

February 2017

SUSTAINABILITY ROUNDUP

In this Briefing:

1. Smart Manufacturing in focus
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Key Takeaways from this Briefing

- Smart and Resilient Manufacturing is the answer to achieving performance efficiency and cost savings through optimization of Overall Equipment Effectiveness
- The role of Chief Sustainability Officers as inter-disciplinary leaders who can shape long term outlook in Indian organizations is gaining prominence
- India exceeded 9GW solar by end of 2016
- Focus on energy forecasting paramount for ensuring higher uptake of Renewable Energy in India
- Carrot and Stick Approach needed for ZLD Implementation in India
- Energy Efficiency is key to meeting India's sustainable growth goals
- India does not need any more coal-based power units till 2027

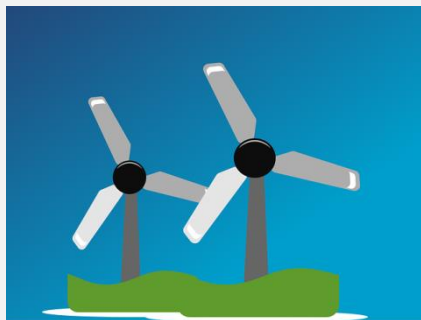
IN FOCUS

Smart Manufacturing: At the crossroads of manufacturing and sustainability

With resources becoming increasingly scarce, competition between industries getting fiercer and technology advancing at an incredible pace, pressure is building on the Indian manufacturing sector to become more efficient in order to keep up with the global advancements. In such a scenario, achieving performance efficiency and cost savings through optimization of Overall Equipment Effectiveness becomes most critical for any business today; and designing Smart and Resilient Manufacturing seems to be the virtuous answer. Smart manufacturing (SM) solutions, by implying beyond a traditional manufacturing process, facilitate better process execution; assist better practices by utilizing intelligent insights born out of the data collected from multiple areas within a factory; and enable flexibility and adaptability in today's globally dynamic market setting. These solutions don't just ensure modifying the core processes of the factory but also look at how the existing capacity and processes can be utilized better.

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Can today's renewable companies become power companies of the future?



India in its journey of achieving milestones in the renewable energy sector has seen significant developments since 2015 which points to an accelerated pace of growth for this sector. As of September 2016, cumulative solar installations totalled 8.6 gigawatt (GW), with installations of 3.3 GW in the year 2016. Capacity development for utility scale solar has been firmed up with the solar project development pipeline in India currently at 15 GW ; 6 GW solar power is lined up to be auctioned. At least four Indian states now have more than 1 GW of installed solar capacity.

A roundtable was convened by Sustainability Outlook and Climate Connect at the 6th Annual Summit of the Sustainable Business Leadership Forum to address how the renewable energy IPPs in India can become the power companies in future, as they scale-up in their operations.

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Envisioning the increased role of Energy Efficiency to meet India's sustainable growth goals



With the recent ratification of the Paris Climate treaty, India has committed to an annualised reduction of nearly 1200 million Tonnes of Carbon dioxide equivalent by 2030. Specifically, the industrial energy efficiency (EE) potential is marked as much as 350 MT CO₂ of reduction in GHG emissions by 2030. Given that India is facing pressing needs to focus on energy, food and water security along with increasing growth, population pressure for its visualized development by 2030 -- decoupling growth and resource consumption in order to meet its climate goals /sustainable development goals is the need of this era. India is indeed provisioned with an opportunity to influence its future actions and shape the path adopted by industry in India. In parallel, many of the government's initiatives such as Make in India, Smart Cities, Smart Grid Mission etc. have ambitious growth goals for the country. They are shaping the way energy efficiency will play a role in the next 5-10 years.

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Variable Frequency Drives: Opening Door for Energy Savings in Pump Application



Variable Frequency Drives (VFDs) is an electronic device that converts Alternating current (AC) of one frequency to another frequency which gives an opportunity to run the AC motors in variable speed and provide an opportunity for saving energy on many industrial applications. Several control methods such as V/F control method, Vector control and VVC+ have been used to achieve the desired speed of AC motors such that it meets industrial process requirements. AC motors have been extensively used for pumps, fans and air compressor applications. According to the International Energy Agency, electric motors consume 46% of the electricity generated in the world. They account for nearly 70% of the total industrial electricity consumption in industries. As per European Commission's report the pumping system accounts for nearly 22% of the energy supplied. VFDs have a tremendous potential to save energy, especially in pump applications

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CSOs: Defining sustainability strategy and shaping long term business outlook

Chief Sustainability Officers are inter-disciplinary leaders that are shaping long term outlook in India's largest conglomerates. As part of its research on the increasing role of the Sustainability function, Sustainability Outlook hosted a conversation with India's leading CSOs (Chief Sustainability Officers) to explore how to "Design Strategy to meet Sustainability".



