Sustainability Outlook

October, 2012

Sustainability Reporting

Extended Producer Responsibility

Financing Sustainable Infrastructure

Green Leap needed to shape global leadership

Moving from operating defensively, to capturing advantage

INDIA INC. SUSTAINABILITY SHOWCASE

CORPORATE BRANDS LEVERAGING SUSTAINABILITY

ITC Gardenia is the world's largest LEED Platinum certified hotel. In addition to many energy and water conservation efforts, the hotel uses 100% bio-degradable room cleaning products and is close to achieving zero water discharge and zero solid waste management levels.

Nokia is a thought leader in aligning its brand strategy to environmental responsibility. Jointly with several partners, Nokia has launched several projects, such as the School Environment Engagement Project, covering over 3000 schools across India, and the Informal Sector Project on e-waste recycling, to catalyze action on sustainable consumption of resources.

Pratibha Syntex is a thought leader in the textile space recycling 95% waste of the spinning units in fiber and yarn form into recycled fiber resulting in a new recycled product. Additionally the company has shaped a 'Zero Water Balance' dye house process and uses only 8-10% of the global average requirement of water per kilogram of cotton leveraging organic farming practices and micro-drip irrigation.

The Orchid is India's first eco-friendly hotel. The hotel follows several sustainable environment responsibility practices: conversion of wet food waste within the hotel's premises into vermicompost used for gardening purposes; recycling of sewage water for use in gardening and air-conditioning and harnessing of solar energy through solar panels installed on the roof top of the hotel.

INNOVATION IN SHAPING SUSTAINABILITY IN SUPPLY CHAINS

RLC is shaping reverse supply chain efficiencies in the consumer electronics segment in the Indian marketplace. The company has pioneered branded quality factory seconds backed by a rigorous 50-point quality inspection process to guarantee the quality.

Dystar has made sustainability interventions the cornerstone of its products and services to the textile industry. The company provides services like sustainable color development, ecology testing, environmental and chemical audits to industry partners, brands and retailers to help reduce their environmental impact and make the textile supply chain sustainable.

EXCELLENCE IN RESOURCE CONSERVATION PRACTICES

Manufacturing

ABB ensures that sustainability values are implemented, measured and communicated across their value chain. The efforts revolve around energy conservation in production, water conservation, aligning production practices to national & international legislations such as ROHS/ WEE, managing toxic waste & chemicals. The firm has a robust EMS system and a combination of kaizen methods has driven the efforts across factories.

Kirloskar Oil has implemented several measures to lower their energy footprint. The firm uses biodiesel for operating DG sets to minimize carbon footprint. In addition, the company has invested in a windmill capacity of 5.6 MW, thus shaping a 35-40 % green energy mix in its total electricity usage.

Lawkim Motors, a Godrej and Boyce division, has successfully executed several resource conservation measures: the facilities have been able to achieve zero water discharge; 70% of the packaging material is recycled and a 27% reduction in the overall hazardous waste generation has been achieved.

Maharaja Shree Umaid Mills has undertaken innovative measures to gainfully utilize the waste water generated through the reverse osmosis process at its manufacturing plants. This not only has led to reduction of the chemical cost of treating effluent but also has helped to recover the larger portion of effluents for re-cycling.

TVS Motors has implemented a zero trade effluent discharge plant. Through a variety of measures, these efforts to implement a 'zero discharge scheme' have led to tangible benefits of 29% reduction in fresh process water intake and effluent recycling of upto79%.

Initiatives for energy conservation have led to saving of 15740 units of power and 11 MT coal. In addition, water savings to the tune of 403KL/day have been achieved by the firm. The plant also has installed a Bio-Gas Plant to generate biogas from all bio-degradable wastes like Biological Sludge, garden, kitchen & canteen waste. In addition, the firm has succeeded in harvesting approximately 2 billion liters of rain water.

