

National Manufacturing Competitiveness Council (NMCC)

Excerpts of the NMCC's recommendations to the Government on Solar Energy Mission.

The Report of the Prime Minister's Group to look into the 'Measures for Ensuring Sustained Growth of the Indian Manufacturing sector' submitted by the NMCC has suggested the following on Solar Energy:

- ✓ *Development of Solar Energy needs to be looked not merely from the point of view of Climate Change but mainly from the point of view of energy security of the country in the longer term.*
- ✓ *The investment need therefore is for an 'end to end' approach covering from basic research to marketing and demand creation.*
- ✓ *The success of the Solar Energy Mission recommended by the National Action Plan for Climate Change would depend upon the timely availability of the equipment for tapping and conversion of solar energy. Therefore,*
 - *enunciate appropriate policies for rapid long-term growth of this sector;*
 - *The Solar Mission should be on a much bigger and larger scale than the other seven missions mentioned in the National Action Plan for Climate Change.*
 - *manufacturing capacity for solar systems related equipment must receive a high priority and*
 - *Place the solar energy mission on par with that of the space commission and the atomic energy commission in terms of priority and independence from routine bureaucracy".*

Some of the Salient Points made in other Reports to the Government

Technology, Research & Development

- The Solar Energy Mission has to be conceived as National requirement for Development and Energy Security.
- The technology aspect must focus on cost competitiveness by achieving breakthroughs in technology to obtain grid parity. This can be achieved by focused approach on R&D in material, absorption efficiency, storage capacity through basic research, applied research, design and development and demand and Marketing. The initiatives need to be spearheaded in a concerted manner to achieve the ambitious target of solar generation.
- ✓ Cost competitiveness in Solar generation need to be achieved through technology breakthroughs, through increased government expenditure on R&D in priority areas.
- ✓ Simultaneously reduction in cost may be achieved through initiatives such as economies of scale, promotion of competition among the players, incremental improvements in equipments and processes, etc.
- ✓ Funding requirement for the various Mission venture needs to be based on periodic review of the costs by taking into account all parameters including the technological advances,
- ✓ To achieve a leap-frog in cost reduction there is a need for technology breakthrough by way of improved (i) conversion efficiency, (ii) better materials and (iii) improved storage.
- ✓ Project orientation and objective oriented research need to be put in place.

- ✓ Various National projects need to be initiated to achieve breakthrough in R&D of next generation technologies like Dish-Stirling, concentrated solar power, thin film applications and storage systems by roping in international partners and by partnering with initiatives from the Indian industry with active support from the government led R&D institutes.
- ✓ It needs to be ensured that a Comprehensive National Vision for Integrated Solar Energy Generation and Deployment is made and the respective National projects are to be identified and intertwined to achieve the said targets/goals.
- ✓ There should be close coordination between the R&D wing of the Mission and the Industry to enable quick absorption of technology and achieving the breakthrough competitiveness.
- ✓ Without waiting for the Mission to be established in its full strength, it is necessary to form groups of experts in respect of each of the areas covered above such as basic research and its components, applied research, design and development, tariff and regulatory mechanisms so that the ambitious programme can take of on parallel vistas.
- ✓ Solar Energy Issues to be resolved based on the 'end to end' approach. The following are its essential requirements-
 - For long-term growth of Solar generation it is necessary that strong R&D capability both in terms of basic research and in terms of the applied research is to be built.
 - It needs to be ensured that the output from the research is converted into design and development in order that the industry is able to absorb a technology and manufacture the required products.
- ✓ There is also a need for a focused R&D Organization under very eminent person suitably empowered to guide the technical research across board in a concerted manner to achieve the desired results simultaneously.

Manufacturing Aspects

- ✓ The mission should put in place a road map for enhancing utilization of solar power equipments and devices.
- ✓ The focus of solar manufacturing and technology parks need to be oriented towards specific projects simultaneously launched in these areas to achieve technology breakthrough.
- ✓ Maximum benefit of incentives in manufacture of solar equipment by Government of India is not utilized by domestic users but by those abroad. This issue needs to be adequately addressed in the mission by suggesting appropriate measures.
- ✓ Keeping in view of the targets for solar thermal and solar PV applications there is need for developing training modules with course materials for technicians to develop a skilled force which can maintain the applications. DGET under Ministry of Labour be directed to meet this demand.

Regulation

- ✓ The Regulatory mechanism for Solar generation has to have many extra elements including mechanism to deal with technology issues to achieve cost competitiveness. There could be a case for separate regulatory set up for solar energy over a period of time.
- ✓ 5% mandatory generation could be extended to PSU's, Captive Power Plants, Hydro and Nuclear power plants to the extent that it could be permissible vis-à-vis other regulatory provisions.
- ✓ The mandatory installation of 5 % solar generation should be over and above for compulsory purchase of 5% renewable energy by all grids starting 2009-10 under the dynamic minimum renewable purchase standard (DMRPS) set by CERC.

- ✓ Large utilities in the government sector like Defence and Railways etc should also be directed to allow their roofs and vacant lands for solar power generation by themselves or by the national power generating utilities.
- ✓ Encouragement should be given to Central PSU's and large Corporate in the private sector to develop solar rural electrification projects under Corporate Social Responsibility (CSR) initiatives.
- ✓ There should be an attractive scheme to substitute the use of diesel by solar generation during peak power requirement.
- ✓ There should be BEE labeling for all solar appliances.
- ✓ Pilot project for non-conventional application of solar energy like use of solar energy for train lighting, shipping, Auto, etc should also be taken up in phase I itself.

Institutional and Regulatory Arrangements

- The Mission's institutional set up should be suitably empowered in line with the long-term Vision for Solar Energy.
- The issues relating to Solar energy need to be tackled on a comprehensive 'end to end basis'. The institutional set up needs to be worked out keeping this important aspect in mind.
- A Regulatory system has to be put in place which periodically reviews the progress achieved in respect of various goals of the mission and the framework for specific policy/fiscal interventions needs to be developed on that basis. If necessary, at an appropriate time creation of a separate regulatory body may be thought of.

- The Mission needs to be genuinely autonomous given the onerous tasks it is expected to carry out. It must have substantial powers to undertake the tasks and be able to coordinate with various institutions, government, industry etc..
- The Mission need to be placed on a similar footing like the Space Commission or the Atomic Energy Commission, under an eminent person fully empowered.
- Like these agencies this mission should be placed under the charge of PM. Keeping in view the cruciality of Solar Energy in Indian context, continuity in leadership of the solar mission to be maintained until the accomplishment of the decide goals of the Mission.
- The selection of the Mission chief has to be based on proven ability. The R&D part of the mission task itself requires a very eminent person in the field of Science/Technology to coordinate the activities which are spread under various Governmental Bodies, Technology and Research Institutions.
- The senior officers/technocrats of various Ministries could be made member of these Expert Committees. If necessary an Officer with necessary vision of the entire spectrum could be located as an Officer on Special Duty preferably in the PMO for facilitating and coordinating this work.
