

Centre for Business Sustainability,
IIM Lucknow, Prabandh Nagar,
Off. Sitapur Road, Lucknow- 226 013
E-mail: cbs@iiml.ac.in Phone: +91 522 2736987, +91 522 2736989

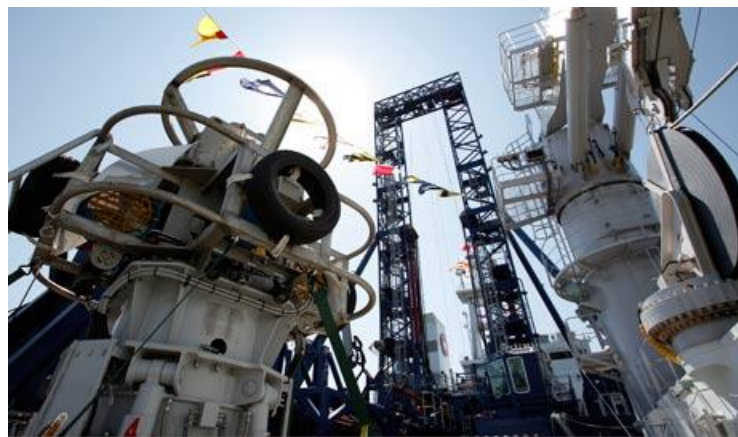
Business Sustainability News

International

Japan becomes first nation to extract 'frozen gas' from seabed

Successful extraction from frozen methane hydrate deposits is the first example of production of the gas offshore

By Staff and agencies, *guardian.co.uk*,



The Ministry of Economy, Trade and Industry showed what it said was gas flaming from a pipe at the project in the Pacific Ocean 80 kilometres (50 miles) off the coast of central Japan. Photograph: Kiyoshi Ota/Getty Images

Japan has successfully extracted natural gas from frozen methane hydrate deposits under the sea, in the first example of production of the gas offshore, officials said on Tuesday.

The Ministry of Economy, Trade and Industry showed what it said was gas flaming from a pipe at the project in the Pacific Ocean 80 kilometres (50 miles) off the coast of central Japan. The breakthrough could be a step toward eventual commercial production, though the costs of extracting gas from the seabed are much higher than for other forms of production.

Methane hydrate is a form of methane gas frozen below the seabed or in permanently frozen ground. Japan earlier succeeded in producing such gas from permafrost in Canada in 2007-08.

Resource-scarce Japan, which imports most of its energy, hopes to develop ways to produce natural gas from its own reserves.

The Japan Oil, Gas and Metals National Corp and a government research institute, the National Institute of Advanced Industrial Science and Technology, used a technology they developed to reduce pressure in the underground layers holding the methane hydrate 1,330 metres (4,363 feet) below the sea surface, and then dissolved it into gas and water, collecting the gas through a well, the ministry said.

Speaking to the Financial Times, Ryo Minami, director of the oil and gas division at Japan's Agency for Natural Resources, compared methane hydrate to shale gas, a once-marginal resource which is transforming the US energy market. "Ten years ago, everybody knew there was shale gas in the ground, but to extract it was too costly. Yet now it's commercialised," he said.

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Aviation industry takes flight on biofuels path

By Debbie Hammel

The aviation industry has made reducing carbon emissions and moving away from fossil fuels key strategic priorities.

A number of airlines are now entering the biofuel marketplace, working to source, develop and invest in biofuel supplies. This is a significant step in the right direction, especially since an effort to promote unconventional fossil fuels like coal-to-liquids, or CTL, and tar sands, which, without expensive controls, produce nearly double the carbon pollution as conventional fuel and are associated with significant negative environmental impacts, would surely damage brand value and undermine corporate stewardship.

But not all biofuels are created equal. Responsibly produced biofuels have the potential to offer a low-carbon and broadly sustainable alternative to conventional jet fuels. But poorly sourced biofuels can likewise damage brand value once their environmental impacts become clear. The aviation industry's purchasing power and ability to impact the biofuel supply chain implies a special responsibility to use sustainable biofuels and rigorous sustainability certification to verify those biofuels as such.

To assess the current state of aviation biofuel sustainability certification, and to support the use of certification in the aviation fuel supply chain, the Natural Resources Defense Council has created its inaugural Aviation Biofuel Sustainability Survey. The survey provides analysis focused on airlines that have used, or are making public claims of plans to use, biofuels in their operations, and evaluates them on their actions to use and promote sustainably produced biofuels.

Jet fueling image by André Klaassen via Shutterstock

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BUSINESS LEADERS CALL FOR ACTION TO VALUE NATURE

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



Ian Cheshire, leader of the government's Ecosystem Markets Task Force. Business needs to be ahead of the curve, he says.
Photograph: Paul Hackett/Reuters

Be a leader and reap the benefits or be a laggard and suffer disastrous consequences. This is the stark choice offered to the corporate world by Ian Cheshire, chief executive of the DIY chain Kingfisher, after unveiling the results of a business-led taskforce set up at the request of the government to look at the opportunities from valuing nature.

Cheshire, who chaired the Ecosystem Markets Task Force, believes that a progressive response to the continuing degradation of ecosystems and loss of biodiversity could help the

UK become a global leader in measuring natural capital. Companies could gain a significant competitive advantage by becoming resource efficient through the development of a cradle to cradle approach to manufacturing, he thinks.

But he warns that if corporates and politicians continue to bury their heads in the sand, then the UK risks a bleak future, including major flooding in London and a further loss of business competitiveness.

Cheshire says business would do well to be ahead of the curve because they will be forced to respond in the years ahead as commodity prices continue to surge and politicians recognise they have to introduce tougher regulations to price in externalities to protect nature.

Referring to the dangers ahead if significant action is not taken, Cheshire told Guardian Sustainable Business: "I think we'd see serious and repeated flood damage, which is much more of a threat across the entire country than people seem to understand at the moment. That can apply particularly to London, which seems to be assuming that everything's always fine here, but major flooding damage will happen without some form of serious water catchment management.

"You will see the further degradation of woodland, and there will be a major loss of green habitat in general. The third impact will be sharp rises in prices. There is massive inbuilt price inflation unless we rethink the resource implications of our actions, and I think that will show up in people's everyday life in all sorts of areas."

Cheshire is aware that a message of only doom and gloom may force business executives to go even further into denial, which is why the report focuses on the benefits of early action: making companies more resilient, helping them to better manage risk, as well as strengthening their reputations.

Already a few business leaders are factoring in natural capital valuation, and Cheshire says they are providing air cover for others to follow. He refers to leaders such as Puma, Nike and Patagonia and picks out Paul Polman of Unilever in particular because "if the CEO of Unilever is doing it, it can't be completely hippy."

Recognising that the dominant narrative of capitalism is still so prevalent and that change will not come quickly, Cheshire hopes the ecosystem report at the very least will help companies to recognise that they cannot succeed unless the natural world is preserved.

Cheshire says one reason most companies have not yet shifted their awareness is because company impacts are often buried in their supply chains.

He gives the example of Jaguar LandRover, which was a member of the taskforce. At first it saw little connection between the production of cars and the environment until it looked and saw that around 140,000 litres of water are used to create each vehicle. Suddenly, threats of water scarcity become relevant.

Rather than broad recommendations, the taskforce focused on five areas of change. These include biodiversity offsetting, bio-energy and anaerobic digestion on farms, sustainable local woodfuel, nature-based certification and labeling, and water cycle catchment management.

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Tips:

Now the picture is very much clear that natural resources are limited and it's essential for human beings to survive and the population is growing at an alarming rate causing increasing pressure on natural resources. Sustainability is the only way by which creating and maintaining the conditions in which human beings and nature can exist in productive harmony, that permits fulfillment of social, economic and other necessities of people today and in future. Following tips will certainly promote sustainability.

1. While sending greeting cards, unless unavoidable opt for electronic greetings. In case greeting card is to be sent go for those which are made on recycled paper or create your own from scraps.
2. Recycling used mobile phones, batteries, discarded or used computers contributes significantly towards sustainability therefore look for such facilities in your surrounding area or donate them to charitable organization in your city.
3. Switch off air conditioners and fans when you are leaving the room for more than a few minutes. Each kilowatt hour of electricity saved corresponds to more than half kg of Carbon dioxide emissions.
4. Often medicines purchased are not consumed fully and they expire unused and are wasted. If such medicines are put in the boxes kept at hospitals for donating unused medicines, might be used to for the benefit of poor patients.
5. Ensure that your vehicle is properly tuned so that it gives maximum mileage per liter. You will notice there is significant fuel savings which will affect savings as well as emissions reduction.
6. Whenever we leave the room for more than two minutes, it is more energy efficient to turn the lights off.
7. Often people keep the things that they are not going to wear or use and after some time they become useless and are wasted. If such things are given to a charity it will certainly help the poor people and promote sustainability.
8. Prefer buying local products it has the advantage that products travel shorter distance to reach market and thus they create less pollution during transportation.
9. Rechargeable batteries are economical and have a longer life therefore it reduces the number of batteries entering the waste system. We must bear in mind it is always of great importance to recycle all the batteries.

Asda turns to Canary Islands bananas to cut carbon footprint

Best-selling fruit will take four days to reach supermarket against 24 days from central America – but won't be Fairtrade

By **Rebecca Smithers**, *The Guardian*



Asda shoppers buy more than 100m bunches of bananas a year. Photograph: incamerastock / Alamy

Supermarket chain Asda is to be the first to sell bananas from the Canary Islands, in an attempt to reduce the fruit's considerable carbon footprint.

Transportation time will be more than 80% shorter than for bananas sourced from central America. The fruit will be shipped from the Canaries to mainland Spain and then by road to the UK ripening centre – a total journey of four days as opposed to 24 days for bananas from the Caribbean and Americas.

The bananas, already familiar to the millions of Britons who travel on holiday to the Canary Islands each year, are sweeter and firmer than those grown in central America.

Bananas are the best-selling fruit at Asda, with shoppers buying more than 100m bunches a year. Bananas have been grown in the Canary Islands since the 1880s, thanks to the hot and dry climate, but this is the first time they will have been exported other than to mainland Spain and Portugal. Asda has been working with produce importer IPL and Fyffes, a leading importer and distributor of bananas.

While many supermarkets have switched to 100% Fairtrade bananas as standard, however, the new Canary bananas in Asda will not be Fairtrade.

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Wisconsin Cheese Used in Innovative 'Whey-to-Energy' Project

By **SustainableBusiness.com News**

One of Wisconsin's biggest industries is cheese-making, and now the byproducts of that production will be used to make electricity, heat and fertilizer.

The venture, aptly called GreenWhey Energy, will turn the slurry from five cheesemakers and a soyfood ingredient plant into energy and clean water.

An anaerobic digester will process 500,000 gallons a day of milky whey - the wastewater that results from the cheesemaking process.

When the whey goes through the digester, microorganisms break it down and digest it, leaving methane gas (biogas), carbon dioxide, clean water, and a nutrient-rich solid that can be used as fertilizer.

The biogas squeezed out of the whey will generate 3.2 megawatts of electricity, piles of nutrient-rich fertilizer, heat for two area cheese factories, and water that is clean enough to drink, says GreenWhey.

The power, enough to supply about 3,000 homes, will be sold to the utility, Xcel Energy, in nearby Eau Claire.

GreenWhey's digester is about 55% complete and scheduled to be online by this summer.

The idea was born three years ago when two local dairy waste haulers became concerned about how to dispose of the growing amount of wastewater from cheese factories and other dairy producers. Rising disposal costs were a burden on the industry and tests showed traces of phosphorous runoff in streams when it was spread on fields as fertilizer. Because of that, the state stepped up regulatory efforts and it became clear another option was needed.

Faced with the option of investing in expensive water treatment facilities, more cheesemakers were cutting back.

Then they got together with a local cheesemaker and came up with the idea for GreenWhey, which could turn that liability into an asset.

"This is so much more than green electricity production," Clay Norrbo, a partner in Geo Investors Fund, told the *Milwaukee Journal Sentinel*. "You help Wisconsin food processors become more competitive and you use their waste to create electricity. And then the waste heat off those engines, you're able to return to a local plant that they can use for their process heat."

The biogas plant will be one of the largest privately owned wastewater treatment facility of its kind in the US - funded with senior loan financing from Caterpillar Financial Services, new markets tax credit financing from CAP Services, and additional backing from Geo Investors Fund.

The Wisconsin Economic Development Corp. is providing a \$3.4 million loan from the State Energy Program - a \$55 million revolving loan fund originally funded by the federal stimulus. GreenWhey will also apply for a federal grant.

In 2009 Agriculture Secretary Tom Vilsack announced an agreement with US dairy producers to cut greenhouse gas emissions 25% by 2020, by converting manure into energy through the use of anaerobic digesters.

[<Source>](#)

Electric Car Charging Companies Create Open Source Network

By **SustainableBusiness.com News**

Two of the biggest electric car charging networks are collaborating to make it easy for people to charge their cars without having to join more than one network.

Right now, Chargepoint has 11000 charging station and ECOTality (Nasdaq: ECTY) has 4000. Since you have to be a member of a network to charge your car at their station, drivers have to join both networks to take advantage of all 15,000 stations (about 90% of all US public charging stations).

Their new venture Collaboratev, LLC, which comes online later this year, solves this problem by putting both networks on a common software platform. They hope other networks will join to give EV drivers access to any charging station across the country.

The Collaboratev platform allows the two networks to share information, helping drivers to locate, use and pay for charging across both networks.

"The creation of a vendor agnostic payment processing and authentication system for EV charging would alleviate consumer concern of being tied to one charging network and would therefore make electric vehicles more attractive to mainstream vehicle buyers," says John Gartner of Pike Research.

"Interoperability for EV drivers is another milestone in the widespread adoption of electric vehicles," says Pat Romano, CEO of ChargePoint. "Collaboratev will give EV drivers access to all stations, locations, availability and mapping features in the public domain."

"This is a clear sign of market maturation by establishing a seamless process for EV drivers to charge across networks," says Ravi Brar, ECOTality CEO. "We are fostering an open ecosystem and invite others to join us in making it easy for EV drivers nationwide to get the charge they need whenever and wherever they are."

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Environmental threats could push billions into extreme poverty, warns UN

By **Claire Provost**, for guardian.co.uk



A Filipino boy washes his face in murky waters in Manila. Inaction on the environment will accelerate global poverty, warns the UN. Photograph: Francis R. Malasig/EPA

The number of people living in extreme poverty could increase by up to 3 billion by 2050 unless urgent action is taken to tackle environmental challenges, a major UN report warned on Thursday.

The 2013 Human

Development Report hails better than expected progress on health, wealth and education in dozens of developing countries but says inaction on climate change, deforestation, and air and water pollution could end gains in the world's poorest countries and communities.

"Environmental threats are among the most grave impediments to lifting human development ... The longer action is delayed, the higher the cost will be," warns the report, which builds on the 2011 edition looking at sustainable development.

"Environmental inaction, especially regarding climate change, has the potential to halt or even reverse human development progress. The number of people in extreme poverty could increase by up to 3 billion by 2050 unless environmental disasters are averted by co-ordinated global action," said the UN.

"Far more attention needs to be paid to the impact human beings are having on the environment. Climate change is already exacerbating chronic environmental threats, and ecosystem losses are constraining livelihood opportunities, especially for poor people. A clean and safe environment should be seen as a right, not a privilege."

The British prime minister, David Cameron, and US president Barack Obama have both made eradicating extreme poverty a key plank in their respective development agendas.

The proportion of people living under \$1.25 a day is estimated to have fallen from 43% in 1990 to 22% in 2008, driven in part by significant progress in China. As a result, the World Bank last year said the millennium development goal to halve the proportion of people living in extreme poverty by 2015 had been met ahead of schedule.

Thursday's report says more than 40 countries have done better than previously expected on the UN's human development index (HDI), which combines measures of health, wealth and education, with gains accelerating over the past decade. Introduced in 1990, the index aims to challenge gross domestic product and other purely economic assessments of national wellbeing. Norway and Australia are highest in this year's HDI, while the Democratic Republic of the Congo and Niger are ranked lowest.

Some of the largest countries – including Brazil, China, India, Indonesia, South Africa and Turkey – have made the most rapid advances, it says, but there has also been substantial progress in smaller economies, such as Bangladesh, Chile, Ghana, Mauritius, Rwanda and Tunisia. This has prompted significant rethinking on routes to progress, says the report: "The south as a whole is driving global economic growth and societal change for the first time in centuries."

The report points to cash-transfer programmes in Brazil, India and Mexico as examples of where developing countries have pioneered policies for advancing human development, noting how these efforts have helped narrow income gaps and improve the health and education prospects of poor communities. The presence of proactive "developmental states", which seek to take strategic advantage of world trade opportunities but also invest heavily in health, education and other critical services, emerges as a key trend.

The rise of China and India, which doubled their per capita economic output in fewer than 20 years, has driven an epochal "global rebalancing", argues the report, bringing about greater change and lifting far more people out of poverty than the Industrial Revolution that transformed Europe and North America in the 18th and 19th centuries. "The Industrial Revolution was a story of perhaps 100 million people, but this is a story about billions of people," said Khalid Malik, lead author of the report.

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Costs for Renewable Energy Down Significantly in California

By *SustainableBusiness.com News*

Thanks to technology advances, competition and state Renewable Portfolio Standards (RPS), the average price utilities spend for renewable energy has come way down.

In California, for example, when utilities first signed contracts to comply with the state's RPS, they had to spend 21 cents per kilowatt-hour (kWh).

Now, the average price is down to just 9.6 cents per kWh for projects approved in 2012, a big drop from the previous year of 12.6 cents per kWh.

California's utilities reached the goal of 20% renewables last year - way ahead of the 2020 deadline - so the state raised the target to an impressive 33% by 2020, which they are on track to meet. Carbon emissions are also down for the third consecutive year.

Last year, 1.9 gigawatts (GW) of renewable energy came online and 3.7 GW is scheduled for this year. Almost 5 GW has been added since 2003, when the RPS went into effect.

Unfortunately, as most states get close to meeting their RPS, they haven't raised the target, causing utilities to back off from buying more renewable energy. But bills have been introduced in more than 20 states to expand or strengthen standards.

30 states including Washington DC have RPS laws.

As you know if you read our news, ALEC is pushing legislation in the states that would roll back or eliminate their RPSs. 42 laws are moving through state legislatures and courts in over 24 states, according to the North Carolina Solar Center, which tracks state renewable energy policies.

Republicans have introduced a bill in North Carolina to do just that. In addition to repealing the requirement that utilities buy renewable energy (passed in 2007), they would no longer have to promote energy efficiency through free energy audits and rebates for solar systems and efficient appliances.

North Carolina's RPS requires utilities to get 12.5% of energy from renewables and efficiency programs by 2021. If the new bill passes that would be reduced to just 3%.

The policy has created a fledgling renewable energy industry there that's gaining momentum, spawning a surge in big solar farms, reports NewsObserver. A planned 100 megawatt solar plant will be one of the biggest in the US.

Since 1998, the US has installed 53 GW of non-hydro renewable energy and the majority (63%) is in states that have RPSs.