Biotech, Food and Agro Industries

Several energy conservation measures have been undertaken by the firm in its food processing plant such as: use of transformers with on-load tap changer (OLTC) thus regulating the voltage coming from the power grid leading to more than 10% energy savings; automatic load management for the DG power consumption and fully automated capacitor panel leading to management of the power factor at 0.9 level etc.

Prathista has adopted first of its kind concept of 'Waste into Wealth' in the business of manufacturing and marketing eco-friendly bio technology products viz., Bulk Drugs, Organic Agri inputs, Bio-fertilizers, Botanical Crop Protectors, Animal Feed supplements and other value added products based on Carbohydrates which are being produced through Industrial Fermentation Process.

SAB Miller has set a demanding target of reducing water use per hectoliter of beer by 25% between 2008 and 2015 both in India and globally. They have initiated numerous projects to conserve water resources in areas where they operate. One of the key projects is the Ground Water Management initiative at Neemrana, Rajasthan. The initiative has the potential to help decrease the groundwater abstraction in the region by approx. 23% and reduce the overall runoff in the region by as much as 40%.

Sresta's inclusive model involves partnering with local NGOs in mobilizing farmers and training them in Organic Agriculture. Sresta provides market linkages within India and outside to small & marginal farmers thereby enabling them to get better prices for their produce.

Unilever's instant tea Unit at Etahhas established a high level of performance in resource conservation: Over the last 4 years, there has been a 41% reduction in water consumption, 29% reduction in Energy, 25% reduction in HSD consumption in spray dryer due to steam air pre heater, 10% reduction in specific steam consumption and 20% reduction in the specific power consumption.

Infrastructure sector

Essar is committed to be the most water-efficient steel maker in India and focusses on reducing the water consumption per ton of crude steel. Rain water harvesting is an important aspect of plant operations. Innovations include beneficiation of iron ore at pelletization plants, hot DRI charging in the Electric Arc Furnace, air fuel ratio optimization in combustion and recovery of waste heat for production of electricity.

Edging toward the concept of 'Stainless- Green' and in pursuit of waste reduction, JSL has adopted the principles of Lean Manufacturing leveraging tools like JQI (Juran Quality Initiative), TPM, Quality Circles, 5S and 6 Sigma.

Use of Waste Heat Recovery System leading to generation of 46 MW of waste heat recovery based green power and shaping a reduction in the greenhouse gas levels and the emission levels of particulate matter, SOx and NOx. Additionally, the firm has lowered the water consumption in cement manufacturing and power generation process.

Sustainable Spaces

Cognizant's energy efficiency improvement projects using Six Sigma & Lean techniques have resulted in an overall improvement of 40% on per capita basis leading to a savings of INR 1.1 bn. The Six Sigma Green Belt efficiency projects covered key energy consuming equipments such as HVAC-Chillers, HVAC-AHUs, UPS, Lighting and Diesel Generators in addition to initiating measures of energy conservation on the IT infrastructure side.

IndusInd's 'Empower the Powerless' project aims to energize the rural banking outreach through solar powered ATMs. Over 100 ATMs have been solarized so far.

Infosys' building in Hyderabad is the first commercial radiant cooled building in India and has shaped a 50% reduction in energy consumption compared to 2007 levels. This LEED platinum rated building has also seen a 48% reduction in overall water consumption through the use of efficient plumbing fixtures.

Intel has shaped an enterprise-wide strategy linking employee compensation to sustainability goals for all employees and executives. Amongst other successes, a proactive server refresh strategy was designed to increase data center efficiency that led to an increase in the computation capacity by 500% from 2008 base number, while reducing the energy consumption by 12.3%.

PVR uses a water saving technology – a natural alternative that uses microbial technology to clean washrooms and sewerages. This contains micro-organisms and free enzymes that produce an enzymatic activity to degrade organic matter and uric salts thus saving over 10 million liters of water each year.

SunCarrier Omega has commissioned India's first commercial Net-Zero (Site) Energy Building (NZEB). It is an off-grid facility, with its total electricity requirement, including that for air-conditioning, being met by highly efficient on-site sun-tracking solar photovoltaic generators, and large capacity energy storage devices.

