Sustainability Forum @ IIML

August, 2012 Volume I Issue 5

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Dow, BP, Rio Tinto must jump reputation hurdles at Olympics

By BusinessGreen Staff

With the Olympics now just a month away, campaigners plan to step up their campaign to publicize what they claim is an attempt by global companies to use the games to "greenwash" their reputations.

Last week there was a "guerilla" performance to protest against BP before a staging of Comedy of Errors at the Camden Roundhouse as part of the Cultural Olympiad, while Drop Dow Now protesters staged a "die-in" at the Olympic countdown clock in Trafalgar Square.

Campaigners say the London Organizing Committee of the Olympic and Paralympic Games (Locog) has refused to meet with them to discuss their concerns. The coalition bringing together protest groups campaigning against Olympic sponsors Dow Chemical, BP and Rio Tinto is chaired by Meredith Alexander. She quit as a commissioner for the London 2012 sustainability watchdog over Dow's $100 million deal with the International Olympic Committee (IOC) and its agreement with London organisers to fund the $11 million wrap that will surround the stadium.

Campaigners claim Dow has outstanding liabilities relating to the 1984 Bhopal disaster in India that resulted in the deaths of up to 20,000 people. The IOC, London 2012 organisers and the company argue that Dow bought Union Carbide many years after it divested of its Indian assets and that all claims have been settled by the Indian supreme court.

The three companies have been made the subject of short animated films, with members of the public invited to vote online for the "worst corporate sponsor of the Olympics".

"Rio Tinto is involved in environmental and human rights controversies all over the world, but the pollution is so bad near the mines in Utah where Rio Tinto has extracted the metals for the Olympic medals that local physicians have linked it to premature deaths," said Richard Solly of the London Mining Network. "Trade Union groups from all over the world have also been voting in solidarity with Quebecois workers that Rio Tinto have locked out since last December in a labor dispute."

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England flood risk to rise fourfold by 2035: Report

Reuters

LONDON: The risk of flooding for many English homes and businesses could increase fourfold by 2035 if more action to deal with the impact of climate change is not taken, government advisers said on Wednesday.

As severe floods continue to batter parts of Britain after the wettest June since records began, around one in seven homes and businesses face some kind of flood risk, the climate advisers said.

Around 160,000 properties would be at risk by 2035 if better planning and more investment were made in flood defences, compared with 610,000 at risk if no action was taken, they said.

The cost of protecting more than half a million homes at risk of flooding will double to 1 billion pounds a year by 2035, according to estimates by the UK's Environment Agency in 2010.

The devastating floods of 2007 caused damage to homes and businesses, infrastructure and services, and resulted in lost work and school days, which cost the UK economy 3.2 billion pounds. "We must take adaptation more seriously if we are to manage the growing risks of floods and droughts," said John Krebs, the chairman of the climate change advisory panel.

"This can be done by investing more in flood defenses, faster rollout of water meters and giving serious consideration to where and how we build our housing and infrastructure," he said in a statement.

"Without action by households and businesses to prepare for these inevitable weather extremes the country faces rising costs, unnecessary damage and future disruption."

Scientists believe extreme weather like heat waves, floods and droughts are linked to climate change and likely to become more frequent in the future.

Flooding will be the biggest climate risk to Britain this century with damage set to cost as much as 12 billion pounds ($18.63 billion) a year by the 2080s if nothing is done to adapt to extreme weather, a government-funded study said in January.

Since the start of May this year, over 3,000 properties have been flooded, 55,000 have received flood warnings and 31,000 were protected by flood defenses, according to the UK's Environment Agency.

FUNDING

The government's advisers said in a report that property development in flood plains - or areas along streams or rivers that are likely to experience repeated flooding - has increased by 12 percent over the past 10 years compared with a 7 percent rise in other parts of England.

Public and private funding for flood defenses is falling and is 12 percent lower for the current government spending period compared with the previous one, after inflation.

However, the UK's Environment Agency estimates that funding needs to increase by 20 million pounds a year on top of inflation to keep pace with climate change.

"We are spending more than 2.17 billion pounds over four years to protect people from flooding and our successful partnership funding model will draw in around an additional 72 million pounds," said a spokesman from the Department of Environment, Food and Rural Affairs in response to the report. "The money for flood defenses is being spent more effectively than ever before and we now expect to exceed our target to better protect another 145,000 homes by 2015."

Apart from increased flooding risks, water scarcity is also likely to become more common in parts of the country due to climate change and population growth, the panel said.

Water scarcity is likely to be made worse by household consumption levels which are among the highest in north-west Europe.

Encouraging households to save water could cut total consumption by 700 million litres a day, which is two thirds more than is currently saved under initiatives by water companies, according to the report.

The government should take further steps to increase water efficiency through water metering and pricing, it added.

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Some good news, and next steps to take, from Rio

By **Tensie Whelan and John Williams**

There's no lack of skepticism about the UN Rio +20 Earth Summit, and when it comes to political leadership, no real progress has been made. But that's not the whole story.

Alongside the People's Conference, Rio+20 has been a showcase for the role of the private sector and the importance that building the global green economy has for taking sustainability to global scale. That's not without controversy, but it's also a cause for optimism.

Global business working together with NGOs, advocating to implement Rio's sustainability goals is a sign that we're getting serious about making them succeed. Now governments need to step up to the mark and work with us.

The first Rio Summit 20 years ago was historic. It produced ambitious declarations and treaties on environment and development, biodiversity, forest protection and climate change. At the same time, it did something else that was very far-reaching but perhaps less well known: it established collaborations between the private sector and civil society to gear economic activity towards sustainability.

Over the past 20 years, those collaborations have evolved to the point where businesses and NGOs working together have become the biggest, most important factor in spreading sustainable production and sourcing practices across the world. Hundreds of global companies like Domtar have committed to sourcing all their wood and pulp, or their agricultural products in their supply chains, entirely from forests and farms certified for sustainable production by the Rainforest Alliance. Sustainability has become a deep part of their business model and their DNA.

This shift is having global-scale effects on the economy and the environment. Today, more than 10 percent of global production in key commodities and sectors now operates under some form of sustainability standards. There is something even more significant about this shift by some of the world's leading businesses. It shows that while protecting your short-term interests you can also have an eye to the long term, to securing the future for your business, for society and for the planet.

No small feat, and one that our political leaders need to learn, and learn fast! But to achieve Rio's goals, we'll need to get from 10 percent to 100 percent. That will require more public-private partnership. The outlook for growing the green economy is profoundly influenced by governments -- not only in how they enforce existing laws and regulations, but in the positive incentives they offer and the investment environments they create. And if they do nothing else when they return home from Rio they must do this.

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Tips:

Till last edition in this column the stress was given on conserving energy, avoiding wastage of energy/ fuel etc. This month we shall talk of such things which apparently are not associated with energy, fuel, resources but by following these we may affect sustainability positively.

About 90% of paper pulp is created from wood. Manufacturing of paper involves two most valuable natural resources i.e. trees and water. It's hard to believe but in manufacturing one A4 size sheet approx. 10 Liters water is used. Do not waste or unnecessarily destroy paper this will lead to conservation of trees and water. Thus by saving paper water, energy, trees all can be saved. Here are few tips for saving paper.

1. Reduce the default margin setting for your documents
2. Use both sides of the page for copies
3. Use scrap paper for printing drafts, notes, emails etc.
4. Think several times before you print
5. Instead reading bill from printout read them online and pay bills online to save paper used in issuing receipt too.
6. Papers used one side only should be kept and used for taking printouts and writing.
7. Used papers may be shredded and used for packaging delicate items. Paper bags may also be prepared from used paper.
8. Scrap paper can be recycled and used for making paper.
9. Most people keep old news papers safely because it is sold at the rate of Rs. 10/- to Rs. 15/- per kg. But do not care about old note books or copier paper as it does not fetch them good price but the fact is that by recycling one ton of newsprint one ton wood can be saved whereas by recycling one ton of printing or copier paper saves slightly more than 2 tons of wood.
10. Do not burn scrap paper as this will have adverse impact on environment.

How Home Depot is expanding the organic compost market

By **Heather Clancy**

You could say EcoScraps is a rotten idea. That's because overripe produce that would otherwise have rotted is the feedstock for the startup's organic compost and potting soil.

Then again, few other two-year-old startups can boast that their products are sold by the likes of The Home Depot, America's largest home improvement business, and national wholesaler Costco. EcoScraps also has a relationship with Walmart, Sam's Club and Target. Along with Costco, they're among the businesses providing the food that will be made into EcoScraps products.

These large companies are contributing to the national expansion of a company that distinguishes its products by boasting about its chemical and manure-free composition. EcoScraps' product line includes compost mix, potting soil, a plant and soil booster, and lawn and garden growth formula.

EcoScraps got started by knocking on the door of high-profile grocery stores and produce retailers and offering to pick up expired fruits and vegetables that would otherwise be sent to landfill. In exchange, the startup requested that these same stores sell the finished products.

"We realized we needed first to create demand for the finished product and work backwards from there," said Dan Blake, the 20-something entrepreneur who put his college degree on hold to found the two-year-old, Provo, Utah-based company with classmate Craig Martineau (now the EcoScraps vice president of finance).

The relationships with retailers, which EcoScraps negotiated on a regional basis in Calif., Utah and Arizona, were the company's first focus when the EcoScraps co-founders stopped experimenting with composting in their college dorm and got serious about their business plan……

"Most companies and people -- as long as it doesn't cost them any more -- are very eager to do what is right for the environment," Blake said. "Our challenge is to create a program for them that is cost-neutral."

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Beijing introduces recycling banks that pay subway credits for bottles

by **Jonathan Watts for guardian.co.uk**

Beijing's vast army of plastic-bottle scavengers will get an automated rival later this month, when the city introduces its first reverse vending machines that pay subway credits in exchange for returned containers.

More than 100 recycle-to-ride devices will be installed in an attempt to reduce the environmental impact of the informal bottle collection business and improve the profits of the operator, which works in an industry thought to be worth billions of dollars.

People sort out empty plastic bottles at a recycling centre in Changping district on the outskirts of Beijing. Photograph: How Hwee Young/EPA

Donors will receive between 5 fen and 1 mao (about 1p) on their commuter passes for each polyethylene terephthalate (PET) bottle they insert into the machine, which then crushes them to a third of their original size and sorts them according to colour and type.

"It will be as easy to use as an ATM," said an employee of the operating company, Incom, who declined to give her name. "We hope to put one at every station on the route [subway line 10] and later expand to other lines, bus stops and residential areas."

The firm currently processes 50,000 tons of bottles a year, most of which it buys from informal collectors who roam the city's streets looking for discards, which they pack on to carts and bicycles.

With the machines, the firm hopes to collect directly from the public and generate extra revenue from government subsidies and sales of advertising shown on the machine's screens. Incom says it plans to approach Coca-Cola and other beverage retailers.

Similar devices have been used in several countries, including the US, Japan and Brazil, but they have benefited from civic mindedness, convenience and widespread ignorance about the true value of PET.

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Trains Send Energy to Grid in Ground-Breaking Philadelphia Pilot

SustainableBusiness.com News

A ground-breaking project in Philadelphia is capturing energy from trains and sending it to the grid.

The Southeastern Pennsylvania Transportation Authority (SEPTA) is doing a pilot project on one of its train lines that captures the regenerative energy from braking trains, stores it in megawatt-scale batteries and then sends it to the regional grid.

Besides providing significant energy savings it will be a new source of revenue for SEPTA.

When SEPTA's trains brake at each stop to load and unload thousands of Pennsylvania passengers, the kinetic energy of the train is converted into electricity.But without a method to capture that excess electricity, it can't be stored and used later.

The new technology demonstrates a first-in-the-world achievement for public transit, and showcases the potential of the smart grid, they say.

SEPTA is working with Viridity Energy, a smart grid technology firm that specializes in electric market integration, and Saft is designing and manufacturing the batteries. Envitech Energy, owned by ABB, is providing power controls, power conversion and system integration.

Viridity Energy's VPower optimizer enables simultaneous regenerative capture, regulation performance, and energy market participation by selecting which market to participate in based upon market pricing, battery state of charge, and availability of regenerative energy from the trains.

The pilot is partially funded through a 2010 Pennsylvania Energy Development Authority grant program and through Ben Franklin Technology Partners.

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The climate of the climate change debate is changing

By **Myles Allen**, guardian.co.uk

This article titled "The climate of the climate change debate is changing" was written by Myles Allen, for guardian.co.uk on Wednesday 11th July 2012 11.08 UTC

This week, climate change researchers were able to attribute recen examples of extreme weather to the effects of human activity on th planet's climate systems for the first time. Photograph: Rizwan Tabassum/AFP/Getty Images

The climate may have changed this week. Not the physical climate, but the climate of the climate change debate. Tuesday marked the publication of a series of papers examining the factors behind extreme weather events in 2011. Nothing remarkable about that, you might think, except, if all goes well, this will be the first of a regular, annual assessment quantifying how external drivers of climate contribute to damaging weather.

Some of these drivers, like volcanoes, are things we can do nothing about. But others, like rising levels of greenhouse gases, we can. And quantifying how greenhouse gases contribute to extreme weather is a crucial step in pinning down the real cost of human influence on climate. While most people think of climate change in terms of shrinking ice-sheets and slowly rising sea levels, it is weather events that actually do harm.

This week also saw a workshop in Oxford for climate change negotiators from developing countries. Again, nothing remarkable about that except, for the first time, the issue of "loss and damage" was top of the agenda. For years negotiations have been over emission reductions and sharing the costs of adaptation. Now the debate is turning to: who is going to pay for damage done?

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British Columbia's Carbon Tax Lowers Income Tax for All

SustainableBusiness.com News

Although Canada's Prime Minister is mainly concerned with developing the country's resources, even it means complete destruction of the environment, that's not true for all provinces and cities.

British Columbia is having success with its four-year-old carbon tax, which is discussed in a July 4th Op-Ed in the NY Times.

Here's the editorial:

The Most Sensible Tax of All

On Sunday, the best climate policy in the world got even better: British Columbia's carbon tax - a tax on the carbon content of all fossil fuels burned in the province - increased from $25 to $30 per metric ton of carbon dioxide, making it more expensive to pollute.

This was good news not only for the environment but for nearly everyone who pays taxes in British Columbia, because the carbon tax is used to reduce taxes for individuals and businesses.

Thanks to this tax swap, British Columbia has lowered its corporate income tax rate to 10 percent from 12 percent, a rate that is among the lowest in the Group of 8 wealthy nations. Personal income taxes for people earning less than $119,000 per year are now the lowest in Canada, and there are targeted rebates for low-income and rural households.

The only bad news is that this is the last increase scheduled in British Columbia. In our view, the reason is simple: the province is waiting for the rest of North America to catch up so that its tax system will not become unbalanced or put energy-intensive industries at a competitive disadvantage.

The United States should jump at the chance to adopt a similar revenue-neutral tax swap. It's an opportunity to reduce existing taxes, clean up the environment and increase personal freedom and energy security.

Let's start with the economics. Substituting a carbon tax for some of our current taxes - on payroll, on investment, on businesses and on workers - is a no-brainer. Why tax good things when you can tax bad things, like emissions?

The idea has support from economists across the political spectrum, from Arthur B. Laffer and N. Gregory Mankiw on the right to Peter Orszag and Joseph E. Stiglitz on the left. That's because economists know that a carbon tax swap can reduce the economic drag created by our current tax system and increase long-run growth by nudging the economy away from consumption and borrowing and toward saving and investment.

course, carbon taxes also lower carbon emissions. Economic theory suggests that putting a price on pollution reduces emissions more affordably and more effectively than any other measure.

This conclusion is supported by empirical evidence from previous market-based policies, like those in the 1990 amendments to the Clean Air Act that targeted sulfur dioxide emissions.

British Columbia's carbon tax is only four years old, but preliminary data show that greenhouse gas emissions are down 4.5 percent even as population and gross domestic product have been growing. Sales of motor gasoline have fallen by 2 percent since 2007, compared with a 5 percent increase for Canada as a whole.

What would a British Columbia-style carbon tax look like in the United States? According to our calculations, a British Columbia-style $30 carbon tax would generate about $145 billion a year in the United States.

That could be used to reduce individual and corporate income taxes by 10 percent, and there would still be $35 billion left over. If recent budget deals are any guide, Congress might choose to set aside half of that remainder to reduce estate taxes (to please Republicans) and the other half to offset the impacts of higher fuel and electricity prices resulting from the carbon tax on low-income households through refundable tax credits or a targeted reduction in payroll taxes (to please Democrats).

Revenue from a carbon tax would most likely decline over time as Americans reduce their carbon emissions, but for many years to come it could pay for big reductions in existing taxes. It would also promote energy conservation and steer investment into clean technology and other productive economic activities.

Lastly, the carbon tax would actually give Americans more control over how much they pay in taxes. Households and businesses could reduce their carbon tax payments simply by reducing their use of fossil fuels.

Americans would trim their carbon footprints - and their tax burdens - by investing in energy efficiency at home and at work, switching to less-polluting vehicles and pursuing countless other innovations. All of this would be driven not by government mandates but by Adam Smith's invisible hand.

A carbon tax makes sense whether you are a Republican or a Democrat, a climate change skeptic or a believer, a conservative or a conservationist (or both). We can move past the partisan fireworks over global warming by turning British Columbia's carbon tax into a made-in-America solution.

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China paves way for carbon market

By **James Murray**

The Chinese government has released a new set of regulations for the country's emerging carbon market, potentially laying the foundations for the development of a national carbon market.

Green NGO The Climate Group reported that China's influential National Development and Reform Commission (NRDC) has this month released a new document entitled *The Interim Regulation of Voluntary Greenhouse Gases Emission Trading in China*.

The rules, which are intended to govern those provinces currently pursuing trial carbon offsetting and emissions cap-and-trade schemes, set out a series of standards regional governments must follow as they roll out carbon trading mechanisms.

"Chinese voluntary GHG [greenhouse gas] emission trading should be practised in the principles of openness, fairness, impartiality and good faith," the regulations state. "The GHG emission reductions shall come from specific projects and be real, measurable, and additional."

Specifically, the new rules promote a series of standardised methodologies for measuring emission reductions delivered through carbon trading mechanisms, including proposals on how to "set up the baseline, to demonstrate the additionality, to calculate the emission reductions, to make the measurement plan, etc."

It also details how all emission reductions delivered through voluntary carbon markets must be recorded by the NDRC and independently validated by qualified validation organizations that have been approved by the commission.

Changhua Wu, Greater China Director, The Climate Group, said the new regulation marked "a significant step forward" for China's plans to develop a domestic carbon market."

"It sets clear guidelines and requirements of the technical and institutional elements when domestic voluntary carbon market is concerned," she added. "While still at a very early stage, today China is on the right track towards a nationwide compulsory carbon market by establishing the infrastructure, technical guidelines, as well as institutional structure needed to accelerate progress."

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Procter & Gamble bets on Good Housekeeping green seal

By **Adam Aston**

Procter & Gamble has been cautious in its treatment of green certifications. "There are a lot of seals out there," said Chris Guay, a regulatory fellow at the consumer products giant.

