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CLEAN ENERGY IS CHANGING THE ENERGY LANDSCAPE

Energy experts and analysts express their optimism about our clean energy goals by briefly highlighting the transformations occurring in the renewable energy sector. They also forecast a significant increase in the adoption of solar energy systems and renewable energy integrated systems in the power sector.

Also Read

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Solar PV cables market to grow with clean energy programs

September 2, 2022

By EPR Magazine Editorial

India is one of the emergmg countries in recent times for generating solar energy. With favourable government policies and a conducive environment, India is gearing up to execute the world's most extensive renewable energy expansion plan.

By the end of 2021, the total installed capacity for renewable energy in India was 151.4 GW, of which solar contributed 49.34 GW. With further investment and the development of several large grid-scale solar parks (some of which are among the world's largest), India is climbing up the ladder to achieve its goal of 500 GW of non-fossil fuel capacity by 2030.

In a solar plant, cables play a pivotal role in interconnecting solar modules, combiner boxes, inverters, and other electrical components-all the way to taking the generated power to the grid. In the last decade, India witnessed a sharp increase in demand for and technological advancement of modules, structures, inverters, and copper cables. But in this metamorphosis, the copper cables could not meet a few critical challenges besides ensuring lower transmission losses.

Inspired and witnessing these needs, APAR Industries developed and launched a special Photovoltaic (PV) solar cable that sustains the surge and other harmonic transitions during electrical power transmission. These surges occur at all levels between applications, like PV modules, inverters, inverters to end power distribution grids, etc.

After rigorous research, development, testing, and authentic certification, these PV solar cables developed by E-beam cross-linking technology serve all specialised requirements and are well accepted by customers as a preferred solar cable compared to other manufacturers. The PV cables offer the following innovative solutions:

- 15 per cent higher current rating than conventional solar cables
- Cold-resistant and weather-resistant
- Anti-rodent and anti-termite
- Life expectancy beyond 25 years
- UV, ozone, acid and chemical resistance
- Abrasion resistance
- Improved mechanical properties
- Thermal resistance
- Improved tensile strength
- Resistance to stress cracks
- Deformation and cut-through resistance
- Easy installation

In accordance with environmental regulations, these cables are also:

- RoHS compliant
- Halogen-free
- Low smoke emissions
- Flame-retardant
- Fully recyclable

In addition, as part of its mission to provide a complete solution to the end customers, APAR's scope is extended to include a fully integrated PV cable harness by way of jumpers, a harness with inline as well as offiine moulded fuses, and a branch harness up to 10 in and one out.

Procuring the harness saves not only considerable project electrical installation costs but also ensures a better quality of installation.

As the world's third-fastest growing solar power programme, India is set to grow by USD 240.42 billion from 2021 to 2026. To meet these demands, APAR Industries houses India's largest manufacturing capabilities of E-beam cables with three E-beam accelerators (1.5 MeV, 2.5 MeV, and 3 MeV) installed at its Khatalwada plant, Gujarat. With green energy being a key driver for most new power projects, APAR foresees a further rise in demand and will soon add another E-beam accelerator of 2.5 MeV. In the past decade, the company has manufactured and supplied 225,000 km of solar cables for major solar projects in India and abroad.

Founded in 1958, APAR Industries has been in the cable industry for over a decade and continuously invests in innovation, product development and manufacturing technology to upgrade its quality standards to provide tomorrow's solutions. APAR has all the necessary certifications for solar DC cables as per EN: 50618:2014, TUV: 2pfg 1990 | 05.12 standard, IEC: 62930: 2017, UL: 4703. APAR has exported solar DC cables to the UAE, Saudi Arabia, Oman, Morocco, Brazil, Vietnam, Mexico, Australia, the United States, and many other countries besides India.

Developments in Solar Recently,

the Ministry of Power has allowed the bundling of renewables to replace thermal power under existing PPAs. This is a significant step towards achieving the goal of 500 GW of non-fossil fuel capacity by 2030. The distribution companies will be able to count the renewable energy supplied under the scheme towards their renewable purchase obligation, and this will be without the financial burden of a separate PPA. This step by the central government will lead to a faster energy transition and benefit both the generators and the distribution companies. Under the direction of the Hon'ble Minister of Power and New and Renewable Energy, the Ministries of Power and New and Renewable Energy are poised to take additional steps towards achieving 500 GW by 2030, for which orders are to be issued shortly.

The Government of India's renewable energy and clean energy objectives aim to establish India as a global leader in solar energy by creating the policy conditions for solar technology diffusion across the country as quickly as possible. The mission targets installing 100 GW of grid-connected solar power plants by 2022.

As of December 31st 2021, India's total installed renewable energy capacity is 151.4 GW.
The following is the break up of total installed capacity for renewables as of December 31st, 2021:

- Wind power: 40.08 GW
- Solar Energy: 49.34 GW
- BioPower: 10.61 GW
- Small Hydro Power: 4.83 GW
- Large Hydro: 46.51 GW

For more details, please visit **www.apar.com**

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