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10 States Get 10% of Electricity from Wind

By *SustainableBusiness.com News*

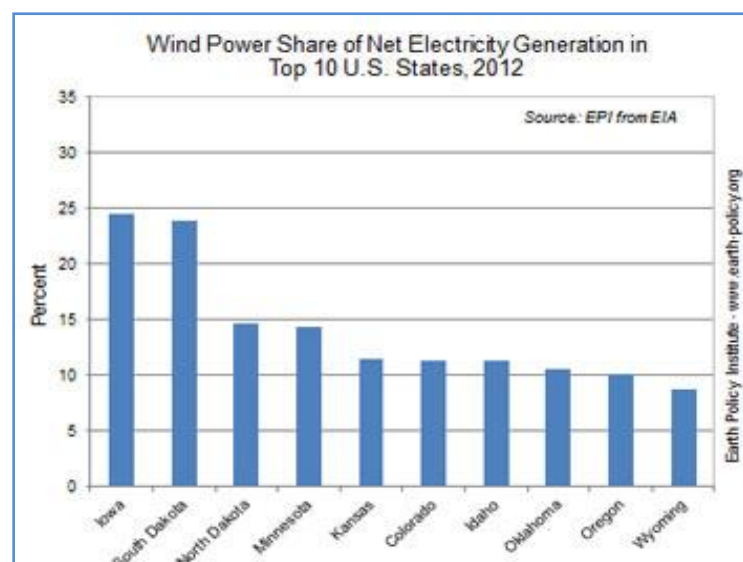
Wind farms generated 3.5% of US electricity in 2012, up from 2.9% in 2011., and although we don't hear much about it, wind is quietly becoming a significant source of energy in many states.

Also in 2012, for the first time wind energy is the top source of new electricity capacity in the US. 42% of new capacity added came from wind.

The cost of electricity from wind has dropped 21% over the last two years because of declining prices for turbine equipment that also produces more energy.

In 2012, wind supplied almost 25% of the electricity for Iowa and South Dakota, at least 10% of the energy in seven other states.

Wind farms generated over 9% of the electricity used Texas last year. The state leads the US in overall wind development, growing 18% in 2012.

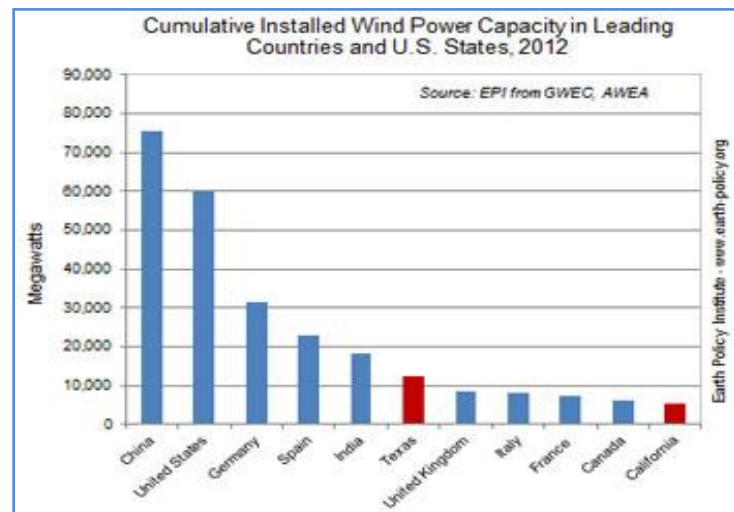


When it comes to wind, only **four countries** have more capacity than the 12.2 gigawatts installed in Texas.

After Texas, California has the most wind capacity in the US - with a total of 5.5 GW, it surpassed Iowa for the number 2 spot in 2012.

Minnesota is adding critical transmission infrastructure that will bring much wind online in the next couple of years.

All the top 10 states for wind have Renewable Portfolio Standards that require utilities to source a certain percentage of energy from renewables.



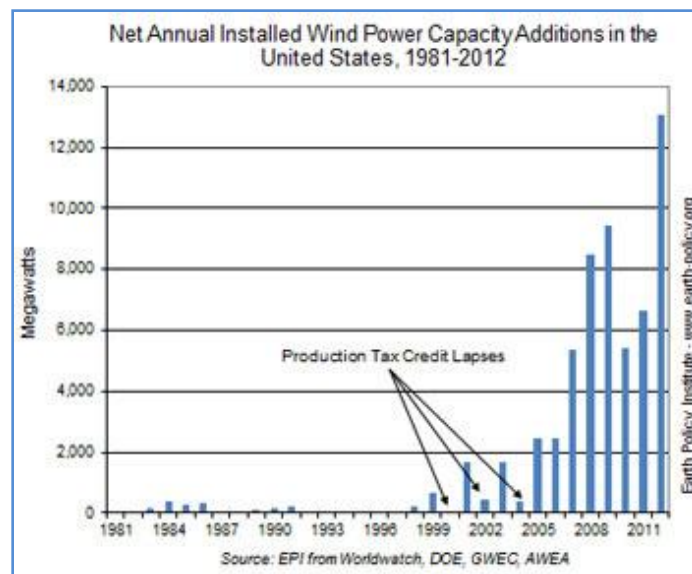
Obviously, wind still contributes only a small share of the energy in the US, but wind generation has quadrupled since 2007, growing by more than 30%, far exceeding the growth of any other electricity source.

Along with natural gas, the growth in wind is the reason coal use is declining at 5.5% a year. The same is true for nuclear, which is dropping 1% a year, making the anticipated "nuclear renaissance" unlikely.

The US now has 60 GW of wind online, enough to serve 15 million homes, after adding a record 13.2 GW last year.

Close to two thirds of this new capacity came online during the fourth quarter - nearly 60 wind projects, totaling over 5,000 megawatts - in December alone, as developers raced to complete construction before the PTC expired.

As we've report many times, orders plummeted in anticipation of the expiration, so even though the PTC ended up being renewed for this year, it was too late to stoke any serious growth.



But although only 2-3 GW will likely be added this year, wind-generated electricity will still grow significantly from all those new projects that began operating in 2012.

Although wind is expected to rebound somewhat in 2014, it will still take a coherent longer term energy policy for the boom-bust cycle to end and for full development of this vast resource.

[<Source>](#)

Ford to accelerate waste reduction effort

By *BusinessGreen Staff*

Ford is aiming for a 40 percent cut in the waste it sends to the landfill per vehicle produced by 2016 as part of a new five-year global waste reduction plan.

Meeting the goal would see just 13.4 pounds (6.1 kilograms) per vehicle sent to the landfill between 2011 and 2016, building on the drop from 37.9 pounds (17.2 kilograms) to 22.7 pounds (10.3 kilograms) achieved between 2007 and 2011.

Under the new strategy, the carmaker intends to stop certain kinds of waste from entering its facilities.

This includes identifying the five largest volume waste-to-landfill streams at each plant before developing reduction plans, improving waste-sorting procedures to make recycling and reuse easier as well as investing in new technologies that minimize waste, such as dry machining.

Existing programs dealing with specific kinds of waste, including metallic particles from the grinding process and paint sludge, will also be expanded.

Ford said the focus on waste reduction would also have financial benefits, citing the \$225 million revenue it generated last year from recycling 568,000 tons (515 million kilograms) of scrap metal in the U.S. and Canada alone.

"Reducing waste is a crucial part of our strategy toward building a world-class manufacturing system," said John Fleming, executive vice president of global manufacturing and labor affairs. "By applying standard waste reduction processes across our global facilities, we are, through our actions — and not just words — improving the quality of life where we do business."

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Better Place: what went wrong for the electric car startup?

After selling fewer than 750 cars in a major initiative in Israel and losing more than \$500 million, the company's experience shows that electric cars are still not ready for primetime

By **Marc Gunther**, for Yale Environment 360, part of the Guardian Environment Network, guardian.co.uk,



Renault Better Place car and charging point seen in Tel Aviv. The much-hyped company has failed to deliver on its promises. Photograph: carlos van as/Demotix/Corbis

If you want to sell electric cars, Israel looks like a great place to start. It's a small country, with most people clustered around Tel Aviv and Jerusalem. Gasoline costs more than \$7.50 a gallon, and oil revenues help support Israel's Arab foes. So it's easy to understand why Shai Agassi, an entrepreneur who was born in Israel and made a fortune in Silicon Valley, chose to launch his Better Place electric-car company in Israel, while preparing plans to expand in Europe, Australia, Japan, China, and the U.S.

What's harder to understand is why things have gone so badly. Better Place, which staked out its position in the electric car market with an innovative battery-switching technology, has sold only about 750 cars in Israel, while piling up losses of more than \$500 million. Agassi was forced out of Better Place in October, his successor as CEO quit in January, and the company has put its global rollout on hold. Better Place needs to raise more money this year, and that won't be easy, insiders say.

Start-ups often stumble, of course, but Better Place's woes raise questions that matter to anyone who cares about electric cars and their future in a low-carbon economy. Has Better Place sputtered because of its own mistakes, or are the company's difficulties a sign of the broader challenges facing electric cars?

To find out, I spoke to company officials, industry experts, and electric-car executives at rival automakers. And to get a sense of the Better Place driving experience, I took a test drive in the company's all-electric Renault Fluence EV during a recent trip to Israel, traveling 120 miles round-trip from Tel Aviv to a kibbutz in the Negev Desert.

Agassi, a hard-charging, charismatic software executive, launched Better Place in 2007 with a bold goal: To help end the global auto industry's reliance on oil. Since then, Better Place has raised about \$850 million — an astonishing figure for a start-up — from such sophisticated investors as HSBC Group, Morgan Stanley, General Electric, Vantage Point Capital Partners, and the conglomerate Israel Corp., its biggest shareholder.

When analysts from Deutsche Bank took a close look at Better Place in 2008, they wrote that the company's unique business model could lead to a "paradigm shift" that causes "massive disruption" to the auto industry, and said the company has "the potential to eliminate the gasoline engine altogether."

Renault-Nissan agreed to manufacture 100,000 electric cars, tailored to Better Place specifications.

At Better Place's battery-switching stations, a depleted battery is replaced with a fully charged one in about five minutes. What got many people (including this writer) excited about Better Place was Agassi's unorthodox solution to the two big problems with electric cars: You can't drive them very far without recharging, and they are expensive to build because the battery adds \$10,000 or more in costs. David Jones, Better Place's vice president of business development, put it bluntly when we met: "Gas cars are convenient and affordable. Electric cars — prior to Better Place — are neither of those things. They're not convenient. They're not affordable."

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Coca-Cola, Dell, Facebook, Hertz to offer EV charging at work

By **Sustainable Business News**

Employees could soon find it easy to keep plug-in electric cars charged because 26 major corporations and government entities will start offering charging in their parking lots.

Last month, 13 U.S. corporations signed on as charter members to the Department of Energy's Workplace Charging Challenge, which commits them to installing EV charging infrastructure at the workplace.

Workplace charging is an untapped resource that presents a significant opportunity to vastly expand the country's plug-in charging infrastructure.

The idea is to make EV charging easily accessible to encourage people to buy these vehicles. Since cars are parked in employer parking lots much of the day, the ability to charge while at work can potentially double the driving range.

The first to sign on were Google, 3M, GE, Siemens, Verizon, Duke Energy, Eli Lilly, Chrysler Group, Ford, GM, Nissan, San Diego Gas & Electric and Tesla.

Now, 13 more companies will join them: Coca-Cola, Dell, Facebook, Hertz, AVL, Bentley Systems, Biogen Idec, Bloomberg, Hartford Financial Services Group, National Grid, NRG Energy, Osram Sylvania, Raytheon and Southern



California Edison. It's also open to government agencies: The city of Sacramento and New York Power Authority have signed on.

It's part of DOE's EV Everywhere program, announced by President Barack Obama last year, to make plug-ins as affordable and convenient for the American family as gasoline-powered vehicles within the next 10 years.

Electricity is much cheaper to power a vehicle — generally equivalent to about \$1 per gallon; these cars need to catch on to make a dent in climate change.

Photo of an EV charging station sign provided by boboroshi via Wikimedia Commons.

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How community service helps build a great company

By **Melissa Vernon** and **Mikhail Davis**

It's Tuesday afternoon of the Interface Americas annual sales meeting, the global CEO is packing boxes at a food bank, the Americas CEO is calling bingo at the senior center and the CIO is building a garden box. What could this possibly have to do with running a sustainable carpet company? We'd like to make the case that it's one of the most important things we do to keep sustainability alive and well at Interface.



At Interface, we talk about sustainability all the time and people all over our organization have some direct connection to this mission, whether through manufacturing, marketing, supply chain or sales. But even if they have some idea of sustainability and how it relates to them and their everyday work, do they really *feel* sustainability? "Feel" is the key word, because motivation, engagement and finding your work meaningful do not come from intellectual understanding, but from emotional connection.

Spending a nearly a quarter of our annual two-day sales meeting building garden boxes in a community garden, reading to school kids, playing bingo with seniors, installing carpet at a children's home and stocking a food bank will not eliminate our environmental footprint, but it will provide more of an emotional connection to our mission than carbon offsets ever could.

Since 2005 it has become an annual rite to identify and engage local organizations in the city where we hold our sales meeting and to send out a crew of 250 volunteers to spend a half-day on the projects of their choice. Participating in this tradition reinforces the identity of Interface as a company that leaves the places where we work better than we found them, and the people we partner with inspired and fulfilled. We call them "Legacy Projects" for the positive impact we hope to leave.

In his very first speech on sustainability at Interface in 1994, Ray Anderson asked us to take on the challenge of becoming the first "restorative enterprise," and "do good for the earth, not just no harm." This has long since expanded to explicitly include "doing good" for the people and places we depend on to make our business successful.

You may well be asking, "How is this really any different from the kind of corporate community service that has existed for decades?" The first big difference is context. Legacy Projects would not have the same impact if they were a stand-alone event that everyone was expected to get excited about once a year. These projects give associates an opportunity to get their hands dirty (sometimes literally) demonstrating our sustainability commitment and the Power of One.

Image by Strejman via Shutterstock

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Award-Winning Design Intends to Rebuild Earth's Ice Caps

By *SustainableBusiness.com News*

An architect has won first prize for a building design that's intended to help rebuild the Arctic ice caps.

Derek Pirozzi's "Polar Umbrella" is the winning skyscraper in this year's eVolo's Magazine's competition.

His design is based on giant, floating umbrellas that can potentially restore ice by harvesting and freezing the water underneath.

"This simple and bold umbrella feature of the design allows for the large structure to operate like a large arctic buoy, floating amongst the ice, producing copious amounts of replenished arctic surface helping to rebuild the fractured polar shelf," Pirozzi told *Wired*.

Strategically placed in the fastest melting areas of the Arctic or Antarctic, these large shading devices, which he calls "flexible mushroom-like exoskeletons," would provide shade and absorb UV rays - converting them into solar energy, instead of allowing them to melt the ice.

His wonderfully optimistic concept is that this self-sustaining structure would not be permanently placed - it would reconstitute the ice and keep moving to those areas in most need of more, thick ice.

"Rebuilding our protective Northern and Southern layers must become a primary objective," says Pirozzi. We must begin to help cool the earth's surface once again

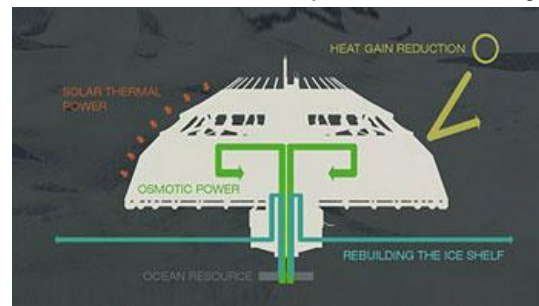
by reducing heat gain in our vulnerable arctic regions. By producing large amounts of ice and through the thickening of our current ice shelf, we can begin to rejuvenate the current ice packs."



A system of pliable pipes in the mushroom's "thermal skin" would harvest seawater by pumping it up and producing solar energy that powers the building.

Buoyant underwater chambers keep the umbrella afloat and by removing the seawater, the ice caps would re-freeze.

Since the umbrella is "double jointed," it can be angled to catch the most



sunshine. And that would cause the surrounding area's temperature to drop by three degrees Celsius.

The umbrella is constructed from carbon-based zinc-coated steel,

which allows it to be flexible enough to withstand harsh, icy winds.

The building would mainly host research labs, with dorms for 200 researchers and tourists.

Established in 2006, the competition recognizes outstanding ideas for vertical living through the novel use of technology, materials, programs, aesthetics, and spatial organization.

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By 2050, Urban Buildings That Breathe And Adapt

By *SustainableBusiness.com News*

What will a skyscraper built in 2050 look like? How will it function?

Rather than being static as they are today, in the future buildings will produce food, energy and resources.

They will be "living buildings" whose intelligent systems adjust to the needs of inhabitants, respond automatically to variations in weather, are reconfigured by robots and produce more resources than they consume.

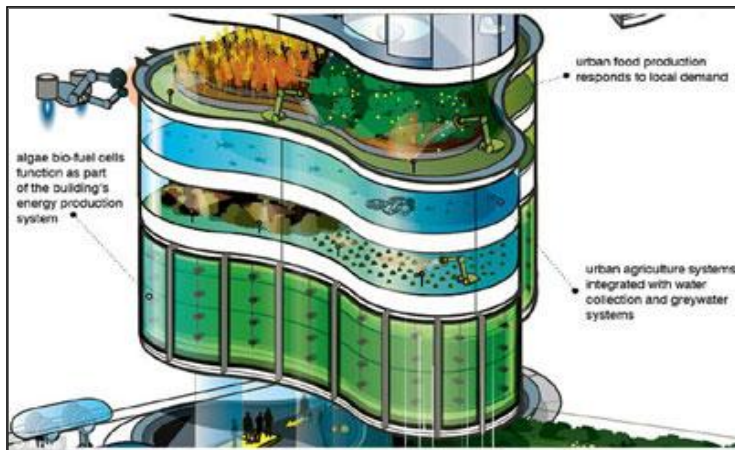
Engineering firm Arup, which designed the iconic Sydney Opera House and is building a zero-carbon city in Dongtan, China, produced a report, 'It's Alive,' to help the company and clients envision future buildings.

"The urban building of the future essentially functions as a living organism in its own right - reacting to the local environment and engaging with the users within," writes Josef Hargrave, a consultant with firm's Foresight + Innovation division.

Of course, the building of the future is powered by renewable energy - in this case from external walls coated with photovoltaic paint, micro-wind turbines and an algae facade to produce biofuels. A nano-particle membrane captures waste carbon and converts it to oxygen.

Vertical farms, which we're already seeing built, will be standard ways to produce meat, poultry, fish, and vegetables.

Brain-like 'intelligent building systems' will make "calculated" decisions about how to optimize resources by constantly tracking data on energy consumption, weather, and the needs of residents.



Much of the building will be modular. Depending on what's needed, robots could swap in or out components that provide food, such as animal, fish or vegetable farms. Robots would also be able to "work seamlessly together to install, detect, repair and upgrade components of the building system, says the report.

"By 2050, the human population will have reached 9 billion people with 75 per cent of the world's inhabitants living in cities. This report explores the idea of intelligent buildings that are able to make informed and calculated decisions based on their surrounding environment - living and breathing structures that are able to support the cities and people of tomorrow," Hargrave.

Arup's mock-up for the building of the future embodies five attributes: flexibility, sustainability, reactivity, community integration and smart systems.

The building has a "dynamic network of feedback loops characterized by smart materials, sensors, data exchange, and automated systems that merge together, virtually functioning as a synthetic and highly sensitive nervous system," it says.