However, one green seal not only caught its attention, but also offered the credibility the global packaged goods giant was looking for. With $83 billion in sales last year, P&G has now qualified two products under *Good Housekeeping*'s green seal: Tide Coldwater Laundry Detergent and Pampers Cruisers diapers for toddlers.

Good Housekeeping launched its Green Seal two-and-a-half years ago into a marketplace growing crowded with eco products, and where consumers faced a dizzying array of green certifications.

The history and iron-clad guarantee of the magazine's century-old Good Housekeeping seal gave the new mark instant cachet. But how has the seal fared over the last 36 months?

I got the opportunity to catch up on *Good Housekeeping*'s green seal efforts, as well as the evolution of eco-labeling, last week at a luncheon and tour of the magazine's in-house testing labs. I spoke with the program's head, along with executives representing some of the latest products to earn the green mark.

The verdict? A couple of years on, the seal has matured, broadening the number of products and categories Good Housekeeping's white-coated scientists have scrutinize, trialed, and dismantled to identified the greenest.

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Modular building could lead the way in China's commercial construction

By Jo Confino for guardian.co.uk

China has long served as the world's factory, with "Made in China" labels a familiar sight on a whole host of products. In the future, however, the appearance of similar labelling on skyscrapers or office buildings is a distinct possibility.

In recent years, although developments in technology and building materials have transformed architecture, the actual construction of most structures still relies on 19th-century building techniques. The problem is particularly acute in China, which has urbanised rapidly over recent decades. Dubious construction practices, large quantities of waste, environmental degradation and finished buildings that are notoriously energy inefficient have been the norm.

China has urbanised rapidly over recent decades but building methods have remained resource and energy inefficient. Photograph: Dan Chung for the Guardian

Now one Chinese company is developing building designs that are more sustainable, create little waste and are energy efficient. Broad Sustainable Building, a subsidiary of a large Chinese conglomerate, insists that prefabricated and modular construction is the future and more architects and contractors are warming up to the idea of creating structures manufactured in a factory, rather than at a construction site.

Broad's recent completion of the 30-storey Tower Hotel in Yueyang, Hunan province, is a template for the projects the three-year-old company is currently involved in.

The new hotel's exterior is comprised of 35cm if thermal insulation and five-paned windows that keep the rooms and offices cool during Hunan's sweltering summers. According to Broad, Tower Hotel can withstand a earthquake measuring up to 9.0 on the Richter scale. The building boasts additional sustainable features, including the ability to produce biogas from sewage and heat the building from hot waste water.

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New Amazon highway 'would put Peru's last lost tribes at risk'

by Gethin Chamberlain, for **The Observer**

A fierce row has broken out over a controversial plan to drive a road through pristine Amazon rainforest, imperilling the future of some of the world's last uncontacted tribes.

The 125-mile (200km) road would pass through the Alto Purús national park in Peru, connecting a remote area to the outside world but opening up the most biologically and culturally important area of the upper Amazon to logging, mining and drug trafficking. Opponents of the plan fear it will threaten the existence of uncontacted tribes such as the Mashco-Piro. The first detailed photographs of members of the tribe made headlines around the world earlier this year after they were spotted on a riverbank.

Members of the uncontacted Mashco-Piro tribe photographed through a telescope late last year. Photograph: Handout/Reuters

The majority indigenous population of the region appears to be largely united in its opposition to the road, which would run parallel to the Brazilian border, connecting the towns of Puerto Esperanza and Iñapari. Conservationists warn it would cause irreparable harm to the environment and the area's people.

But the road has the support of many mixed-race settlers – or *mestizos* – who make up roughly one fifth of the region's population. With the Alto Purús currently accessible only by plane, they believe that the road would improve their quality of life, bringing lower prices for fuel and food and creating profitable development opportunities.

The campaign to build the road has been led by an Italian missionary, Miguel Piovesan, who claims that indigenous people are being kept isolated and denied the chances for development available to the rest of the population. He first proposed the road in 2004, around the time the Peruvian government announced that the Alto Purús was to become the country's largest national park.

Piovesan's plan's met with little initial enthusiasm, but his long and determined campaign, using his own radio station and parish website, has been so successful that the country's Congress is now due to debate a bill to allow construction to start. Piovesan has been scathing about his opponents, particularly international organisations such as Survival International and the WWF, which he accuses of profiting from keeping the tribes in isolation.

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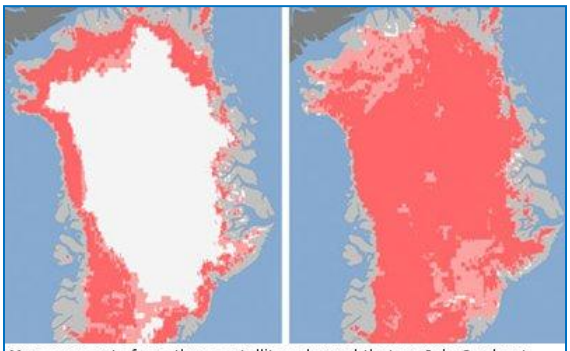
Sustainability reporting fails to take off in the United States

By **Jo Confino** for guardian.co.uk

The reporting of a company's environmental, social and governance (ESG) performance is the first step on the ladder towards embedding sustainability.

If a company is not measuring and reporting on its core impacts, then the likelihood is that it is not prioritising the issues and probably does not know where it can most effectively make improvements. More than that, with trust in business at an all-time low, it is important that companies improve transparency to allow stakeholders to be able to hold them to account.

So it is profoundly depressing to see new research that shows that only a tenth of the 1000 largest US publicly listed companies disclose ESG data in a coherent way. This makes the rest of the world look almost progressive by comparison, with an analysis of 3000 global companies showing that just under a fifth publish ESG information.



Measurements from three satellites showed that on July 8, about 40% of the Greenland ice sheet had undergone thawing at or near the surface. By July 12, this had increased to an estimated 97%. Photograph: REUTERS

Delve further into the details of the collaborative Sustainability Practices study by the US Conference Board, Bloomberg, and the Global Reporting Initiative, and the news gets worse.

We know there is a large element of climate denial in the United States, but you would hope that companies would take a more sane and logical approach. However, less than a fifth of the Russell 1000 index, which represents more than 90% of the US equities market, have an "established set of risk management procedures designed to mitigate the impact of business operations on climate change" – significantly below the 39% in the global survey.

This is more than just a pity. The ESG study was announced on the same day Nasa scientists reported that the Greenland ice sheet melted at a faster rate this month than at any other time in recorded history, with virtually the entire ice sheet showing signs of thaw.

The lack of corporate climate change strategies is hardly surprising, however, when you discover that an even smaller percentage of US companies, 13%, have a "unified process" to measure and report on the consumption of energy across their business activities. This contrasts with nearly half for the global sample. Similar discrepancies were found from the analysis of water consumption disclosure.

Co-author Thomas Singer says the broad data hides the fact that several of the leaders in sustainability are American, but that these are the exception rather than the rule. He blames a lack of regulatory pressure.

"Japan and some EU governments, such as France, have implemented laws requiring certain companies to disclose a set of ESG metrics," he says. "Some countries have even passed regulation requiring the adoption of integrated reporting by companies. Furthermore, the EU has passed a series of climate change regulations, including targets for reducing carbon emissions and energy consumption.

"These targets have led companies to implement comprehensive ESG tracking and reporting mechanisms. No such regulations are currently in place in the US, which results in fewer incentives for companies to track and report on this data."

Singer says there may be more companies that are tracking their impacts but not reporting on them, either because they are "embarrassed by the results or they might not have the resources to report on them".

The report, which covers 72 areas including atmospheric emissions, water consumption, biodiversity policies, labour standards, human rights practices and political donations, shows that the poor levels of disclosure by US business are not restricted only to environmental reporting.

The reporting of political donations is particularly important given the widely held view that business interests have bought up Congress, thereby preventing action on climate change. Yet only 7% of the Russell 1000 disclosed the value of their political contributions, rising to 13% for the S&P 500 group of larger listed companies.

On the social side, the most easily measurable metric, employee turnover, is reported by only 40 of the 1000 companies, even though Singer says "a high turnover rate can often be an indicator of problems within an organisation; in particular, it can be symptomatic of employee dissatisfaction or the presence of unsafe and unhealthy working conditions".

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Olympic athletes and public warned of London's high 'summer smog' levels

By **Fiona Harvey**, environment correspondent guardian.co.uk,

Athletes completing their final pre-Olympics training, and members of the public gathering in London for the final stages of the Olympic torch relay, have been warned of high levels of pollution in the UK capital on Thursday, ahead of the opening ceremony on Friday night.

The smog warning follows a few days of sunshine, which has intensified the impact of pollutants such as ground level ozone and nitrogen oxides, from traffic fumes.

The Department for Environment, Food and Rural Affairs issued the warning as the level of pollutants reached high levels on Wednesday and Thursday. Photograph: Lewis Whyld/AP

The Department for Environment, Food and Rural Affairs issued the warning as the level of pollutants reached high levels on Wednesday and Thursday, and were likely to continue for at least 24 hours. Officials reassured the public that most people would be unaffected, but the very old and young, and those who already suffer from breathing difficulties, heart or lung problems or asthma could be at risk. Athletes can be particularly vulnerable, however, as they take in much more air during sport than other people. Some parts of England and Wales were also warned, but pollution levelsare likely to be highest in London.

There had been warnings that the first days of the Olympic games could coincide with hot sunny weather that would worsen pollution.

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Inside Afghanistan's hydropower revolution

by **Martin Wright** for guardian.co.uk

Say the word 'Afghanistan', and you'll conjure up a number of associations in your listener's mind. It's a safe bet that none of them will include 'promising haven of renewable energy'. But that's a pretty fair description of what's underway in the mountainous north eastern province of Badakhshan – "the least developed part of the least developed country in the world".

The province may lack development in the conventional sense of the word – even major roads are rough, rutted mud tracks, impassable for much of the winter. It can take hours to make a journey of 30 miles, and you emerge from the jeep feeling as though you've been flung around inside a tumble drier. But Badakhshan doesn't lack resources. If peace ever returns, one distant day, its spectacular landscape will be a magnet for tourism: snowy peaks looming over richly fertile valleys bright with apricot blossom and spring wheat, watered by fast flowing rivers.

The German development corporation GIZ is bringing electricity to the remote Badakhshan and Takhar provinces in Afghanistan by constructing new off-grid hydro schemes. Photograph: Ashden Awards 2012

And it's these which provide a ready resource of a different kind. Here, among the last outliers of the Hindu Kush, local Afghan communities are working with German engineers and development experts to install run-of-the-river hydro plants. Six are in place to date, with a total capacity of 1.3 MW, bringing light and power to 63,000 people in homes and businesses, who until now had to rely on smoky kerosene lanterns or pricey, unreliable diesel generators. The plants are a small triumph of engineering: in an area with few 'jeepable' roads, many parts have to be carried on mule back – no small task when canals have to be carved out of the mountainsides and electricity poles erected on remote hilltops.

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Guatemala farmers losing their land to Europe's demand for biofuels

By **John Vidal,** for guardian.co.uk

Evicted indigenous Maya face the security forces in Guatemala's Polochic valley in March 2011. (Faces and clothes have been obscured to protect identities) Photograph: Campesino Unity Committee/Oxfam

Maria Josefa Macz and Daniel Pascual were called at five in the morning, and asked to come quickly to the Polochic valley in southern Guatemala. Ethnic Maya Q'eqchi communities of smallholder farmers said they were being violently evicted by state security forces from land they had farmed for generations. Helicopters with armed men leaning out were flying overhead, private security guards and paramilitary forces were attacking people, and houses and crops were being burned. The farmers could not speak Spanish and needed help dealing with the police, as well as legal advice on how to stop giant biofuel companies taking their land.

When Macz and Pascual, human rights workers from the Guatemala Campesino Unity Committee (CUC), arrived after a six-hour drive from the capital, Guatemala City, two of the communities had been brutally evicted. Over the next four days, 10 more villages were cleared. By the end of March 2011, around 800 families – about 3,200 people from 14 communities – had been forced off land they believed they had a right to live and work on. Within months, hundreds of hectares of the lush valley in the province of Alta Verapaz were being planted with sugar cane that would be turned into ethanol for European cars, including British ones.

Today, displaced families live by the side of the road with no access to shelter or food. "The men fled to the mountains, the women had to find a way to live. People lost everything; they became nothing but cheap labour," says Macz.

"It was a military operation. It was like an invasion. We feel history is repeating itself and we are going back to the violence of 30 years ago," says Pascual, referring to the massacre by the army of 60 people in the nearby town of Panzós in 1978. The US-backed government claimed their troops were turning back a peasant invasion fomented by "international subversives". The reality was that the peasants were petitioning the mayor for land.

There is a long history of land disputes in the Polochic valley and across Guatemala, with companies claiming title over land that communities believe they have bought or have historical rights over. In this case, the land had been sold to one company by a larger one that had been receiving rent from the communities, who had been on the land for generations. At the time of the evictions, the land was under threat of foreclosure and negotiations were taking place with the government.

But the unprecedented worldwide rush for land to grow food or fuel crops for the international market is now hitting some of the poorest communities hard, and leaving them at risk of violence and landlessness. Guatemala is now one of the world centres for growing biofuel crops.

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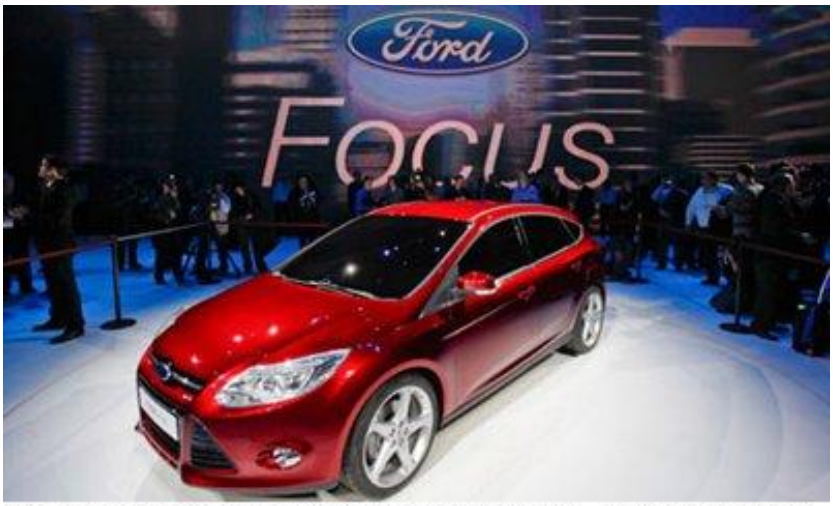
Ford Motor takes impressive steps on water stewardship

By **Leon Kaye,** for guardian.co.uk

While an analysis of the automobile industry will often laser in on materials such as steel and fossil fuels, car manufacturers also consume copious amounts of water. While the US automobile industry's hub in Detroit is fortunate to be located in Michigan, a state that has large amounts of fresh water, the industry's supply chain has an enormous impact on local water supplies. As with the case of beverage companies, carmakers have got to be mindful of the effect their operations have on local communities as they compete with local businesses and residents for water.

Ford Motor Company has addressed its impact on water supplies for over a decade. When Bill Ford, then-CEO and now chairman, decided sustainability had to lie within the core of his company's strategy, his shift at first scored little but sneers from sceptical shareholders, jaded customers and an angry Wall Street. But under Ford and current CEO, Alan Mulally, Ford is taking impressive steps towards more sustainable business practices. Aside from cars with better fuel mileage, water stewardship has been one of Ford Motor's most impressive achievements.



The new Ford Focus on display in Detroit in 2010. Photograph: Mark Blinch/Reuters

The commitment to water stewardship started with a green roof at Ford Motor's River Rouge factory outside of Detroit. The 10-acre swath of sedum plants, in addition to other water saving technologies, cost the company $15m (£9.6m) when it was completed in 2003. The alternative to paying for facilities to clean water runoff from the factory and surrounding parking lots that was polluting the nearby river would otherwise have cost $50m to meet US Environmental Protection Agency standards.

The green roof marked a symbolic start to Ford Motor's actions to minimise water usage across the company's operations. The solution to reducing the eight cubic metres of water used for each manufactured vehicle in 2006, included many small and incremental steps. The company installed reverse-osmosis water recycling systems in many factories, which reduced the need to consume water that had otherwise been taken away from local drinking water supplies. Dry machining technology now lubricates cutting tools on an assembly line with a thin application of oil instead of traditional methods that had required large amounts of water. Internal water management and auditing software system tracks water usage at factories, research facilities and corporate offices. As of 2011, the water use per vehicle ratio stands at 4.7 cubic metres. The company's goal is to push that ratio down to 4.0 by 2015.

The Ford Motor factory that boasts the most parsimonious use of water is in Chennai, India. The region's surging population and economy have together created a huge strain on local water supplies. While churning out Ford Fusions and Fiestas, the Chennai plant operates a zero-discharge water recycling system that diverts wastewater streams everywhere, from the cafeteria to the assembly lines. A three stage reverse osmosis system distills used water until it becomes a solid salt that is eventually disposed as waste. The $500m plant in 2011 used an average of 1.15 cubic metres of water for every car that rolled off the assembly line.

For Ford Motor and its 166,000 global employees, these aggressive water conservation measures have resulted in a 62% reduction in water consumption since 2000. But for this once rigid rust-belt manufacturer, this is not about a few glossy bullet points in a sustainability report. The company's attention to water also drives a new culture of innovation at Ford Motor, where scientists, engineers and designers compete against one another to design the most energy efficient and aerodynamic automobiles possible. From car seats filled with foam derived out of soy to upholstery made out of recycled plastic bottles, all of these measures help reduce the effects of a carbon and water intensive industry. Drivers must also do their part, however. Ford Motor estimates that 87% of a car's lifecycle water consumption occurs during the total use phase of the vehicle.

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While Colorado burns, Washington fiddles

By **Bill McKibben**, guardian.co.uk

In the political world, this was the week of the healthcare ruling: reporters hovered around the supreme court, pundits pundited, politicians "braced" for the ruling, "reeled" in its aftermath. It provoked a "firestorm" of interest, according to one magazine; it was, said another, a "category 10 hurricane".

But in the world world, there was news at least as big, but without the cliched metaphors. News that can be boiled down to a sentence or two:

You ever wonder what global warming is going to look like? In its early stages, exactly like this.

Global warming is underway. Are we waiting for someone to hold up a sign that says "Here's climate change"? Because, this week, we got everything but that:

● In the Gulf, tropical storm Debby dropped what one meteorologist described as "unthinkable amounts" of rain on Florida. Debby marked the first time in history that we'd reached the fourth-named storm of the year in June; normally it takes till August to reach that mark.

● In the west, of course, firestorms raged: the biggest fire in New Mexico history, and the most destructive in Colorado's annals. (That would be the Colorado Springs blaze: the old record had been set the week before, in Fort Collins.) One resident described escaping across suburban soccer fields in his car, with "hell in the rearview mirror".

