

GREEN TECH



E N V I R O N M E N T



# PLUG AND PROFIT

Green is in as Indian corporates race to compete for a share of the fast-growing Rs 35,250-crore global market for climate-friendly technology and carbon credits

**\$7.5 bn**

is the worldwide market for companies that offer technologies that use little or zero non-renewable energy.

Illustration by PRASHANT CHAUDHARY

By Malini Bhupta

**W**alk into the Wipro campus in Bangalore's Electronic City, and the first thing you are likely to notice is the windmills. Starting from the streetlights which are powered by wind turbines, to the kitchens which are fired by methane gas produced from food waste, this technology company does nothing that's not good for the earth. The company does not even engage with partners or suppliers who do not adhere to energy efficiency and waste management norms. The IT behemoth has overhauled everything from light bulbs to campuses in a bid to conserve energy and other natural resources.

Be it India's back-offices or sweat shops, which manufacture cheap goods for American and European retail stores, almost every company will now be accountable for its environmental practices. Indian companies doing business with large global corporations have developed a green conscience, with automobile component and IT industries among the earliest to have embraced this trend. Traditionally, businesses have only looked at increasing returns for their shareholders, without paying attention to the ecological damage they cause. But drastic climate changes and the increasing occurrence of floods and hurricanes has changed this. While the Kyoto Protocol, an international treaty on climate change, has set binding targets on 37 industrialised nations to reduce their greenhouse gas (GHG) emissions, India is not re-

quired to reduce carbon emissions under the present agreement. However, when the treaty comes up for review in 2012, developing countries like India and China will be under pressure to commit on emission reduction or else companies in developed economies will not do business with them. Explains Surojit Bose of PricewaterhouseCoopers: "Even though India is not a signatory to the climate change treaty, which mandates industrialised countries to cut emissions, most Indian companies are facing non-regulatory pressure from their overseas customers. Companies today have to conform to a conduct that is globally acceptable."

A classic example of this is the Indian automobile industry. From 2010, the European Union has made it mandatory for all automakers to produce cars that can be recycled up to 80 per cent so that the pressure on

natural resources is lower. So, auto component companies are abandoning the use of carcinogenic products in favour of biodegradable materials. Sona Koyo and Bharat Forge, leading auto component manufacturers who supply to the European market, have stopped using heavy metals like mercury, chromium and lead.

Not surprisingly, green is clearly the "in thing" this season. India Inc. is racing to develop products that will consume less energy, pollute the environment less and use only materials that can be recycled. So the next time you go shopping for consumer electronic items or cars, make sure that the product offers the best in class fuel and energy efficiency. Given the change in technologies that the new world order requires, a Confederation of Indian Industry (CII) report on the need to build a low carbon economy warns that new companies may take environmental leadership in this space and leave existing firms in a disadvantageous position.

While some companies, like in the auto and IT industries are smart enough to change themselves, others, like Wipro and the Tata Group are seeing a big business opportunity in developing and promoting clean technologies, which can not only lower the carbon footprint of companies but costs as well. The opportunity for ventures that help others become green is huge. The venture capital world is looking for companies which offer solutions that use little or zero non-renewable resources. The market for these companies is pegged at Rs 35,250 crore (\$7.5 billion) worldwide and is

**\$20 tn**

to be invested in energy till 2030 is likely to flow to India and China in low carbon projects.

**Rs 20 cr**

per megawatt is the investment cost of a stand-alone solar power producing plant.

**30%**

electricity saving possible in new commercial buildings if these use green technologies.

growing at a steady clip of 15 per cent. Interestingly, the developed world—which is largely responsible for most of the environmental damage caused through emissions—is willing to compensate by buying carbon credits from such clean tech companies. Such companies in India can register themselves under the government's Clean Development Mechanism (CDM) and earn certain cash for reducing carbon emissions by the tonne.

According to the United Nations, some 979 CDM projects worth \$18 billion are currently registered in the world. Of this, 62 per cent, or 611 projects, are registered in Asia, mostly in China and India. Over 747 CDM projects have been approved by the CDM National Designated Authority in India, and about 282 of these have been registered by the CDM Executive Board. The registered projects have already resulted in over 28 million tonnes of certified CO2 emissions reduction, and directed investment in renewable energy and energy projects.

The writing is clearly on the wall: the world's natural resources are not enough to cater to the growing population. The mad scramble for alternative energy is slated to attract big money. It is estimated that about \$20 trillion will be invested in the energy sector till 2030 and most of this is likely to flow into low carbon projects coming up in India and China. No wonder companies big and small are looking to cash in on this opportunity.