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DOE helps manufacturers find millions in hidden energy savings

By **Jonathan Bardelline**

Manufacturing plants are ripe for energy improvements, but company efforts can stall without a proper analysis of facilities to figure out where best to focus.

For the last few years, the U.S. Department of Energy has helped numerous U.S. companies analyze and reduce their energy use through its Better Buildings, Better Plants program.

"We only have so many resources to do these analyses," said Al Hildreth, energy manager at General Motors, a Better Plants partner. "And this is an extra set of resources to identify additional opportunities."

Every company that joins Better Plants makes a voluntary pledge to reduce its energy intensity by 25 percent over 10 years.

When it launched the program in 2010, DOE started with some of the industrial firms it had previously worked with. "We turned to a lot of those companies we had existing relationships with," Defontaine said.



Since then, other companies have joined, either approaching DOE on their own or finding out about the program through DOE outreach. The program recently added its 118th company partner, International Paper.

All together, 1,400 manufacturing facilities -- representing 6 percent of the U.S.'s energy footprint -- are now involved in Better Plants, said Andre Defontaine, project manager for the program.

In 2012, partner companies achieved an average energy-intensity improvement of 3.15 percent, putting them ahead of the annual improvement needed to just meet the 25 percent goal, which is 2.5 percent per year.

A major component of working toward the 25 percent goal is for companies to determine their baseline energy intensity and track and report annual changes.

In turn, the DOE helps companies set up systems for tracking energy use data and metrics, analyze data, set baselines and create plans. Companies also gain access to software tools and other technical resources.

"The first thing that companies need and where we invest most of our efforts is helping them get their arms around the metrics," Defontaine said. "Some companies do join the program with a tracking system in place. Many others aren't tracking energy efficiency because they haven't had a real need to before."

Image of industrial laser cutting by Dmitry Kalinovsky via Shutterstock.

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Chinese pollution study 'blocked on grounds of state secrecy'

By Tania Branigan, for *guardian.co.uk*

China's leading environmental watchdog has refused to disclose the results of a major national soil pollution study on grounds of state secrecy, according to



Public concern about the environment is growing thanks in part to severe air pollution in Beijing earlier this winter. Photograph: Ng Han Guan/AP

a lawyer who requested the report's disclosure.

The news comes amid growing public concern about the impact of years of turbo-charged growth on the environment and people's health, thanks

in large part to the winter's terrible air pollution in Beijing and other areas of the country.

Public awareness of the widespread problems is soaring. The groundwater of two-thirds of cities is severely polluted, according to official data, while two-fifths of rivers are tainted.

But scientists warn that soil pollution is likely to prove a larger long-term problem than air and water contamination, affecting food production and human health.

Official figures released in 2006 said a tenth of farmland was affected; independent estimates have suggested as much as two-fifths has been tainted by arsenic and heavy metals from mines.

Beijing-based lawyer Dong Zhengwei told the state-run Global Times newspaper that he had requested the findings of the five-year, 1bn yuan (£100m) study because he believed soil pollution could be a serious safety threat.

But the ministry of environmental protection told him it would only release some details because the full report was a state secret, he said.

According to the newspaper, the report was completed in 2010. Last year, ministry officials told Chinese media they were still awaiting state council approval for publication.

"The ministry's claim is rather ill-founded, because the regulations on disclosure of government information actually allow for the release of so-called national secrets if they involve public interests," Dong told the South China Morning Post.

"The environmental ministry has been releasing real-time information about air pollution even though the air in Beijing was so bad last month. In contrast, soil pollution is a 'state secret'. Does this suggest that the land is contaminated much worse than the air?"

The case is a reminder of the continuing sensitivity of environmental issues, despite the growing focus that the government has placed on the problems, with state media running unprecedentedly aggressive coverage of smog and more open discussion of other issues.

Last week, China admitted for the first time to the existence of "cancer villages" – where chemical pollution has led to soaring rates of disease – in a report published by the ministry.

"Toxic chemical pollution had caused many environmental disasters, decreased drinking water supplies and even led to serious health and social issues such as cancer villages," it warned.

The government has taken a host of measures – such as vowing to spend 0bn to clean up the water supply over the next decade – but critics fear it may be too little, too late.

In a sign of growing public concern about the environment, one of the country's best-known entrepreneurs, internet tycoon Jack Ma, last week warned a business conference that money could not protect the wealthy from pollution and predicted cancer would affect every family within the decade.

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Green Technology Spotlight: Heliostats On Buildings

By *SustainableBusiness.com News*

You never know when one technology can be used for something else.

In this case, heliostats, those mirrors used in concentrating solar plants, might prove just as useful attached to buildings.

They maximize solar efficiency by moving along with the sun and smaller versions could be used to heat buildings as well as increase daylighting inside.



In Sydney, Australia, the \$600 million One Central Park project features an impressive cantilever that extends out from a tall tower. It consists of fixed and motorized mirrored panels

that capture sunlight and reflect it onto landscaped terraces, creating more green space.

It was "meticulously and painstakingly orchestrated," Guy Pahor, CEO of Frasers Property Australia told *Engineering Source*. "With the weight of the reflector frame needing to perfectly counterbalance with the East tower, lifting it into place was an extremely complex process."

Another potential development would use heliostats to direct daylight between buildings.

Rooftop heliostats direct light into a 12-story atrium at Genzyme's headquarters in Massachusetts, and are Puente Hills Mall in California and the historic Reichstag building in Berlin, reports *Engineering Source*.

In the future, small heliostats on the roof could be used like a concentrating solar tower, which directs the sun to heat and cool the building or provide sunlight to produce food inside.

Engineers are working on using fewer, lighter materials for heliostats to make them suitable for these applications at cost-effective prices.

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Solar Sponges to the Rescue? Mopping Up Carbon

By *SustainableBusiness.com News*

As the news continues to get more depressing about the advance of climate change - hurtling forward toward worst case scenarios - we're seeing beginning efforts to create technologies that will counter it.

Not that we believe technology will fix this problem, but we do think it will help in significant ways, especially during the decades it will take to stop using fossil fuels.

In 2012, atmospheric carbon levels jumped to the highest level yet, leaving scientists little hope that world temperatures won't rise above 2 degrees C.

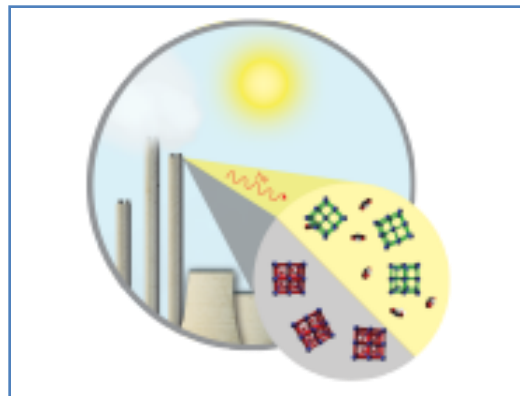
Last year, carbon levels rose 2.67 parts per million to just under 395 parts per million in total - the biggest one year rise other than 1998. Carbon concentrations in the atmosphere must stay at or below 350 ppm to keep temperature rise at or below 2 degrees C.

More coal-burning power plants, almost all in China and other developing countries are behind the steep rise, even as emissions decline in the US and other advanced nations, thanks to clean energy and energy efficiency.

The world's oceans are saturated with carbon and can't absorb much more and last year, plants and the ocean absorbed less carbon. Those rates vary from year to year though, John Reilly, co-director of Joint Program on the Science and Policy of Global Change, told *Associated Press*.

Until the 1960s, carbon rose less than 1ppm a year, rising to 1ppm a year through 1999 and jumping to 2ppm a year since then, largely due to China and India's recent rapid growth.

Solar Sponges to the Rescue



Many start-ups and researchers are focused on how to capture and recycle carbon emissions into useful products, rather than just injecting back into the earth and storing it.

There's progress on recycling carbon emissions from power plants and industrial sources into a wide array of products from

cement and plastics and even into fuel, but so far the process of doing so is itself energy intensive.

Researchers at Australia's national science agency, CSIRO, think they've hit on a much better way - using only concentrating solar energy.

"Solar sponges" would mop up the carbon, after which it would be "rung out" and reused.

"The capture and release process can be compared to soaking up water with a sponge and then wringing it out. When UV light hits the material its structure bends and twists and stored gas is released," explains Dr. Matthew Hill, who won a 2012 Eureka Prize for this work. "This is an exciting development for carbon capture because concentrated solar energy can be used instead of further coal-based energy to drive the process."

The 'sponge' is made from a material called a MOF - metal organic framework - which adsorbs carbon dioxide and then instantaneously releases it when it's exposed to sunlight.

Known as dynamic photo-switching, this capture-and-release method is extremely energy efficient and only requires UV light to trigger the release of CO₂ after it's been captured from a mixture of exhaust gases.

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Nations urged to combine environmental and development goals

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

Degradation of the natural world is undermining efforts to reduce poverty, warn scientists, who say the only chance of achieving global prosperity is for all countries to combine poverty and environmental targets.

World leaders should set six goals around universal clean

energy, an end to water and food shortages, thriving lives and livelihoods, and healthy and productive ecosystems, they say.

Prof David Griggs, director of the Monash Sustainability Institute in Australia, argues in an article in the journal *Nature* that it is no longer enough for countries to solely pursue the poverty alleviation targets enshrined in the millennium development goals (MDG) that were agreed in 2000 but run out in 2015.

"Humans are transforming the planet in ways that could undermine any development gains. Mounting research shows that the stable functioning of Earth systems - including the atmosphere, oceans, forests, waterways, biodiversity and biogeochemical cycles - is a prerequisite for a thriving global society," he writes, with colleagues.

Instead, the authors say that the old goals should be combined with global environmental targets drawn from science and from existing international agreements to create new "sustainable development goals" (SDGs).

"Pursuing a post-2015 agenda [which is] focused only on poverty alleviation could undermine the agenda's purpose. Growing evidence and real-world changes convincingly show that humanity is driving global environmental change and has pushed us into a new geological epoch. Further human pressure risks causing widespread, abrupt and possibly irreversible changes to basic Earth-system processes. Water shortages, extreme weather, deteriorating conditions for food production, ecosystem loss, ocean acidification and sea-level rise are real dangers that could threaten development and trigger humanitarian crises across the globe," say the authors.

Countries began the political process of adopting new post-2015 targets earlier this month at the inaugural meeting of the open working group on sustainable development goals at the UN headquarters in New York. Most developing countries argued, as they have done throughout the long-running UN climate negotiations, that rich countries should do more than developing countries to alleviate environmental pressures on the basis that they have been largely responsible for the problems and have greater resources to tackle them. However, developed countries want to see ecological improvements included as an overarching priority in the future goals of developing nations.

The scientists' hopes rests on countries combining existing, agreed UN targets and adopting a new definition of sustainable development. It is presently defined as: "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs." They propose: "Development that meets the needs of the present while safeguarding Earth's life-support system, on which the welfare of current and future generations depends."

"None of this is possible without changes to the economic playing field. National policies should, like carbon pricing, place a value on natural capital and a cost on unsustainable actions. International governance of the global commons should be strengthened, for example through binding agreements on climate change, by halting the loss of biodiversity and ecosystem services and by addressing other sustainability concerns," says the article in *Nature*.

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Humans are transforming the planet in ways that could undermine any development gains, the paper warns. Photograph: AFP/Getty Images

Sustainable business champions can light up the darkness

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

Not all the darkness in the universe can snuff out the light of a single candle.

I was reminded of this saying, which sat on the family mantelpiece when I was growing up, during a Guardian Sustainable Business leadership workshop I chaired recently. Aris Vrettos, a director at the University of Cambridge Programme for Sustainable Leadership, got us thinking about what an individual engaged in corporate responsibility can achieve even if no one else in the business at a level of authority is interested in responding to the



CSR champions lead the way: it is possible for individuals to make a difference to the sustainability of a company. Photograph: William Fernando Martinez/AP

sustainability challenges of our age.

The perceived wisdom is that if the board of directors is not prepared to champion social and environmental issues, then CSR becomes the equivalent of pushing a large boulder up a steep mountain. As a practitioner for many years, I know how lonely and disheartening that can sometimes feel, but I also know just how powerful an individual can be within an organisation if he/she is able to combine the most powerful forces of change; passion, commitment, tenacity, some good quality data, and a sprinkling of well aimed sedition.

In fact, when you look deeply at history, you quickly see that more often it is the actions of a single person that sparks the change. But let's also be honest. If you are a wallflower who does not like to say boo to a goose, then you might be in trouble. Change does not happen by sitting at your CSR desk hoping people will come knocking at your door.

So how can an individual be effective without a strong foundation of support? Well, a number of us at the seminar put our thinking caps on and quickly drew up a rather long list of tactics that can be brought to bear even in a corporate culture that has its attention focused elsewhere.

Beyond the need to map where you think the company needs to prioritise action, one of the key issues discussed at the seminar was about the art of timing. Think of a lion waiting patiently for the right moment to strike, rather than running around after prey non-stop and exhausting itself. So it's important not to see success in terms only of linear time, but to develop solutions that are ready for when the right opportunity arises. Much of the work, for example, behind Marks & Spencer's Plan A had already been developed before the then CEO had his epiphany.

Also, there is nothing quite like a scandal to get the wheels turning. You can bet your bottom dollar that Tesco chief executive Philip Clarke's commitment to be more transparent about the company's supply chain in the wake of the

horsemeat scandal would not have been made without the procurement team already having done their homework.

Another key component discussed at the GSB workshop was building a network of supporters within the business and knowing what will interest each department, rather than going for a one size fits all approach.

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How retailers can collaborate on safer chemicals

By Sally Edwards

Retailers are often caught by surprise when a new chemical of concern hits the news. Headlines such as "Dangerous Toys Lurk on Store Shelves" or "Plastics in Baby Bottles May Pose Health Risk" can send retailers scrambling to remove products from shelves, often in response to public concerns that precede regulations.

While reacting quickly to such news is often an appropriate response, such hurried action can be very costly and can impact customer loyalty and brand integrity. And although it may get some products of concern out of the marketplace, it does not provide a long-term solution to the problem of harmful



chemicals in consumer products. Such a reactive approach can also lead to regrettable substitutions, where a chemical or product of concern is replaced with one that is equally or more dangerous.

As this story plays out over and over with chemicals such as lead, bisphenol A, brominated flame retardants and other toxicants, many retailers are recognizing that it makes much more strategic sense to be proactive rather than reactive. Retailers understand that these events are often a signal that new regulations are imminent.

For example, after 17 million toys were recalled in 2007 for violation of the lead standard, the federal government quickly passed the Consumer Product Safety Improvement Act in 2008 that tightened restrictions on lead and banned phthalates in children's products, among other provisions. Government action on BPA was slower, but the Food and Drug Administration banned BPA from sippy cups and baby bottles in 2012, several years after concerns were raised and many manufacturers took action to remove the chemical from baby products.

Retailers are finding that their institutional and individual customers have become more sophisticated about and aware of toxic chemicals in products and are demanding that chemical information be disclosed and that these risks be eliminated. In response, leading retailers are developing a range of approaches to chemicals management that they are implementing throughout their supply chains:

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Brands battling over sustainability advertising is good news

When brands start greener-than-thou battles both business and the environment are the winners, says Thomas Kolster.

By **Thomas Kolster** *Guardian Professional,*

Ever since Coca-Cola launched its bold anti-obesity efforts, employees must have felt like bulls (or Polar Bears) in a china shop as critics pointed accusing fingers, but ultimately it was a vital decision. They gained the upper hand not only in the obesity



Coca-Cola's recent move into the anti-obesity debate shows how sustainability communication is a strategic tool. Photograph: Alamy

debate, but also against their competition. I don't know if it's just me, but I have always loved the rivalry between Pepsi and Coca-Cola. Isn't that the true symbol of capitalism: companies doing their utmost to stay ahead of the competition? Delivering exceptional services, products and now sustainability pledges to us, the consumers? Coca-Cola and Pepsi are like two brothers competing for attention, competing for love. But there's a lot to learn from their skirmishes: namely what direction sustainability communication is moving in.

Let's begin with a quick recap. You most likely remember Pepsi's shocking turn at Super Bowl 2010, when it chose to pull back and donate money to community initiatives with The Refresh Project instead of putting celebrities like Britney Spears on centre stage. Barely a year after, in late 2011, Coca-Cola followed suit and turned its cans white in support of polar bears and arctic research with the Arctic Home campaign. Both examples are pure marketing savvy. Consumers want to be engaged in more than mere entertainment, they want brands to stand up and make a difference for people and the planet, and they want to feel that they are supporting something good with their hard-won cash. Coca-Cola didn't want Pepsi to own this space alone. Competition has moved on from the traditional battlefield to encompassing sustainability, almost following the mantra: whatever you can do, I can do greener. While Coca-Cola is expanding its Arctic support in new markets, sadly Pepsi's Refresh Project has quietly fizzled away.

But what makes Coca-Cola's recent move into the anti-obesity debate even more interesting is that it shows how sustainability communication is also used as a strategic tool; dealing with top-management decisions rather than a green flash in the marketing pan. The anti-obesity campaign is not only consumer facing, it's telling Coca-Cola's many stakeholders that Coca-Cola has a strategy to tackle obesity. This is a clever tactical move, especially following the recent challenges from lawmakers such as Michael Bloomberg, the mayor of New York who took matters into his own hands and banned large sodas and sugary drinks over 16 ounces – effective from next month. It's also a pro-active strategy against lobbyists such as the Center for Science in the Public Interest that recently launched, The Real Bears that USA Today dubbed "the video Coca-Cola doesn't want you to see," which of course only made the video more popular. It attracted more than 2 million views.

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Large rise in CO2 emissions sounds climate change alarm

Hopes for 'safe' temperature increase within 2C fade as Hawaii station documents second-greatest emissions increase

By **John Vidal**, *The Guardian*



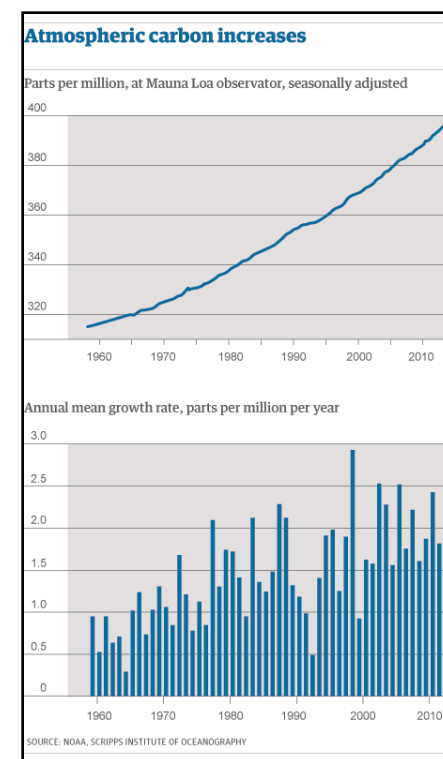
Hawaii's Mauna Loa observatory, where record CO2 increases are being Documented (Photograph: Richard Vogel/AP)

The chances of the world holding temperature rises to 2C – the level of global warming considered "safe" by scientists – appear to be fading fast with US

scientists reporting the second-greatest annual rise in CO₂ emissions in 2012.

Carbon dioxide levels measured at at Mauna Loa observatory in Hawaii jumped by 2.67 parts per million (ppm) in 2012 to 395ppm, said Pieter Tans, who leads the greenhouse gas measurement team for the US National Oceanic and Atmospheric Administration (NOAA). The record was an increase of 2.93ppm in 1998.

