

## **Note on local content**

After the announcement of the National Solar Mission, a Committee was set up to recommend a policy framework to encourage domestic production of raw materials and components required for expanding the domestic industrial base by identifying the critical elements/components which lend themselves to indigenous manufacture and recommend the minimum indigenous content for solar power projects, both solar thermal and photovoltaics. The Committee held detailed consultations with developers, manufacturers, technology providers and Industry Associations in a transparent manner.

The Committee has concluded that the key elements for the attainment of the objectives of the Solar Mission relating to manufacturing and technology development in India are the following:

- Scaling up of the size of the market for domestic manufacturers. This would require prescription of mandatory domestic manufacturing for critical elements of solar energy systems normally for 7 years. This would provide a credible signal for attracting new entrants both domestic and foreign, into the sector. Scale is critical to downward movement on the cost curve.
- Creating a competitive industry structure in India; competition being the key to innovation and cost reduction.
- On achieving the above two objectives to a reasonable degree, moving towards competitive procurement based on the price of solar electricity. This would spur innovation and movement of solar power towards grid parity.
- Remain technology neutral within the broad categories of Solar PV and Solar Thermal. Give every emerging technology ample space to enter with a fair chance of moving down the cost curve. This is necessary as the sector appears to be on the cusp of transformational changes involving both incremental as well as disruptive innovation.

## **Recommendations**

Based on the above approach the Committee recommended the following:

### **A. Solar Photovoltaic**

Recommendation for domestic content is being restricted to critical element of the Solar PV systems only.

- a. Mandate that for Phase 1 of the Mission, all deployment in grid connected solar power be done using both cells and modules manufactured in India.
- b. In year 2012-13, all installations be mandated to use Power Conditioning Units (PCUs) made in India. This requirement would enable adequate investments in PCUs manufacturing to be made by 2011-12 with international efficiency levels.
- c. A review may be done in 2013-14 to see if the mandate could be extended to wafers and silicon being made in India for the subsequent years.

For Cells and modules, there is capacity for manufacture of over 600 MW annually within about 6 companies. The quality and the efficiencies compare well with products available elsewhere in the world.

For module manufacturing, there are 20 major manufacturers with cumulative capacity of more than 1000 MW annually. The PV modules manufactured in the country meet relevant international standards

**The Ministry is yet to accept the recommendations** of the Committee but these have been flagged in the draft guidelines for selecting new projects under grid connected solar power, for discussions. It is worth noting that with the announcement and implementation of the Phase 1 of the National solar Mission which will extend to 2013, the country has already made a commitment of Rs 76,000 crore from its internal resources.

The Committee while making its recommendations took note of:

- Offsets in Defence and Civil Aviation procurement. In Defence procurement, 30% domestic content through offsets is now mandatory under the procurement policy of the Ministry of Defence.
- Recent example of the US Government imposing "buy American" condition on funds released under the stimulus packages.
- The Ontario Canada FIT Programme which mandates domestic content requirement for their solar energy programme.

The Committee noted that public procurement is outside the purview of India's WTO and other international obligations.

The Committee feels that prescribing domestic content requirement for critical elements of the solar subset would be the most effective policy instrument to ensure that the Solar Mission leads to India's emergence as a globally competitive centre for manufacturing solar energy systems as well as for innovation. Such domestic manufacturing requirements would provide a credible signal for attracting new entrants both domestic and foreign and create a competitive industry structure. There are no entry barriers in this sector in the Indian market. The size of the market of 1000 MW in Phase 1 going up to 20,000 MW by 2022 is large enough to be sufficiently attractive for all global players as they consider options for the development of their global supply chains. While recommending local content requirements for a limited period, the Committee has consciously ensured that such requirements are phased in a manner that sufficient numbers of manufacturers are available in the domestic market. The creation of a competitive industry structure is important as competition is the key to innovation and cost reduction.

Once the domestic industry has achieved the necessary scale as well as a competitive structure to a reasonable degree it would be desirable to move towards competitive procurement of solar electricity on tariff. Tariff based bidding has been seen to have spurred innovation and significant lowering of prices. The ultimate objective for solar electricity is to achieve grid parity.

Innovation and frugal engineering where India is acquiring the right eco-system would be the key to movement towards grid parity.

The Committee also took note of the fact that since technology is rapidly evolving in the field of Solar PV, there is a need to **provide ample opportunity for deployment of the latest technologies, selectively**, through projects under the Mission wherein the developers could tie up with proven technology providers/module manufacturers that offer better efficiency and/or technology than what is available and being deployed in India. It is accordingly recommended that the condition of local content may be relaxed for such projects. The decision to permit the setting up of such plants in India may be taken by an Empowered Committee, after an evaluation of the technology, being proposed for greater efficiency or novelty holding the promise of cost reduction. Further, its successful field operation for at least two years should be a pre-condition for such projects. The relaxation of domestic content requirement should be such as to provide for deployment of a critical mass in field conditions in India, after which the condition of domestic manufacturing for the new technology/product which is more efficient or cost effective may be prescribed. This approach is necessary to facilitate the entry of new and more efficient technologies in the country. This would help India move up the technology development curve faster.