The big brother of Indian business, the Tata Group, is looking at straddling different segments of clean technology. From generating solar power to producing green batteries to planting jatropha trees in barren land, the group wants to be present in every vertical. Much before green gained currency in India, the Tata Group has been building its

## WHAT THE BIG BOYS ARE UP TO

### MAHINDRA & MAHINDRA

PROJECT: Sustainable Mobility Solutions

AIM: The company has made sustainability its growth mantra and is pushing alternative energy and propulsion technologies like electric and hybrid vehicles, hydrogen combustion engines and bio-fuel vehicles. It is focusing on alternative fuels like CNG, which have a lower carbon footprint. These measures will address pollution-related health concerns, global warming, climate change and depletion of non-renewable, conventional fuel options. The company is collaborating with IIT Kanpur, Indian Oil Corporation's R&D centre and Lubrizol for its bio-diesel ambitions.

IMPACT: Fuel savings of up to 40 per cent for their consumers and lower emissions from vehicles.



green businesses. The group's solar venture has become a Rs 1,100-crore company in 20 years. Established in 1989, Tata BP Solar is a joint venture between the Tata Power Company and BP Solar, one of the largest solar companies in the world. The company offers simplistic solar lanterns to complex solar photovoltaic modules for industrial use.

Tata BP Solar provides customised solar solutions for illuminating homes and streets, pumping water to fields and heating water for

residential and commercial use. It also provides reliable and cost-effective solar power to wide-ranging sectors from education and banking to healthcare and telecommunications. Says Ravi Gupta, CEO of Tata AutoComp GY Batteries: "In today's scenario, good environmental practices are also about business efficiency—it's about the best use of valuable raw materials and feeding the benefits of actions straight through to the bottomline."

Tata AutoComp has gone the whole distance by forming a joint venture with GS Yuasa International of Japan to manufacture green batteries. In Europe, 90 per cent of all batteries sold are green, which use a unique composition of calcium—calcium technology. This technology replaces traditionally used hazardous chemical elements like antimony with a harmless calcium alloy. This en-

# 80%

of a car will have to be recyclable under the new European Union rules by 2010.



## WIPRO

### PROJECT: Eco-eye

AIM: To drive sustainability in operations as also areas of influence. The project's primary objective is to make operations green and help customers reduce their ecological footprint through a portfolio of solutions—both IT and non-IT. Focus areas include energy, water, waste (emissions, effluents and solids) and biodiversity.

IMPACT: **The Electronic City campus saves 20,160 units of electricity in a month, leading to savings of 45 Kg CO<sub>2</sub>/annum of total greenhouse gas emissions.**

sure that the batteries are high on performance and environmentally clean. All this comes at no extra cost.

While there are corporates that are leading the green charge by developing new clean technologies, there are others who are developing technologies which help consumers cut their dependence on traditional fuels. Mahindra & Mahindra (M&M) is one conglomerate that has made sustainability its growth mantra. Even as the company is working with top scientists from the Indian Institute of Technology (IIT) to develop vehicles that can be powered by electricity, hydrogen and bio-fuels, it has developed a micro-hybrid technology that helps the owners of existing vehicles lower their consumption of fuel. With oil prices touching record levels in 2008, this strategy is the only way forward.

M&M's Sustainable Mobility Solutions focuses on technologies that are clean. In 2007, it formally unveiled

its bio-diesel Scorpio and Bolero DI vehicles for real world usage trials. The green Scorpio has an indigenously developed CRDE technology. The company is collaborating with IIT Kanpur, Indian Oil Corporation's R&D centre and Lubrizol for its bio-diesel ambitions.

Not all these are a pie in the sky, M&M has commercialised its foray into the electric vehicle space by launching its first electric three-wheeler called Bijlee, a first-of-its-kind battery-operated vehicle. While some of the newer technologies are being tested in the labs, M&M has already put the micro-hybrid technology into its vehicles. Available in the Scorpio M2DI and Bolero SLX BS3 in the Indian market, Mahindra's FuelSmart system with micro-hybrid technology enables the SUV's engine to switch off automatically at a traffic light when idle and in neutral gear. The engine starts seam-

## TATA AUTOCOMP GY BATTERIES

### PROJECT: Green Batteries

AIM: Manufacture green batteries with technology based on the unique calcium-calcium technology. This technology replaces traditionally-used hazardous chemical elements like antimony, which ensures that the batteries are high on performance and are environmentally clean.