The jump comes as a study published in Science on Thursday looking at global surface temperatures for the past 1,500 years warned that "recent warming is unprecedented", prompting UN climate chief, Christiana Figueres, to say that "staggering global temps show urgent need to act. Rapid climate change must



be countered with accelerated action."

Tans told the Associated Press the major factor was an increase in fossil fuel use. "It's just a testament to human influence being dominant", he said. "The prospects of keeping climate change below that [two-degree goal] are fading away."

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Peugeot's Hybrid Air: the car of the future that runs on air

By **Tim Lewis**, for *The Observer*

There was a sense, when I arrived in Paris a couple of weeks ago, that France was if not quite in meltdown then certainly enduring a profound existential crisis. Unemployment had metastasised to 10.6%, and the country's credit rating was in the dumps. President François Hollande's maligned plans for a 75% "supertax" had sent some of the most famous French citizens scuttling to Belgium. In November, a cover of the *Economist* showed seven baguettes tied with a tricolour, a lit fuse poking out of the middle. The article warned: "Mr Hollande does not have long to defuse the time-bomb at the heart of Europe."

French manufacturing, in particular, was on its knees. Worldwide sales at carmaker PSA Peugeot Citroën were down 8.8% in 2012, the sixth successive year they had decreased. Three of its biggest markets – Spain, Italy, Portugal – were even less interested in new cars than France. The company had announced plans to shrink its French workforce by 8,000, almost one-fifth, over the next two years. Workers responded with violent protests, burning tyres and cutting power cables.

In these desperate times, however, there was one solitary flower growing up through the concrete. In January, Peugeot announced that it had developed a car that ran on air. It officially launched the Hybrid Air vehicle to the world at the Geneva motor show this month, and revealed that it would be in production by 2016. The car did not solely run on air, of course; the new technology was twinned with a petrol engine. But Peugeot believed that it had significant advantages over battery-powered electric hybrids, such as a Toyota Prius. Their cars would be cheaper to buy, for a start, and extra savings would come



The Peugeot Hybrid Air, with the blue 'scuba tank' clearly visible.

from a fuel economy of around 81 miles per gallon.

If Peugeot could back this up, Hybrid Air would shake up the whole car industry.

The ailing

French giant could certainly do with it being a success – its long-term survival might just depend on it.

At a Peugeot technical centre in Carrières-sous-Poissy, a few miles west of Paris, two engineers – project leaders Karim Mokaddem and Andrés Yarce – show me a Hybrid Air vehicle. From one side, the car looks no different from the compact hatchbacks that Peugeot and Citroën are famous for, but it has been sawn in half to better illustrate the new technology. Most visibly, running down the middle of the undercarriage, there is a blue, four-foot-long accumulator – what Mokaddem calls, with a wry smile, "the scuba tank".

The pressurised steel tank is filled with around 20 litres of nitrogen, plus some hydraulic fluid. Much like a Prius, Hybrid Air vehicles recover energy every time the driver brakes or decelerates. But instead of using this kinetic energy to charge a battery – as electric hybrids do – the Hybrid Air system has a reversible hydraulic pump that compresses the hydrogen in the tank and then unleashes it the next time the driver pumps the accelerator.

"It's mainly a ..." Yarce searches for the word, "a syringe. The nitrogen compresses or decompresses and actually pushes the oil and the hydraulic components to transform this energy into a force that makes the vehicle move forwards. It's as simple as that."

The system does not produce vast amounts of energy – in fact you would struggle to drive even a mile before the petrol engine was forced to kick in – but if you are stop-starting around the city all day then the savings in fuel could be significant. "We named the prototype cars Kiwi One, Kiwi Two, etc, because the amount of energy stored within the scuba tank is exactly the same amount you'd find in a kiwi fruit," explains Mokaddem.

Another advantage over hybrids already on the market is that Peugeot's new cars do not require an expensive lithium-ion battery or electric motor, meaning that they will start from around £17,000. That's almost £5,000 less than a Prius. The parts are simple and easily serviced, a fact that would be attractive in the emerging markets of China, India and Russia.

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Häagen-Dazs to pilot sustainable vanilla sourcing program

By **Kristine A. Wong**

The brand known for its rich ice cream is hoping to spread some riches back to



vanilla's source: the farmers in Madagascar who supply Häagen-Dazs and its parent company, Minneapolis-based General Mills.

A two-year pilot training program set to launch this

spring among villages in the country's northeastern Sava region aims to provide training and education to several hundred farmers on how to cure vanilla. Curing — a multistep process that includes drying and storing the pods as a way to release their trademark fragrance — is performed mainly by vanilla suppliers and traders. Farmers will receive access to equipment and curing facilities as part of the program.

Providing the farmers with the training and facilities to take on the curing process post-harvest is designed to strengthen the farmers' economic livelihoods, General Mills Chief Sustainability Officer Jerry Lynch told GreenBiz. The farmers — who rely on the vanilla harvest for most of their income — will also be trained on how to generate higher yields from the vanilla orchid plants.

"The training allows them to capture a bigger part of the of the value chain," Lynch said.

Häagen-Dazs and General Mills have joined forces with in-country NGOs to implement the program, according to Joan Lundgren, the deputy executive director of strategic partnerships and alliances at CARE. CARE is an international organization that has worked in the vanilla-growing Sava area for nearly 20 years implementing community health, food security and disaster risk reduction activities. Malagasy conservation group Fanamby will conduct the technical training with established grower associations, while CARE will provide small business and financial training for farmer families, Lundgren said.

Another partner is Virginia Dare, a longtime vanilla supplier and processor based in Brooklyn, N.Y. The company will work with the team to share its knowledge of the vanilla market with the farmers. Virginia Dare has previously worked with the first village selected to receive the trainings, according to Lundgren.

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Water scarcity: government and business co-operation crucial

By **Flemmich Webb**, for guardian.co.uk

Today is World Water Day, and with 2013 declared the international year of water cooperation by the UN, focus on this vulnerable resource is more intense than ever.

The reasons for concern are summed up in the Worldwatch Institute's (WI) Vital Signs report: "Some 1.2 billion people — almost one fifth of the world — live in areas of physical water scarcity, while another 1.6 billion face what can be called economic water shortage."

Shortages and degradation of quality are serious threats to economic growth and social cohesion unless water is managed properly. One barrier to this is a lack of action at government level, which is why 45 companies signed a special communiqué at Rio+20 highlighting the urgency of the global water crisis and calling on ministers to take action.

The private and public sectors haven't always seen eye to eye over water, but necessity has created more of an appetite to work together.

South Africa is a good example of collaboration. Water is a serious issue here. Low rainfall and limited underground aquifers means it already has to import water from neighbouring countries, and supply is set to decline further if current trends of inefficient use, leakage and wetland destruction persist.



Farm workers work in a field at a farm in Klippoortie, east of Johannesburg. Agriculture accounts for 70% of freshwater consumption worldwide. Photograph: Siphwe Sibeko/Reuters

At the same time, the demand for water from agriculture, industry and growing urban centres is expected to rise by 52% over the next 30 years. Unless the problems are addressed, 2030 Water Resources Group (WRG) estimates there will be a water supply-demand gap of 17% by 2030.

The South Africa Strategic Water Partners Network (SWPN), a partnership between the Department of Water Affairs (DWA) and WRG, works with businesses such as SABMiller, Coca-Cola and Sasol to help South Africa address three priorities: improving the efficiency of water use and reducing leakage; reducing water use in the agricultural supply chain; and creating partnerships to treat effluent.

SABMiller, brewer of Castle Lager and Hansa Pilsener, has a net water footprint of about 511,100m litres for its South African operation — 95% of which is associated with growing crops. The company identified water shortages and quality as a risk to its agricultural supply chain and its brewing operation in Polokwane.

It is now working with local governments and the Water Futures Partnership to mitigate this. Plans include developing a local co-ordinating body to manage a rehabilitation and stewardship programme, safeguarding existing water resources and maintaining the integrity of the native ecosystem. It will also

establish a Water User Association to provide data on water resources in the area and monitor groundwater levels on its hop farms.

"The public sector is an important and potentially very powerful partner," says Andy Wales, SABMiller's senior vice president of sustainable development, explaining the value of the collaborative approach. "Where we can bring business's innovative and strategic problem-solving approach to issues, a mandate and support from governments or local authorities can be critical to a project's success."

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Dell, Cisco, BT and SAP testing CO2 reporting standards

By **Jessica Shankleman**



The European Commission is drawing up plans for standardized tools to measure the carbon emissions of the information and communications technology sector, which will allow consumers to compare the environmental impact

of the products they buy.

Nearly 30 technology firms, including Alcatel-Lucent, Cisco, Dell, Ericsson and Huawei, have been working with the EU over the past year, testing out 10 international methodologies and standards for measuring the carbon footprints of their products.

A report on the tests concluded that standards could feasibly be implemented and the commission on Monday confirmed it will consult in the coming months on the best way to ensure tech companies use the new emissions reporting standards.

Other tech companies that took part in the tests include AMD, AUO, BT, Dassault Systèmes, EECA-ESIA, GSMA, Hitachi, HP, Intel, Lenovo, NEC, Nokia, Nokia Siemens Networks, Orange, Sagemcom, SAP, Telecom Italia, Telefónica and TeliaSonera. Three other participants in the project chose to remain anonymous.

Although ICT can help cut companies' carbon emissions, for example through the replacement of long-haul flights with videoconferencing, the energy used to build IT products and store data means the sector currently accounts for up to 4 percent of the EU's carbon emissions and accounts for 8 to 10 percent of the bloc's energy demand.

The news of the new standard was welcomed by Friends of the Earth, which is campaigning for tech giants such as Samsung and Apple to be more transparent about the environmental impact of the supply chains of their products. In particular, the group is currently calling for new rules requiring tech firms to report on the impact of their supply chains and raw materials, arguing that such an approach would help tackle the current environmental damage caused by mining for tin for mobile phone components on Indonesia's Bangka islands.

"Technology companies' plans to measure their carbon footprints are good news as it's an important step towards reporting on their full supply chain, all the way back to farms and mines," said Friends of the Earth campaigner Julian Kirby.

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Walmart and Annie's keep score of supplier sustainability

By Aaron Tilley

Retail buyers play a key role in helping big companies like Walmart make their supply chains more sustainable. Bringing them onboard, however, wasn't easy, so the world's largest retailer gave buyers scorecards to assess supplier sustainability.



Now 5 percent of buyers' performance objectives must come from sustainable suppliers.

"A couple of tangible tools and metrics have entirely shifted the momentum," said Brittni

Furrow, Walmart's director of sustainability for food and consumables.

Furrow and other experts delved into how companies are using scorecards to boost supply chain sustainability during two panel discussions last week at the GreenBiz Forum in San Francisco. Much of the discussion focused on how Wal-Mart is using assessment criteria from the Sustainability Consortium, the nonprofit it helped to create in 2009 to measure product sustainability.

With involvement from academics as well as suppliers and farmers, the consortium weaves together a slew of lifecycle data to better understand what criteria each industry needs to track in order to assess and improve product sustainability.

The consortium's science gives Walmart a better understanding of what questions to ask its diverse range of more than 100,000 suppliers in its scorecard.

"It helps us align on how to define sustainability in beer or cereal or children's toys," Furrow said.

But sometime scorecards aren't enough to take into account the complexity of Walmart's supply chains. Many of Walmart's direct suppliers can answer questions about their operations, but understanding upstream suppliers can be the biggest challenge.

"Supply chains are fragmented," explained Karie Crisp, an independent sustainability consultant for Walmart. "Sometimes you don't know all the information with the lack of transparency and education."

Homegrown sustainability

Even much smaller firms such as Annie's Homegrown Inc., a food company based in Berkeley, Calif., use scorecards to assess supplier and manufacturer sustainability.

But Annie's has one important advantage over Walmart: Its sustainability efforts began when the company was founded in 1989.

Annie's recently conducted a lifecycle assessment that showed it was reducing its carbon dioxide emissions by more than 1.5 million kg by growing organic wheat, the main resource used in its products.

Photo of John Davies, Brittni Furrow, Kim Marotta and Gary Beck by GreenBiz Group.

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UK increased recycling rates fastest in Europe over past decade

By Adam Vaughan, for guardian.co.uk

Recycling rates in the UK rose faster in the first decade of the millennium than any other country in Europe, according to official statistics published on Tuesday.

Although the UK started from a low base in 2001 – recycling rates were just 12% for all municipal waste – it increased by the greatest amount by 2010, reaching 39%, on a par with the average for the EU.

But the European Environment Agency, which released the figures, warned that many countries will fail to meet a European directive of recycling 50% of waste by 2020. Some countries, such as Germany, Austria and Belgium, already recycle more than half of their waste.

Others, in particular those in south-eastern Europe, are straggling far behind: Greece only recycles 18%, up from 9% in 2001, while Romania recycles just 1%. In a few cases, countries have gone backwards, with Norway's rates falling from 44% to 42%, and Finland's dropping from 34% to 33%.

Jacqueline McGlade, EEA executive director, said: "In a relatively short time, some countries have successfully encouraged a culture of recycling, with infrastructure, incentives and public awareness campaigns. But others are still lagging behind, wasting huge volumes of resources. The current intense demand for some materials should alert countries to the clear economic



The European Environment Agency warned that many countries will fail to meet a European directive of recycling 50% of waste by 2020. Photograph: David Sillitoe

opportunities in recycling."

The EEA said in a statement that "Europe is still wasting vast quantities of valuable resources by sending them to landfill", echoing earlier warnings from Janez Potočnik, the EU commissioner for the environment, that failure to use resources wisely could trigger a fresh economic crisis.

Despite the UK's rapid improvement, the EEA's David Watson cautioned "that [its] growth in ... recycling slowed down significantly towards the end of the last decade." The UK is expected to meet the EU target of recycling 50% of waste by around 2017, the EEA noted. Wales has pulled well ahead of England and Scotland on recycling in recent years, recording average rates of 54% last month.

A Department for the Environment, Food and Rural Affairs spokesman said: "Household recycling has risen from just 11% in 2001 to 43% this year and over half of business waste is now recycled. Government, local authorities and businesses have all worked with the public to achieve this and will continue to do so to meet challenging new targets."

[<Source>](#)

What Organic Farmers Want (and Need)

By *SustainableBusiness.com News*

More than 60 small family farmers and ranchers from 24 states traveled to Washington DC this week to meet with over 100 legislators.

They are urging Congress to restore critical funding for sustainable agriculture programs and pass a farm bill that advances the sustainability of agriculture, rural communities, food systems, and natural resources.

Faced with an expiring farm bill last year, on New Year's Eve Congress passed a short-term measure that extends parts of the bill through September 2013 - but this last-minute extension left dozens of sustainable agriculture programs stranded without funding.

This can be fixed through the Continuing Resolution - a version of this just passed the House but it doesn't address these issues.

For example, Elmwood Stock Farm in Georgetown, Kentucky, has been an organic farm for 30 years, producing certified organic beef, poultry, lamb, eggs, and produce on 300 acres.

"A little bit of investment has spurred so much growth of our business," says owner Mac Stone.

He's referring to programs like the National Organic Certification Cost Share Program, where farmers get help in paying the annual cost of organic certification.

Other important programs currently stranded are:

- Beginning Farmer and Rancher Development Program, which invests in young farmers and ranchers by funding programs and improving policies that support beginners, and removing barriers that deter entry into farming.
- Investments in the development and growth of local and regional food systems increase economic opportunities for farmers, food businesses, and rural communities.
- Conservation Stewardship Program, Conservation Reserve Program, and the Environmental Quality Incentives Program improves natural resource protection by rewarding farmers for good land stewardship.
- Targeting commodity and crop insurance subsidies to working farmers and tying subsidies to basic stewardship practices would bring fiscal responsibility and transparency to farm policy.

"The Farm Bill extension included in the fiscal cliff package is a disgrace. For half a year, the Senate and House debated versions of a new Farm Bill that would have made some progress toward eliminating subsidies for Big Ag and shifting incentives to healthy food and smart, sustainable farming practices. But Republican leadership copped out at the last second. Support for healthy farms became agricultural runoff, while massive commodity subsidies remain in place," says Justin Tatham, senior Washington representative for Union of Concerned Scientist's Food & Environment Program.

"Incentives for fruit and vegetable production and much-needed programs that protect our air, water, and soil will now lose funding. The Farm Bill extension is a blow to farmers who want to grow healthy foods and the consumers who want to buy them," he says.

There are two big culprits when it comes to agriculture's impact on the world around us: the fossil fuels that go into supporting the "industrialized, meat-heavy" US food system and fertilizers that contain nitrous oxide, a greenhouse gas that is roughly 298 times more potent than carbon dioxide over the course of 100 years.

The Farm Bill ignores these factors and actually encourages global warming by continuing to focus the bulk of its financial support on monoculture commodity crops that are the biggest offenders: wheat, rice, soybeans, cotton and (the really big one) corn. It also leaves crops vulnerable to drought and insect infestations.

[<Source>](#)

Global Solar Hits Parity Next Year, No Subsidies Needed

By *SustainableBusiness.com News*

Because of strong demand for rooftop solar forecast this year in key markets and further drops in pricing, Deutsche Bank believes the solar industry will transition from subsidized to sustainable in 2014.

The industry passed the 100 gigawatt (GW) threshold in 2012 and because of strong demand expected this year, the Bank expects solar to grow 20% - to 30 GW this year. China, for example, is set for astounding growth.

By Jeff Spross

Deutsche Bank just released new analyses concluding that the global solar market will become sustainable on its own terms by the end of 2014, no longer needing subsidies to continue performing.

The German-based bank said that rooftop solar is looking especially robust, and sees strong demand in solar markets in India, China, Britain, Germany, and the US. As a result, Deutsche Bank actually increased its forecast for solar demand in 2013 to 30 gigawatts - a 20% increase over 2012.

Here's *Renew Economy* [with a summary](#) of Deutsche Bank's logic:

The key for Deutsche is the emergence of unsubsidised markets in many key countries. It points, for instance, to India, where despite delays in the national solar program, huge demand for state based schemes has produced very competitive tenders, in the [12 cents per kilowatt hour] range. Given the country's high solar radiation profile and high electricity prices paid by industrial customers, it says several conglomerates are considering large scale implementation of solar for self consumption.

"Grid parity has been reached in India even despite the high cost of capital of around 10-12 percent," Deutsche Bank notes, and also despite a slight rise in module prices of [3 to 5 cents per kilowatt] in recent months (good for manufacturers).

Italy is another country that appears to be at grid parity, where several developers are under advanced discussions to develop unsubsidized projects in Southern Italy. Deutsche Bank says that for small commercial enterprises that can achieve 50 percent or more self consumption, solar is competitive with grid electricity in most parts of Italy, and commercial businesses in Germany that have the load profile to achieve up to 90 percent self consumption are also finding solar as an attractive source of power generation.

Deutsche bank says demand expected in subsidised markets such as Japan and the UK, including Northern Ireland, is expected to be strong, the US is likely to introduce favourable legislation, including giving solar installations the same status as real estate investment trusts, strong pipelines in Africa and the Middle east, and unexpectedly strong demand in countries such as Mexico and Caribbean nations means that its forecasts for the year are likely to rise.