The discussion was chaired by KC Mehra, Former President, Quality Council of India; and had views from Tony Henshaw, Aditya Birla Group; Shankar Venkateswaran, Tata Group; Naresh Patil, Mahindra & Mahindra; and Aniruddha Agnihotri, TCS. Pawan Mehra, cKinetics moderated the conversation.

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Driving Innovations toward Sustainable Textile Industry in India through ZLD Policy: Risks, Opportunities and Challenges

Zero Liquid Discharge (ZLD) requires mammoth investment and the operational cost associated is also likely to have a detrimental impact on the growth of the sector. However, with the major rivers like Ganga degrading to the level of a drain, the need to achieve ZLD by these extremely polluting textile units in environmentally sensitive zones cannot be completely ruled out.



In that context, a multi-stakeholder workshop was conducted by Sustainability Outlook in collaboration with the Stockholm International Water Institute (SIWI) under the Sweden Textile Water Initiative Project at the 6th Annual Summit of the Sustainable Business leadership Forum 2016 on 24th November 2016 to identify the risks, challenges and opportunities associated with ZLD and to ascertain concrete and feasible potential solutions and interventions (incentive instruments) to catalyze adoption of clean technologies and build capacities.

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POLICY

- [Centre puts 'green bank' listing on hold](#)
- [GST may hike clean energy costs; power ministry pushes for exemptions](#)
- [India does not need any more coal-based power units till 2027: Central Electricity Authority](#)
- [25 states fail to meet solar capacity target this fiscal year](#)
- [Government to fund up to 60 per cent R&D cost for e-vehicles](#)
- [Solar rooftop plants are cheaper backup than diesel generator sets](#)
- [India exceeded 9GW solar by end of 2016 - MNRE](#)
- [SECI to call 2,300-mw solar power bids soon: Ashvini Kumar](#)
- [Wind tariff may slip to Rs. 4-4.5 a unit in 1-gigawatt bids](#)
- [Centre shelves plan to set up world biggest solar power project in Leh](#)

CLIMATE CHANGE

- [Emissions Must Be Cut A Further 25% To Avoid "Dangerous Climate Change": UNEP](#)
- [India to ratify Doha amendment to Kyoto Protocol](#)
- [Climate change plan to get new missions](#)
- [Air pollution in India rises 13% in 5 years](#)

INNOVATION

- [Target to invest \\$5mn in 'green chemistry' innovation](#)
- [Videocon launches solar energy air conditioner](#)
- [P&G's Head & Shoulders Launches World's First Recyclable Shampoo Bottle Made with Beach Plastic](#)
- [Three-year project launched to increase solar heat energy in industrial processes](#)
- [Indian firm makes carbon capture breakthrough](#)

MARKET

- [Gamesa set to bag 100 MW solar order](#)
- [Power conservation: Delhiites saved Rs52.4cr in a year by switching to LED lights](#)
- [BP Advocates for Putting a Price on Carbon](#)
- [1.28 million Renewable Energy Certificates traded in January, says IEX](#)
- [Biggest Indian solar project stalls as Jharkhand balks at cost](#)
- [Competition for Rewa mega solar park hots up with 20 in fray](#)
- ['Storage-linked renewable energy to reach ₹5 kWh by 2022](#)
- [Unilever commits to 100 per cent recyclable plastic by 2025](#)
- [Amplus plans acquisition of solar power firm Kiran Energy](#)
- [Suzlon achieves 10,000 MW installed wind energy capacity in India](#)
- [SECI's 1 gigawatt wind power tender sees high interest](#)
- [India's solar prices set to drop amid competition, lower costs](#)

INVESTMENTS

- [EESL to invest Rs 24,700 cr for energy conservation in AP](#)
- [In big boost to Modi's power push Adani sets up world's largest solar plant in india](#)
- [NEXTracker to set up manufacturing unit in India to push solar power generation](#)
- [India receives FDIs worth \\$1.77 billion in renewable energy in over two years](#)
- [Investment Corp. of Dubai eyes India renewable energy investments](#)
- [ReNew Power secures USD 390 million debt funding from Asian Development Bank](#)
- [Global renewable energy investment fell 18% in 2016](#)
- [Suzlon set to raise Rs800 crore from PE firms Asia Climate Partners, Olympus](#)
- [IFC invests \\$125 million in Hero Future Energies](#)
- [China to plow \\$361 billion into renewable fuel by 2020](#)

About Sustainability Outlook

Sustainability Outlook (a division of cKinetics) is a market intelligence, discovery and collaboration platform facilitating sustainability linked actions amongst businesses, policy makers and investors. We work with businesses, investors, catalysts and service providers to provide **actionable insights for furthering sustainability actions within the Indian industry**. Sustainability Outlook was borne out of a commitment made by cKinetics at the Clinton Global Initiative in 2009.

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