IMPACT: **Minimises water loss and cuts down battery water evaporation, ensuring a hassle-free run for one lakh km. The batteries last longer and emit less hazardous fumes and gases.**



WILLIAM GK

## IBM

### PROJECT: Project Big Green

AIM: To consolidate 3,900 servers onto about 30 mainframes running on Linux. To help clients cope with the energy crisis through innovative products and programmes and cut energy costs by over 40 per cent to counter global warming.

IMPACT: **This initiative will consume nearly 80 per cent less energy than current levels.**

lessly once the driver depresses the clutch before moving forward. Says Pawan Goenka, president (automotive sector) M&M: "This pioneering technology is relevant to India as it has been created keeping in mind the heavy traffic drivers face on our roads today." It is not merely climate change and energy conservation which are driving Indian companies. Having a green conscience also brings with it material advantages as shown by the IT industry.

Infosys, Wipro and HCL are doing everything from recycling water, building computers and laptops without carcinogenic products, lowering their per capita consumption of power to generating at least 30 per cent of their energy needs from renewable sources. Says Anurag Behar, corporate vice president (ecological and social initiatives), Wipro: "We have successfully completed a pilot project to use windmills in our Bangalore facility to

ITC



**PROJECT: Climate Change Mitigation and Adaptation**

**AIM:** To combat climate change by adopting strategies which achieve energy efficiency benchmarks and de-risk various businesses.

Company plants trees for wood pulp for its paperboard business, conserves energy by using renewable energy in its plants and harvests more rainwater than it uses. ITC Sonar, a hotel in Kolkata, is a CDM project and earns carbon credits through its green operations.

**IMPACT: The only Indian company which is carbon and water positive. It saves CO<sub>2</sub> emissions of 3,695 ktonnes through sequestration while it emits 1,572 ktonnes.**

power streetlights. In water conservation we meet 52 per cent of our water requirement with recycled water. At 19 of our major locations, we have state-of-the-art sewage treatment plants." Apart from conserving resources, Wipro is also focusing on greening its data centres, the nerve centre of any technology company as it houses the servers. Wipro has designed and implemented its data centres in such a way that the company saves 20,160 units of electricity in a month, saving 45 kg of CO<sub>2</sub> per annum of total GHG emissions.

While it is conservation for some companies, for others regulatory pressures are defining new business paradigms. Consumer goods company ITC has a different approach to doing business. Rather than look only at profitability as its objective, the company is also ironically looking at enhancing social

and ecological returns while doing business. It started many years ago when it was confronted with a significant challenge in its paperboards business due to the lack of availability of cost-effective fibre. The company chose to mobilise marginal farmers and tribals to plant trees on their private wastelands. Today, this programme covers over 90,000 hectares and has provided nearly 39 million mandays of employment. This green cover has also enabled ITC to

## 2010

is the year by which companies heavy on CO<sub>2</sub> emissions are likely to face business problems.

achieve the unique distinction of being a carbon positive company for four consecutive years.

The company's conscious strategy to shed reliance on cheaper imports and instead invest in longer term benefits of promoting plantations has yielded positive results. A business which was nearly sick a decade ago is today not only a world-class producer of environment-friendly, state-of-the-art elemental chlorine-free paper and paperboard but is also the only one of its kind in the country. Apart from this, the company's renewable sources of energy contributed to 30 per cent of its total energy needs in 2008-09 compared to 24.1 per cent in 2007-08. Says Subhash Rastogi, vice-president of environment, health and safety at ITC: "Indian companies face major social and environmental challenges today, which need to be addressed. At ITC, our philosophy is to conserve natural resources. We currently have seven projects under CDM, which help us earn carbon credit. This apart, our energy conservation has saved us at least Rs 15-20 crore in a year."

This may be the story of a handful of Indian companies, but most still have miles to go. Except the top 250 companies in India, others are not even concerned about their carbon footprint. Anticipating a change in the environment post-2012, the CII last year started a centre of excellence, the Godrej Green Business Centre, to support Indian companies attain world standards in emissions and sustainability. Says S. Raghupathy, senior director and head, CII-Godrej GBC: "So far only 277 companies which want to be world-class in energy efficiency have registered with us. By 2010, companies which are heavy on CO<sub>2</sub> emissions will face problems if they do not act now." Clearly, it's a case of now or never for corporate India. ■