As *Renew Economy* also points out, this is the third report in the past month anticipating a bright future for the global solar market: UBS released a report that concluded an "unsubsidized solar revolution" was in the works, "Thanks to significant cost reductions and rising retail tariffs, households and commercial users are set to install solar systems to reduce electricity bills - without any subsidies." And Macquarie Group argued that costs for rooftop solar in Germany have fallen so far that even with subsidy cuts "solar installations could continue at a torrid pace."

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Mounting investor demands for enhanced environmental performance

By James Murray

Business leaders at the world's largest listed companies have been facing growing pressure from investors to embrace environmental best practices, following the launch of the Carbon Disclosure Project reporting season and the publication of new research showing shareholder support for environmental resolutions is on the rise.

The CDP announced that it has kicked off its annual disclosure season, writing to more than 5,000 public companies around the world requesting information on their carbon emissions and climate change strategy.

Significantly, the group said the number of institutional investors supporting the annual requests for information has increased 10 percent to 722 separate investors, meaning that the initiative is backed by institutions with \$87 trillion of assets under management — equivalent to around one-third of the world's invested capital.

A nonprofit, the CDP aims to help investors manage climate risks and encourage businesses to measure their climate impacts and develop mitigation and adaptation strategies by requesting relevant information from listed companies.

As part of its annual disclosure season, companies will now have until May 30 to submit climate information to the organization using a standardized approach to measurement.



Last year, more than 80 percent of the Global 500 companies responded to CDP requests for information and the group is seeing a growing number of organizations around

the world providing data on their emissions performance.

"Since pioneering a system for corporate climate disclosure a little over 10 years ago, the number of investor signatories to CDP programs has grown more than twentyfold and growth in the number of companies using CDP has nearly matched this rate," said Paul Simpson, chief executive of the CDP. "This is testament to the economic relevance of environmental data to investment decisions."

Undergoing a sea change

Alongside the requests for climate information, the organization will also send companies requests for information on their impact on forests, their water use and the steps they are taking to curb their greenhouse gas emissions.

The group said that in the past year the number of investors backing its calls for water footprint information had increased 13 percent to 530 institutions managing \$57 trillion of assets, while the number calling for information on forest impacts had doubled to 184 firms with \$13 trillion of assets.

Photo of stock floor trading provided by ene via Shutterstock.

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With Renewables Rising, Business Model Changing for Utilities

By SustainableBusiness.com News

Utilities in the US and Europe are having to take a hard look at their business model - will it continue to be viable in an era of rooftop solar and distributed energy?

As people finally realize the value of solar - that it can make them independent energy generators that don't rely on the grid - the rapid rise of small solar systems is chipping away at utilities' monopoly.

Last year, the world crossed the threshold of 100 gigawatts of solar and the wind industry grew 20%.

The model for how we produce electricity is changing from centralized production owned by utilities to distributed production, owned by energy consumers - households and corporations alike. One might call it the democratization of energy.

"Unless they reinvent themselves soon, these [utility] giants risk becoming the dinosaurs of the energy market," says Geert De Clercq, in an analysis on *Reuters*.

Although utilities in the US and Europe have been investing in solar projects, they haven't been doing it anywhere near the pace that's needed to retain their role as the dominant source of electricity.

Now, those decisions are coming to roost. In Europe, utilities' stocks are at the lowest level in a decade and they carry enormous debt from mergers.

In Germany, 22% of electricity comes from renewables and utilities own just 7% of the 71 gigawatts (GW) installed as of 2011 (a typical nuclear plant produces 1 GW). The situation is similar in Italy.

Most of Germany's biggest manufacturers are investing in renewables to produce their own power. In fact, the majority of the Fortune 100 companies are switching to on-site power generation.

In the US, Walmart currently tops the list for on-site renewables (almost all solar), followed by BMW, Coca-Cola, the US Airforce and Kohl's Department Stores.

Who owns most of the renewable energy in Germany? Individuals own 40%, energy niche players 14%, farmers 11%, industrial companies 9%, and financial companies 11%. Small regional utilities and international utilities own 7%, according to *Reuters*.

"We have to adjust to the fact that, in the longer term, earning capacity in conventional electricity generation will be markedly below what we've seen in recent years," Peter Terium, CEO of utility RWE, told *Reuters*.

Worse still, demand for electricity is dropping too because of energy efficiency efforts.

Gerard Mestrallet, CEO of French gas utility GDF Suez calls it a "real revolution" - consumers are becoming producers.

Add to that the latest trend - adding energy storage (batteries) to solar systems. Germany is encouraging that by including energy storage in their feed-in law.

"Germany and Italy will be explosive markets for residential storage and big energy users are also starting to show an interest. This is a game changer," Nicola Cosciani of Fiammhe, a leading industrial battery manufacturer, told *Reuters*.

What's a Utility To Do?

The ultimate role for utilities could be very different than today. Rather than selling energy directly to individual customers, they could end up aggregating electricity across the grid, in the same way Google aggregates content.

They would act more like an insurance company, making sure the power stays on and balancing energy sources such as solar and wind.

France, Spain and the UK are already looking in that direction, preparing legislation that would pay utilities based on keeping the grid at full capacity.

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Why sustainability aspiration leads to innovation

By Sissel Waage

If your corporation has sustainability goals and linked targets for issues like carbon emissions and water use, you are in good company.

But what should those targets be?

For almost two decades companies have used stretch targets — or, in the words of Jim Collins and Jerry Porras, “big hairy audacious goals” — to improve performance. True “BHAGs” cannot be achieved within a decade, yet require daily focus given their seeming impossibility.

As corporate leaders face climate change, water shortages, deforestation and biodiversity loss, there is a real need to set aspirational corporate goals.

The opportunity is to embrace the challenge (and seeming impossibility) of the stretch goals of sustainable business, such as zero emissions, carbon neutrality, water neutrality and even no net impact on biodiversity and ecosystem services (or the even more bold “net positive impact”).

These goals are not as outlandish as they may seem. Very sober-minded companies such as Rio Tinto and The Walt Disney Co. have set goals to have a net positive impact on biodiversity and ecosystems. This approach represents a 180-degree shift in thinking and moving beyond what is not desirable to what is desired by all.

To make stretch targets work, they must be linked to short-term objectives and detailed targets. Here's what that can look like for goals related to ecosystem services:

1. Develop metrics and select tools for measurement and analysis (resources available for this in BSR's recent ecosystem services report).
2. Test, verify and validate these metrics and tools in particular business contexts.
3. Integrate new approaches within and across corporate environmental measurement and reporting, which will help your company look at the issues more holistically, in terms of trade-offs.
4. Share and apply these insights to drive “leapfrog” innovations — within companies as well as within and across industries.

Aspiration goals are exactly what make for motivational, visionary leaders and great companies. They are exactly what we need today as we face climate change, water shortages and the most significant biodiversity loss, deforestation rates and ecosystem changes in recorded history.

The opportunity is to have corporate goals reflect what is desired and where innovation needs to occur. By definition, these goals should seem impossible today, and we shouldn't see any practical examples of companies operating according to these goals.

The impossibility of a goal did not stop the mining and oil and gas industries from setting “no injury” goals, or the automotive industry from setting “no defect” goals, or even numerous companies from setting “zero waste” goals. It did not stop President John F. Kennedy from committing to put a man on the moon. Now the opportunity for companies working on sustainability issues is to be equally bold in framing goals and targets.

Water fills a crystal glass courtesy of BortN66 via Shutterstock



The conundrum at the heart of sustainability

By Jo Confino, for guardian.co.uk

I interviewed CEOs from the three very different worlds of finance, DIY and beverages last week, who are all seeking answers to a conundrum at the very heart of the sustainability movement.

The puzzle that Ian Cheshire at Kingfisher, Saker Nusseibeh at Hermes Fund Managers and John Steel at Cafédirect are trying to solve, each in their own way, is how to encourage people to take action to confront key challenges such as climate change, water scarcity and ecosystem collapse.

We can talk about the power of technology to create change till we are blue in the face, but what all three recognise is that we truly need a powerful human response.

None of the attempts to incite action have had much impact so far. Highlighting the enormous damage we are doing to society and the planet is not generating much of a response, and neither is talking up the opportunities.

At the core of the problem is the fact that the vast majority of people do not feel connected to the issues.

Cheshire, CEO of the world's third-largest DIY business, will next month be unveiling the results of the independent Ecosystem Markets Taskforce that is looking at how UK companies can respond to environmental degradation.

After immersing himself in issues ranging from forestry to the Common Agricultural Policy, Cheshire absolutely recognises the dangers ahead. But he admits that most businesses feel entirely separated from the natural world and fail to recognise that their future success is dependent on local ecosystems in particular and the health of the planet in general.

He gives the example of Jaguar Land Rover, which saw little connection between the production of cars and its relationship to the environment until it looked and discovered it uses around 140,000 litres of water to create each vehicle. Suddenly, threats of water scarcity became relevant.

Nusseibeh at Hermes sees the lack of connection not only within the financial markets but also among individual savers.

He points to the vast majority of City executives, who live in an elitist bubble that divorces them from the impacts of their actions on ordinary people around the world.

He believes the financial markets will change only if there is grassroots pressure, but recognises that individuals feel divorced from the impacts of their investments and find the City too complex and opaque to think they can make a difference.

Regarding fairtrade, while many supermarket own-label products do the bare minimum to get certification, Café Direct does far more to promote the wellbeing of the communities who supply it and has growers on its board.

But CEO John Steel says the company has still not solved the riddle of how to meaningfully connect shoppers to the impacts of their purchases on communities thousands of miles away.

A myriad of reasons has led to this overwhelming sense of numbness: globalisation has diminished our sense of togetherness and personal responsibility, consumerism and technology have created an addiction to more stuff, a confusion of choices and a tsunami of information. Meanwhile, our compassion has been over-burdened by a constant diet of distressing and painful news from around the world.



Most businesses feel entirely separated from the natural world and fail to recognise their future success is dependent on local ecosystems. Photograph: Bryan Allen/Corbis

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Public concern for environment lowest in 20 years

By Adam Vaughan, for guardian.co.uk

Public concern in environmental issues including global warming, the loss of species and air pollution has dropped to its lowest level in two decades, according to an international poll released this week.



Vehicles running slowly in heavy fog in Hefei, central China's Anhui province. Photograph: Str/AFP/Getty Images

The GlobeScan poll, undertaken last summer before superstorm Sandy hit the Caribbean and New York, showed levels of public concern in 12 countries over environmental problems – which also included fresh water shortages and depletion of natural resources – were even lower than 1992, when the first Earth summit was held in Rio.

The decline has come in a period when the signs of environmental degradation have become clearer and the science stronger, from species going extinct faster than new ones can evolve to dramatic climate change impacts such as the shrinking of Arctic sea ice in 2012 by 18% against the previous record.

Doug Miller, chairman of GlobeScan, said in a statement: "Evidence of environmental damage is stronger than ever, but our data shows that economic crisis and a lack of political leadership mean that the public are starting to tune out."

On average globally, only 49% of people said climate change was a "very serious" concern, with 50% saying the same for biodiversity loss and the highest level being 58% for shortages of fresh water. The poll shows concern for most issues was rising through the noughties and declined since around 2009 when a major UN climate summit in Copenhagen failed to reach a strong deal.

Graham Thompson, a spokesman for Greenpeace, told the Independent: "The public can see that the response of our politicians is completely inadequate to the threat scientists have revealed, and that dissonance is reflected in these polls."

Around 1,000 people in each of the 22 countries taking part in the poll were quizzed on their attitudes, with 12 countries having been polled since 1992. A total of 22,812 people in the following countries were polled: Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Japan, Kenya, Malaysia, Mexico, Nigeria, Pakistan, Panama, Peru, Poland, South Korea, Spain, Turkey, United Kingdom, US, Brazil, China, Indonesia, Kenya, Panama, and Turkey.

[<Source>](#)

NASA Unfurls Solar Sail in Space Next Year

By SustainableBusiness.com News

Next year, NASA is set to unfurl a solar sail which could transform our ability to travel in space.

Sunjammer measures 124 feet on a side and has a total surface area of 13,000 square feet - about a third of an acre. When it's rolled up it weighs just 70 pounds.

NASA's intention is to demonstrate the value of "propellantless propulsion," using only photons from the sun as a fuel source. For now, Sunjammer will demonstrate the technology, but in the future it will likely be used in missions to near-Earth asteroids, to remove orbital debris and spent satellites and to travel outside our solar system.

The biggest risk is during deployment, in unfurling the sail. A camera attached to the sail will capture the unfurling process.

It's being built by L'Garde Inc. of Tustin, California, which has already developed inflatable structures for NASA, such as solar arrays.



It will be catapulted into space by a SpaceX rocket, the company owned by Tesla CEO Elon Musk.

"With this sail, we're targeting our end goal somewhere in the neighborhood of 1,864,114 miles (3 million kilometers) distance from the Earth," Nathan Barnes of L'Garde told Space.com.

In 2010, NASA launched a small solar sail of 100 square feet (NanoSail-D), and Japan also deployed a solar sail that year, making its Ikaros probe the first craft to cruise through space propelled only by sunlight.

"All space travel right now is limited by expendables," Billy Derbes, chief engineer for Sunjammer, told Space.com. "If you show a technology not limited by expendables - and Kapton (the material the solar sail is constructed from) is a long-lasting film material - what new applications will people think up? We're opening up a whole new kind of thinking about how you do things in space."

"I'm most excited about using a solar sail unfurled close to the sun, inside the orbit of Mercury, and using the increased solar pressure there to accelerate a large solar sail to speeds that will allow it to reach well beyond the edge of the solar system and into interstellar space within my lifetime," Les Johnson of NASA told Space.com.

That would be "the first 'baby step' in a series of increasingly large sails that might one day enable us to reach the stars. This is one of the few ways nature has provided for us to travel between the stars," he says.

[<Source>](#)

Startup d.light brings solar power to the poor

By Marc Gunther

About three decades ago, Donn Tice was an MBA student at the University of Michigan, studying with the late C.K. Prahalad, who was developing his argument that companies can make money and do good by creating products and services for the world's poorest people. It's an exciting notion, popularized in Prahalad's influential 2004 book, "The Fortune at the Bottom of the Pyramid."

Today, Tice is the CEO of d.light, which sells solar-powered lanterns to the poor. He's trying to prove that his teacher was right — a fortune awaits those who can create and sell life-changing products that help the very poor.

For now, this remains an unproven hope. Dozens of startups have ventured into the global south, selling everything from \$100 laptops, cheap bikes, clean cook stoves and solar panels to the poor. Some have enjoyed success (See, for example, my blog post, "Clean Star Mozambique: Food, fuel and forests at the bottom of the pyramid"), but few have achieved meaningful scale. Or made anything approaching a fortune.

The good news is that d.light is getting there. The company is now selling about 200,000 solar-powered lanterns and lighting systems a



month in about 40 countries. By its own accounting, d. light has sold nearly 3 million solar lighting products and changed the lives of more than 13 million people. And if all goes according to plan, the company will turn profitable this year.

"In addition to bringing lighting to people who need it and power to people who can't access it — which is our mission — we think we have the ability to demonstrate that this is a business model that works," Tice said during a recent visit to the d.light offices in San Francisco. Earlier this year, d.light was recognized with the \$1.5 million Zayed Future Energy Prize.

Consumers design the products

D.light is a for-profit company started in 2007 by Stanford MBA students Ned Tozun and Sam Goldman, whose idea for solar-powered lights was born out of a Stanford Design School course called "Entrepreneurial Design for Extreme Affordability." As a Peace Corps volunteer in Benin, Goldman had seen a young boy badly burned by a kerosene lamp. Both founders knew that more than 2 billion people in the world don't have access to reliable electricity. Venture-capital firm Draper Fisher Jurvetson, which sponsored the design contest, invested \$250,000.

Tice, meanwhile, had enjoyed a more conventional business career in the consumer products industry, running the Folger's coffee business for Procter & Gamble and helping to develop new products for Dreyer's ice cream. While working with advanced nanotechnology to create stain and wrinkle-resistant fabric for a company called Nano-Tex, he decided to make a change.

"I woke up one day and realized that I was saving the world from stains," he said.

Through a networking group that looked at ways that entrepreneurs could help alleviate global poverty, Tice was introduced to investors who were considering putting money into d.light. He became an informal adviser to the company, joined the board when they closed their first round of financing in 2008, became chairman in 2010 and CEO about two years ago.

He's glad he did: "I love the work. I love our customers. You bring something into their lives that changes their life. What's not to like?"

One key to the success of d.light is the company's willingness to listen to its customers. Senior executives visit rural villages in India or Africa, where most of the lanterns are sold.

"The consumers really design our products," Tice said. "It's what we used to do at P&G. Our teams tromp around in the dust with prototypes."

Fortune at the bottom of the pyramid

By coincidence, Jacqueline Novogratz, the founder of the nonprofit Acumen Fund, an investor in d.light, wrote a blog post the other day about a visit that she and a company executive, David Small, had made to a d.light customer named Teresia in Benin.

Teresia had bought a \$40 lantern, borrowing the money to do so and paying it back at the rate of \$3.50 a week — less, she said, than she used to pay for kerosene. She proceeds, at some length, to tell David Small how to improve the product: She'd like the light to be able to charge her phone, she'd like it to charge a radio because batteries are expensive and couldn't she have a way to hang the light from the ceiling?

Novogratz writes:

As I watch Teresia and David exchanging thoughts about consumer satisfaction, emotion swells inside. This is why I am doing this work. This is why I started Acumen: I am witnessing a conversation of equals, one between an empowered consumer and a businessman trying to serve her. Teresia is not pandering nor is she begging. David is neither self-satisfied with his own sense of benevolence, nor is he assuming he has the answers. Teresia may have next to nothing of material value in the world, but here she is, full of dignity, full of the confidence that comes with doing something for yourself and paying for it, to boot. Her eyes sparkle with curiosity and strength. Teresia has earned this conversation. David must continue to work for her loyalty and trust as a customer. In the process, both have the chance to be transformed.

Interesting, no? This helps explain what Tice says is the company's competitive edge.

"The really big thing that has changed is that we have pushed the whole market in the direction of a better-quality product," he said. "Consumers don't want a cheap product. The product has to work, and it has to work for a long time."

D.light is now offering two- or three-year warranties on their lanterns, telling customers that the products should last for five years, and designing them to last longer. "It's really important that people trust what they buy," he said. In other words, poor consumers are very much like you and me: They want a quality product at a good price from a company they trust.

D.light has raised about \$20 million so far, including about \$15 million from a mix of traditional venture investors like DFJ and Nexus India and from impact or social investors like Acumen and the Omidyar Network. The company borrowed about \$3 million from Deutsche Bank, and it has brought in about \$2 million in grants. It will probably need more capital, Tice says, to reach its goal of changing the lives of 100 million people by 2020.

"It's great to celebrate our success," he said, "but we shouldn't rest until we've really moved the needle."

And it's proven that yes, there really is a fortune at the bottom of the pyramid.

Photo of a girl in India studying with d.light provided by company.

[<Source>](#)

Bombay duck: iconic fish fast disappearing from city's coastal waters

By Kavitha Rao, for guardian.co.uk

Bombay duck, or bombil as it is called locally, is one of Mumbai's polarising culinary experiences. This charmingly misnamed delicacy is actually a fish, whose pungent odour is part of that special love-it-or-hate-it-Mumbai smell. It got its name in the days of the Raj, from being transported on an iconic train, the Bombay Daak, daak being the Hindi word for mail. The term was then



A skyline of high-rise buildings is seen through rows of Bombay ducks drying on a bamboo scaffold at a fishing village in south Mumbai. Photograph: Sebastian D'souza/AFP/Getty Images

bastardised to duck, which stuck.