The hotel has clocked savings of 24.63% in Electricity, 27.5% in Natural Gas and 17.7% in Water over last year's recorded numbers. 80% of these savings have been achieved through use of variable frequency drive with intelligent programmes being implemented for Chilled & Condenser water pump including cooling tower fans.

INNOVATORS CATALYZING THE SUSTAINABILITY JUGGERNAUT IN INDIA

Catalyzing use of sustainable energy systems in Industries and Communities

Ankur Scientific is a thought leader in innovative biomass gasification solutions for industrial and community use. These equipment are used to support Process Heat Applications as well as power generation.

Aspiration Energy is an innovative solar energy services company, offering energy as a service to support fuel switching projects in industries as also infrastructure sector uses such as the telecom towers.

Green India Building Systems and Services (GIBSS) has pioneered several cost effective solutions, including geothermal cooling systems, hot water co-generation systems, and lighting and indoor air quality systems, to enable green housing in the urban settings. Their boiler replacement Heat Pump Products for the Hotels industry is 10 times more energy efficient than conventional boilers.

Gram Power provides a flexible, modular, and reliable smart micro-grid system that can create access to 'grid-level' electricity for rural communities. Their technology uses 83% less power, 86% less subsidies, and ~99% less CO2 emissions when compared with power supply on the conventional utility grid.

Greenko is an emerging market leader in the clean energy space in India. The Group is building a de-risked portfolio of wind, hydropower, natural gas and biomass assets within India and intends to reach 1 GW of operational capacity by 2015.

Catalyzing responsible usage through innovative energy management tools

Ecolibrium has launched several innovative and low cost wireless energy monitoring and optimization solutions for commercial and industrial customers. The company also has a focused Demand Response Platform targeted to empower the utilities and their consumers for better load management and usage practices.

Micro Technologies' EBB (Electric Black Box) solution enables individual consumers of discoms to undertake effective usage monitoring as also equips the power supply company to maintain a record on the total energy consumption in total units for each of their clients thus preventing misuse and/or limiting the use to a pre-defined limit.

See Beyond's Green Money is an innovative energy conservation and money saving device for ATM centers located across the country. The solution enables centralized power systems configurations as also is equipped to report back on the power utilization, power savings and the status of the devices to the central console.

TCS' 'Power InSight' and'ECView' tools enable better management of resource footprint in the IT equipment and building segments. While the 'Power InSight' solution provides a real-time view of the power consumption of the IT equipment at an individual server, storage and network switch level, the ECView (Energy – Carbon View) tool empowers enterprises for better management of the supply and demand side energy/carbon footprint of their buildings.

Volvo IT's Commute Greener tool guides individuals and companies towards greener commuting options thus shaping reduction of the your CO2 footprint. The reporting capabilities of the tool can be utilized in annual reports, sustainability reporting and environmental management systems or certifications.

Wifinity's wireless sensor solution enables resource optimization within an enterprise through energy conservation, water management etc. Wifinity's solutions enable enterprises- campuses, buildings, and facilities etc. - to save 20% of their utility bill and 15% on water expenses.

Catalyzing sustainability through innovative closed loop systems

Damascus has pioneered a unique carbon management solution that entails breaking down the CO2 into its component atoms, i.e. Carbon nano-structures (CNS) and oxygen, in a cost-effective fashion bypre-processing the CO2using their special nano-catalyst thus enabling break down of the molecular bonds with less energy expenditure. DF's technology converts the CO2 into valuable end products that can be used in other industrial processes (e.g. high-purity CNS is used in hybrid electric vehicles, batteries, solar panels, and semiconductors).

GBES' water scrubbing technology enables cost and energy efficient for biogas purification. The output, in form of Bio CNG, has the potential to replace LPG/CNG in all industrial and domestic applications at a significantly lower cost than commercial LPG thus making it a very potent renewable source of energy.

Hanjer Biotech uses green technology to recycle Mixed Solid Waste into valuable green products. These high quality end products are suitable for commercial and industrial use, thus extending the value chain of Hanjer's environment friendly processes and initiatives.