● The record-setting temperatures (it had never been warmer in Colorado) that fueled those blazes drifted east across the continent as the week wore on: across the Plains, there were places where the mercury reached levels it hadn't touched even in the Dust Bowl years, America's previous all-time highs.

● That heatwave was coming at just the wrong time, as farmers were watching their corn crops get ready to pollinate, a task that gets much harder at temperatures outside the norms with which those crops evolved. "You only get one chance to pollinate over 1 quadrillion kernels," said Bill Lapp, president of Advanced Economic Solutions, a Omaha-based commodity consulting firm:

"There's always some level of angst at this time of year, but it's significantly greater now and with good reason. We've had extended periods of drought."

In the markets, all this news was taking its toll: prices for corn and wheat were spiking upwards, rising almost a third on global markets as forecasters suggested grain stockpiles could shrink by as much as 50% as the summer wears on. But in the political world, there wasn't much reaction at all.

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Recycled wood: the truly green key to a sustainable built environment

By **Leon Kaye,** for guardian.co.uk

Home building has long been one of the most important industries in the US, with economists viewing statistics concerning new homes as a barometer for the country's economic performance

Valuable wood sourced from redwood trees is being routinely waste in the US. Photograph: Graham Whitby-Boot /Sportsphoto Ltd/Allsta

Americans' affinity for newer and bigger homes, however, comes with a huge environmental cost. The recent foreclosure crisis is just a reminder of all the resources waste on millions of homes that have been abandoned and, yet again, remodelled. One precious resource used for these buildings that often goes unnoticed and is then lost forever is wood.

The remodelling and demolishing of homes in the US results in the equivalent of 250,000 single-family homes being interred in landfills or incinerated each year. Among the dry wall, plastic and concrete that are disposed of is lumber sourced from America's forests. Within this lumber, there is also wood from older homes. This is especially valuable because it is of higher quality than material used in most new construction projects.

Wood in homes built 50 years ago or earlier was often sourced from first-growth forests. Whether a small, older home being destroyed for a larger, more modern home, or a historic beach-front house being targeted for removal and upgrade by a presidential candidate, these houses are a treasure trove of sturdy wood that builders should reclaim. Entrepreneurs can find lucrative business opportunities as salvaged or rediscovered wood is in high demand.

Current construction and demolition (C&D) techniques, however, are destructive and render most wood completely useless. Too much wood enters the C&D waste stream and then disappears forever. Of the approximate 70m tons of wood sent to landfill annually, the US government estimates 30m tons of it could have been reused.

Currently about 10% to 20% of wood discarded during construction projects is prevented from entering landfills. Pallets, however, account for most of that material, and hence that lower-quality wood is often shredded and used for mulch. But while aluminium, glass, paper and plastic are often culled for recycling from construction sites prior to final disposal, wood is overlooked and is about 17% of the waste that ends up in municipal dumps.

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A sustainable water strategy is good for business

By **Mark Hillsdon**, for guardian.co.uk

Water efficiency... New irrigation techniques have been developed to help manage water use more efficiently. Photograph: Alamy

water-intensive processes, you have to consider treating it after use."

The event, which was organised by Anglian Water Business, also heard that collaboration is increasing among companies as they look to solve water scarcity problems and encourage better water management along the whole supply chain.

While a poll of delegates at the conference revealed that 63% had targets for water efficiency compared with 88% who were working towards energy-reduction targets – and 71% towards carbon reduction – Anglian Water Business director Bob Wilson remains upbeat about water management, despite the relative disparity.

"The main reason water is placed low on a company's sustainability agenda is because the cost is minimal when compared with things like electricity," he explains. "But you can't look at water in isolation; it is intrinsically linked to energy usage and carbon emissions. If you have

Angela Murphy, site general manager at Butcher's Pet Care's new factory in Northamptonshire, is doing much to raise awareness of the full cost of water at her company. The facility she oversees has been designed to use less water – 85% of all condensation in the manufacturing process is recycled, for example – but Murphy now intends to use the hidden costs of water, especially heating, to frame a much broader water strategy for the site. "It's about realising the true cost of water … it's not just what you pay on your water bill," she says.

Leading lettuce producer JE Piccaver has come at the issue of water use from a different angle. The company's investment in greater water efficiency came about because the local natural water supply in south Lincolnshire was too saline to use on crops. As a result it has to use mains water for irrigation – rather than bore holes – and this has helped to focus minds.

"For a number of years we've been taking care in managing water as frugally as possible because obviously the more we use the more expensive it becomes," explains production director, Phillip Hubbert.

Piccaver has developed more targeted methods to water crops and it uses moisture probes to take the guess work out of irrigation. The company has also built its own reservoirs to store rainwater, and by quantifying water use per hectare, Piccaver knows exactly how much it needs to store in case of drought.

"As is often the case when you do things for economic reasons, it turns out to be the sustainable route as well," adds Hubbert.

Now Hubbert wants to encourage better use of water across the rest of the business, especially by educating staff. "We've got offices, warehouses, packing centres – all these places use water in one form or another. We've done the big bit, fields-scale, but now I think we need to start to fine-tune and do things closer to home."

Along with managing business use, many water industry professionals believe that the UK needs to look at the whole infrastructure surrounding water, particularly the way we deal with rain. When rain falls at the moment, there's an urgency to get it off the land, into rivers and out to sea. But as water becomes a scarcer commodity, has the time come to rethink the whole process?

Some argue for a new generation of reservoirs to be built to store the rain but Peter Simpson, managing director of Anglian Water, believes that we must drive greater water efficiency and explore the full potential offered by artificially recharging underground reservoirs (aquifers).

Simpson also believes there needs to be a step change in the language of water, particularly the term "waste water". This treated water forms a crucial part of the whole water cycle and plays a vital role keeping our rivers flowing, particularly so during the summer.

Alan Hayes, a senior sustainability analyst at the Institute of Grocery Distribution (IGD), argues that before we start pricing up long-term changes to water's infrastructure, there are still more immediate, practical things we can do. "The starting point needs to be more bite-sized," he says. "Everyone who uses water needs to be more efficient with what they are doing."

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Government 1bn deal to controversial Petrobras deep-sea oil drilling

By Rupert Neate, for The Guardian

The government has committed $1bn of taxpayer's funds to support deep-sea drilling in the south Atlantic, despite acknowledging that the controversial project has "significant potential" to damage the environment.

Vince Cable's export credit guarantee department (ECGD) has agreed a $1bn (£637m) line of credit to help Brazil's state-owned oil company, Petrobras, drill for oil and gas. This will be in deeper water than the area in the Gulf of Mexico where an explosion on BP's Deepwater Horizon rig led to 11 deaths and US's the worst environmental disaster two years ago.

The funding agreement, revealed in the ECGD's annual report, comes despite the department's own advisers warning that fresh oil and gas drilling off the coast of Brazil could lead to a marine catastrophe. The government's experts warned there are "significant potential adverse environmental impacts anticipated, including beyond site boundaries". Lisa Nandy, a Labour MP and chair of a parliamentary inquiry into the ECGD, which the Department for Business has renamed UK Export Finance (UKEF), said: "It is a cause of real concern that, despite the coalition commitment to end all export finance for dirty fossil fuels,

particularly the risky Atlantic oil drilling, UKEF still funds so many fossil-fuel-related projects and has so far failed to support a single green energy project."

UKEF, which has been dubbed the "department for dodgy deals" by the Jubilee Debt Campaign, is designed to help British companies obtain insurance and credit to help them export goods overseas when traditional lenders may be afraid to provide financing. But the government was unable to name any British companies that would benefit from the $1bn credit line supplied to Petrobras.

A spokesman for the business department said: "At the time the annual report was published, no exports had been supported under the line of credit. UKEF hopes to be able to announce the first exports supported shortly."

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Global fight for natural resources 'has only just begun'

By **Fiona Harvey**, for guardian.co.uk

Nobel prize-winning economist Amartya Sen told the conference that governments would need to step in, to ensure resources were best distributed. Photograph: Matthew Lloyd/Getty Images for ReSource 2012

The global battle for natural resources – from food and water to energy and precious metals – is only beginning, and will intensify to proportions that could mean enormous upheavals for every country, leading academics and business figures told a conference in Oxford on Thursday.

Sir David King, former chief scientific adviser to the UK government, who convened the two-day Resource 2012 conference, told the Guardian: "We are nowhere near realising the full impact of this yet. We have seen the first indications – rising food prices, pressure on water supplies, a land grab by some countries for mining rights and fertile agricultural land, and rising prices for energy and for key resources [such as] metals. But we need to do far more to deal with these problems before they become even more acute, and we are not doing enough yet."

Countries that are not prepared for this rapid change will soon – perhaps irrevocably – lose out, with serious damage to their economies and way of life, the conference was told.

Amartya Sen, a Nobel prize-winning economist, said that the free market would not necessarily provide the best solution to sharing out the world's resources. Governments would need to step in, he said, to ensure that people had access to the basics of life, and that the interests of businesses and the financial markets did not win out over more fundamental human needs.

Sen has played a key role as an academic in showing how the way resources are distributed can impact famine and surplus more than the actual amount of resources, that are available, particularly food.

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India: food, marketing and children's health

By **Oliver Balch**, Guardian Professional

Higher disposable incomes, changing consumption patterns and the marketing might of powerful western brands are bringing fast food to India's children

Indian youths queue at the opening of the first Mcdonald's family restaurant in New Delhi in 1996. Photograph: Ajit Kumar/Associated Press

The camera pans in. The grins of smiling school children fill the frame. An enthusiastic teacher, played by a famous Bollywood actress, sits in the centre. The scene is a "remote picturesque setting". And all are munching happily on Domino's Pizza.

The advert is typical of the marketing bombardment now filling TV screens and billboards as the world's big brands fight it out for a slice of India's growing fast food market.

McDonald's, Dunkin' Donuts, Subway, Pizza Hut, KFC, Coca-Cola and PepsiCo are just some of the international food brands now aggressively touting their wares to the Indian public.

The stakes are high. Last month, for instance, Coca-Cola announced plans to invest $5bn over the next eight years to "further capture growth" in India's ready-to-drink market.

Muhtar Kent, the US brand's chief executive, said: "Achieving continued sustainable, responsible growth in India is core to achieving our 2020 vision of doubling system revenues in this decade."

Betting on the sweet tooth of India's 1.2 billion population certainly makes good business sense. Economic reforms introduced two decades ago have seen the middle classes swell. As disposable incomes in the country grow, so the consumption patterns of millions are changing.

Sugary soft drinks and fast food chains are "all the rage now", says Shobha Shukla, a teacher and public health activist in Luknow, Uttar Pradesh.

Coca-Cola is a clear beneficiary of India's dietary shift. Sales across its 1.5m outlets nationwide have increased every quarter for the past six years. Its two bestselling drinks – Thums Up and Sprite – shot up by more than a quarter (27%) in the first three months of this year alone.

Sweet tooth troubles

What's good for business, however, may not be best for India's public health. Diet-related illnesses are skyrocketing. With more than 50 million sufferers, India has the largest diabetes population in the world, according to the World Health Organisation (WHO).

Meanwhile, heart disease has also spiked, becoming the biggest single cause of death in both urban and rural areas, a recent study by the Indian Council of Medical Research shows.

Public health campaigners have been quick to make the link with India's growing taste for high processed, high-calorie food and drinks. "Excess consumption of these so-called 'fast foods', coupled with low levels of physical activity, can lead to obesity", said professor Anoop Misra, chairman of India's National Diabetes, Obesity and Cholesterol Foundation.

Young people are especially vulnerable. A recent study by Misra on adolescents in New Delhi found that the prevalence of obesity had increased from 16% to 24% between 2002 and 2007. "These foods are available right in the school canteen and in the outside markets well within the reach of children," Misra added.

The results carry significant economic as well as health implications. The WHO predicts the net losses in national income from diabetes and cardiovascular disease at 336.6bn international dollars (ie US$ corrected for purchasing power).

Half of India's 1.2 billion population is under 25 years old. That holds out the possibility of "a massive public health burden for years to come," says Raj Patel, a writer and activist. "India's public health officials need to do something about that now."

That's beginning to happen, albeit slowly. The state government of Uttar Pradesh has taken the lead. It recently banned the sale of fast food in or immediately around government-run schools. Delhi is due to follow suit.

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Top 10 Carbon Emitting Cities in India

It is well known that carbon emissions have played a key role in what has come to be known as *the global warming phenomena*. Global warming is caused by human activities, which alter the chemical composition of the atmosphere through a build-up of greenhouse gases – primarily carbon dioxide, methane and nitrous oxide, and particulate matter.

Emissions in India result largely from coal burning with India being the world's third largest producer of coal.

If these emissions remain unchecked, the steadily rising global temperatures will cause sea-levels to rise, alter local weather conditions considerably, affect forests, crop yields and water supplies. They would also affect human health, flora and fauna, and alter ecosystems permanently.

Scientific evidence shows that global warming is responsible for environmental changes that can result in irreversible climate change – *extreme* and *erratic weather events* that can severely impact life.

Cities symbolize our culture, lifestyles and aspirations. Our carbon intensive 'ways of living' play an important role in how our cities exist or develop. Since half of the world's population started to live in cities by 2007, a sizeable portion of greenhouse gas emissions is generated in a few energy-intensive cities. According to the **Clinton Foundation**, large cities are responsible for about 75 per cent of the greenhouse gases released in the atmosphere.

So it is imperative that the extent and impact of these emissions from cities is understood, so as to formulate policies and solutions to mitigate them, and address climate change at local levels.

With such an objective, the **International Council of Local Environmental Initiatives (ICLEI)-South Asia** undertook a project to learn the **'Energy and Carbon Emissions Profiles of 54 South Asian Cities'** during 2007-08, and collected relevant data with the cooperation of the individual cities' Urban Local Bodies (ULBs) and their utilities.

The report hence produced in 2009 provides an inventory of energy consumption and carbon emissions data of 54 South Asian cities, which include 41 cities from India, 4 cities each from Sri Lanka and Bangladesh, 3 from Nepal and 2 from Bhutan. For each of the 54 selected cities, sector-wise emissions data was summarized.

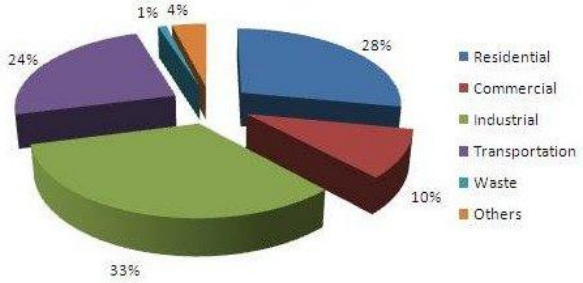
Emissions in Indian Cities

While focusing on emissions from Indian cities, for each Indian city, data was collected from various sources, including those mentioned in **Table 1.**

Sector	Sources
Electricity (Residential/ Commercial/ Industrial)	State Electricity Board Distribution Agency
LPG (Residential/ Commercial/ Industrial)	Individual Agencies such as IOCL, BPCL, HPCL, etc.
Transportation (Petrol/ Diesel)	Individual Agencies such as IOCL, BPCL, HPCL, etc.
Waste Generation	City Health Officer
Fuel Wood	Crematorium/ Other Small Distributors, etc.
Coal	Individual Agencies
Kerosene	Individual Agencies/ Distributors
Corporation (Street Lighting/ Water Supply, etc.)	Urban Local Bodies

Table 2 summarizes the per capita carbon emissions in the selected Indian cities, extracted from the ICLEI report. It clearly indicates that majority of the emissions in India (at 33 per cent) are industrial in nature, followed by residential emissions (at 28 per cent) and transportation (at 24 per cent).

Table 2: Sector-wise Emissions in the Selected Indian Cities, 2007-08



On the basis of this data collected, we can summarize carbon emissions (in absolute terms) in the selected 41 Indian cities, and come up with the **Top 10 Carbon Emitting Cities of India.**

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First waste-to-power project accredited as Delhi enters REC scheme

Climate Connect News, 03 July 2012, New Delhi: The first waste-to-power projects have been accredited under the Renewable Energy Certificate (REC) scheme. These projects are located in Delhi and are part of Timarpur-Okhla Waste Management Company Limited. The project have an aggregate generation capacity with two turbines of 8 MW each. The project is a subsidiary of the Jindal Urban Infrastructure Limited.

The projects are also registered under the Clean Development Mechanism (CDM). Municipal solid waste (MSW) is used as the fuel in the project. The raw material intake and power generation is expected to increase progressively over the coming years.

According to the data submitted by the project proponents, the project is expected to generate 62,000 MWh net electricity in its first year of operation which is equivalent to 62,000 of non-solar REC. The capital cost for the project was about Rs 174.26 crore and will infuse Rs 10.57 crore every year as production cost.

The REC scheme now includes projects based on seven renewable energy technologies – wind, small hydro, biomass, biofuel cogeneration, biogas, solar PV and waste-to-power. Wind energy technology is the dominant technology with a share of 56 percent in the accredited capacity.

<Source>

REC Scheme: IL&FS Renewable Energy subsidiary becomes largest wind project developer

Climate Connect News, 02 July 2012, New Delhi: A subsidiary of the IL&FS Renewable Energy Limited has become the largest wind energy project developer under the Renewable Energy Certificate (REC) scheme. Tadas Wind Energy Limited overtook Simran Wind Project Limited, a subsidiary of Techno Electric & Engineering Limited, in terms of wind energy capacity accredited under the scheme.

Simran Wind Project Limited had been the leading wind energy project in the REC scheme for several months. The company has so far won registration for nine projects with combined generation capacity of 115.5 MW.

Tadas Wind Energy Limited, a special purpose vehicle formed by IL&FS Renewable Energy Limited, has also secured accreditation for four wind energy projects with combined generation capacity of 129.6 MW. The projects are located in Karnataka and Gujarat. These projects have a potential to generate about 283,800 MWh of electricity and an equivalent number of RECs every year valued between Rs 42.57 crore and Rs 93.66 crore.

In March 2012, Tadas Wind Energy Limited raised Rs 876 crore to set up 200.8 MW wind energy capacity in three states – Karnataka, Gujarat and Andhra Pradesh. The total project cost is estimated at Rs 1168 crore. The senior term loan was provided by seven banks and one financial institution led by Canara Bank. The project is expected to commence commercial operations by 30 September 2012, thus about more wind energy projects from Tadas Wind Energy Limited can be expected to be accredited under the REC scheme.

<Source>

First project selected under National Solar Mission registered under CDM

Climate Connect News, 16 July 2012, New Delhi: A 5 MW solar PV project owned by Alex Spectrum Radiation Limited has become the first project selected under the Jawaharlal Nehru National Solar Mission (JNNSM) auctions to be registered under the Clean Development Mechanism (CDM). The project is located at Bikaner, Rajasthan.

The project uses Cadmium Telluride thin-film modules manufactured by First Solar Inc. Over its seven-year crediting period, the project is expected to generate 8,823 MWh and 8,373 CERs every year on average. The developer have mentioned project cost as Rs 80 crore or Rs 16 crore per MW. The project developers claim to a plant load factor of 20.5 percent.