Now the fish is rapidly disappearing from the city's coastal waters, driven away by a lethal combination of overfishing and climate change, says a study by the Central Marine Fisheries Research Institute (CMFRI). Bombay duck and pomfret – another local fish – have declined by 25% each, sharks and rays by 28%, and prawns by 35% in the past decade.

The coastal waters near Mumbai can sustain around 8,000 fishing boats, says the CMFRI. In practice, more than 17,000 boats plunder the region, despite fishing regulations. Most catch younger, smaller fish, which haven't had the chance to reproduce yet, driving populations down further. Besides, the Bombay duck, like many larger fish, can't tolerate increasingly warmer oceans. (Sea temperature increased by 0.2 to 0.3C along the Indian coastline between 1960 and 2005, and is expected to increase by 2 to 3.5C by 2099).

End result: smaller fish such as sardines, mackerel and tuna are increasing, because they can survive warmer seas. But the Bombay duck, and other larger species, may have to migrate to distant waters to survive, threatening the livelihoods of many local fishermen.

The decline of the bombil mirrors worldwide trends. Across the world, fish are getting smaller and smaller. A recent University of British Columbia study found that warmer and less oxygenated oceans are stunting fish growth. The researchers studied more than 600 species of fish, and predict that maximum body weight could decline by 14-20% between 2000 and 2050, with tropical seas most affected.

"We were surprised to see such a large decrease in fish size," says the study's lead author William Cheung. "But the unexpectedly big effect that climate change could have on body size suggests that we may be missing a big piece of the puzzle of understanding climate change effects in the ocean."

On the other side of India, a similar puzzle is causing fish lovers much distress. Scientists are battling to save the hilsa, a fish so beloved by the state of West Bengal that it has inspired adoring poetry and literature. Like the salmon, the hilsa is a fish that lives in the sea, but then migrates to rivers to breed. In recent years, the hilsa has changed its migration habits, moving to

neighbouring Bangladesh instead, much to the distress of sea-food crazy Bengalis. While no one knows exactly why, pollutants in the river Ganga and overfishing are thought to be the causes.

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India's Slumdog census reveals poor conditions for one in six urban dwellers

By Maseeh Rahman, for guardian.co.uk

One in six urban Indians lives in slum housing that is cramped, poorly ventilated, unclean and "unfit for human habitation", according to the country's first complete census of its vast slum population. In other words, nearly 64 million Indians live in a degrading urban environment very similar to the shantytowns portrayed in the Oscar-winning movie Slumdog Millionaire.

The first-ever nationwide report – prepared from data collated for the 2011 national census – looks at urban slums in around 4,000 towns across India. (A slum was defined as a settlement of at least 60 households deemed unfit for human habitation, but the report does not cover every town and city in this vast country.)

India's Planning Commission has recommended that urban clusters with as few as 20 households should be classed as slums. "We will be analysing the census data on the basis of the new definition also," said Dr C Chandramouli, the registrar general. "This is likely to increase the number of slum households across the country."

While the report described open sewers and poverty, it also shows that many residents own mobile



Children in Trilokpuri in the Indian capital New Delhi. Photograph: David Levene

phones and televisions in their shacks and have overcome a lack of infrastructure by rigging up elaborate – mostly illegal – electricity supplies.

Mumbai has the largest absolute population of slum dwellers: 41% of its 20.5 million people. But in percentage terms, India's commercial capital has been overtaken by two other megacities: the bustling port city of Vishakapatnam on the Bay of Bengal (43% of its 1.7 million inhabitants) and the central Indian city of Jabalpur, birthplace of the Maharishi Mahesh Yogi (42% of its 1.3 million people).

"This kind of shift could be due to the displacement of the working class," said PK Das of the Nivara Hakk housing rights group in Mumbai. "In the latest census, for instance, some municipal wards in central Mumbai dominated by the working class have actually shown a decline in the total population. This is because industries are creating fewer jobs in Mumbai, while smaller cities are attracting workers in the informal sector."

The report reveals another fact that provides a bleak vision of India's future urbanisation. Ten towns with a population of around 5,000 have been categorised as "all-slum towns". These are concentrated in four states: Jammu & Kashmir, Uttar Pradesh, West Bengal and Sikkim.

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India farmers think big but grow micro to enrich their soil

By Mark Tran, for guardian.co.uk



Ravi Kakiyayya chopping coconut on his farm in Karnataka, India, which has benefited from Bhoo Chetana techniques. Photograph: Mark Tran for the Guardian

Bursting at the seams, choked with traffic, luxury towers under construction advertising helipads ... Bengaluru, India's IT capital, basks in the limelight in the south-west state of Karnataka. Yet the agricultural sector is also attracting attention for a spurt in productivity following a period of stagnation.

Since 2009, India's eighth largest state, with a population of 61 million people, has pursued an agricultural programme called Bhoo Chetana, or soil rejuvenation, that has seen productivity shoot up by 20-50%, according to state officials. The gross value of crop production increased by 0m (£87.5m) in 2011. Its achievements have been recognised by the central government and attracted the interest of the neighbouring state of Andhra Pradesh and, further afield, the Philippines.

Such gains are particularly striking as Karnataka's mostly smallholder farmers – who typically farm 1-1.5 hectares (2.4-3.7 acres) – depend heavily on monsoon rains, which have become increasingly erratic due to climate change. Such "marginal" farms in India comprise 62% of all holdings and occupy 17% of farmed land. Karnataka, where 56% of the state's workforce is in farming, has the second largest area (5m hectares) under rain-fed agriculture after Rajasthan.

Some areas in Karnataka have suffered drought in six of the past 10 years. Growth in the farm sector in the past three years could hold lessons for other dryland areas – 80% of the cultivable area in the world depends on rain-fed agriculture.

The name Bhoo Chetana was coined by Suhas Wani, principal scientist at the International Crop Research Institute for the Semi-Arid Tropics (Icrisat) based in Hyderabad. Icrisat specialises in so-called orphan crops such as chickpeas and pigeon peas for dry regions. His is one of 15 centres under the Consultative Group on International Agricultural Research.

Bhoo Chetana's genesis came through a chance encounter between Wani and Karnataka's minister of agriculture, Umesh Katti, in 2003. Katti had expressed interest in Wani's work in water conservation for farming as he was looking for ways to revive Karnataka's farm sector, which had stagnated after droughts, when he learned of Bhoo Chetana. So, with determination for change at Karnataka's top political levels, and the scientific knowhow, the programme was born.

The rationale is that farmers can increase productivity and income through the judicious use of micronutrients, such as zinc, boron and sulphur, while simultaneously reducing the use of fertilisers, such as nitrogen and potash,

that contaminate ground water – one of the unintended consequences of the green revolution in the 1960s and 1970s.

"In the first year we took samples from six districts, by the third year we had samples from all 30 [Karnataka districts]," Wani, who has spent most of his working life at Icrisat, says. "By the end, we had 95,000 soil samples of about 2kg from selected villages, which were analysed in our labs. It's the first time soil sampling has been done on this scale in a developing country."

The farmers collected the samples, encouraging grassroots participation from the start. Once the samples were examined, Wani and his colleagues recommended how much fertiliser and micronutrients to use for different areas in different districts.

"If we found the soil in one area has enough potash, there is no need to apply it, as it will end up in the water. The farmer saves money as well, while increasing yield through the use of micronutrients," Wani says.

Having the information is one thing, getting it to farmers is another. To spread the word, Karnataka hired, on a seasonal basis, "farmer facilitators" from within communities rather than outsiders, on the assumption that villagers were more likely to listen to their peers than strangers.

These 10,000 facilitators, each covering about 500 hectares, are the link between the state authority and its farmers. They are backed up by a logistical effort as the state prepositions seeds of chickpea, finger millet, maize and groundnut ready for planting, as well as fertiliser and micronutrients. Noticeboards have been erected in villages outlining the quantities of fertilisers and micronutrients to use.

Ravi Kakiyayya, who also grows coconut – this part of Karnataka is covered in coconut plantations – did not know about micronutrients until Bhoo Chetana. From the district of Hassan, a three-hour drive from Bengaluru, Kakiyayya was reluctant and it took five meetings with a facilitator before he started using micronutrients on his maize. But after boosting his yield and making an extra 9,000 rupees (£108) last year, he is a convert.

"It was the information from the facilitator that made me change my mind. I also reduced my spending on fertiliser by 50% because prices have doubled," he says. "Now I want to grow potato and banana."

The facilitator who persuaded him is Geetha Vasanth Kumar. The mother of two says she made an extra 10,000 rupees using Bhoo Chetana techniques. Of the 500 farmers she talked to, she succeeded in persuading three-quarters of them. For her work, which typically lasts six months, Kumar was paid 150 rupees (£1.80) a day. Facilitators also spread the word on techniques such as vermicompost (made from earthworms feeding on organic matter) as an alternative to chemical fertilisers.

Bhoo Chetana receives support in state subsidies. The farmer pays only half of the price of the micronutrients, with the state government picking up the rest. State officials insist there are no plans to withdraw subsidies, but some question whether smallholder farmers will continue using micronutrients if subsidies are withdrawn. The state spends a fifth of its budget on agriculture.

Some farmers say that although their yields have increased, they remain at the mercy of middlemen who charge high interest rates on fertilisers and micronutrients. Farmers are locked into selling their produce to middlemen in return for loans.

"We are not getting the price that we see advertised on TV or in the newspaper," one farmer, who paid 4% interest a month for fertiliser loans, says. He does not want his son to become a farmer but to work for the state's agricultural department, a reminder that life for smallholder farmers is a grind.

Others say the state government should be pushing for more organic farming. Karnataka has identified 100 hectares for organic villages, but this is a separate programme from Bhoo Chetana. For KP Suresha, executive director of the Green Foundation, a group in Karnataka that promotes traditional seed varieties, this is a missed opportunity.

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Indian coal power plants kill 120,000 people a year, says Greenpeace

By John Vidal, for The Guardian



New Delhi children take anti-smog precautions. Photograph: Sanjeev Verma/Getty

India's breakneck pace of industrialisation is causing a public health crisis with 80-120,000 premature deaths and 20m new asthma cases a year due to air pollution from coal power plants, a Greenpeace report warns.

The first study of the health impact of India's dash for coal, conducted by a former World Bank head of pollution, says the plants cost hospitals .3-.6bn (£2.2-£3.1bn) a year — a figure certain to rise as the coal industry struggles to keep up with demand for electricity.

The Delhi and Kolkata regions were found to be the most polluted but Mumbai, western Maharashtra, Eastern Andhra Pradesh and the Chandrapur- Nagpur region in Vidarbha were all affected.

The study, which took data from 111 major power plants, says there is barely any regulation or inspection of pollution. "Hundreds of thousands of lives could be saved, and millions of asthma attacks, heart attacks, hospitalisations, lost workdays and associated costs to society could be avoided, with the use of cleaner fuels, [and] stricter emission standards and the installation and use of the technologies required to achieve substantial reductions in these pollutants," said the report. "There is a conspicuous lack of regulations for power plant stack emissions. Enforcement of what standards [which] do exist, is nearly non-existent," it says.

India is the world's second largest coal burner after China, generating 210 GW of electricity a year, mostly from coal. But it is likely to become the largest if plans to generate a further 160 GW annually are approved.

"Thousands of lives can be saved every year if India tightens its emissions standards, introduces limits for pollutants such as sulphur dioxide, nitrogen oxides and mercury and institutes mandatory monitoring of emissions at plant stacks," said the report's author, Sarath Guttikunda, a former head of the World Bank's pollution division.

Nearly 400 million people in India have no electricity and power outages are common. The pressure to generate power has led to tens of thousands of homes being moved to make way for mines or plants. There are complaints that the power is mostly exported to large cities and heavy industry while local people are left with pollution and toxic dumps.

Vinuta Gopal of Greenpeace said: "The ongoing coal expansion is irrational and dangerous. Coal mining is destroying India's forests, tribal communities and endangered species, and now we know the pollution it emits when burned is killing thousands. Coal has failed to deliver energy security. We need a moratorium on new coal plants and ambitious policy incentives to unlock the huge potential India has in efficiency measures, wind and solar."

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India strives to become 'drought proof'

In a country of 1.2 billion people, the threat of drought takes on epic proportions

By Manipadma Jena for IPS, part of the Guardian Environment Network, guardian.co.uk,

Over a period of two centuries (between 1801 and 2002), India experienced 42 severe droughts, according to the Indian Space Research Organisation. One of these, in 1979, cut food grain production by 20 percent; another, in 1987, damaged 58.6 million hectares of cultivated land, affecting 285 million people.

In the last decade (2002-2012) three major droughts hit the country, and in 2012 drought shaved off half a percentage point from the Asian giant's gross domestic product (GDP), according to a 2013 World Bank report.

Seventy percent of Indians live in rural areas, while 58 percent rely solely on agriculture for a living. The 355 million people who fall below the 1.25-dollars-a-day poverty line depend primarily on rain-fed agriculture for subsistence.

Thus drought has become a national priority for the Indian government, particularly as climate change causes ever more erratic monsoon rains.

This week, participants in the United Nations' High-Level Meeting on National Drought Policy (HMNDP) have descended on Geneva, where they will debate preparedness and mitigation strategies from Mar. 11-15.

"The meeting will help evolve integrated efforts to improve early warning system and adopt...policies to enhance food security and reduce vulnerability," Laxman Singh Rathore, director-general of meteorology at India's ministry of earth sciences, told IPS from Geneva.

As a member of HMNDP's International Organising Committee, India is under pressure to tackle a range of issues that exacerbate the impact on drought, particularly on rural populations.

Despite 2012 being a semi-drought year, "India had 66 million tonnes of food stocks at the start of 2013," Devinder Sharma, a well-known food and trade policy analyst noted in The Times of India.

"This fiscal year, wheat exports are expected to touch 9.5 million tonnes; rice exports have already crossed nine million tonnes in 2011-12," he added.

Over the past 12 years, food production growth has averaged about three percent, higher than India's annual population growth of 1.5 percent over the last 10 years. Despite experiencing slower agricultural growth than some other Asian countries, India is no longer at risk of drought-related famines, as it was some 20 years ago.

"Evidence suggests that the Indian economy today is 'drought resilient' but not 'drought proof', the distinction being that once drought proof there is no negative impact on the economy, but in a drought-resilient country, there is a negative but manageable impact," Jatin Singh of SkyMet Weather Services, a private weather forecasting company, told IPS.

According to the ministry of agriculture's crisis management plan for 2012, "Drought is not a disaster, but a management issue".

This new dynamic is partly the result of drought adaptation measures that have expanded farmers' traditional focus on the 'kharif' (summer crop), which relied on the monsoon rains, to include the 'rabi', or the winter crop, as well.

There has also been a step-up in the sector's gross capital formation (GCF), which includes investment in irrigation infrastructure, land reclamation, afforestation and development of government farms.

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Forthcoming Events

2nd Annual

World Clean Coal Week India Focus 2013

April 18-19, 2013

New Delhi

The 2nd Annual World Clean Coal Week India Focus 2013 is being organized by SZW Group, from April 18-19, 2013 at New Delhi. The event would feature top-level speaker panels and showcase cutting-edge clean coal technologies. With the central theme, “Roadmap to Active Deployment of Cleaner Coal Technologies”, the event offers a new angle to look at the clean coal market in India with fresh project updates and various tailor-made roundtables. Over 300 delegates are expected to attend the WCCW India Focus 2013. The event would feature panel discussions, exhibition, workshops and networking opportunities. **ThinktoSustain.com** is the Media Partner for the event.

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3rd International Conference

On

Environment Science and Engineering (ICESE 2013)

April 21-22, 2013

BEIJING, CHINA

The 3rd International Conference on Environment Science and Engineering (ICESE 2013) is sponsored by Asia-Pacific Chemical, Biological & Environmental Engineering Society (APCBEEES). The conference is scheduled to be held on 21st and 22nd April, 2013 in Beijing, China. The aim of the ICESE conference series is to provide a forum for laying the foundations of a new principled approach to Environment Science and Engineering. To this end, the meeting aims to attract participants with different backgrounds, to foster cross-pollination between different research fields, and to expose and discuss innovative theories, frameworks, methodologies, tools, and applications.

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International Conference on “Global Vision 2020”

3rd and 4th May, 2013

Palayamkottai, Tirunelveli District,
Tamilnadu (India)

A two day International Conference on “Global Vision 2020” is scheduled to be held on 3rd and 4th May 2013 at St. Ignatius’ College of Education in Palayamkottai, Tirunelveli District, Tamilnadu (India). The conference is being organized by “Environmental Advisory for Sustainable Trust (EAST)”. The mission of this conference is to provide a platform to discuss various strategies, issues and concerns related to sustainability for number of important topics in the areas of Agriculture, Education, Environment & Health, Economic Development and Energy etc.

[<Brochure>](#)

2nd International Conference

On

Agriculture, Environment and Humanities Engineering (ICAEHE'2013)

May 6-7, 2013

Kuala Lumpur (Malaysia)

2nd International Conference on Agriculture, Environment and Humanities Engineering (ICAEHE'2013) aimed at presenting current research being carried out in that area and scheduled to be held May 6-7, 2013 Kuala Lumpur (Malaysia). The idea of the conference is for the scientists, scholars, engineers and students from the Universities all around the world and the industry to present ongoing research activities, and hence to foster research relations between the Universities and the industry. This conference provides opportunities for the delegates to exchange new ideas and application experiences face to face, to establish business or research relations and to find global partners for future collaboration.

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Forthcoming Events

RENERGY 2013 Conference and Expo

May 9-11, 2013

Chennai

TEDA (Tamil Nadu Energy Development Agency) is organizing RENERGY 2013 - an International Renewable Conference and Exhibition – at Chennai, on May 9-11, 2013.

RENERGY 2013 will have over 200 prominent companies representing the entire renewable energy sector. The accompanying conference will be the country's largest renewable energy conference with over 2000 high-profile delegates expected to attend.

RENERGY 2013 also aims to consolidate the distinction of being the complete renewable energy exhibition in the country, and present a comprehensive platform for companies from all the prominent renewable energy and cleantech sectors to be represented.

The RENERGY 2013 Exhibition & Conference would represent renewable energy sectors like solar (PV & Thermal), wind, biomass, energy efficiency, green buildings, waste to energy, electric vehicles, energy storage, emerging technologies, etc.

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3rd International Conference

On

Environment and Industrial Innovation – ICEII 2013

May 19-20, 2013

Copenhagen, Denmark

ICEII 2013 will be held during May 19-20, 2013 in Copenhagen, Denmark. The conference is being organized by **CBEES, Hong Kong**. ICEII 2013, is to bring together innovative academics and industrial experts in the field of Environment and Industrial Innovation to a common forum.

The primary goal of the conference is to promote research and developmental activities in Environment and Industrial Innovation. Another goal is to promote scientific information interchange between researchers, developers, engineers, students, and practitioners working in India and abroad.

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Geothermal Power Asia Congress 2013

May 21-22, 2013

Jakarta, Indonesia

The Geothermal Power Asia Congress 2013 is scheduled to take place from May 21-22 in Jakarta, Indonesia. The event is being organized by SZ & W Group. The event aims to provide an opportunity to meet active players across the value chain in Indonesia and neighbouring countries to share proved experience, ideas, and learn in-depth insights.

