

# SOLAR PV POWER

**A Global Perspective**

**Suneel Deambi**



The Energy and Resources Institute

# Foreword

Solar-based energy technologies are part of the future of energy supply when developments are likely to be quite revolutionary. The sudden crash of oil prices in 1985 clearly set back efforts in research and development (R&D) to come up with cost-effective and efficient methods for converting solar energy into electricity. In recent years, oil prices have gone up, and in addition, concerns related to reduction in emissions of greenhouse gases have certainly revived interest in innovation by which a quantum jump can be achieved by improving the efficiency and cost-effectiveness of photovoltaic (PV) cells. But, of course, global efforts in R&D are still very meagre, and unlikely to result in substantial changes in the economy of PV-based grid power in the near future.

This book presents an extremely useful overview of the status of PV technology and its rapidly changing prospects in the future. The contents consist of an assessment of the current status of the international solar PV programme and applications related to the supply of electricity using solar PV through the grid. This is an area which is characterized by several complexities related to not only the technologies employed for producing PV power supply, but also policy issues and pricing regimes that are an important part of PV-based grid power. As far as India is concerned, the developments in this area have so far been less than strategic in nature and somewhat jerky in implementation. For the full potential of solar PV grid power to be harnessed on an optimal scale, a dynamic policy regime needs to be constructed so that not only can solar PV be harnessed substantially in the short term but also an enlightened policy focused on the future can provide adequate incentives for rapid development of technology and its applications.

Overall, solar PV grid power has enormous potential, which can at best be delayed but can no longer be denied. There is in evidence today a lack of proper understanding regarding this technology and the benefits that it could provide. A book of this nature would certainly provide a very useful basis for creating adequate understanding of where we are in this promising field and where we should be in the coming years.

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The mismatch between policy and performance is brought out starkly by the situation existing not only in India but also in a country like China, which now has the largest installed manufacturing capacity for solar panels. Both in the case of China and India, the bulk of solar panels produced are being exported to countries like Germany, which have proactive policies for supply of PV-based power to the grid. Investments in both China and India have, therefore, preceded policies that might develop a market for panels manufactured for their own use. There has not been adequate effort to bring about a quantum jump in technology for improving efficiency and reducing costs through sustained R&D efforts. But there is now hope that some of these actions will take place with the launch of the National Solar Mission, which has ambitious targets and visionary plans for the future. Since we are embarking on a new era of solar energy development in this country, a book of this nature has enormous value in informing not only the public at large but potential manufacturers and entrepreneurs as well as policy-makers, who would be associated with the implementation of the National Solar Mission. In the context of future developments in the field of PV grid power in India, this publication, therefore, acquires substantial value.



**R K Pachauri**

Director-General

The Energy and Resources Institute