Alex Spectrum Radiation Limited has secured this project through reverse-auctions in the first batch of Phase I JNNSM at a bid of Rs 12.49 per kWh. The company can thus generate over Rs 11 crore every year through sale of power and an estimated Rs 0.17 crore every year from CER sale (at €3 per tonne).

The parent company of Alex Spectrum Radiation Limited has also committed a 25 MW solar PV project under the Gujarat Solar Policy. The company also won a contract to set up 25 MW solar PV project in Orissa at Rs 7 per kWh. The parent company had recently sold 55 percent stake in the projects under the Gujarat State Policy and JNNSM for Rs 100 crore to Shree Ganesh Jewelry House.

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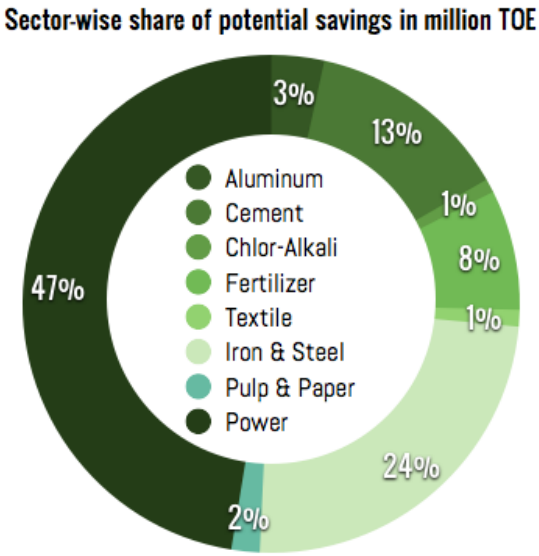
PAT scheme formally launched: PATNET registrations open, Guidebook for DCs released



Climate Connect News, 05 July 2012, New Delhi: The Ministry of Power yesterday formally launched the Perform-Achieve-Trade energy efficiency cap-and-trade scheme developed by the Bureau of Energy Efficiency (BEE). The Government of India notified the targets under the Energy Conservation Act, 2001 for 478 industrial units in India on 30th March, 2012. These targets are to be achieved by the units up to 2014-15.

The PAT Mechanism is one of the initiatives under NMEEE programme. It is a market based mechanism to further accelerate as well as incentivize energy efficiency in the large energy-intensive industries. The scheme provides the option to trade any additional certified energy savings with other designated consumers to comply with the Specific Energy Consumption reduction targets. The Energy Savings Certificates (ESCerts) so issued will be tradable on special trading platforms to be created in the two power exchanges -- Indian Energy Exchange and Power Exchange India.

PAT Guidebook and PATNET Launch

During the function, Shri Shinde also launched a book on PAT that covers a brief summary of Designated Consumers'(DC) energy consumption and target fixation under PAT rules. This book has been designed to help the DCs to understand the do's and don'ts related to the PAT scheme.

Apart from the book, PATNET was also launched at the function. PATNET will enable the designated consumer to fill all the formats related to PAT including Energy return in electronic form, which further accelerates the communication of DCs with BEE. Designated consumers can register on the PATNET by filling a registration form which can be accessed here.

Speaking on the occasion, Shri Sushil Kumar Shinde said, "The PAT scheme is a unique and innovative programme with no precedence anywhere else in the world. PAT would become a valuable model for other countries to adopt for their own energy efficiency programmes with a business perspective. In particular, developing countries would have a proven framework to study and incorporate, with the knowledge that emerging economies can achieve energy savings in a cost-effective way that boosts economic growth. It is expected to bring a transformational change in energy efficiency through energy intensive industries."

According to Climate Connect estimates, the industrial units covered under the PAT scheme have a potential to save about Rs 6,200 crore by FY2014-15 by meeting their specific energy consumption targets. The industrial units are required to meet targets of 6.6 million tonnes of oil equivalent over the next three years.

<Source>

Punjab allows developers to pay electricity duty to enter REC scheme

Climate Connect News, 12 July 2012, New Delhi: In a major relief to renewable energy project developers, the Punjab state government has allowed projects to deposit electricity duty of 13 percent which would make them eligible for participation under the Renewable Energy Certificate (REC) scheme. Several project developers had been facing significant problems to get their projects accredited under the REC scheme as there was a blanket exemption from electricity duty, making these projects ineligible for REC scheme.

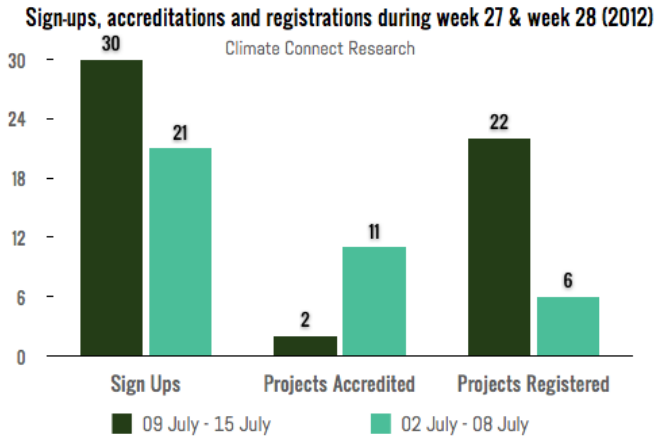
Talking to Climate Connect, Mr M P Singh, Joint Director, Punjab Energy Development Agency (PEDA), said that the government recently issued a notification which would pave way for project developers to enter the REC scheme. Mr Singh, however, was unsure about the capacity that might enter the REC scheme in the near future due to this development. The Punjab Energy Development Agenecy (PEDA) is currently evaluating some non-conventional captive power plants for accreditation under the REC scheme, Mr Singh added.

Giving information about the renewable energy plans of the state government, Mr Singh said, we are in the process of evaluating the a solar energy policy but large capacity projects are not possible in the state due to lack of adequate land resources. We are planning to implement solar rooftop policy and hope to implement small-scale projects in some of the cities. Currently there are no solar power projects under the REC scheme.

Explaining about the solar power policy of the state, Mr Singh said that the government may announce a feed-in tariff policy for large solar power projects but the total capacity of these projects may not be large as Punjab does not have surplus or waste land. The government, however, may look to promote small-scale solar power projects through a rooftop solar policy in some cities.

<Source>

REC Analysis: 22 projects with 2,59,712 RECs generation potential registered



Climate Connect News, 17 July 2012, New Delhi: **There is 2.1% increase for the week ending on 15 July 2012, in the number of renewable energy project developers who have signed up under the REC scheme, increasing this number from 1442 to 1472. During the previous week, 21 projects developers had signed up under the REC scheme.**

Two projects were granted accreditation by Rajasthan and Karnataka between 09 and 15 July 2012. These projects have a combined generation capacity of 4 MW. 11 projects with combined generation capacity of 74.57 MW were accredited during the previous week. Total number of projects accredited reached 619 and the total generation capacity accredited remained at 3254.19 MW.

Last week, 22 projects were registered by the National Load Dispatch Centre (NLDC). These projects are located in Maharashtra, Karnataka, Gujarat, Madhya Pradesh and Tamil Nadu and have a combined generation capacity of 121.79 MW. These projects have the capacity to generate about 2,59,712 non-solar RECs. During the previous week, six projects with combined generation capacity of 24.05 MW were registered. At the end of last week, the registered capacity reached 2918.77 MW from 514 projects.

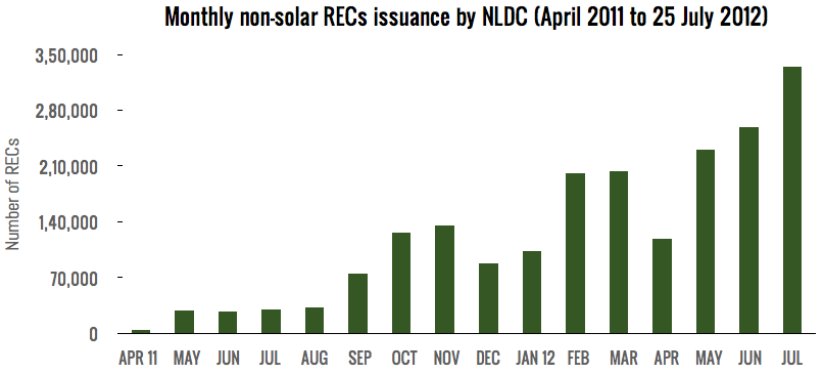
4,297 non-solar RECs were issued by the NLDC between 09 and 15 July 2012. The total number of non-solar RECs issued till date reached 16,73,551 with 14,92,084 redeemed.

<Source>

REC: Highest issuance ever in July as cumulative issuance crosses 2 million

Climate Connect News, 25 July 2012, New Delhi: In a major milestone for the Renewable Energy Certificate (REC) scheme the central nodal agency, National Load Dispatch Centre (NLDC) issued the 2 millionth Renewable Energy Certificate 24 July 2012, a day before the 17th trading session.

The day also saw the highest single-day issuance in the scheme's history with over 247,000 RECs issued. These included both solar and non-solar RECs. The cumulative issuance of non-solar RECs now stands at just under 2 million. Almost 1000 solar RECs have so far been issued.



These RECs are equivalent to two billion unit of certified renewable energy-based electricity fed into the grid or used for captive consumption. It is also equivalent to about 1.8 million tonnes of carbon dioxide emissions offset.

With this huge issuance, the July 2012 trading session could easily be the largest ever. Over half a million RECs would be available for trading during the session. During the June 2012 session record number of RECs were traded. The total volume cleared in June session increased by 40% over the May session.

While the RECs supply has increased significantly, the demand is also expected to rise as the regulatory bodies are now strictly reviewing the Renewable Purchase Obligation (RPO) fulfillment of the large obligated entities like public distribution companies.

Climate Connect had recently reported that Reliance Infrastructure Limited would fall short by an average of about 3,00,000 MWh very year till FY2015-16. The Mumbai distribution company had purchased 71,000 non-solar RECs between March 2011 and February 2012 and can thus be expected to actively participate in REC trading in the current financial year as well. The Punjab State Power Corporation Limited (PSPCL) has earmarked Rs 80.35 crore to purchase over 286,880 non-solar REC and 7,800 solar RECs in FY2012-13.

<Source>

Andhra Pradesh: Planned 100 MW capacity sufficient to meet weak solar RPO target

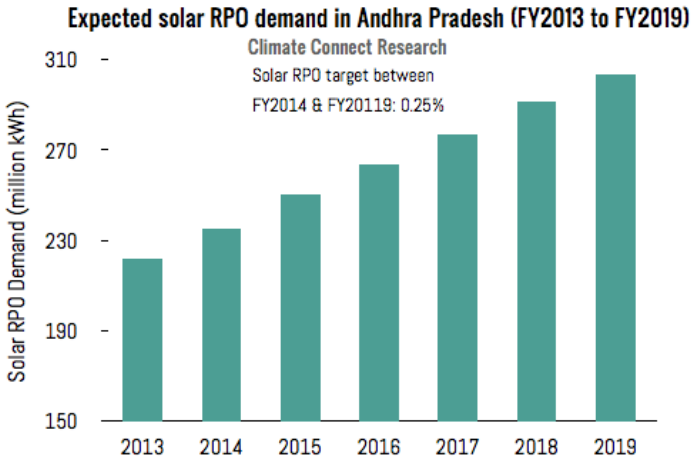
Climate Connect News, 30 July 2012, New Delhi: The Andhra Pradesh government has approved a plan by Andhra Pradesh Power Generation Corporation Limited (APGenco) to set up 100 MW of solar power capacity, media reports say. The government has directed APGenco to prepare a comprehensive report on the implementation of the project. The report would be presented to the Ministry of New & Renewable Energy (MNRE) for assistance through the Clean Energy Fund.

So far 95.5 MW solar power capacity has been allocated in Andhra Pradesh. Of these 14.75 MW has been commissioned under the first batch of Jawaharlal Nehru National Solar Mission (JNNSM) batch I and Rooftop PV and Small Solar Power Generation Programme (RPSSGP). 50 MW solar thermal power project has been allocated under batch I JNNSM while 20 MW solar PV project has been allocated under batch II JNNSM. This 75 MW capacity is expected to be commissioned by next year.

Andhra Pradesh Electricity Regulatory Commission (APERC) has announced annual solar RPO of 0.25 percent between FY2013-14 and FY2018-19. According to Climate Connect Research, the solar RPO demand in Andhra Pradesh in FY2013-14 would be 235 million kWh, equivalent to 141 MW (at PLF of 19%).

The solar RPO demand for FY2018-19 is expected to be around 303 million kWh, equivalent to 182 MW. The state is expected to easily meet this target with the 195 MW planned capacity. The state may even get new capacity allocation under the second and third phases of JNNSM.

Andhra Pradesh may not be able to fulfil its solar RPO target in FY13, FY14 but is expected to meet the targets beyond that till FY2019. One of the major reasons for this, apart for steady increase in generation capacity, is the low solar RPO target of 0.25% which will not escalate at all between FY2014 and FY2019.



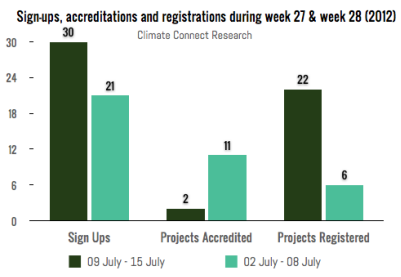
If the state government were made to follow the regulations state in the National Tariff Policy and the Electricity Act it would become highly unlikely that it would be able to meet the solar RPO target. According to the Electricity Act, each state is required to have solar RPO target of 0.25% from FY2012-13 and should increase by 25 basis points every year till FY2021-22.

If these regulations are followed, the solar RPO demand in Andhra Pradesh in FY2018-19 would be 2.124 billion kWh (equivalent about over 1200 MW capacity) at a target of 1.75%. As reported earlier by Climate Connect, MNRE may direct state governments to increase the RPO target so as to make them inline with the national targets as state in the National Action Plan on Climate Change (NAPCC).

<Source>

REC Analysis: 22 projects with 2,59,712 RECs generation potential registered

Climate Connect News, 17 July 2012, New Delhi: There is 2.1% increase for the week ending on 15 July 2012, in the number of renewable energy project developers who have signed up under the REC scheme, increasing this number from 1442 to 1472. During the previous week, 21 projects developers had signed up under the REC scheme.



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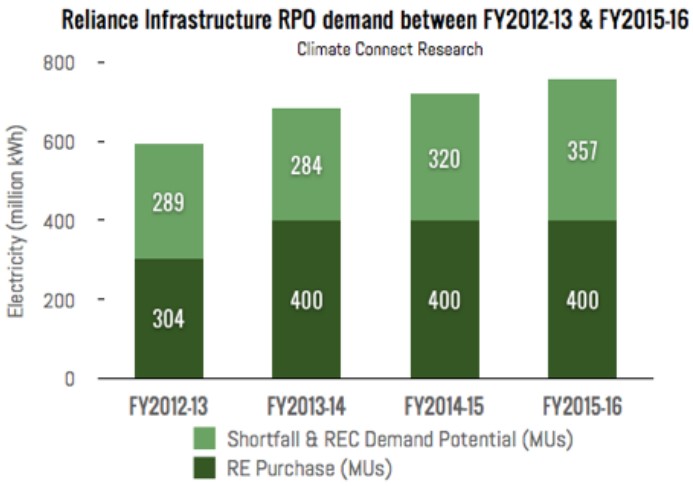
Reliance Infra's non-solar REC demand seen at 300,000 MWh every year till FY2016



Climate Connect News, 17 July 2012, New Delhi: Reliance Infrastructure is unlikely to meet its non-solar Renewable Purchase Obligation for FY2012-13 through FY2015-16, the latest estimates released by the company have revealed. The company, however, is expected to easily meet its solar RPO targets for all the four years through its power purchase agreement (PPA) with recently commissioned 40 MW solar PV project in Rajasthan owned by Reliance Power Limited.

The non-solar RPO target for FY2012-13 in Maharashtra is 7.75% and for FY2013-14 through FY2015-16 the target is 8.5% for each year. The actual non-solar renewable energy requirement will increase from 593 million kWh in FY2012-13 to 757 million kWh in FY2015-16.

The company is expected to purchase 304 million kWh of non-solar renewable energy in FY2012-13 and 400 million kWh each during three years between FY2013-14 to FY2015-16. Thus, the company is expected to face an average shortfall of 312.5 million kWh during the four years.

Reliance Infrastructure Limited is likely to fall short of its Renewable Purchase Obligation (RPO) target for FY2011-12 by about 267 million kWh. This includes 247 million kWh from non-solar renewable energy sources and 20 million kWh from solar energy. The distribution company revealed that while it was able to procure 225 million kWh of electricity from non-solar renewable energy sources, it procured no electricity from solar power plants.

The company is expected to meet is solar RPO target for all the four years and can even fulfill shortfall of the previous years. The company estimates that it would be required to procure 44 million kWh in FY2015-16 with 0.5% solar RPO. The 40 MW solar PV project commissioned in Rajasthan would however, be able to supply over 66.5 million kWh every year.

Thus the demand for non-solar renewable energy certificates (RECs) by Reliance Infrastructure in FY2012-13 would be about 289,000 MWh and would increase to about 357,000 MWh. The average requirement of non-solar RECs for the four years is about 312,500 MWh. The company had recently revealed that it had procured about 71,000 non-solar RECs at an average price of Rs 2,450 per certificate.

<Source>

Strategies for Sustainability: Institutional and Organisational Challenges

29-31 August 2012, Basel, Switzerland

The conference is jointly organised by the Institute of Management at the University of Applied Sciences Northwestern Switzerland, School of Business and by the University of Basel, Program Sustainability Research. The International Sustainability Conference is open to scientists, managers and decision makers from various disciplines, experts from governmental institutions, international and intergovernmental organisations, environmental agencies and networks, consultants, students and the concerned public. Eminent speakers are expected to participate from various countries.
There are 15 topics pertaining to sustainability in different areas including Consumption & Lifestyles, Regional Development, Corporate Social Responsibility/Corporate Citizenship, Institutionalisation and Sustainable Development, Governance, Economics, Energy Systems, Supply Chain Management, Sustainability Communication & Reporting, Sustainability in Public Administration.

<Read More>

The Economic Times, Delhi dated July 2, 2012

Apex Chamber pushes the cause of a healthier industrial Delhi

Kapil Chopra and his team at the Apex Chamber of Commerce and Industry interact with various government agencies to ensure a healthy and sustainable future for industry in the NCR region, says Debasish Roy

The Apex Chamber of Commerce and Industry of the NCR, has made it a mission to make the industrial environment in the National Capital Region (NCR) sustainable and beneficial to every party concerned. The A-team headed by Kapil Chopra, managing director and head of SKN Bentex group including the Bentex Control and Switchgear Company, has made sure that any abrasive measures by the government and its agencies are diluted to inclusive and participatory moves.

Reminiscent of the fire in a factory, the Delhi government had empowered a task force to inspect and seal any factory that did not follow safety norms. The Apex Chamber after discussions with the government ensured that the task force was converted into that of training and advisory body for those companies that had somehow missed following safety norms. This made sure that the task force did not measure up to the standards of the slash-andburn Mongol invasion but became part of the industrial landscape.

