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# India on its Way to Become a Solar Power Hub

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**CLIMATE CHANGE REMAINS** the biggest threat to humanity and our planet. The devastation wrought by Typhoon Rai in the Philippines clearly recently reflects the intensification of natural disasters due to global warming. Having surpassed the warning levels already, the temperatures are rising at an unprecedented rate posing a serious threat of widespread destruction. This change in the earth's climate is primarily triggered by increased emissions and concentration of greenhouse gases in the earth's atmosphere. In order to take a giant leap into the new era of energy transition and achieve net-zero emission ambitions, it is highly imperative to take the challenges head-on and grab the right opportunities that could pave a path towards a future based on clean energy.

To mitigate the impact on climate and ensure a safer world for our future generations, it is high time that India aggressively promotes clean energy generation and adoption of renewable energy technologies. The COP26 Summit held last year in Glasgow, Scotland can be seen as a remarkable turning point for a majority of nations including India, as Prime Minister Narendra Modi during his address pledged to make India carbon-neutral by 2070. Besides this, by launching the Green Grids Initiative - One Sun One World One Grid (OSOWOG) on the sidelines of the Summit, our Prime Minister jointly with his UK counterpart Boris Johnson has already laid the foundation for a better world.

Another recent move of the government that could help India accomplish this goal is the decision of eliminating the dependence on China for solar equipment by establishing the country's own state-of-the-art manufacturing facilities to make the panels and components indigenously. However, the solar sector in India continues to face a number of challenges that hinders our progress towards becoming a self-reliant solar-powered nation. The challenges if dealt with seriously could be perceived as opportunities which could propel our progression.

### Building state-of-the-art facilities

The dependency is probably one of the biggest challenges that needs to be dealt with in order to identify the right opportunities and steer the nation towards greater heights. The establishment of highly sophisticated manufacturing facilities in India for production would help the nation focus better on quality uncompromisingly and develop superior-grade solar equipment and components. The development of solar equipment indigenously would also help the nation to execute and commission solar projects on a larger scale. While the potential of developing high-end equipment could be viewed as an opportunity to enhance the quality and efficiency, the availability of land to establish manufacturing facilities remains to be a challenge as solar PV plants require a massive area of conterminous land.

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### Being truly self-reliant

With the predictions of higher demand for electricity by 2040, there is an opportunity for the solar-equipment manufacturers to scale-up the production and introduce more innovative solutions. But the development of solutions in line with the expected surge in demand of electricity seems to be nothing short of a challenge due to the high cost of imports and soaring solar module prices. The mandate by the government of use of equipment from "Approved list of module manufacturers" (ALMM) entities for solar projects under central government schemes could prove to be an ultimate solution for eliminating our reliance on the Chinese-made solar modules and components.

### Tech & innovation as key drivers

Innovation & technology is one of the most crucial aspects for creating new-age solutions that could meet the demands and expectations over the coming years. An intelligent blend of cutting-edge technologies and innovation could prove to be a gamechanger for India. The adoption of new technologies would make transition considerably easier for India. The need of the hour is to modernize grids to enhance renewable capacities and establish dedicated R&D facilities employing highly-skilled engineers armed with immense expertise and knowledge to engage in advanced in-depth research for new findings and move ahead in the right direction. The practices of thorough assessments, analysis and evaluation would undoubtedly complement our efforts to develop world-class solar solutions. The technological advancements and innovation would also help create energy-efficient smart solutions that could be utilized to meet the growing demand for electricity and ensure optimal power consumption in the right manner. Besides technology and innovation, there is a dire need for better cooperation, information sharing and collaborations between countries and regions in order to work towards a common goal of promoting renewable energy technologies and solutions.

### Robust policies for bridging the gaps

A thoughtful policy that covers the entire gamut of operations and processes within the solar sector is what is required to be formulated. By drafting new policies and implementing meaningful frameworks that could address the issues of waste management, utilization of resources, allocation of land, investment & financing could significantly help overcome challenges and make the most of opportunities.