The event aims to provide an opportunity to meet active players across the value chain in Indonesia and neighboring countries to share proved experience, ideas, and learn in-depth insights. The event would feature panel discussions, exhibition, workshops and networking opportunities. Key topics of this event include Incentive Policy Analysis and Future Prospects, Project Financing and Insurance, Issues, Risk Mitigation and Management, International Project Developing Experience, Technology Showcase in Drilling, Exploration and Operation and Environment Concerns and Solutions.

ThinktoSustain.com is the Media Partner for the event.

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*The Times of India, Delhi dated
February 26, 2013*

Green norms for real estate may be eased

Nitin Sethi | TNN

New Delhi: The environment ministry is likely to ease green norms for the real estate sector, giving a boost to developers wanting to construct high-rise buildings. The relaxation is expected to allow builders to put up higher buildings on smaller roads and lanes in cities.

In February 2012, the environment ministry had laid down rules linking the height of a building with the width of the road it was to be built on as well as the distance from the nearest fire station. The rules had the realty sector up in arms.

At the moment, buildings above 60 metres can get an environment clearance if they are on roads at least 30 metres wide. Such buildings have to be within 2 km of a fire station. Buildings between 45-60 metres need to have an approach road that is at least 24 metres wide and not more than 5 km from a fire station.

Buildings 30-45 metres high have to be located on roads at least 18 metres wide with fire stations not more than 10 km away. Buildings



The relaxation is expected to allow builders to put up higher buildings on smaller roads and lanes

between 15 and 30 metres require a 15 metre-wide approach roads but have no restriction linked to presence of fire stations.

The February 2012 regulations also required a no-objection certificate from the state fire department and the national or state disaster management authorities.

The environment ministry had set up a committee under Planning Commission member K Kasturirangan to review these and other clearance conditions applicable to roads, SEZs and the realty sector. Sources said the ministry is likely to move fast to ease norms for the realty sector after the PMO asked for a quick redress.

The Economic Times, Delhi dated February 27, 2013

Top 10 Food Cos Fail Social Tests: Oxfam

Aid group points to failure of cos to meet commitments on women's rights, farm emissions

OUR BUREAU
NEW DELHI

World's 10 biggest food and beverage makers, including Nestle, Coca-Cola, Danone and PepsiCo, score poorly in social and environmental practices including the way they treat women, a study by international human rights group Oxfam says.

The 'Big 10' food and beverage companies—that together make \$1 billion-a-day—are failing millions of people in developing countries who supply land, labour, water and commodities

needed to make their products, the study said.

"None of the 10 biggest food and beverage companies are moving fast enough to turn around a 100-year legacy of relying on cheap land and labour to make mass products at huge profits, with unacceptably high social and environmental costs," Nisha Agrawal, CEO of Oxfam India, said.

The study rated corporate policies on land rights of small farmers and workers; climate change; business transparency; and water use of Associated British

Foods, Coca-Cola, Danone, General Mills, Kellogg's, Mars, Mondelez, Nestle, PepsiCo and Unilever.

ABF, the London-based maker of Ovaltine drinks and Twinings teas, scored lowest in the report. Kellogg and General Mills were the next lowest. Nestle, Unilever and Coca-Cola had the best results, though none did better than 38 out of a possible 70 points.

Companies mostly denied the accusations, saying they treat communities and environment with utmost responsibility and are committed to sustainable and ethical business practices.

None of the 10 biggest food and beverage companies are moving fast enough to turn around a 100-year legacy of relying on cheap land and labour to make mass products at huge profits, with unacceptably high social and environmental costs.

NISHA AGRAWAL
Oxfam India CEO

*The Times of India, Delhi
dated February 28, 2013*

Hotels told to comply with green norms

TIMES NEWS NETWORK

New Delhi: The hotel industry is a huge water and energy guzzler. The environment department claims that five star hotels in Delhi are consuming about 15 million litres of water per day and discharging about 10 mld, much more than the international standards for consumption in five star hotels.

To stem this violation, Delhi Pollution Control Committee and the environment department organized a workshop for hotels on Wednesday. "The emphasis of this workshop was to conserve natural resources. Hotels are among their biggest consumers and also major waste generators," said a senior official.

DPCC has issued several guidelines and orders on installation of STPs for treatment of waste water. Green Hotel Guidelines issued by DPCC include use of treated effluent for non-potable purposes, installation of solar water heating systems, use of biogas plants and rainwater harvesting.

However, say officials, implementation of these guidelines leaves much to be desired. "Sewage treatment plants are missing in 16 hotels while 33 have rain water harvesting and 21 have solar water heating systems," said sources.

The hotels have been asked to draft an action plan for compliance with the green guidelines and submit it to the environment department along with an affidavit within a month.

The Economic Times, Delhi dated February 28, 2013

Strengthen the Transport Link

The urban intermediate transport solutions need policy support and a push for green vehicles

RITU ANAND

Across many sectors in our country, where government has failed to provide essential public services, the private unorganised sector has come in to fill the gap. This is the case with urban transport. Very few of our cities have organised mass public transport: just 20-25 cities have dedicated public city buses and five cities have rail-based transit. This is startlingly inadequate given that we have 496 Class-I cities — population of over one lakh — of which 90 cities have a population of over five lakh. This glaring void has led to a range of makeshift intermediate public transport (IPT), or para transit, solutions. These vehicles range from cycle rickshaws to motorised modes such as autorickshaws, and other 'share taxi-like' vehicles or indigenously-made *jugaad* vehicles — typically attaching a diesel generator to a tricycle or cart.

These modes, which tend to dominate transport in small and medium towns, are particularly important because they are 'inclusive', catering largely to the population that cannot afford private vehicles and as a source of livelihood for the poor, often migrants, who drive them. However, most IPT drivers operate informally to circumvent restrictive legislation. Local governments often have a cap on issuing IPT permits on grounds that they cause traffic congestion. They may also put other restrictions on IPT. For instance, many cities disallow renting of rickshaws and require the owner to be the driver; else, the vehicle may be confiscated. These various caps and restrictions, however well-intentioned, encourage informality and



create opportunities for rent-seeking and harassment. Informality, in turn, has led to insecure working conditions for drivers and perpetuated poor quality of service and ad-hoc fares that go with the unorganised sector.

A number of social entrepreneurs have stepped in to organise IPT. Their primary motivation is to improve service for passengers, working conditions for drivers and promote environment-friendly transport. Their initiatives range from Ecocabs, a 'dial-a-cycle rickshaw' service in Fazilka, Punjab, to an autorickshaw service in Ahmedabad that provides dial-in and online booking facilities, airport express and a heritage tour service. Another initiative is a microfinance-type scheme for drivers: the 'rent-to-own' model for cycle rickshaws by Rickshaw Bank in Guwahati.

These schemes have improved access, accountability, comfort and safety. Entrepreneurs have introduced newly-designed cycle rickshaws — more ergonomic, spacious and light — developed with reputed institutions such as IITs and MIT (US). They have made fares transparent by issuing receipts or publicly displaying fares and instituted a complaints hotline. Also, they have provided drivers with road safety training, accident and medical insurance. Most of the models aim to be self-financing through sources such as booking fees and advertising revenues. They have

shown that rickshaw services can be successfully organised. In fact, the success in Fazilka prompted the Punjab and Haryana High Court to issue *suo motu* action to implement the Ecocabs concept in all 22 district headquarters of Punjab, Haryana and Chandigarh.

Another, more recent initiative, G-Riks, throws up important lessons as it is an attempt by a private company to address a specific need of IPT — as a feeder service to mass transit — in an environmentally-sustainable way. In fact, the National Urban Transport Policy and 12th Plan Working Group on Urban Transport both envision such a role for IPT going forward. G-Riks launched a pilot in Delhi to carry passengers from the metro to a shopping mall in an electric rickshaw.

While the mall gave it space for parking, ticketing and a charging station, there was little receptivity from the metro and local authorities. Most crucially, G-Riks could not get registered as the battery-operated vehicles running below 25 kmph and 250 watts power were neither considered motorised nor 'pedal-operated' non-motorised transport (NMT). Without registration, they were operating under regulatory uncertain-

ty and could not officially advertise on the vehicles, a key source of revenue for their financial sustainability.

What can government do to facilitate organised IPT services? Overall, it must give priority to urban planning based on integrated land use and transport planning with the aim of reducing trip lengths and relying on public transport. Even as mass transit is introduced in our cities, IPT will continue to fulfil the important functions of last-mile connectivity and for very short trips — and government needs to recognise IPT and explicitly provide for it.

Specifically, for the entry and operations of organised players, government needs to revisit outdated or restrictive regulations such as caps on permits, rentals and advertising. All cities must put in place an outdoor advertising policy. Also, regulations should be amended to accommodate, and even open the market to, innovation in eco-friendly vehicles. In fact, technological developments will likely increasingly be based on 'clean' motorised modes. So, the government should encourage battery-operated three-wheelers by at least extending the same benefits and subsidies as for four-wheeler electric vehicles.

Local transport authorities too should accommodate IPT by providing enabling infrastructure such as parking stands at transport hubs — metro stations and bus terminals — central business districts, shopping malls, markets, colleges and other key locations. Wherever possible, there should be separate lanes for NMT and charging points for electric vehicles. Transport authorities should also integrate IPT by setting aside space for kiosks and ticket counters as well as stands at airport and railway stations, as there are for taxis. In future, this could include integrating transit modes through smart cards. Such measures would go a long way towards streamlining IPT and improving the quality of urban life.

(The author is group head for policy and chief economist at IDFC)

Government needs to revisit outdated or restrictive regulations such as caps on permits, rentals and advertising

The Times of India, Delhi dated March 01, 2013

Waste-to-energy gets fund boost

Capital's Civic Bodies Gung-Ho, But Environmentalists Say No Way To Go

TEAM TOI

New Delhi: With the government throwing its weight behind waste-to-energy (WTE) plants in this year's Budget, a debate has started on the need for, and suitability of, such projects. Waste management across most parts of the country is in a mess and in cities like Delhi, where a WTE plant has been operating for more than a year, municipal agencies say it is the best way to manage waste. However, environmentalists say incineration is not a suitable technology for India.

For the first time, the government has made a budgetary provision to encourage setting up of WTE plants. In his Budget speech, finance minister P Chidambaram said the government will support municipalities that implement waste-to-energy projects, through different instruments like viability gap funding, repayable grant and low-cost capital.

While the three municipal corporations have welcomed the move, environmentalists say the technology is not sustainable in India. Sunita Narain, director of The Centre for Science and Environment, said Indian waste is not suitable for incineration as it is

HARNESSING ENERGY



Waste-to-energy plants in Delhi			
Location	Waste processing capacity (MT)	Generation capacity (MW)	Project cost (₹ crore)
Okhla	2,000	16	250
Ghazipur	1,300	10	225
Narela-Bawana	4,000	36	300

► Okhla plant produces 16MW every day; Ghazipur and Narela-Bawana plants will be operational by year-end

► 7,000-8,000 metric tonnes of waste generated every day in Delhi

not properly segregated.

"The policy shows a complete lack of understanding of the garbage that is drowning our cities. WTE plants are a good idea, but they have not worked in the country. They require high calorific

value waste and careful monitoring to ensure that there is no emission of dioxins and other toxins because of burning plastics. What we need instead is waste management strategies which encourage segrega-

tion, recycling and reuse," she said.

Gopal Krishna, who has been protesting against the existing WTE plant in Delhi, says that for every five truckloads of waste burnt, one remains as toxic ash which still must be carefully stored or dumped in landfills. "Even the most technologically advanced waste incinerators produce hundreds of distinct hazardous byproducts, including dioxins, heavy metals, halogenated organic compounds and nanoparticles," he said.

WTE plants exist in Kanpur and Mumbai, besides Delhi. Experts say Kanpur has managed to deal extremely well with waste but India, with its massive population, needs to factor in

the human cost of such technology. For each such plant, hundreds of rag pickers end up losing their jobs.

On the flip side, municipal bodies say it is the most effective way to manage waste. Delhi has a functional 16MW plant at Okhla and one plant each will become operational in Ghazipur and Narela-Bawana by the year-end. Municipal agencies say the Centre's provision of viability gap funding—the government pays for the gap in recovering of capital cost—will encourage private players.

"In metros, WTE plants are the only option to dispose of waste and yet earn from it. Municipalities don't have funds to pay upfront to bridge the gap between the capital cost incurred by the concessionaire and the recovery," said S S Yadav, commissioner, East Delhi Municipal Corporation.

Delhi's three municipal corporations are planning to set up three more WTE plants. The South Corporation has already placed a request for land with Delhi Development Authority to set up two WTEs. The corporations are now focusing on streamlining waste collection and segregation, a lesson learnt from the Okhla plant project.

The Times of India, Delhi dated March 02, 2013

Dumping continues, govt to issue notice

TIMES NEWS NETWORK

New Delhi: The National Green Tribunal has noted that despite orders to the Delhi and Uttar Pradesh governments, debris dumping continues unabated along the Yamuna floodplain. It has directed the government to issue show-cause notice to the managing director of DMRC, director general of CPWD and the director of the horticulture department, asking why debris is still being thrown on the riverbed.

The tribunal has also asked Delhi Police commissioner and director general of UP Police to ensure deployment of "proper police force on various places, including the wall between the roads and riverbank to remove the materials



COPS TO GUARD RIVER BED

dumped" and at entry points for traffic. "No vehicle, particularly heavy vehicle, carrying any kind of debris are (is) permitted to enter the riverbank of Yamuna," the order dated February 23 says. Po-

lice have been asked to impound such vehicles. Only vehicles carrying debris from the riverbed to other sites, bearing Haryana and UP registration numbers, can operate.

Court commissioners appointed to inspect the work carried out by agencies in keeping with the tribunal's order, have reported that debris was being removed from only one site. "In fact, it is pointed out that even fresh debris is being thrown at different places on the riverbank...one of the commissioners noticed that trucks are entering Yamuna from different places where the wall was found punctured despite... police posts. It has also been pointed out that DMRC is throwing its debris in the river bed," says the order.

The Times
of India,
Delhi dated
March 02,
2013

Yamuna Jiye Abhiyaan works wonders for villagers

Organic Farming, Sanitation, Waste Water Management Key

TIMES NEWS NETWORK

New Delhi: Two years ago, 10 small villages along Yamuna were selected for a river restoration project. The Nadi Mitra Mandalis were given an action plan that included natural and organic farming, waste water management, improvement in sanitation, catchment restoration, and assessment of the river and village health. Children were involved through a school outreach programme.

On Friday, Kanalsi village, on the floodplain of the Somb and Yamuna rivers near Yamunagar, was recognized for carrying out the most successful project. The village has moved largely to chemical-free farming and planted 1,700 saplings in the past two years besides improving sanitation and waste water management. Ramra village near Panipat was adjudged second best, while Hamirpur came third.

The project has been financed by the Thames River Restoration Trust from the money it won under the Theiss International River prize for the efforts made in cleaning Thames over the past 60 years. The prize money is being used for community work along Ganga and Yamuna. Yamuna Jiye Abhiyaan supported the project, helped by WWF which conducted biodiversity activity in one village along Yamuna.

Dr Robert Oates, executive director of the TRRT, said the work of the mandalis proved that resource-intensive pro-

MAKE IT CLEAN

Work undertaken by Nadi Mitra Mandalis to save the Yamuna

- 1 **Kharadi:** Strengthening of van panchayat, green yatra, construction of toilets, plantation, survey of bird life and training manpower
- 2 **Katapathar:** Catchment restoration, organic farming, urja kendra for wind energy, survey of birds, plantation and river monitoring
- 3 **Kanalsi:** Natural farming, river and village health monitoring, waste water management and organic resource centre for farmers
- 4 **Ramra:** Rainwater harvesting, bird survey, monitoring of river and village health, construction of eco-toilets and plantation
- 5 **Oba:** Waste water management, plantation for river restoration, monitoring of river and village health, and survey of bird life

- 6 **Gadaya:** Waste management by putting up dustbins and creating toilets, restoration of wells, and plantation on riverbed
- 7 **Bateswar:** Waste management, catchment restoration by plantation, monitoring biodiversity and water quality, and restoration of wells
- 8 **Pachnada:** Drainage for standing water, soak pits for

- 9 **Hamirpur:** Put up dustbins, encouraged use of paper bags, pond restoration, cleaning of drains and temple complex, Cleaning of river
- 10 **Ekdala:** Catchment restoration through plantation, central drainage system, and Dolphin watch centre

jects were not the only way forward for projects like river cleaning. People's participation was important, especially at the grassroots level. "In rural areas, people have real control over land, so they feel a greater sense of responsibility. They

are also more dependent on nature. We want bring this model to the cities," he said. Manoj Misra, convener of the Yamuna Jiye Abhiyaan, said that while common defined targets were given to each grid or village, specialized activities were tak-

en up in keeping with the areas's geographical demands.

The 10 villages, from Yamnotri up to Allahabad in the plains, raised 6,000 plants, assessed the river's health every month through water quality and biodiversity.

The Times
of India,
Delhi dated
March 02,
2013

'Grassroots support vital to conservation'

Neha Lalchandani/TNN

New Delhi: What the Yamuna is today, the Thames was in the 1960s—a heavily polluted and biologically dead river. But just 50 years later, it is one of the cleanest rivers flowing through a major city. Last week, three dolphins showed up in its waters along the Parliament. Seals and seahorses have also been found.

The turnaround has already cost 100 million (Rs 824 crore at current rates), and now a 5 billion (Rs 41,000 crore) 'supersewer' is planned to trap effluent from 30-odd drains. Like Delhi's interceptor sewage system, London's new sewer-

age plan has been criticized for its massive cost. However, experts say, the pressure of population has made it necessary.

Dr Robert Oates, executive director of the Thames River Trust, foresees a similar future for Delhi. "The massive expenditure by the local government on river cleaning projects has been criticized, but it is having to work very hard to keep up with an expanding city. For projects like the Yamuna Action Plan to be successful, the government should involve the com-



Robert Oates

munity and NGOs. People usually have good ideas and can help organize grassroots support," he said.

Oates said the economic downturn in the West has made volunteers a vital part of river restoration projects there. "No government is able to take up these grand plans. They have been forced to come to us and I always give them the example of the Nadi Mitra Mandalis in India. Here, grassroots workers give their time, money and even land in some cases for simple yet effective measures

like creating public toilets and drainage," he said.

He, however, cautioned that the Yamuna is very different from Thames and should not be restored the same way. "The only common factor is that no sewage should be allowed to flow into the rivers. Other than that, Thames is a tidal river with rain throughout the year. Yamuna is a monsoon-fed river and its floodplain is crucial for its survival". He is all praise for the Yamuna Biodiversity Park. "Its second phase will naturally restore the riverbank in a non-expensive way and can become a major tourist attraction," he said.

*The Times of India, Delhi
dated March 03, 2013*

There's poison in Ghaziabad air

Aniruddha Ghoshal | TNN

Ghaziabad: The air in Ghaziabad, even in relatively greener areas such as Indirapuram, Vaishali and Kaushambi, is nothing short of a poisonous cocktail. Prolonged exposure to the air in the city, among the top five 'most critically polluted cities' in the country, can lead

► 'Lax enforcement', P 8

to a number of respiratory diseases, most of which directly affect the lungs.