The company is a pioneer in the recycling of industrial phosphating sludge into an anti-corrosive pigment for use in Industrial Primers / Paints. Use of this Recycled product i.e. Anticorrosive Pigment can replace the usage of Zinc Chromate by 100% and of Zinc Phosphate to the tune of 50-100%.

Vasudha's Ecopure is the world's only biodegradable additive which degrades most of the plastics, from LDPE, PP, PET to ABS. The product has unlimited shelf life and biodegrades in landfill conditions due to microbial action without polluting groundwater or soil.

Catalyzing Resource Conservation and Augmentation

Aqua Designs provides turnkey engineering solutions for water and wastewater management to Industry, Municipal Authorities, and Commercial & Public properties. Aqua Designs is the leader in the application of Membrane Bio-reactor technology in the country.

The automatic tube cleaning system promoted by Cleantech helps to keep the condenser tubes/ heat exchanger tubes clean. By using this innovative technology in HVAC and power plant applications, 10-25% energy is saved in HVAC and power output in power plant improves by 1-3%.

Green Con's innovative ice thermal storage process enables load shifting and entails storage of air-conditioning energy in the form of ice at night during lower demand and re-circulation of the same during the day during peak loads. This enables a 40% reduction in energy demand due to reduction in usage of chilling equipment and diesel generators as also lowering of the capital cost on chiller equipment to the tune of almost 40%.

NESPAL's Air Water Heater (AWH) absorbs heat from atmosphere even when the ambient temperature is sub-zero (-30 deg. C) and transfers this heat to water at higher temperature, producing cool air as by-product. As compared to any conventional water heating technology, this creates almost 80% energy savings enabling a pay-back of 12-18 months on the original investment.

Rossari, a premier enzyme & specialty chemicals company, offers a chemical solution to enable the bleaching process in the textile segment to work at lower temperature and under milder alkaline conditions. This leads to reduced heat and consequently less electricity, reduced water consumption and reduced fiber damage as compared to conventional bleaching process.

SA Pharmachem has replaced existing starch based products with synthetic size like Copolymer Elvanol PVA. It has also come up with a novel and economically feasible process of size removal and recovery through ultrafiltration. The process is specially designed to promise long life module at low operating costs with guaranteed results.

UEM's Zero Liquid Discharge (ZLD) is a process technology that ensures no effluent or discharge is left over after treatment and is targeted at industrial and municipal organizations. ZLD systems employ the most advanced wastewater treatment technologies to purify and recycle virtually all of the wastewater produced.

OTHER NOTABLE MENTIONS

Production of organic cotton through contract farming model in order to source shape sustainable cotton supply chain in a socially fair manner.

Innovation in the herbal dyeing process for organic textiles. The sludge is bio-compostable. About 75% of the water used can be recycled. Uses solar energy for entire dyeing process.

CottonConnect works with brands and retailers to build sustainability into product and marketing strategies. Their programs include contamination kits for organic farmers and building capacity with ginner/ spinner for integrity.

A multi-dimensional company with interest in agro-related and bio-fuels; has initiated an ambitious project for production of bio-diesel.

Catalyzing sustainable cotton production leveraging bio technology; Also engages in micro-irrigation and water-shed management to improve yields.

Converting Bio-mass into Green Diesel; the firm's Project 360 links farms, processing units and consumer markets together- aiming for sustainable rural development.

Leading producer of a wide range of organic agriproducts with focus on holistic sustainable development through use of a unique processing method and advanced hydration technology.

Organically developed eco-friendly, natural textiles. All products are bio-degradable. Prints, dyes, consumables and threads are completely free of chemicals.

India's first fair trade label aims to create sustainable market linkages with the objective of boosting farmer incomes.

Renewable energy powered mall using a 2.7MW biomass gasification power unit. The mall will not require any power from the grid. The firm intends to grow its own fuels from wastelands.

Innovative business model for safe, drinking water in rural areas using UV light disinfection and multi-stage filtration to remove silt, bad taste and odors.