

The Sun is the giver of life and energy to the Universe. Solar energy is a renewable source of energy. It is inexhaustible and non-polluting in nature. We are all aware that the light from the Sun comes to us in the form of packets of energy. This is the foundation of quantum mechanics. The Electro-magnetic element in Sun light has the potential to be converted into electricity, when it strikes a suitable surface that enables copious release of electrons which we call as the flow of electricity.

With a population of more than 125 crores, India is the world's third largest consumer of electricity. Over 450 million ceiling fans are in use and 40 million are sold every year. Demand for electricity is growing at the same rate as in France or Germany as millions of people obtain fresh access to power or increase their consumption of power in different parts of India. With an unswerving commitment to solar power, India is now emerging as a front runner in generation of solar energy.

The conversion of solar energy into electricity is normally done through a photovoltaic cell. When Bell Labs invented the first useful silicon solar panel in 1954, the efficiency achieved was only about 6%. The first satellite which used photo voltaic cells to back up its main power source was the Vanguard 1. This satellite was launched in 1958. The photovoltaic cells, though cost-effective for space exploration, were not considered efficient enough for terrestrial uses until Hoffman Electronics created a solar cell that was 10% efficient. This set the stage for more effective uses, including solar cells being used for the first time on a manned spacecraft, the Soyuz 1 in 1967.

Historically, the United States was the leader of installed photovoltaics for many years, and its total capacity amounted to 77 megawatts in 1996 – more than any other country in the world at that time.

From 1996 onwards, Japan remained world leader in photovoltaics until 2004, when its capacity amounted to 1,132 megawatts. Then, focus on PV deployment shifted to Europe.

In 2005, Germany took the lead from Japan. With the introduction of the Renewable Energy Act in 2000, feed-in tariffs were adopted as a policy mechanism. This policy established that renewables have priority on the grid, and that a fixed price must be paid for the produced electricity over a 20-year period, providing a guaranteed return on investment irrespective of actual market prices. As a consequence, a high level of investment security led to a soaring number of new photovoltaic installations that peaked in 2011, while investment costs in renewable technologies were brought down considerably in 2016 Germany's installed PV capacity was over the 40 GW mark.

However, in 2015, China became world's largest producer of photovoltaic power, and in 2017 became the first country to surpass the 100 GW of cumulative installed PV capacity. China is expected to be the leader in installed PV capacity, and along with India and US, it is forecast will constitute the largest markets for solar PV installations in the coming decade.

In India, the total solar power generation capacity increased from 461 MW in 2011 to 6,763 MW in 2016. This has further gone upto 12288.83 MW as on 31st March 2017. The installed solar capacity crossed 20 GW in January 2018, with 18.4 GW in the form of ground-mounted projects and 1.6 GW on rooftops. The solar power generation capacity in the country has increased tremendously mainly due to the favourable Government initiatives coupled with advancements in the manufacturing technology of solar panels. A report published by the Institute for Energy Economics and Financial Analysis (IEEFA) has stated that India installed 10 Giga Watt (GW) of Solar Power in 2017, thereby doubling its achievement of 2016.

For the same reasons, the solar power tariffs in India have also fallen considerably from Rs. 15 /Kwh in 2009 to Rs. 2.44/ Kwh in 2017. This is also the result of a decline in module prices and improvements in the capacity utilization factor. The last big decline in rates came in during the online bidding for a 750 MW solar power park being set up at Bhadla near Jodhpur with Viability Gap Funding (VGF) from Solar Energy Corporation of India Limited. The ever-declining solar power tariffs has encouraged higher financial investments into the sector.

The Indian Government has given a boost to Solar Energy producing companies by reducing the import duty on Solar panels by five percent in the current budget. This measure is expected to reduce the cost of a roof top solar PV installation by 15 to 20 percent. Power Purchase Agreements and Levelised tariff measures, incentives for domestic solar rooftops, tax rebates on capital goods for power production, and other monetary incentives like Carbon Emission Reduction credits that can be traded in various emission

trading markets are some other innovatives now being made available to boost solar power generation.

The Tamil Nadu Government for which the Tamil Nadu Energy Development Agency (TEDA) serves as the nodal agency functions with the aim of promoting use of new and renewable sources of energy and hence implements projects and encourages research and development on renewable sources of energy.

With around 300 clear sunny days in a year, Tamil Nadu came up with an ambitious solar energy policy in 2012, with a goal of achieving 3000 MW of solar power in Tamil Nadu in three years.

According to the latest statistics, Tamil Nadu has a total solar installed capacity of 2034 MW as on 31.03.2018 and is well on its way towards achieving the goal of 3000 MW. This is easy since the State has solar projects with a capacity of over 2,000 MW lined up for the calendar year 2018.

We should all keep in mind the fact that the focus on solar power is the key to the future. The path to sustainable development lies in reducing carbon emissions by promoting the generation of electricity from renewable sources such as solar power. Nature has enough for everyone's need but not for satisfying everyone's greed. This is the famous saying of Mahatma Gandhi which should remain etched in our minds when crafting the path of development.

I wish to conclude by saying that the Andhra Chamber of Commerce has on the occasion of its 90th anniversary chosen an appropriate topic of focus namely Solar Photo Voltaic Technologies. I wish the Chamber all success in their efforts to promote Industry, Trade and Service sectors and also in their welfare oriented initiatives for the benefit of society.

Nandri Vanakkam
Jai Hind...