Chopra has a point. He says that the Delhi Industrial Policy was built around the premise that Delhi had no industry to provide employment and commerce of its own and the government had to encourage traders to turn into factory owners - in other words businessmen.

However, that was in the sixties and the seventies. Now the scenario is vastly altered. Now Delhi is obliged to fight the pollution menace as factories had tended to spring up by the dozen. The government has formulated a new Industrial Policy where they have discouraged the setting up and expansion of low skilled and semi-skilled conventional industry which involves processes such as forging, diecasting, cutting, moulding, fabricating, painting etc. This kind comprises 98 per cent of Delhi's industry and most hail back to the seventies or the late sixties as the time of their incorporation.

As Chopra details, these are labour intensive and power consuming industries. The Delhi government is trying to replace these with non-conventional, non-polluting industries such as call centres, software development and web development units.

However, this action flies in the face of logic the face of logic as these noveau industries need large real estate to seat their highly skilled personnel in an air-conditioned atmosphere.

Plots of land available in Delhi are of the 400 to 500 square yard variety. On the other hand, all call centres and online tech support units set up on the satellite towns of Delhi such as Gurgaon, NOIDA, Faridabad and Rohtak are on an average more than three acres in size.

As a result, the industrialist in Delhi is unable to sell his industrial land and buy a large tract of land in outskirts of Delhi which is anyway going to raise his cost of coming and going to and from Delhi many times over.

Meanwhile, the Delhi government has increased the minimum wages being paid to workers in Delhi from Rs 3,953.00 to Rs 7,020.00 in a very short period. A unit with at least 50 labourers is feeling the pinch all the time. This has not only added to the cost but also raised the difference between the minimum wages in Delhi and the minimum wages in neighbouring towns.

Chopra feels it is all about the attitude of the government. Industrial pays salaries and also creates that vital floating work force in the capital city, which forms the backbone for lowly jobs that are vital for the functioning of a large city. To combat this mismatch between industry and the government, the Apex Chamber of Commerce and Industry, NCR founded by Kapil Chopra has set up committees to discuss across the table and also find solutions with the government functionaries.

"Government policy, industrial or otherwise, should be encouraging and a win win proposition
KAPIL CHOPRA

The committees include the pollution control committee, the taxation committee, the municipal corporation committee, the Delhi Development Authority committee, the Delhi State Industrial Development Corporation committee and the members' welfare committee. These activities are capped by the actions of the chamber's own promotional committee and the committee, which interacts with other chambers.

Besides the above, the chamber also passes on recommendations for its members for passports and visas to other embassies and high commissions for its own members and business partners from other countries.

To get out of the deadlock that the industrial policy has created Chopra has a unique suggestion to put forward. He says, the most polluting of all three categories of land use is industrial, with commercial being in the middle and residential the least polluting of all. So, he says the government should not ask for any conversion charges for converting industrial land into residential land. This way, the value of the land will increase and the owners will have enough money from the sale to re-settle their companies in neighbouring towns.

As a businessman, Chopra heads quite a few companies. A few of them are: Bentex Control and Switchgear Company, Haryana City Gas Distribution Company and Natasha Housing and Urban Development Company. The last one is engaged in a 30 acre special economic zone.

The Economic Times, Delhi dated July 5, 2012

Govt Rolls Out PAT For Energy Efficiency

OUR BUREAU
NEW DELHI

Power Minister Sushil Kumar Shinde on Wednesday launched the 'perform, achieve and trade' scheme to improve energy efficiency of sectors such as iron and steel, cement, fertilizers, aluminium, textiles, thermal plants and paper.

The scheme of the bureau of energy efficiency (BEE) aims to improve the efficiency standards of these sectors by 2015. The government notified the targets under the Energy Conservation Act 2001 for 478 industrial units and thermal power stations on March 30, 2012.

These sectors cover over 65% of industrial electric consumption in the country, according to BEE estimates, and will help save 165 million tonne equivalent of energy consumption annually. Shinde said the scheme would bring a transformational change in efficiency through energy-intensive industries.

"PAT would become a valuable model for other countries to adopt for their own energy-efficiency programmes with a business perspective," said Shinde. Especially emerging economies can achieve energy savings in a cost-effective way that boosts economic growth, he added.

Minister also launched PATNET, the online portal of the PAT scheme, where industries can fill forms related to the scheme and also track the progress. BEE has notified every industry about their energy efficiency targets. Over achievement by any industry will be converted into tradable 'Energy Savings Certificate' at the end of 2015.

The Economic Times, Delhi dated July 6, 2012

'Smart Microgrids' to Power Rural Rajasthan

A 22-year-old entrepreneur is bringing electricity to villages through a technology that produces and stores renewable energy on location, reports **Peerzada Abrar**

Jacob Dickinson and Yashraj Khaitan (extreme left) co-founders of Gram Power, with their customers in a village in Rajasthan

Twenty-two-year-old Yashraj Khaitan finds it difficult to explain to his parents what exactly he is doing in a remote village in Rajasthan. One year ago, as a fresh graduate from the University of California, Berkeley, Khaitan turned down a job offer from Ericsson, the world's largest maker of wireless network equipment, to start his own company.

Gram Power, the venture he founded along with a batchmate Jacob Dickinson, enables villagers to produce and store renewable energy. It helps them integrate and generate energy out of biomass, solar or wind on-site.

"Initially, there was uncertainty about this innovation. My parents told me to get some corporate experience first," says Khaitan, who was motivated to work on electrification after he experienced the power of jugaad, or local innovation, in rural India.

While on a university project to identify challenges faced by rural India, Khaitan met a grassroots innovator in a remote village in Bharatpur, who had built a vehicle out of junkyard parts to transport people. In another village visit, he noticed that children were unable to study due to lack of electricity and had to inhale toxic fumes from kerosene lamps. This spurred the young innovators to devise their own energy solution for low-income consumers.

The Gram Power model helps rural consumers bypass conventional grid supplies and also costs less than the monthly spend on kerosene. Consumers pay Rs 75 per month under the pay-as-you-go model for standard grid connection instead of spending Rs 200 on kerosene and cell phone charging.

In May, Gram Power set up India's first 'Smart Microgrid' in a village close to Todaraisingh Mandal in Tonk district of Rajasthan, which had no connection to the state electricity grid. The startup now supplies power to around 200 people, allowing them to operate CFL bulbs, TVs, fans, buttermilk machines, radios and other common household appliances.

"Our smart grid site is the only village in the entire area that is receiving reliable on-demand power 24x7," says Khaitan. The service includes innovative metering and monitoring devices that allows people to purchase power in prepaid schemes.

In centralised electricity systems such as the national grid, around 65% of energy gets wasted due to theft, pilferage, heat loss in transmission lines and power stations. Gram Power's technology detects and eliminates energy theft and pilferage to increase energy distribution efficiency.

Eric Brewer, vice-president of infrastructure at Google and a professor at UC-Berkeley who mentors Gram Power, believes people in rural areas are historically left out because the set up costs are too high, whether for grid connection or for home solar systems. "Microgrids spread these costs across more homes, and the Gram Power solution further reduces costs via efficiency and clever financing," says Brewer.

For example, just Rs 10 per day buys enough prepaid recharge for 9 hours of lighting, 6 hours of a ceiling fan and TV, and charging a cellphone. A local entrepreneur purchases bulk energy credit from Gram Power and then sells it to the locals using Gram Power's prepaid energy selling device.

Apart from generating grassroots employment, this makes power affordable, allowing consumers to use their disposable incomes to purchase power. According to Khalid Isar, country general manager at Alibaba.com India, Gram Power provides a perfect example of how a young entrepreneur can access the materials needed online in order to develop cutting-edge technology offline. Alibaba.com has given grants to Khaitan and also helped him in the initial stage of his project to source suppliers.

Khaitan, who earlier has been involved in solar cell research at Lawrence Berkeley National Labs, pitched his company at various business competitions in the US, winning many of them. This way, the startup raised seed capital of $80,000 in the form of grants from Alibaba.com, Intel Corp, the world's largest maker of computer chips and UC Berkeley.

Last year, US space agency Nasa selected Gram Power's technology among the top-10 cleantech innovations from around the world. One of the attendees at the conference was a Swiss company, which was so impressed by their work that it made an angel investment of around $1 million (Rs 5 crore) in Gram Power this year.

Gram Power, which has already powered 10 villages in Rajasthan, is now looking to form strong partnerships to increase access to their technology through state and central renewable energy ministries.

The startup has a target to deploy 20 self-owned smart microgrids with 250 kilowatt-peak of generation, catering to almost 40,000 people over the next 12 months. It is also working on a contract with the Rajasthan government to operate, manage, and make around 80 sustainable solar microgrids in rural Rajasthan. Gram Power is now betting big to eliminate power theft, lower payment collection expenses, and intelligently integrate different forms of renewable energy generation with the national grid.

"Our smart grid technology can sustainably create access to electricity for millions living without this basic resource," says Khaitan.

abrar.shz@timesgroup.com

Gram Power Grid

The Service:
A customised smart microgrid that generates, stores and distributes renewable energy on-site, instead of relying on national grid supplies

Mentor Power:
Eric Brewer, a scientist and vice-president of infrastructure at Google and a professor at UC-Berkeley, mentors Gram Power

Bootstrapping:
Co-founder Yashraj Khaitan won business competitions in the US. The startup also got grants of $80,000 from Alibaba.com, Intel Corp & UC Berkeley

Angel Funding:
A Swiss company, which attended a Nasa conference where Gram Power was showcased, made an angel investment of around $1 million in 2012

The Economic Times, Delhi July 6, 2012

B'lore Co to Open 2,000 Solar Product Stores

SHREYA JAI
NEW DELHI

Solar powered electronic products will now be available at retail stores across the country. These stores will sell varied products ranging from solar water heaters to solar powered calculators, caps with fans that run on solar power, solar power storing batteries and inverters.

Bangalore-based Anu Solar pvt ltd, a leading manufacturer and seller of solar products, will open 2,000 stores across India on franchisee basis.

"These will be called 'one-stop experience stores' as the store and all the office equipments will also run on solar power, in order to show the public, the use and benefits of solar power," said T J Joseph, managing director, Anu Solar.

The government wants to encourage the use of solar energy but currently there are no private retailers for solar products. The ministry of new and renewable energy has been promoting private entrepreneurs to open 'Akshay Urja shops' to sell and promote solar products but since 2002, only 300 shops have been established across the country and a good number of them are not functioning and there is no shop in the capital. "We want the public to experience the power of solar and also raise awareness for the same," said Joseph. For Delhi, Joseph said there was an expression of interest from a client who plans to open 40 retail stores.

The company plans to make at least 20 stores operational by the end of the year, including one each in Bangalore and Madurai by September. With an investment of around Rs. 25 lakh per store, the turnover expected is Rs. 6 crore per year per store. By the end of the current financial year, the company hopes to open 50 stores.

These stores will sell a variety of products at MNRE subsidised rates. "As we are channel partners with MNRE, we provide government-approved subsidy on all products," said Joseph.

Solar photovoltaic cells, solar power storing batteries, inverters, solar water heaters are some of the products which the company will propagate the most and major sales will depend on them. But to raise awareness and draw the interest of the consumers, the company has planned to put on display some interesting stuff like caps with fans that will run once you are out in sun, toys and calculators that can be recharged by solar power, bags with solar powered mobile charging points etc.

There is a 5-year unconditional warranty on all the products except solar power storing batteries for which the warranty period is 3 years. Anu solar will train the staff and will provide after-sales service on all the products.

The Times of India, Delhi July 6, 2012

Green tribunal in red as two more judges quit

Nitin Sethi | TNN

New Delhi: Exasperated at the way they have been treated, two more judges on the National Green Tribunal (NGT) have tendered their resignation, leaving the court in disarray as altogether six judges have quit the body since its inception in 2010.

The resignation of judicial members Amit Talukdar and C Venkata Ramulu leaves only five technical and judicial members on board, which is only one-eighth of the maximum mandated strength. The tribunal is empowered to have a minimum of 20 members and a maximum of 40 members running four benches across the country.

The tribunal was set up to serve as the only court in India to hear green issues. It was meant to expedite decisions in thousands of green complaints being filed across the country in various courts. In the short span that the NGT has been in operation, it has passed strong judgments countering the government on big-ticket cases such as Posco, and also criticized its environmental decision-making on many occasions.

The tribunal is also empowered to take up environmental issues of substantive nature and the appeal against its orders can be made only before the Supreme Court. Applicants can also approach it for cases of civil liability arising out of infringement of environmental laws. Only sitting or retired chief justices of high courts and judges of the apex court are permitted to be judicial members of the panel.

LOSING THE PLOT: Empowered to have a minimum of 20 members, the NGT has been left with only one-eighth of the strength

The chairperson of the tribunal L S Panta had earlier resigned and R V Raveendran was selected as his replacement. Later, Raveendran, too, withdrew his consent to head the NGT since his appointment remained stuck for months. Another member, ex-environment secretary Vijai Sharma, left the panel to join the CIC.

Several of those who did join the tribunal as members were left in the lurch since the government was 'unable' to find accommodation for the judges and forced them to stay in rooms in the ministry's guesthouse in the national capital. The court itself has been running out of a guesthouse, with only the intervention of the Supreme Court ensuring some moves by the government to select Faridkot House as its official address. But that too will take another few months to become fully operational.

So far, the NGT has held only one hearing each at three other cities for regional coverage, and that too in makeshift offices. All petitions before the NGT, regardless of which part of the country they pertain to, are being filed at the Delhi office.

Times View

It is indeed a sad state of affairs that the National Green Tribunal is in such a state of complete disarray. Clearly with its current strength, there is little chance of it being able to meet the mandate given to it. We hope that this state is not by design. Even if it is a result of bureaucratic sloth or neglect, it reflects very poorly on India's commitment to safeguarding the environment. There is also the issue of whether it will become a bottleneck with cases likely to remain pending for long periods. That again is something that India with its urgent need to speed up developmental projects can ill-afford. The government must address this issue with the urgency it deserves.s

The Economic Times, Mumbai July 8, 2012

A Skyscaper With Revolving Floors

The Dynamic Tower, planned to be built in Dubai, United Arab Emirates, will bring a whole new twist to skyscaper design. Each of the buildings' 80 storeys will rotate independently constantly changing the tower's shape and treating those living in its upper reaches to panoramic views of the city.

But the Dynamic Tower will also be a green power plant, generating enough energy to power itself and buildings around it, thanks to wind turbines fitted on every floor.

The tower will be constructed using pre fabricated parts that are made in a factory and then hooked onto the central core on site. Each floor should take only seven days to complete.

Once the tower is fully up and running, residents can control the speed of their floor's rotation, so a full 360° view of the skyline can take anywhere between an hour and a day. All this doesn't come cheap though – flats are expected to cost anywhere between $3 million and $30 million.

WIND TURBINES
Mounted horizontally between floors, these carbon fibre blades will power the whole building – and possibly its neighbours

DRIVE-IN-ELEVATORS
Located in the central core, drive-in elevators will let residents park outside their own front doors

SOLAR PANELS
Covering 20% of the roof of each floor, solar panels will catch rays as the building turns. This gives it a larger surface area for power generation than a conventional building

Deccan Chronicle, Hyderabad July 10, 2012

OSTEOPOROSIS OF SEA

Ocean acidity a major reef threat: US

Sydney, July 9: Oceans' rising acid levels have emerged as one of the biggest threats to coral reefs, acting as the "osteoporosis of the sea" and threatening everything from food security to tourism to livelihoods, the head of a US scientific agency said Monday.

The speed by which the oceans' acid levels has risen caught scientists off-guard, with the problem now considered to be climate change's "equally evil twin", National Oceanic and Atmospheric Administration chief Jane Lubchenco said.

More than 2,600 of the world's top marine scientists on Monday warned coral reefs around the world were in rapid decline and urged immediate global action on climate change to save what remains

"We've got sort of the perfect storm of stressors from multiple places really hammering reefs around the world," said Lubchenco, who was in Australia for the International Coral Reef Symposium in Cairns, near the Great Barrier Reef. "It's a very serious situation."

Oceans absorb excess carbon dioxide in the atmosphere, leading to an increase in acidity. Scientists are worried about how that increase will affect sea life, particularly reefs, as higher acid levels make it tough for coral skeletons to form. — *AP*

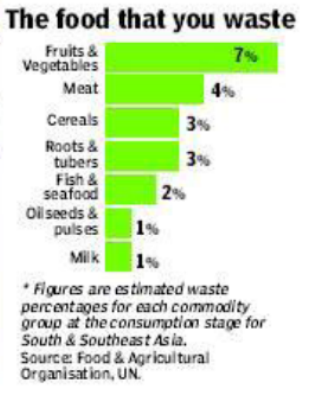
The Times of India, Delhi July 9, 2012

You could be losing ₹48 lakh in wasted food

An average middle-class family can save a fortune simply through smart shopping, intelligent storage and careful consumption of food

Shipra Sharma

GETTY IMAGES



When was the last time your sulking child refused to finish his meal and you had to dump it in garbage? Or the expensive grapes you bought were squished beyond consumption by the mangoes in your fridge? It's a cinch that these are daily occurrences to which you don't give a second thought. Did you know that the Indian urban, middle-class households trash an estimated 5-6% of the food they buy, be it the squishy bananas, products past the 'best before' dates, or leftovers that nobody wants?

A study conducted for the Ministry of Consumer Affairs last year found that 15-20% of the food served in social gatherings is wasted. Just think of what this means in rupee terms. Assuming that the average urban, middle-class household spends 15,000 a month on food, nearly 750 is thrown into the waste bin every month. ET Wealth estimates that if 500 saved every month is invested in an option that earns an annualised return of 12%, in 40 years, you would amass 48 lakh.

Admittedly, one cannot avoid wastage completely, for no matter how careful you are but one can curtail this to a great extent through a three-pronged approach-smart purchase, intelligent storage and optimal usage. If you re in your impulses and follow a few rules, you can cut your grocery bill by almost 10-15%. Let us consider how.

Don't shop hungry

Never go grocery shopping on an empty stomach because food looks a lot more appealing when the belly is growling. You are more likely to be tempted to buy an extra pack of muffins or a large pack of chips, sending your budget haywire. The simple way out of this is to eat well before you head for the supermarket. Also, if you are a compulsive shopper, take hard cash instead of credit card. Research shows that cash payments pinch more, forcing you to be circumspect when it comes to spending.

Plan purchases in advance

Check your inventory before you go shopping. Making purchasing decisions on the spur of the moment, swayed by combo deals or lured by the siren song of attractive displays, makes you more susceptible to buying items you don't need. What good is a buy-two-get-one-free deal on, say, yogurts, if you can only consume one before the others go bad?

Be choosy when you buy in bulk

It's well known that if you buy in bulk, you save money. However, not all vegetables are fit for bulk deals. Vegetables, such as bitter gourds, carrots, tomatoes and radishes cannot be stored for more than 4-5 days. Leafy vegetables, such as spinach and fenugreek, will turn squishy after a day or two. No doubt this will be costlier, but you avoid wastage.

