Renewable Energy Potential of SMEs in the Manufacturing Industry Sector of India

An Overview

By:

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About IPPAI

The Independent Power Producers Association of India (IPPAI) was set up in 1994 as a “Think Tank” - after the Government of India opened power generation to private players and invited developers to set up power projects in India.

IPPAI was set up with the idea to provide a neutral forum to IPPs to discuss various issues and bottlenecks that the nascent industry faced.

IPPAI’s conferences are focused on policy, strategic, financial, legal, regulatory and technical issues in the power, oil, gas, renewable and allied sectors.
About IPPAI

IPPAI has, over the past few years has conducted over a hundred Workshops, Round table meetings, Energy Summits and International Conferences.

IPPAI has been an integral part of the key decision making in the Indian Power Sector:

• Hosted over 15 workshops in India debating over the contents of the Electricity Act 2003.
• Closely involved with the Parliamentary agencies prior to the finalization of the historic Electricity Act 2003.
• Worked with the CEA in developing Five Year Plans for the Power sector.
• Strategized with various state governments on how to attract investments in the Indian Power Sector.
• Involved in showcasing India abroad with various ministerial missions.
IPPAI Flagship Events

**IPPAI Workshops for SME Clusters:** Awareness Programs on Open Access options and to meet renewable energy obligations under Electricity Act 2003 to source cheaper power for MSMEs. Various workshops organized for the SME clusters in Kanpur, UP; Patna, Bihar; Faridabad, Haryana and Bhiwadi, Rajasthan.

**The Regulators & Policymakers Retreat (RPR):** A unique platform where senior decision makers from the government, regulatory authorities, industry, academia, media and organizations that serve the social good converge to discuss, debate and possibly reconcile differing perspectives and world views.

**Asia Energy Security Summit:** An annual event debating Asian geo-politics, energy and infrastructural security. The Summit is a Track II diplomacy initiative involving important stakeholders.
MSME - Backbone of Indian Economy

Industrial MSME sector plays a vital role in the Indian economy:

- There are an estimated 13 million MSMEs in India.
- MSMEs contribute around 45% of manufacturing output.
- They produce about 40% of exports.
- MSMEs employ more than 69 million people, directly and indirectly.
- According to UNIDO classification there are 388 energy intensive SME manufacturing clusters.

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Survival and Profitability of MSME — Energy Challenges

• MSMEs have fallen behind global benchmarks in terms of productivity, technology and end use energy efficiencies.

• Steep increases in global fossil fuel prices along with shortages of fuels/electricity.

• Air and water pollution caused due to inefficient and obsolete technologies.

• Survival and sustenance of energy-intensive MSME clusters in India.

• Commitment and resolve of the Government of India to reduce overall energy intensity by about 20-25% of the Indian economy by 2020
Power Holidays impacting SME Industry

• Power Holidays by State Electricity Boards (SEBs) to Industry especially MSME — e.g. Andhra Pradesh, Tamil Nadu have declared 2-3 day weekly holidays.

• Affecting the production and manufacturing and hence there is decline in market share of certain products, both domestic and overseas.

• High Electricity Tariffs to Industry especially SME and perennial power cuts - hence there is a big shift to Diesel Gensets contributing to country’s high oil import bill - estimated at over USD 150 billion.
MSMEs and Renewable Energy potential

• Numerous sector-specific studies and donor assisted projects have confirmed that energy intensity in MSMEs can be further reduced.

• Widespread adoption of commercially available technologies to improve energy efficiency and use of renewable energy in process applications.

• Fuel switching from fossil fuels to modern biomass energy technologies (particularly biomass gasifiers) has proved to be both economically and technically viable.

• There is a significant scope to enhance the penetration of RE Technologies in SME sector
MSMEs and Examples of RE Technologies

• Adoption of gasifiers in energy-intensive SMEs (e.g. ceramic, food processing, rubber processing, metallurgical/metal industries).

• Similarly, solar concentrator and flat plate collectors have been proven to be viable in dairy, food processing and several other process industries.

• Introduction of Solar Photo-Voltaic (PV) systems into the MSME. Estimated potential for approximately 100 MW of installation of PV systems in about 400 MSME Clusters — primarily targeted at electricity production.

• SMEs could emerge as an important renewable energy supplier through third party power sales to the grid—a new business line
Barriers to accelerate RE market for industrial MSMEs

• Supply side – supply chain for the delivery of Renewable Energy technology and the related O&M services yet to fully develop.

• Demand side – Cost effectiveness and the affordability of Renewable Energy technology and services.

• Barriers to national replication – limited national uptake and implementation of Renewable Energy technology and services.

• Policy barriers – Low level awareness and knowledge within governmental institutions especially at the State level for the implementation of Renewable Energy technology and services.
Recent Reports and Programs on Renewable Energy in Indian Industry


• Market Assessment of Solar Water Heating Systems in Industrial Sectors (A study by ABPS Infrastructure to MNRE — May 2011).

• Bilateral and Multi-lateral donor assisted successful cluster level programs and projects by UNDP-GEF, UNIDO, WB-DFID, SDC—to name a few, are ready for mass replication in the country.
Short Term and Medium term Measures to move RE Technologies faster

• Technology Profile Summaries with Cost Benefit Analysis of relevant technologies from feasibility studies on Renewable Energy Technologies to be disseminated in select SME Clusters
• Select and Engage Champions within SME Clusters who have successfully implemented Renewable Energy projects to help in mass propagation of Renewable Energy Technologies - both inter and intra-clusters.
• Dedicated cadre of trained professionals for trouble shooting and O&M of RETs
• Benchmarking of Energy Consumption - Role of Energy Auditors, ISO-5001 implementation, RESCO etc.
• Integrated knowledge base of incentives, schemes and subsidies of different Ministries – currently fragmented and very little coordination.
• Close engagement of stakeholders necessary for scaling up, promoting enabling policy environment with government policy makers
• Active engagement of CEO/CFO of SME in Renewable Energy Technologies project promotion.
• Need to involve Banks and Financial Institutions for affordable financing and innovative products.
Thank you very much for your attention