The next step is to store food intelligently so as to minimise waste while stretching your budget.

Focus on the fridge

The ideal temperature for storing food in your referigerator is 1-4 degree Celsius, but you may need to change the setting for different seasons. Some fruits and vegetables, especially apples, apricots and plums, emit gases that hasten the ripening of other vegetables, so store them in a separate section.

First in, first out

Stocking up the fridge wherever you find space may be convenient, but there's a downside. You may end up discovering longexpired items or rotten fruits tucked away at the back. To avoid this, clear out the fridge at least once a week.

Use breathable bags

Stuffing veggies into plastic bags before popping them into the fridge will raise wastage. Instead, use paper bags or breathable biodegradable fabric.

Don't take expiry too seriously

Manufacturers tend to be conservative when they put an expiry date on a product. There's no need to throw away a fruit juice carton if it was 'best before' two days ago. The phrase is an indicator of the optimum taste and won't be unsafe for consumption.

Cook smaller meals

Don't cook large quantities to save on the effort. If there are leftovers, don't keep them for too long.

The Times of India, Delhi July 10, 2012

US breaks ranks, moots global carbon tax system

Nitin Sethi | TNN

New Delhi: In what could make the trade battle over EU's carbon tax on aviation more complicated for India, the US has suggested that countries adopt a global carbon tax system under the International Civil Aviation Organization (ICAO) and adopt a worldwide cap-and-trade regime.

It had earlier decided along with the BASIC group — China, Brazil, South Africa and India — Russia and 20 other countries to oppose the EU move with counter-measures.

The US has asked for a meeting of 16 countries on the issue in Washington at the end of July where India too is invited.

The US has softened its opposition to the EU tax directive, stepping away from countries like India and China on the issue. It has suggested that countries move along the lines of the ICAO resolution which pushes for a global annual average fuel efficiency improvement of 2% until 2020 and an aspirational global fuel efficiency improvement rate of 2% per annum from 2021 to 2050.

The ICAO also recommended a collective medium-term global aspirational goal of keeping the global net carbon emissions from international aviation from 2020 at the same level. This is to be achieved by setting up a worldwide trading mechanism in emissions from the aviation sector.

But the ICAO does not adhere to the principles of apportioning responsibilities between developed and developing world as the UN climate convention does.

The US has suggested that countries move along the lines of the ICAO resolution which pushes for a global annual average fuel efficiency improvement of 2% until 2020 and an aspirational global fuel efficiency improvement rate of 2% pa from 2021 to 2050

A global carbon tax regime on aviation would mean escalation of flying costs across the world and not just for travelers to the EU.

EU had taken the unilateral step of taxing aircraft flying into or via their airspace based on greenhouse gas emissions from airplanes, breaking away from negotiations within the UN Framework Convention on Climate Change. The tax is expected to add up to more than $1.5 billion starting 2013 and rise steadily. When it faced a barrage of criticism from other countries, it countered by suggesting that it would be as happy with countries deciding a global regime under the ICAO instead.

The Times of India, Delhi July 11, 2012

Govt's dilemma: Security of rare bird or of nation?

Nitin Sethi | TNN

New Delhi: It's a case of national security versus one rare endangered bird and some absurdity. The Indian Coast Guard wants to set up a radar installation and a diesel power generation station on Narcondum — the eastern most island of the Andaman and Nicobar Island group. The island is the only home for the endangered Narcondum Hornbill of which only about 300 remain.

The Coast Guard is adamant on the installation and conservationists are set on maintaining the island for the bird that exists nowhere but on the specific island. Now, politicians too have waded into the debate to say that both can live in harmony — the radar can be installed on Narcondum Island and the birds can be relocated and rehabilitated to another island in a 'friendly manner'.

Caught in this debate, which is getting shrill as conservationists cite this as a test case, is the environment ministry which has to take a final call on whether to allow the defence installation at the cost of the bird or not.

The discussions recently came up in the standing committee of the National Board of Wildlife, which has several non-government conservation experts with the environment minister as head and several other officials as members. The bird being an endangered animal is put on Schedule I of the Wildlife Protection Act which provides the highest level of legal protection to the bird and its habitat. The island is also a declared wildlife sanctuary — legally no other activity can be undertaken there.

Andaman and Nicobar Islands is the only home for the endangered Narcondum Hornbill of which only about 300 remain

The non-government members objected wholeheartedly to the defence installation after one of the experts on board presented a report to the standing committee warning against the project which includes building a road and additional presence for manning the post. At the moment, there is only a police outpost on the island.

The bird has become a new symbol for conservation groups which believe that this would be a test case for how much priority the government gives to its own green regulations.

For environment minister Jayanthi Natarajan, who will have to override the objections of the experts if she wants to give a nod to the defence installation, it's a piquant position. Its become an argument of whether this can be made an exception in the name of national security — a line easy to sell as well.

The Times of India, Delhi July 11, 2012

With waste-to-energy, landfill search ends

Singapore Has Sorted Out Its Waste Problem With Four Plants, Limited Landfill Site To One

Neha Lalchandani | TNN

New Delhi: In 1999, Singapore was sending 0.76 million tonnes of waste to its landfill site in a year and incinerating 2.04 million tonnes. In 2011, only 0.2 million tonnes was sent to the site while 2.66 million tonnes was sent for incineration to its four waste-to-energy (WTE) plants. The plants process around 7,600 tonnes of waste daily and produce more than 40 MW of power.

Sources in Singapore's National Environment Agency (NEA) explained that "the four WTE plants incinerate waste by 90%. What remains is disposed of safely at the landfill site. Waste management becomes easier because about 50% of all waste produced is recycled."

Delhi, with three overflowing landfill sites, a growing population and a miserable waste management strategy has been growing desperate for a solution to its waste problem. With 8,500 tonnes of waste reaching its landfill sites daily, the government at one point contemplated creating a fourth landfill site in the middle of the city's ridge area.

In 1990, after a failed attempt at incinerating its waste, the city tried to set up another WTE plant. Mired in controversy and dogged by protests, the plant did come up but the government is still to convince Delhiites that it is the best solution to the waste problem. Meanwhile, two other WTE plants are being constructed. The three plants together will incinerate 7,500 tonnes of waste each day.

Courtesy: Keppel Seghers

NOTHING IS USELESS: An artist's impression of a waste-to-energy plant in Greater Manchester, UK

Delhi's problem with WTE technology started with the Timarpur plant that was set up in 1990. It shut down seven days after operations commenced as the government realized that Delhi's waste did not have the calorific value to function well with the Danish technology.

"Since Indian waste is never segregated, it is wet and often mixed with hazardous material. This waste does not burn well at all. Similar plants set up in other Indian cities also failed. Jindal Ecopolis, which is operating the new plant in Okhla, claims to be using better technology but the waste is the same. How can the plant be successful then," asks Gopal Krishna of the Toxics Watch Alliance.

SINGAPORE SOLUTIONS

Singapore's four WTE plants are Tuas, Senoko, Tuas South and Keppel Seghers Tuas Waste-To-Energy Plant (KSTP). KSTP was developed under a design, build, own and operate model and was commissioned in 2009 to replace the city's first WTE plant at Ulu Pandan which was closed in August 2009 after 30 years of operation.

"Prior to the collection of solid waste, recyclables are sorted out and retrieved for processing to prolong their lifespans," says an NEA report.

"The solid waste that remains is then collected and sent to the various waste-to-energy plants for incineration. Incineration reduces the volume of solid waste by about 90% and produces steam that runs turbine generators to generate electricity. The incinerated ash and other non-incinerable wastes are then transported to the Tuas Marine Transfer Station (TMTS) and then to Semakau Landfill."

"Licensed collection vehicles deliver incinerable solid waste to the plants. To prevent odours from escaping into the environment, the air in the refuse bunker is kept below atmospheric pressure. High-capacity rotary crushers reduce the size of bulky solid waste to improve its burning efficiency. The solid waste is then fed into the incinerator by a grab crane. As the incinerator is heated to temperatures of between 800 and 1,000 degrees Celsius, a lining of silicon carbide tiles protects the incinerator walls from the extreme heat and corrosion. Each load of solid waste is reduced to about 10% of its original volume in about five hours," says NEA.

Catalytic fabric filter systems and two-zone electrostatic precipitators remove pollutants from the flue gas before it is released from the plant while ash is collected and the ferrous material is removed to be sold and recycled.

Ranjit Devraj, who has been an active member of protests against the Okhla WTE plant, says the biggest drawback for the technology in India is that waste is not segregated.

"The Okhla plant is in the middle of a residential area. Not only were residents not consulted, the technology being used is also suspect. If waste is not segregated, the plant will be burning everything, from plastic to chemicals. For 16 MW of power, it is too high a price to pay. Singapore is using the best technology possible but Delhi government has not managed to convince us of the benefits of this plant. Even the Central Pollution Control Board has questioned the technology being used in this," he said.

The Times of India, Delhi July 12, 2012

A tool to help hearing impaired talk

Fitted With Sensors, 'Super Glove' Can Convert Sign Language Into Spoken Word

London: Scientists have developed a hi-tech glove capable of converting sign language into speech, a feat they say could improve the quality of life of millions in the world with speech and hearing impairments. The "super" glove by a Ukrainian team of inventors is fitted with a complex network of sensors that recognize hand movements and translate signs, which are then converted into spoken word by a smartphone app.

The glove, called EnableTalk, has already won an award for its inventors who hope their work will help improve the quality of life of millions of people around the world with speech and hearing impairments, the Daily Mail reported.

© Brian Mitchell/Corbis

GIVING VOICE TO THE SILENT WORLD

The hi-tech glove comes complete with flex sensors, touch sensors, gyroscops and accelerometers, as well as solar cells that help keep it powered. It even allows users to create and programme their own signs, which the app will then recognize. EnableTalk is still in a prototype stage, but it's already winning admirers in high places. The project was a winner at the recent Microsoft Imagine Cup in Australia, a competition to promote technical innovations.

And the team behind it are confident they'll end up with a product that will change the lives of people with speech disabilities. "We were inspired to help our friends who are hearing—and speech-impaired to have the ability to communicate like everyone else," said a team member. The hardware cost them just £50, meaning they would be able to offer a product that doesn't break the banks. PTI

The Economic Times, Mumbai July 12,

New Water Usage Norms to Encourage Conservation

SHREYA JAI
NEW DELHI

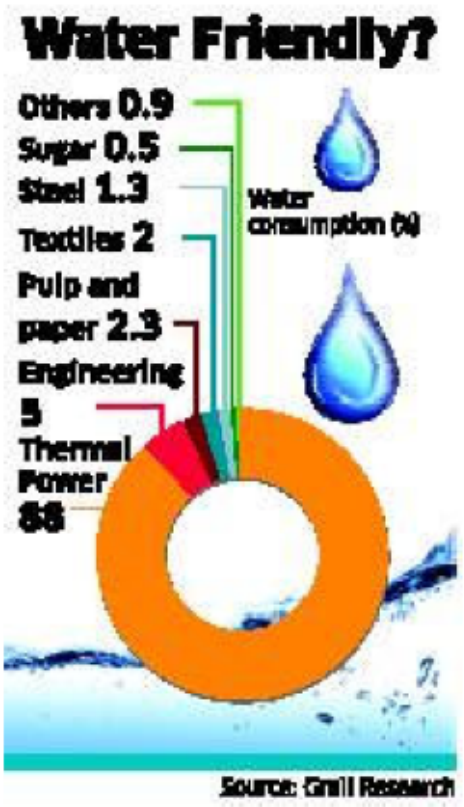
The government plans to intervene in the use of water by industries and encourage conservation of the increasingly scarce resource by setting up a 'bureau of water-use efficiency' to grade various sectors and issue guidelines, official sources said. "We'll start with the industries and analyse whether they are water friendly or not," said a senior official at the ministry of water resources. For this, the ministry has roped in industrial bodies and chambers of commerce such as Ficci, Assocham and CII to conduct a water audit of the industries. Government plans to extend this programme in the domestic and irrigation sector as well, once it's successful with the industries. However, there is no plan to ration the use of water.

A study by the Council on Energy, Environment and Water estimates that India's usable water supply by 2030 could fall short of projected demand by 50%. Industrial demand for water is projected to rise from current 42-billion cubic metre (bcm) to 92 bcm in 2025 and 161 bcm in 2050. "There are energy usage regulations, pollution standards, environment protection laws but no regulation for water usage that leads to huge wastage," said an official.

Working on the lines of the Bureau of Energy Efficiency, which rates companies and products on their energy savings, industries will be rated on the basis of the amount of water conservation during production phase.

"There is a great scope of water conservation in Indian industries. Industries alone hold a potential of around 25-30%. Some industries have tried water conservation measures, but there's still a long way to go. This initiative will surely make a difference," said S Raghupathy, executive director, CII-Godrej Green Business Centre. He said that the government intends to first generate water usage data and based on national and international benchmarks, it plans to develop guidelines and a framework to standardise water audits in the industry. The focus initially would be on water-intensive sectors such as thermal power plants, textiles, pulp, chemicals, etc.

"The plan is to benchmark water use across different industrial sectors. It is also envisaged that through measures on awareness creation; knowledge sharing and incentives, we will be able to build up best practices and encourage a large section of Indian industries to go in for measures like water audits, followed by undertaking conservation measures. This needs to be followed by means for reporting and verification as well," said Romit Sen, senior assistant director, water division, at FICCI.



shreya.jai@timesgroup.com

The Economic Times, Delhi July 13, 2012

GOPALAKRISHNAN Co Chairman, Infosys

'If Airlines Use Bio-fuels, I will Not Feel as Guilty Travelling'

As he moves further away from an operational role at Infosys Technologies, S. Gopalakrishnan, co-chairman of India's second largest software services company is involving himself with ideas that he believes will define business in the 21st century. The Infosys Sustainability Agenda is spread across three areas - social contract where employees engage in causes ranging from education, rural rehabilitation to inclusive growth; resource intensity which drives the company's agenda to become carbon neutral and finally green innovation combining sustainability with engineering to develop green products and services to reduce carbon footprint of clients. In addition there is also a global agenda. As chair of the Business Action for Sustainable Development, Kris, as he is popularly known was at the global summit held in Rio de Janeiro last month. Although sustainability today is more about offsetting excessive consumption the big opportunity is in breakthrough innovation across sectors he said in a conversation with Karthik Subbaraman & Archana Rai

What is the role for Infosys in the area of sustainability?
We have been doing this informally, but felt the need to formalise the process. As large consumers of electricity, food, water it is important to look at our own footprint. So we created a sustainability group to reduce our own footprint and started talking to our clients, to see if we could market some of the processes we developed. We also got involved with organisations around the world, especially the Wold Business Council for Sustainable Development (WBCSD) to understand best practices and to share our own. We participated in the Vision 2050 report. And when WBSCD created Business Action for Sustainable Development (BASD) they asked me to chair it, that's how I went to Rio.

The commentary after Rio has been quite disappointing?
My own take is different. Look at the Rio process, 119 countries at various stages of economic activity and a huge number of interested parties. There are 9 major groups who provide inputs–business and industries, science and technology, city and local governments, women, youth and children, farmers, indigenous people and NGOs. So it is very challenging. A lot of voluntary commitments were made with 200 commitments from businesses including Infosys, cities and industry groups. Some countries said they get 20% of electricity from renewable sources. In India we can drive innovation, because we have to develop and there is also a business opportunity. This is exciting to me

Which sectors will offer the most business opportunities?
Definitely, manufacturing, energy, resources, transportation are directly impacted. Indirectly I think every sector can be impacted. Every business has a footprint and must reduce it. It is about creating new technologies and reducing the foot print. For us it started as reducing the foot print but we are now seeing it as a business opportunity. In the last 12 months we have reduced our power consumption resulting in savings of approximately $7 million. So there is a real benefit in taking up sustainability and now we have a business unit that is taking it to our customers.

The entire sustainability debate is about incremental change, reducing footprint and doing things differently, what about the next big ideas?
No, No, some of it is incremental, but some others are definitely revolutionary. For example we have two buildings in Hyderabad. One is cooled in the traditional way with air-conditioning for 1100 people and also uses natural lighting for most of the day. The other building which is identical and has same capacity has ambient cooling and uses 50% less electricity. Ambient cooling is revolutionary in some sense, you don't use the traditional air conditioner, you put water pipes on the roof, air circulation is different. It is as cool as the other one and comfortable to work in. There are revolutionary solutions that are possible.

How do you rate the awareness, willingness and ability of Indian companies to adopt sustainability?
Large companies are adopting it. ITC being a leader and some IT companies, Wipro, TCS and Infosys. But we have 11 million small and medium enterprises. We need to look at, how we can help them; we need capacity building, education and funding for these enterprises to become sustainable. That will be the challenge for India.

You have set a target of 20% of green energy?
We are already getting 20% of requirements from the renewable sources, and by 2018 we want 100% from renewable resources.

What kind of clean technologies are you looking at?
We are looking at solar and wind suppliers who can provide us power from renewable sources and we are also looking at reducing our power consumption. We are sequestering more water than we consume, but not where we are consuming it

Will you reach your goal?
It is a struggle. The biggest challenge is travel, our clients and offices are all around the world and we are dependent on airlines, whenever you travel, you leave a carbon foot print. Only way today is offsetting, meaning we have to plant trees, we have to create a forest, the number of trees to be planted is millions. If airlines move to bio-fuels, I will not feel as guilty travelling.

What are the other options you are considering?
That is an area, where we are still debating. Some options are electrification of villages; there are certain things we can do to offset. We are doing some of it today and we are looking at what can we do differently.

What kinds of costs are required for offsetting?
We have some estimates, it is few crores. It will have an impact, which is one part of it. The other part is whether it is the right way to do it. That is where our innovation, working with the partners and where our investments are going.

When can this be translated into business practices?
We have a sustainability practice which is now working with our clients and helping them. We have Tan Moorthy, who is looking at sustainability reporting for the company, we have Rohan Parikh who is driving sustainability in our infrastructure. These are the key people and on the board side, I am taking the responsibility. We don't have somebody called chief sustainability officer but we have people with these responsibilities.

The Deccan Chronicle, Hyderabad dated July 14, 2012

INDIA BEST IN SUSTAINABLE BEHAVIOUR

Washington, July 13: India topped a list of 17 nations for the best sustainable behaviour, with consumers in the US last on the list, according to a new survey.

The global analysis by the National Geographic Society found that Indian consumers were the most conscious about their environment footprint and were more guilty about their impact despite having the best sustainable behaviour.

Ironically, people in developing countries such as India, China and Brazil — in that order — were making the most sustainable choices, while consumers in the rich nations had the least sustainable lifestyles. India accounted for a "Greendex" score of 58.9, followed by China at 57.8 and Brazil at 55.5, while the US was ranked the lowest at a score of 44.7.

People in India and other developing countries were also found to be the most "guilty about the impact" they have on the environment.

Yet, it said, 45 per cent of Indians and 42 per cent of Chinese feel guilty about the impact they have on the environment among those surveyed and two times higher than Americans.

—PTI

The Economic Times, Delhi July 16, 2012

India Inc Must Have Ambition Beyond Rio+20

Indian businesses can have an edge in path-breaking innovations to reduce carbon emissions globally with an enabling regulatory environment and other support

The dust has settled on Rio+20 Conference that concluded with an outcome document, The Future we Want. The outcome has been severely criticised for being devoid of any goals or action. It has been dubbed "Rio–20" or "The future we don't want".

Amid the criticism is lost the uncompromising role of business in sustainable development. Most solutions for sustainable development will come from business. Solutions exist with the ability to have profound impacts on areas including energy and climate, water, biodiversity, agriculture and food, corruption and gender equality. Despite positive developments and shifting trends, corporate sustainability as practised today is insufficient — a quantum leap is needed. With the right incentives and enabling environments, business can make significant and lasting contributions to sustainable development.

There were two tracks at Rio. One was the government negotiation track that received most attention, and rightly so. The other was the business track that ran during June 15-19. The UN Global Compact's Corporate Sustainability Forum was organised during June 15-18 as a key platform for business involvement in sustainable development. The forum served as a launching ground for many new activities and commitments to action by business. About 200 commitments were announced by companies during the forum, representing both individual and collective actions, in social, economic and environmental areas.

The other important business platform was Business Action for Sustainable Development's (BASD) Business Day on June 19. I had the privilege to Chair BASD 2012. Over 800 leaders met throughout the Business Day during interactive workshops and plenary sessions to develop recommendations for the frameworks necessary to move forward on sustainability solutions. It noted that business is already activated and making progress on sustainability solutions. But it is nowhere near enough. The truth is that business can't do it alone or with top-down control from government. A new framework for cooperation must be developed where business, government and civil society are working together to create solutions that will solve realworld problems.

Having emphasised the importance of business in sustainable development, improving regulations that ensure business accountability and responsibility are required. This is one important point where the Rio outcome document disappoints except for references to UN Global Compact principles and sustainability reporting. Business has been one of the main contributors to causing environmental damage, inducing social inequity, increasing unsustainable consumption and promoting unjustifiable lifestyles. Business should take the lead but not on its own terms, else, its sustainability action will be viewed with suspicion and considered a hogwash. This is a partnership with governments, civil society and people of the planet.

The Rio outcome document offers business the opportunity to work on various thematic areas and cross-sectoral issues as outlined in Section V of the document. In many areas, business already has solutions that need to be shared and scaled with other business, civil society and government partnership. Business should also work with civil society and governments to develop Sustainable Development Goals (SDGs). Many businesses globally and in India used Millennium Development Goals to outline development initiatives. SDGs can help businesses articulate their sustainability goals and get a sense of how collective efforts could make a dent on sustainable development. Sustainability is the only future for the world and for business. The urgency is to advance this reality rather than wait for time to take its course. At Rio, UN Secretary General Ban Ki-moon warned, "We recognise that the old model for economic development and social advancement is broken. Let us not forget the scarcest resource of all: time. We are running out of time. We no longer have the luxury to defer difficult decisions."

Unfortunately, the decision was deferred. The deference may hurt India the hardest. India has one of the most significant developmental challenges to tackle and most to pay for lack of action. India has to take responsibility of its affairs and contribute to progress of global dialogue. I beg to differ with those who seek to protect Indian industry based on the argument that it may hurt its competitiveness. Contrarily, much of the lack of progress on corruption, labour, transparency and poor implementation on environmental and social standards is hurting the industry. If there is any cost competitiveness as a result of protecting the industry on the issues, then it is shortterm focus. Increasingly business action on the issues is becoming a norm to doing business in a globalised world. Many Indian companies now disclose their sustainability performance including carbon and water footprints and supplychain performance.

India also offers the critical mass to scale innovation. That makes India a hotbed for affordable and disruptive innovation. India business and entrepreneurs have had successes in decentralised energy access, mobile telephony, distant healthcare delivery, e-governance and digital information services. These successes are being replicated in many parts of the developing world and some solutions being also deployed in developed countries. Innovations that make a difference to millions of people and make substantial reductions on emissions or resource use are necessary for sustainable development. That's where India has the edge to contribute globally.

The Confederation of Indian Industry (CII) has an important role to play. Most of the Indian businesses known for their work in sustainability are members of CII and are actively engaged in improving domestic policies concerning sustainable development. CII is also uniquely structured to provide technical assistance on sustainability to government and business. Its Centres of Excellence on sustainable development, green buildings, water and agriculture are best suited to work with government and civil society to articulate sustainable development goals, and also to work with business in achieving them.

India will continue to be one of the most promising economies for the next 30 years. This is the most critical period to repair our planet. This is no coincidence. India should wake up to seize the opportunity. Business should step up the action and the government should show direction.

(The author is president-designate at the Confederation of Indian Industry)

KRIS GOPALAKRISHNAN

The Economic Times, Delhi July 18, 2012

Guest Column

Green Domestic Product?

BJØRN LOMBORG

One of the recurrent themes at the United Nations' spectacularly unsuccessful Rio+20 summit in June was the need to change how we measure wealth.

Many argue that we must abandon our 'obsession' with gross domestic product (GDP) and develop a new 'green' accounting standard to replace it. In fact, doing so could be a serious mistake.

GDP is really just an account of the market value of all goods and services. This sounds like a good indicator, but, as is frequently pointed out, it includes things that do not make us richer and leaves out things that do.

For example, if people are not compensated for the harm done by pollution, its adverse effects will not be included in GDP. If we pay to clean up pollution, this increases GDP, but no wealth has been created.

Likewise, there is economic value produced when wastewater is naturally cleaned by wetlands, but no transaction has occurred, so it is not counted in GDP.

It is worthwhile to consider these limitations of GDP as a measure of wealth. And it could make sense to produce a better GDP, which adds uncounted benefits, subtracts the costs of externalities and excludes activities that generate no wealth. Unfortunately, many of the proposed 'green' substitutions, however well intentioned, may not address these limitations adequately and could, in fact, produce worse outcomes.

One prominent example reported in the run-up to Rio+20 and used to support 'greening' GDP centred on the Nakivubo Swamp in Uganda's capital, Kampala, where wastewater flows from the city toward Lake Victoria. Without the swamp's purification services, a study showed, Kampala would need a sewage plant costing at least $2 million a year.

Swayed by the uncounted benefits from wastewater treatment—estimated at up to $1.75 million a year—and the potential outlay to build a sewage plant, Kampala decided to protect the area. "Economic logic prevailed," says Sukhdev.

The Nakivubo Swamp is an excellent example of the need for careful valuation of the environment. Such information is crucial for making good decisions. For example, if the wetland were to be destroyed to make way for a new district, we know that its benefits would have to be at least $1.75 million higher than the costs.

But there is also a significant risk of political misuse of such information. Kampala's decision-makers decided to protect the area. In other words, they rejected ever considering alternative possibilities for the area.

Green campaigners often seek such outcomes, but they are entirely unjustified. The swamp is close to the city centre and its industrial centre, and there is a land shortage in Kampala. In all likelihood, the net benefits of job creation and economic growth that could result from creating a new district — in place of the swamp — would be dramatically higher than the $1.75 million. There is a reason why few large, rich cities, if any, have undeveloped wetlands in their midst.

If green measures are used to shortcut the political process, we can actually end up worse off, because countries will be deprived of jobs, wealth and welfare, while relatively small environmental benefits will be achieved.

Imagine if our ancestors had made a similar valuation in the past, deciding to protect swampland at all cost. Much of lower Manhattan would still be a swamp, rather than being turned into the powerhouse of New York City, at a huge cost to society.

In general, green accounting may end up being more biased than conventional GDP measures. Green GDP does include uncounted losses, so it avoids the problem of overestimating our wealth, but it fails to account for the potentially much larger benefits of innovation.

For example, the World Bank claims that in order to be green, we need to take into account that consuming fossil fuels will deprive future generations of those resources. In reality, burning fossil fuels over the past 150 years has enabled us to be free to create and innovate an amazingly richer world of antibiotics, telecommunications and computers. These will further enrich the future, but are not counted.

Moreover, as we have burned fossil fuels, we have simultaneously found new resources and discovered new methods, such as horizontal fracturing, which has dramatically increased the availability of natural gas while driving down its cost. All of this leaves future societies amazingly richer — but would be missed in green GDP measures.

In practice, green accounting might easily have led our forefathers not to cut down forests, because this would entail losing a valuable resource. But converting forests to agriculture led to cities and civilisation. Innovation and substitution followed, which ultimately produced many more calories and much more wealth.

Most policymakers still focus on GDP, because, while not perfect, it is strongly correlated with highly-prized real-world outcomes. A country with higher GDP generally has lower child mortality rates, higher life expectancy, better education, more democracy, less corruption, greater life satisfaction and often a cleaner environment.

So, while green accounting certainly can play a role, we must not allow it to become a roadblock to development.

(The author is the head of Copenhagen Consensus Center)

The Times of India, Delhi July 18, 2012

IDEAL GREEN CITY, ON NET

Roofs reflecting heat, trees equipped with solar panels, vertical farms and more. It is the vision of a sustainable city shared by some of the world's biggest organizations. Maybe it's time Delhi joins talks

URBAN ROLE IN WORLD MESS

Anahita Mukherji | TNN

Sustainia is a safe, prosperous and exciting destination. The quality of life is probably even better than where you come from. All it takes are the right choices.

This is not an advertisement in a glossy property supplement enticing you to buy an over-priced luxury home. Nor is it a dreamy picture of utopia. Sustainia, a vision of the sustainable city in 2020, was an idea first propagated by Monday Morning, Scandinavia's largest independent think-tank and weekly magazine. Some of the world's largest corporates, organizations like the UN and the likes of Arnold Schwarzenegger have thrown their lot behind Sustainia, a global platform for bouncing ideas on sustainable cities.

There is no dearth of arguments for why India should join the global discussion on sustainable cities. The country, which once dreamt of a double digit growth rate, ranked a low 134 out of 187 countries in the latest UN Human Development Index. The 2011 census showed that for the first time in 90 years the increase in India's urban population was more than the increase in its rural population over the last 10 years. With Delhi witnessing the largest stream of urban migration over the last decade, it may be a good time for the country and its capital to learn a thing or two about sustainable cities.

Creating sustainable cities is not rocket science. Transforming cities can sometimes be very simple. Like artist Ruganzu Bruno Tusingwire's dream of creating a movable amusement park for children in the slums of Kampala (Uganda) using thousands of plastic bottles. His 'big idea' won him the City 2.0 award at the Technology Entertainment Design (TED)X Summit in Doha. City 2.0 is now one amongst several global platforms on creating sustainable cities.

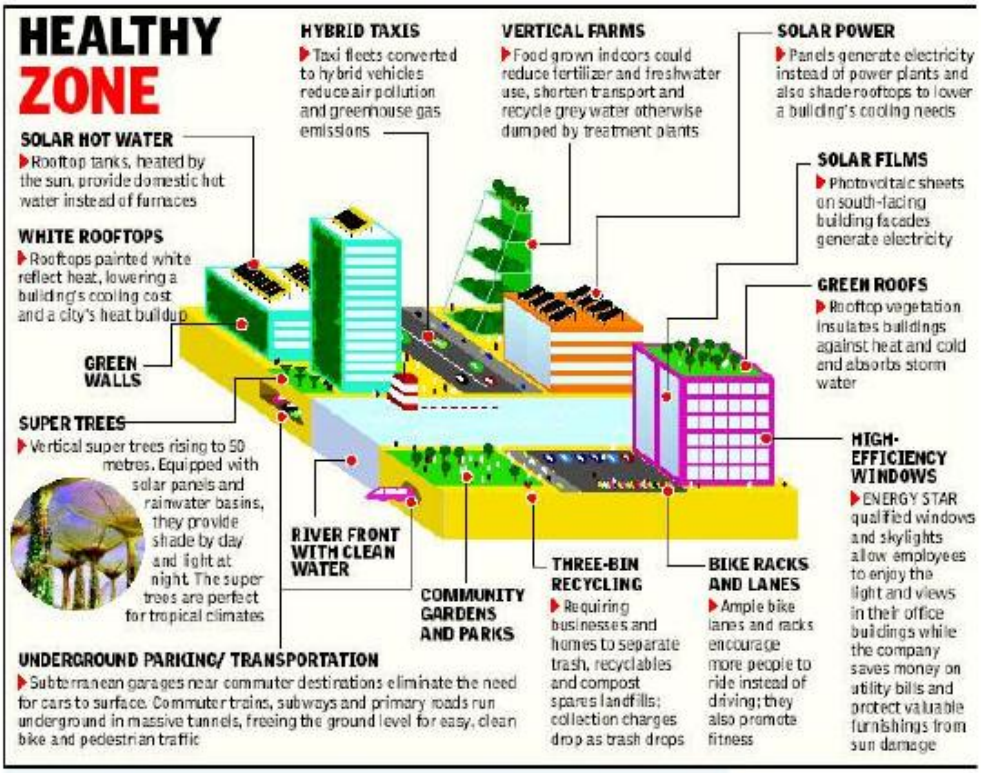
While reams have been written on noise pollution, Australian sound artist Jason Sweeney wants a crowd-sourced map of quiet places in a city where introverts and people with disabilities can take refuge. His idea is amongst several others shared by City 2.0.

Sustainia, too, has drawn inspiration from innovative experiments across the urban landscape. These include the 4,000 outdoor gyms in Beijing that provide a free-of-cost opportunity to exercise, 2,000-odd vegetable gardens on rooftops across London and the fast lanes on Oslo's streets reserved for electric vehicles.

The 'Guide to Sustainia' points to the fact that cities make up less than 2% of the world's surface area, produce 80% of its economic output, are responsible for over 70% of global greenhouse gas emissions and account for 60-80% of the world's energy consumption. Sustainia's map of a livable city is one in which roofs are painted white to reflect sunlight, solar water heaters are fitted on all buildings and beaches are clean enough to swim in. It also looks at attractive public transport and easy recycling facilities.

The idea envisions a reduction of unsustainable fossil fuel which will be replaced by renewable energy. It looks at a time-bound approach to achieving this goal, with a view of reducing global CO2 emissions by 50-85% in 2050. Sustainia is working towards a society where entrepreneurs, corporates and investors race each other to come up with low carbon solutions to global problems.

HEALTHY ZONE



Sustainia has drawn from experiments across the globe, including outdoor gyms in Beijing

The Economic Times, Delhi July 20, 2012

GREEN TECHNOLOGY IN HOME DESIGN

Furniture and other household products are being manufac tured in a way to make minimal impact on the environmen

The buzzword in these days of energy consciousness is 'green', and the fact is that all of us can do something towards the cause in our own little individual ways. Creative professionals point out that your creativity can have free rein even as you make choices that help protect the planet. Increasingly, they observe, manufacturers are creating products that have minimal impact on the environment, whether because they're made from organically grown cotton or because they're made with renewable resources. They are, of course, talking about the international scenario, but if you think about it, in India, we have been using organically grown cotton for ages in our home decor.

To begin with, consider your living room, and how you can make it greener. There are three main considerations in looking at green design. One is where the stuff of the furniture comes from - are slow-growing trees used in creating it, or is it made of renewable resources, for example? Second, what is the impact on the environment of the item in question - for example, how much electricity does it use? And the third consideration is how healthy the item is for the people, and pets, using it?

While studying green design for living rooms, it was observed that the stuff that makes upholstered furniture flame-retardant is not that good for human consumption. The flame-retardant polybrominated diphenyl ethers, or PBDEs, used in upholstered furniture, have come under scrutiny by those concerned with toxins in the home. The European Union has already banned some of them. They also say that there is some upholstered furniture that is PBDE free. Look for furniture that is made with organic cotton, filled with organic cotton batting, and made with untreated woods, they advise. They also advise searching for living room furniture that isn't upholstered at all; there are chaise lounges available, for instance, that are made out of cork. This is also a winning material because it is renewable, and impervious to rot and mold, which is important for anyone with allergies. Just a li tle care could go a long way towards making your environment better place.

OPT FOR PLANTS

Plants can make your space green in more than one sense the term. You can keep the air i your home clean by using plant Instead of opting for non-utilita an decor items and furnishings, try a foliage plant. Consult an expert to ensure that you choos the right plants for your environ ment. Some require more light than others, so make sure you know which the right one is. Select hearty plants that are eas to sustain and maintain. Make effort to take care of your plants

Use green products. Planters made out of recycled or renewable materials are perfect. So the next time, don't settle for a need less knick-knack, when you can have a real live fragrant plant in your home instead.

The Times of India, Delhi July 20, 2012

ICF wins eco innovation award

Integral Coach Factory (ICF) has won the Golden Peacock Eco Innovation Award for the year 2012. Sheila Dikshit, Chief Minister of Delhi, gave the award to Abhay K. Khanna, GM of ICF, during the 14th World Congress on Environment Management held recently in New Delhi. ICF received this award for the AC/DC electrical multiple units (EMUs) manufactured for Mumbai Rail Vikas Corporation (MRVC).

The Times of India, Mumbai July 21, 2012

No plastic in national park

TIMES NEWS NETWORK

Mumbai: Food and drinks packed in plastic will not be allowed inside Sanjay Gandhi National Park. Forest officials started a crackdown on plastic on Friday and will continue the campaign to free the park of plastic litter.

On Friday, two big garbage bins greeted visitors entering SGNP. Five locals and four forest staffers checked the crowd that trickled in for walks or picnics. Forest officials checked about 400 visitors for plastic bags and bottles. Forest officials said on Saturday 20 NSS volunteers from Bhavan's College and Thakur College will join the campaign to check visitors and make sure no plastic is littered in the national park premises. Those found littering the premises will also be fined between Rs 100-500. Forest officials have also taken help from the local police officials to conduct breathalyzer tests on people to check consumption of alcohol.

"There were about 700 people who visited the park till 4 pm. We checked 400 people and asked them to put their plastic in the big bins at the entry gate. More volunteers will be posted at the weekend as we are expecting around 5,000-6,000 visitors in the next two days," said Sunil Limaye, chief forest conservator, SGNP. 'We are also planning to keep cloth bags for people to carry their eatables inside," he added. Officials said they will extend their drive to Kanheri caves as well. Though the area falls beyond the forest jurisdiction, it has been plagued by excessive littering by visitors. With the onset of the monsoon, the influx of visitors has increased causing a lot of littering. "Two teams of ten people each will be posted on the Tulsi gate located before Kanheri caves on Saturday. A team will be posted to check people at the SGNP gate as well," an official said. Officials said on Saturday visitors will also be checked for alcohol by police officials with a breathalyzer.

"There are people who drive in with liquor bottles and dump them inside," said Limaye. Officials said they may try to involve more agencies to expand the cleanliness drive. "It will be intensive during the monsoon when the park sees more visitors," an official said.

GARBAGE AND LIQUOR-FREE


PIC: Sandeep Tulsi

- Two big garbage bins are located at the entry gate of SGNP
- A team of 20 NSS volunteers from Bhavan's College will join forest officials in checking visitors
- Twenty staffers and local volunteers will be posted at Tulsi gate near Kanheri caves to check visitors
- Police officials will conduct breathalyzer tests on those suspected of consuming alcohol
- People will be fined between ₹100-500 for littering, carrying plastic and alcohol consumption within the premises of the park

The Times of India, Delhi July 22, 2012

FOLD CAR, THEN PARK IT

Steven Ashley

A decade ago, researchers at the MIT Media Lab in Cambridge, Mass, began considering alternatives to car-pooling, shuttle buses and other approaches that had failed to gain wide acceptance. The Smart Cities Research Group, led by Prof William J Mitchell, who died in 2010, imagined a tiny EV, intended purely for car-share use in the city.

The project recently advanced from theoretical to commercial with the creation of the Hiriko Driving Mobility Group. A consortium of auto parts suppliers in the Basque region, the group worked with MIT and the Spanish government. The Hiriko name stems from Basque words meaning "from the city."

José Manuel Barroso, president of the European Commission, introduced an early version of the Hiriko Fold in January, calling it a "systematic solution to major societal challenges."

Now a trial manufacturing run has begun at Vitoria-Gasteiz, Spain, an hour south of Bilbao.


NYT

MINI ME: The 8ft-long Hiriko Fold shrinks down to 5ft when it's parked

At first glance, the Hiriko Fold resembles other electric microcars. But the podlike EV comes packed with features. Most notable is the hinged body, which can retract its front and rear modules, shrinking the eight-foot-long car to a scant five feet when it is parked. About three and a half Folds fit in a typical parking space.

The Fold has a front hatch that houses the windshield and doubles as the car's sole door. Another urban adaptation: the Fold's four wheels each turn 60 degrees left or right, enabling the car to spin on its central axis — or even travel sideways, to make parallel parking a snap.

The city car's designers replaced the conventional steering wheel and the brake and throttle controls with a device like an airplane's yoke. Push the stick forward and the car will speed up; pull it back and the car will slow down. Move it left or right to make turns.

The Fold is scheduled to go on sale in 2013 for around $16,400. NYT NEWS SERVICE

The Times of India, Delhi July 22, 2012

Show bill, buy LEDs at half price from tomorrow

POWER SAVER

	Bulbs	CFL	LED
Life (in hours)	1,200	8,000	50,000
Wattage	60	12-15	6-8
Price (Rs)	12 (60 watts)	120 (15 watts)	700 (8watts)
Kilowatthours of electricity used per year	3,285	767	329

TIMES NEWS NETWORK

New Delhi: Energy efficient but toxic compact fluorescent lamps (CFLs) now have competition in the city. The government is promoting LED (light emitting diode) lights that are not only more efficient than CFLs but also safe to dispose of as they do not contain mercury. So far, high prices have kept LED lights from becoming popular (they cost nearly five times more than CFLs) but the government is considering tax breaks to make them cheaper.

Chief minister Sheila Dikshit says promoting LEDs, which use a tenth of the power used by incandescent bulbs, has become important in the light of skyrocketing power demand. Delhi's power demand has risen from 2,000 MW in the year 2000 to 5,600 MW at present.

"We would like to promote LED bulbs by granting some concession in VAT. Further, the government will shift from ordinary or CFL lighting to LED lighting for streets in the entire city and also in all government offices," says the CM.

Although they last about five times longer than CFLs, LEDs cost 8-10 times more. In a scheme open to all Delhiites, the discom BSES will sell LEDs at a 50% discount, starting at Rs 399 for a 7W light.

Monday onwards, customers can visit BRPL's customer care centres, show a copy of their electricity bill and purchase up to four LEDs at a time. The lights will come with a three-year replacement warranty.

"LED bulbs and tube lights will fit perfectly in existing sockets. When compared to a CFL, they use 50% less electricity, contain no arsenic and mercury, and are unbreakable. They also have a significantly longer life span than both CFLs and incandescent bulbs. A 7W LED bulb consumes 50% less electricity than an equivalent CFL and 85% less than an equivalent incandescent bulb. The annual cost of running a 7W LED bulb is just Rs 150 against Rs 271 for a CFL and Rs 612 for an incandescent lamp," said a discom representative.

However, LEDs come with their own set of problems. Experts point to studies that have found high levels of copper, nickel and lead in them.

"The government went all out to promote CFLs a few years back without giving a thought to the consequent problems of safe disposal. We should not end up with similar issues with LEDs. Problems have also been raised with the efficiency of LEDs for home lighting. Research has indicated that LEDs function most efficiently at low currents. For home lighting, the current is higher. That means the same amount of light for a higher current, leading to less efficiency," an expert told TOI.

The Economic Times, Delhi July 25, 2012

Teri Working on Plan to Cut Tower Companies' Diesel Consumption

GULVEENA ULAKH
NEW DELHI

Industry bodies representing the GSM, CDMA and tower service providers have engaged The Energy and Resources Institute (Teri) to create a blueprint to implement green solutions to reduce their carbon footprint, an executive aware of the development said.

The country's premier research institute on environment sustainability will bring out a roadmap for tower companies on reducing their diesel consumption, which will receive a final approval by the telecom department.

More than 2 billion litres of diesel is used to run generator-sets to ensure uninterrupted power supply that in turn allows continuous mobile connectivity even in rural areas where grid electricity is in short supply.

"Teri will create a two-phase proposal with realistic estimates and timelines to implement guidelines laid down by the telecom department. In the first phase, Teri will comprehensively evaluate these guidelines and chalk out the issues of implementation and any modifications. It will then propose some rules on execution and the technologies to be adopted to do so, in the second phase," said Rajan Mathews, director general of Cellular Operators Association of India, a voice of telcos like Bharti Airtel, Vodafone and Idea Cellular.

Teri will advise on the amount of carbon emissions that can be actually reduced while relying on renewable energy producing companies (Rescos) and whether there would be requirement of other green solutions for instance, solar panels. The proposal will go to DoT within two weeks for a final approval.

The telecom department had last month adopted in toto recommendations of sector regulator Trai that had asked telcos to use renewable energy solutions and grid electricity to power 50% of all rural towers and 33% of urban towers by 2015. India has about 4 lakh mobile phone towers in all, more than half depend on diesel for all-day operations.

Mobile carriers must declare the amount of carbon emissions in their network twice a year to the regulator and aim to reduce them by 8% within this financial year going up to 25% by 2018-19.

The Times of India, Delhi July 25, 2012

Tree Authority to get tough on violators

Neha Lalchandani | TNN

New Delhi: Driving a nail through a tree can technically land one in jail for a year. Delhi's Tree Authority, set up in 2007, will shortly issue a fresh directive for preserving trees in the capital. Members said that they had been receiving several reports on the "ill-treatment" of trees across the city and would take strict action against those violating the Tree Act of 1994.

Sources said they had been told that all rules pertaining to trees, including girdling and nailing them, putting up hoardings and lights, and indiscriminate lopping were causing immense damage to trees. Since it would not be possible for forest department officials to carry out inspections everywhere, they would like residents to keep the department informed of such violations.

What law says

- Girdling, nailing and lopping of trees prohibited
- Hanging lights and hoardings not permitted
- Violation punishable by imprisonment of up to 1 year and/or fine of Rs 1,000
- Third party verification of all plantations on cards
- Tree protection units to be formed by all civic agencies

"Violation of the Tree Act can fetch a jail term up to one year. Offenders can also be fined up to Rs 1,000. These punishments are applied only in the most extreme cases but even small violations like driving a nail into a tree will not be overlooked. We would like residents to report any such damage to the forest department so that action can be initiated against the guilty," said a member.

The Authority is also focusing on third party inspection of all plantations undertaken by the forest department and other civic agencies. "Delhi has undertaken huge plantations in the recent past and we would like third party verification to ensure that work is progressing as reported and that plantations are healthy. Agencies like The Energy Research Institute and Forest Research Institute will be contacted for the purpose," said sources.

The Authority is also considering the use of bamboo for tree guards. Tree guards are needed to protect plants when they are young but in several cases, even when the plant has matured, civic agencies have failed to remove guards which are choking the trees. "All greening or road-owning agencies must remove tree guards in a time-bound manner to allow trees to grow without damage. We are also mulling the option of tree guards made from bamboo which will not affect the growth of trees in the long run," said a member.

A tree protection unit, on the lines of NDMC's tree ambulance, will also be set up under all land-owning agencies. The Authority said that such units were essential to protect trees against pathogen attacks and to take other curative measures. Agencies like DDA, NDMC, PWD and the three municipal corporations will be asked to set up such units.

All cars in Guj to switch to gas within a year: HC

'Dump Diesel, Petrol To Curb Pollution'

TIMES NEWS NETWORK

Ahmedabad: In an order which would impact lakhs of people owning cars, the Gujarat high court on Wednesday directed the state government to pass laws to make it compulsory for all four-wheelers registered in Gujarat to convert to natural gas within one year.

Further, the court gave two months to the state government to issue necessary orders to impose stringent restrictions to reduce pollution by fixing levels of emission to the minimum, at par with international norms. The order applies to both public and private vehicles running on petrol and diesel.

> The state is directed to pass necessary orders compelling owners of all vehicles having registration in Gujarat to use natural gas... not exceeding one year from today
>
> —GUJARAT HIGH COURT

The order, passed by Chief Justice Bhaskar Bhattacharya and Justice J B Pardiwala, came in response to directions sought by Dhrangadhra Prakruti Mandal, through its vice-president Devjibhai Dhamecha, to the state and Centre as well as all gas and petrol companies operating in Gujarat.

The order said, "The state is directed to pass necessary orders compelling owners of all vehicles having registration in Gujarat to use natural gas and, if necessary, even at higher prices within the shortest possible period, not exceeding one year from today for the protection of lives of citizens."

The judges suggested gas prices be made cheaper for public vehicles and higher for privately owned vehicles. Also, fares of public transport should be fixed at reasonable rates so that the end benefit goes to the public.

The Gujarat high court also directed the central government to allocate natural gas for domestic and vehicular use to the city of Ahmedabad at the same rate as it is supplied to Delhi and Mumbai. "This is to enforce the right of equality," the judges said.

The Times of India, Delhi July 26, 2012

The Deccan Chronicle, Hyderabad dated July 27, 2012

STATE POLLUTION CONTROL BOARD GOES PAPERLESS

DC CORRESPONDENT
HYDERABAD, JULY 26

The Andhra Pradesh Pollution Control Board will process all applications and issue all clearances online from Friday. Submitting applications for consent for establishment and consent for operation etc. must consequently also be done electronically.

M. Ravi Chandra, member secretary, APPCB, said during the course of a review meeting held with state zonal and regional officers that the online processing and computerisation of data has been done to maintain transparency and efficiency, and make the applicants comfortable.

Data entry of about 11,000 industrial units, including hospitals and hotels falling under the APPCB jurisdiction, is being completed on a war-footing. APPCB will coordinate with the National Informatics Centre on this.

Mr Chandra directed zonal officers to report the progress to PCB headquarters on a day-to-day basis and directed that no firm will be allowed to function without valid consent for operation.

The Economic Times, Delhi July 27, 2012

MANAGE IT RIGHT

Sustainable e-waste management can gain momentum if this industry is encouraged to grow further

ANU BHAMBHANI

Today's world is connected with technology. Various mediums of communication have brought us closer. Computers and now laptops, tablets, etc., along with cellphones and all that is technology driven, have become indispensable today. Bulky television sets have been replaced with LED screens and efforts are on to make it more suave. Refrigerators, washing machines, air conditioners, fans, and everything that is run electronically is becoming obsolete with evolving technology. It is also a good thing and a bad. The good thing is that we are progressing towards a future that's upgraded and tech-superior. The downside of this is the outdated technological equipment. Every time any technology gets upgraded, the present electronic equipment enters the waste category. With the electronic and electrical waste emerging as the new by-products of the fast economic growth, everyone is concerned about the correct way of disposing off the same. Government is formulating policies while corporate world is making efforts in its own way to take care of this waste in a sustainable manner. In fact, e-waste management has also led to the growth of another business segment.

What makes managing e-waste right a necessity is the adverse effect it can have on human health. While some of the material can be recycled and reused, a lot of it can't be as these contain toxic elements. When exposed to these toxins, humans can get severely affected leading to various kinds of cancer, heart problems, etc., that are not easy to recover from. Not just that, due to lack of knowledge, many times it has been seen that e-waste is burnt leading to toxins entering soil and water, thus polluting natural climate.

The government says that e-waste should only be given to authorized recyclers but then there is no strict implementation of this diktat. The need of the hour is that awareness about e-waste management and its importance needs to be generated so that it is recycled in a responsible and sustainable manner. Experts also believe this newfound industry needs encouragement to grow so that e-waste can be better managed and new technologies can be utilized for the same. A competitive environment in the industry will lead to better results for common good. A dedicated government policy with strict implementation will also go a long way in securing a better planet for the future generations.

QUICK BYTES

Government is formulating policies while corporate world is making efforts in its own way to take care of the e-waste in a sustainable manner

The government says that e-waste should only be given to authorized recyclers but then there is no strict implementation of this diktat

E-waste can have very harmful effects on human body

The Economic Times, Delhi July 28, 2012

A Green House in the City

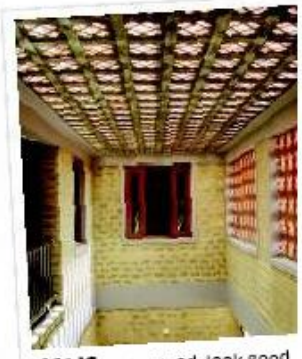
Tired of living in a concrete jungle, more & more people in urban areas are going for alternative architecture to build homes that are both eco-friendly and look great

We live in a world where resources are increasingly getting scarce, but the frenzy with which we are building refuses to slow down. It is, therefore, imperative for us to explore some sustainable alternatives. 'Alternative architecture' seeks to strike a balance between ecological sustenance and the design, materials and techniques of construction. But designing such a building can be a real challenge — it has to be both sustainable and eco-friendly without compromising on beauty and comfort. Here, we look at three essential elements of any construction — foundation, walls, and floors/roofs — and see whether there are any alternative ways of doing it:

Walls: Use Mud Instead of Bricks & Cement

Conventionally, walls are made out of burnt brick or concrete blocks. Brick kilns render large tracts of land unusable and use up precious wood while concrete blocks consume large amounts of cement. Building with mud is an alternative here, and is possible even in urban areas. Ideally, mud for construction should be sourced from the ground below. The excavated space can also serve as a basement, which when adequately ventilated and lit up can give you a room that stays cool in the summers and warm in winters.

MUDBLOCKWALLS give earthy look



JALIS save wood, look good

Roofs: Vaulted/Dom

Stabilised mud can also be used fo making floors and roofs, thereby r ing the need to source a different m rial for the roof while also reducir waste since fewer different materi are used. House designs in our lar tropical country should be solar p sive and must have adequate natu ventilation and lighting. These fe tures also reduce maintenance an erational costs. Jalis covered with quito mesh are one of the best way bring in fresh air without the use pensive windows. Wooden windo are twice the cost of a regular wal even more. In cities, where houses built very close to each other, skyl at strategic points can help bring light into various corners of the h

Foundation: Mix Soil into the Mortar

ARCHFOUNDATION for very hard land

Ideally, the building should be constructed on a hard stratum, which besides reducing the cost of foundation, frees up land to foster bio-diversity or to grow food. The conventional way of building a foundation is to use stone with cement sand mortar. But if we mix soil into it, it cuts down both the cement and sand content. Soil also helps retain moisture and increases the strength of the mortar. If the land is too hard, we can cut down on the material requirement by making arch-foundations.

SKYLIGHTS bring in the sunshine

DOMED ROOFS Trendy and co

WATER IS PRECIOUS: HARVEST & REUSE IT

Another significant step towards making an equitable society is to cut down on wastage of fresh water. Harvesting rainwater and using it for domestic purposes can go a long way in reducing urban flooding as well as ensuring this scarce resource lasts longer. Whatever waste water is generated, should also be treated and used for flushing and gardening purposes. You can use your terrace for setting up small, in-house water treatment plants.

EXPERT VIEW

Chitra Vishwanath
FOUNDER OF CHITRA VISHWANATH ARCHITECTS

The Economic Times, Mumbai July 30, 2012

Labwatch

Renewable Energy: Converting Electricity to 'Clean' Methane

Microbes that convert electricity into methane gas could become an important source of renewable energy, according to scientists from Stanford and Pennsylvania State universities. Researchers at both campuses are raising colonies of micro-organisms, called methanogens, which have the remarkable ability to turn electrical energy into pure methane – the key ingredient in natural gas. The scientists' goal is to create large microbial factories that will transform clean electricity from solar, wind or nuclear power into renewable methane fuel and other valuable chemical compounds for industry. "Most of today's methane is derived from natural gas, a fossil fuel," said Alfred Spormann, a professor of chemical engineering and of civil and environmental engineering at Stanford. "And many important organic molecules used in industry are made from petroleum. Our microbial approach would eliminate the need for using these fossil resources." While methane itself is a formidable greenhouse gas, 20 times more potent than CO_2, the microbial methane would be safely captured and stored.

Photovoltaics From Any Semiconductor

A technology that would enable low-cost, high efficiency solar cells to be made from virtually any semiconductor material has been developed by researchers with the US Department of Energy (DOE)'s Lawrence Berkeley National Laboratory (Berkeley Lab) and the University of California (UC) Berkeley. This technology opens the door to the use of plentiful, relatively inexpensive semiconductors, such as the promising metal oxides, sulfides and phosphides, that have been considered unsuitable for solar cells because it is so difficult to tailor their properties by chemical means. "It's time we put bad materials to good use," says physicist Alex Zettl, who led this research along with colleague Feng Wang. "Our technology allows us to sidestep the difficulty in chemically tailoring many earth abundant, non-toxic semiconductors and instead tailor these materials simply by applying an electric field." Solar cells convert sunlight into electricity using semiconductor materials that exhibit the photovoltaic effect – meaning they absorb photons and release electrons that can be channeled into an electrical current. Photovoltaics are the ultimate source of clean, green and renewable energy but today's technologies utilise relatively scarce and expensive semiconductors, such as large crystals of silicon, or thin films of cadmium telluride or copper indium gallium selenide, that are tricky to fabricate into devices.

Some Multitasking Is More Taxing

Multitasking. Most of us have tried it since digital devices became unavoidable. Now, a study finds that some tasks are tougher to do at the same time than others. Researchers had two groups of people complete a puzzle on a computer screen. One group also gave directions to another person via instant messaging. The other group gave the directions through an audio chat. Subjects who performed the visual and audio task had a 30% drop in their puzzle performance. But those who performed two visual tasks – the puzzle and instant messaging – had a 50% drop in puzzle performance. The study is in the journal Computers in Human Behaviour. Using the same sensory system for two tasks actually uses up our attention capacity more quickly and completely than if the task requires two separate systems. The researchers note that people may wrongly perceive visual tasks as effortless. Which might explain why some people continue to text while driving, sometimes with disastrous results.

Edited by: Prof. Sushil Kumar
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