Centre of Science Environment's (CSE) analysis of government data and Global Burden of Disease's report has revealed the catastrophic air pollution level in the city.

In 2009, Ghaziabad was listed as the third-most polluted industrial city follow-

TOXIC COCKTAIL

► Ghaziabad among top five 'most critically polluted cities' in country

► Has one of the highest levels of sulphur oxide and particulate matter

► People prone to acute asthma attack and chronic obstructive pulmonary disease (COPD)

ing a study of 88 industrial clusters by the Central Pollution Control Board. On the scale of comprehensive environmental pollution index (CEPI), Ghaziabad had recorded 87.37, which came down to 81.14 in 2011. For recording CEPI scores in excess of 80, Ghaziabad had been put in the category of 'critically polluted areas'.

Lax enforcement behind heavy air pollution: Experts

► Continued from P1

The city has one the highest levels of sulphur oxide and particulate matter in the country, both of which can lead to fatal respiratory disease. "These pollutants in the air affect the lungs. One can have an acute attack of asthma or chronic obstructive pulmonary disease (COPD). It can also aggravate the conditions of those suffering from asthma," said Dr Harnish Vohra, pulmonologist, Columbia Asia Hospital, Ghaziabad.

According to WHO, Copd is an umbrella term used to describe a common disease that limits the air flow within the lungs. It gets detected late in life and is a chronic condition which can lead even to death. "Prolonged exposure to these pollutants can be deadly. It escalates the chances of decline in lung function," Vohra said.

Environmentalists at CSE said the treatment of Ghaziabad as a 'second rung' city, with lax environmental norms and enforcement, has resulted in the city's catastrophic air pollution levels. "The problem lies in the fact that in cities such as Ghaziabad, enforcement is not as strict as in bigger and more metropolitan cities," CSE director general Sunita Narain said.

According to the environmental think tank, the public health crisis is also because of the presence of newer pollutants in the air — especially in greener areas — that had not been taken into consideration. "Previously, air pollution levels didn't take into account pollutants such as ozone, found in greener areas," Narain said.

This January, the National Green Tribunal had ordered the Uttar Pradesh government to shut down 24 polluting units in Ghaziabad, out of which 15 did not meet prescribed air pollution norms. The tribunal had also ordered the UP Pollution Control Board to submit a list detailing all industrial units in Ghaziabad functioning in violation of the board's consent so that necessary action could be initiated against them.



The air in Ghaziabad has one of the highest levels of sulphur oxide and particulate matter in the country

Deccan Chronicle, Hyderabad dated 03.03.2013

In India, state has most polluting units

JATINDER KAUR
TNN | DC
HYDERABAD, MARCH 2

Once again Andhra Pradesh tops the list of not only having maximum number of highly polluting industries, under which 17 such categories were identified by the Central Pollution Control Board, 16 per cent of these do not comply with the norms laid down by the Pollution Control Board.

As per official sources, there are a total of 472 highly polluting industries.

Of these, 300 are pharmaceutical units, 46 are cement units, 35 are sugar manufacturing industries, 24 are distilleries, 17 are thermal power plants and 10 are tannery/leather

industries followed by other industries in various numbers.

Moreover, of the 472 highly polluting industries, 76 industries are operating in gross violation of pollution check rules.

With Patancheru known to be having the 'most drug-polluted water' in the world, it should come as no surprise that of these 76 habitual offenders, 50 are bulk drug units comprising a whopping 65.78 per cent of the total violators. This is followed by 15 cement units located in the state and one thermal power plant.

The CPCB has asked the state to formulate strict policies and a mechanism to monitor the enforcement and compliance of environmental standards.

Deccan
Chronicle,
Hyderabad
dated
05.03.2013

HEALTH WATCH

Malaria in India? Blame Atlantic warming

Paris, March 4: Health watchdogs monitoring the risk of malaria in India should keep a close eye on what's happening thousands of kilometres away in the Atlantic, an unusual study published on Sunday suggests.

The temperature of the sea surface in the tropical South Atlantic is a big determinant for levels of monsoon rain, which in turn is the big factor for malarial mosquitoes, it says.

Researchers led by Mercedes Pascual at the

University of Michigan compared maps of monsoon rainfall and malaria epidemics in the desert fringe of northwestern India with a global map of sea-surface temperatures.

What struck them was a clear link between abnormally cold temperatures in the tropical South Atlantic in July and a regional increase in malaria in the ensuing September-December period.

Previous research has suggested that the vast body of water in the Atlantic has a much bigger impact on

Temperature of the sea surface in the South Atlantic is a big determinant for monsoon rain, which in turn is the big factor for malarial mosquitoes

the global climate system than thought.

When this volume of

ocean warms or cools, it has a knock-on effect on adjoining seas.

The transfer of heat has an impact on ocean circulation and rainfall, affecting for instance the relationship between the monsoon of the Indian Ocean and El Nino, the pendulum weather swing in the Pacific.

At present, arid and semi-arid parts of the Asian sub-continent get about a month's notice before an outbreak of malaria.

This is the timelag between exceptional rain-

fall — which helps mosquitoes to breed — and a rise in cases.

But warning time could be increased to as much as four months, if South Atlantic temperature becomes accepted as a factor, according to the study published in *Nature Climate Change*.

This would give authorities more time to prepare drug stockpiles and hospitals and encourage people to remove outside containers that, filled with water, become breeding grounds for mosquitoes. —AFP

The Times of India, Delhi dated March 05, 2013

'80% of sewage water enters rivers untreated'

New Delhi: Is urban India drowning in its own excreta? Nearly 80% of the sewage generated in India flows untreated into rivers, lakes and ponds, turning the water sources too polluted to use. The end result: groundwater in almost the entire country has nitrate levels higher than the prescribed levels — a result of sewage leaching into India's groundwater aquifers.

These grave figures were revealed at a meeting of experts on sewage and water issues organized by the Centre for Science and Environment as part of the 'Anil Agarwal Dialogues' series.

Speaking at the confer-

ence, vice-president Hamid Ansari said, "Indian cities produce nearly 40,000 million litres of sewage per day, enough to irrigate 9 million hectares and barely 20% of this is treated." He said the untreated waste water was seeping into water sources, "thereby creating a ticking health bomb amongst our people".

Almost half of the urban population still depends upon groundwater sources for drinking, cooking and bathing which puts them at direct risk from the polluted water, Sumita Narain, director general of CSE, said.

The lack of focus on water-sewage systems has led to a

state where no city in the country has a sewage system that covers the entire population. Only four cities — Pune, Chennai, Surat and Gurgaon — claim to connect at least 70% of the population through a network of closed drains.

Almost 40% of the sewage treatment capacity of the country exists in just two cities — Delhi and Mumbai. Class I and II towns — expected to grow and absorb most of the migration in the coming years — are faring the worst. Untreated sewage flowing into water bodies has almost doubled from around 12,000 million litres a day to 24,000 million litres a day in Class I and II towns. **TNN**

The Times of India, Delhi dated March 05, 2013

'Volcanoes mask effects of warming by 25%'

Washington: Sulphur dioxide emissions from moderate volcanoes around the world can mask some of the effects of global warming by 25%, a new study has found.

A team led by the University of Colorado Boulder looking for clues about why Earth did not warm as much as scientists expected between 2000 and 2010 now thinks the culprits are hiding in plain sight.

The study results essentially exonerate India and China, two countries that are estimated to have increased their industrial sulphur dioxide emissions by about 60% from 2000 to 2010 through coal burning, said lead study author Ryan Neely.

Small amounts of sulphur dioxide emissions from Earth's surface rise 12 to 20 miles into the stratospheric aerosol layer of the atmosphere, where chemical reactions create sulfuric acid and water particles that reflect sunlight back to space, cooling the planet, researchers said. Neely said previous observations suggest that increases in stratospheric aerosols since 2000 have counterbalanced as much as 25% of the warming. "It indicates that emissions from small to moderate volcanoes have been slowing the warming," said Neely. **PTI**

The Times
of India,
Delhi dated
March 05,
2013

Winter hits pashmina hard

18,000 Mountain Goats Die In Ladakh's Worst Snow In 50 Yrs

Atul Thakur & M Saleem Pandit
TIMES NEWS NETWORK

New Delhi/Srinagar: Last year's unusually dry summer and this winter's unprecedented snowfall, the worst in nearly 50 years, in Ladakh's Changtang area has claimed over 18,000 pashmina goats, the source of one of the finest varieties of wool that has put the region on the world map.

Changtang is a high altitude plateau in southeastern Ladakh, inhabited by Changpa (Champa) nomads, and known for its harsh and semi-arid weather with very little vegetation. The harsh winter makes these mountain goats grow extremely warm and very soft coating six times finer than human hair and used to produce pashmina wool. Its products, including shawls, scarves, wraps and stoles are



COLD REALITY

exported worldwide.

"While rains were scanty last summer, the winter witnessed unprecedented snowfall," said Dr Morup of Leh's district sheep husbandry office. Because of the harsh climate, no other agricultural activity is possible and fodder comes mainly from natural vegetation. Lack of rains last year

dried out the natural flora and the heavy snowfall in January and February cut off the region from the rest of the country. "The goats perished because of extreme cold and lack of food," he explained, adding, "We had supplied 13,000 quintals in November before the closure of the roads, otherwise loss would have been more."

Leh deputy commissioner Tsering Angchok said, "Now, 1100 quintals of fodder have been sent in 62 trucks to where these animals are located." The members of the Ladakh hill council are helping in organizing fodder stocks to prevent any further loss of these 'golden goats'. The council members accuse the Omar Abdullah government of not doing enough to save these rare animals.

"The conditions also threaten the ancient nomadic lifestyle of the Champa people," said Tsewang Namgyal, advisor to a body of Drukpa Buddhists. The pashmina wool has an enormous contribution to Ladakh's economy. "Such calamities might convince them to quit the nomadic lifestyle and settle in villages. This will have a huge impact on the local economy," he added.

*The Economic Times, Delhi
dated March 05, 2013*

Maruti Extends CSR Initiative to Shop Floor

ET@WORKPLACE

RICA BHATTACHARYYA
MUMBAI

Maruti Suzuki India, the country's largest carmaker, is extending some of its corporate social responsibility (CSR) activities to associates on the shop-floor in a bid to make it more inclusive and increase their identification with the company. So far, these programmes were only for managers and engineers.

As part of the initiative called e-parivartan, the company helps employees contribute to various social causes. The initiative is run in partnership with local voluntary organisations. The company's CSR department facilitates volunteering activity as a link between employees and the community.

"Encouraged by their enthusiasm for social work, we would like to take the employee volunteering programme to the shop floor," says SY Siddiqui, chief operating officer in charge of administration (HR, finance, IT & COSL) at Maruti Suzuki India.

Some of the focus areas for next year include counselling Class 10 and 12 students at local government schools for higher studies and vocational courses, and support to the environment.

"This community interaction gives extreme satisfaction to the employees. With such associations, their involvement and liking for the company also goes up," says Siddiqui.

The e-parivartan programme was started about

four years ago when a group of young employees, in a communication meeting, expressed their desire to meaningfully associate with a social cause. Starting with 40 employees in 2008-09, the programme now involves about 2,200 staffers.

From this year, the company has made volunteering an integral part of new employees' induction programme. For instance, new employees like graduate engineer trainees (GET) undergo a full day of community service.

This year, a group of GETs participated in an anti-malaria and dengue campaign in Gurgaon that was organised by Maruti in partnership with the government health department.

"Such exposure helps us shape them as rounded professionals so they are

able to contribute not just to the company but also to society," says a company spokesperson.

Underlining the fact that a renewed focus on employee involvement and engagement is very critical for the company, Siddiqui says: "HR should be able to support all, blue-collared or white-collared. Maruti is refocusing on building bridges between the white- and blue-collared."

E-parivartan has so far shown tremendous results with white-collared employees, he adds.

rica.bhattacharyya@timesgroup.com

Deccan
Chronicle,
Hyderabad
dated
06.03.2013

GLOBAL WARMING

Ships to sail over North Pole by 2050

Los Angeles, March 5: The Arctic sea ice cover, melting rapidly due to global warming, will be so thin by 2050 that ships will be able to sail directly across the North Pole for the first time, predict experts.

Researchers said it could lead to unprecedented geopolitical tensions between countries that have territorial claims in the region.

Global warming will make these frigid routes much more accessible than ever imagined by melting an unprecedented amount of



sea ice during the late summer, a University of California — Los Angeles (UCLA) research shows.

"Nobody's ever talked about shipping over the top of the North Pole. This is an entirely unexpected possibility," said lead researcher Laurence C. Smith, a profes-

sor of geography.

The findings appear in the journal *Proceedings*.

The first thorough assessment of trans-Arctic shipping potential as global temperatures continue to rise, the study is based on independent climate forecasts for the years 2040 to 2059.

By mid-century, even ordinary shipping vessels will be able to navigate previously inaccessible parts of the Arctic Ocean, and they will not need icebreakers to blaze their path as they do today, researchers found.

"We're talking about a future in which open-water vessels will, at least during some years, be able to navigate unescorted through the Arctic, which at the moment is inconceivable," said co-author Scott R. Stephenson.

The Arctic ice sheet is expected to thin to the point that polar icebreakers will be able to navigate between the Pacific and Atlantic oceans by making a straight shot over the North Pole, Smith and Stephenson predict.

—PTI

The Times
of India,
Delhi dated
March 06,
2013

Ice melt may allow ships to sail across Arctic by '50

Opening Up Of Way To North Pole Can Spur Geo Politics

Los Angeles: The Arctic sea ice cover, melting rapidly due to global warming, will be so thin by 2050 that ships will be able to sail directly across the North Pole for the first time, experts have predicted. Researchers said it could also lead to unprecedented geo-political tensions between countries that have territorial claims in the region.

Global warming will make these frigid routes much more accessible than ever imagined by melting an unprecedented amount of sea ice during the late summer, a University of California — Los Angeles (UCLA) research shows.

"Nobody's ever talked about shipping over the top of the North Pole. This is an entirely unexpected possibility," said lead researcher Laurence C. Smith, a professor of geography. "The development is both exciting from an economic development point of view and worrisome in terms of safety, both for the Arctic environment and for the ships themselves," Smith said.

The findings, which explore accessibility during the Arctic's most navigable month of the year, September, appear in the journal *Proceedings*. The first thorough assessment of trans-Arctic shipping potential as global temperatures continue to rise, the study is based on independent climate forecasts for the years 2040 to 2059.

By mid-century, even ordinary shipping vessels will be able to nav-



CRACKS IN THE FRIGID ZONE

igate previously inaccessible parts of the Arctic Ocean, and they will not need icebreakers to blaze their path as they do today, the researchers found. "We're talking about a future in which open-water vessels will, at least during some years, be able to navigate unescorted through the Arctic, which at the moment is inconceivable," said co-author Scott R. Stephenson.

The Arctic ice sheet is expected to thin to the point that polar icebreakers will be able to navigate between the Pacific and Atlantic oceans by making a straight shot over the North Pole, Smith and Stephenson predict. The route directly over the North Pole is 20% shorter

than today's most-trafficked Arctic shipping lane, the Northern Sea Route. For vessels travelling between Rotterdam in the Netherlands and Yokohama, Japan, the Northern Sea Route is approximately 40% shorter than the traditional route through the Suez Canal.

Even the fabled and notoriously treacherous Northwest Passage, which traces Canada's coastline and offers the most direct route from Asia to eastern Canada and northeasternmost part of the US, is expected to become more viable for Polar Class 6 vessels. Today, the Northwest Passage is theoretically navigable only one out of seven years, the researchers said. ■

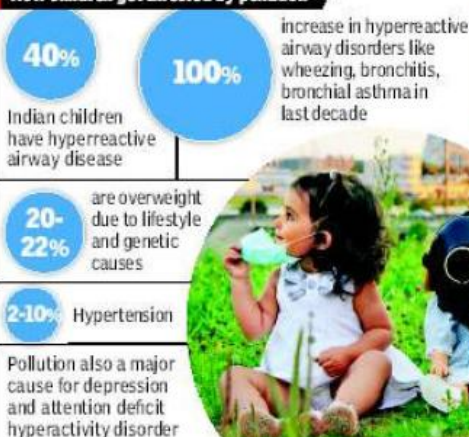
The Times of India, Delhi dated March 06, 2013

Toxic air hurting kids' lungs, heart & mind

But Pollution Board Sat On Findings For 7 Yrs

MOST VULNERABLE

How children get affected by pollution



Results of study by Central Pollution Control Board

- Reduced lung function in 43.5% Delhi schoolchildren compared to 25.7% in control group (schoolchildren in West Bengal and Uttarakhand)
- Sputum of Delhi children contain 4 times more iron-laden macrophages (specialized cells) than controls. Abundance of siderophages (macrophages that have ingested red blood cells) in lungs may indicate covert pulmonary haemorrhage
- Hypertension in Delhi children at 6.2% (control group 2.1%). This means there's three times more incidence of high blood pressure among them



Jayashree Nandi | TNN

New Delhi: Children in the national capital are more vulnerable to air pollution than their counterparts in other states and in more ways than one. They are falling victim not only to pulmonary disorders but also hypertension, ADHD and depression.

Medical investigators from Kolkata-based Chittaranjan National Cancer Research Institute had pointed out this "dangerous epidemic" to Central Pollution Control Board as early as 2005 when a study examined over 11,000 schoolchildren in Delhi and compared them with a control group of children in the towns of West Bengal and Uttarakhand. CPCB took seven years to publish it and place it in public domain.

The research study that had examined cellular lung reaction was one of the first to conclude that air pollution related complications are not restricted to lungs and can lead to several metabolic conditions. Such a long delay in publishing a scientific report that "could have been a wake-up call" is indefensible, some scientists who conducted the study said.

Among its startling finds is the fact that incidence of hy-

pertension in Delhi schoolchildren is three times that of the control group. Delhi's schoolchildren were 2.5-times more likely to suffer Attention Deficit Hyperactivity Disorder and boys were more vulnerable than girls.

Dr Manas Ranjan Ray, head of department of experimental haematology and co-investigator in the study, said, "When we conducted the study, there were 38 lakh vehicles in Delhi. Today there are over 75 lakh. We found very high incidence of hypertension, obesity and even juvenile diabetes. In a neo-rich city, lifestyle factors also play a major role. One of the key recommendations we made to CPCB was inclusion of one fresh fruit in the diet of children of all schools including municipality schools. Another was regarding regular medical check-ups in schools for hypertension and lung health. But we never imagined it would take close to a decade to publish the research."

Another researcher complained that scientists are always treated like "backbenchers" by government bodies like CPCB who have no regard for "valuable research".

A senior officer from CPCB who declined to be named

said peer review and extensive interpretation of data took years. "We cannot publish such alarming findings before being certain. It was a very expensive and difficult study and needed interpretation," he said.

The study was peer reviewed by Indian Council for Medical Research and All India Institute of Medical Sciences but researchers say the report was stuck in red tape for years after the review. "Seven years is way too long for interpretation. Now the average time is a year for peer review and even that is considered pretty long," AL Ramanathan, a professor from School of Environmental Sciences, JNU, said.

Incidence of air pollution-related complications among children has gone up dramatically in the past few years. "Checking the BP of young children is a regular practice now among doctors. More than a million children are affected with respiratory infections in India every year. The incidence is quite high in Delhi, we are also noticing psychological effects of pollution like depression among children. It's something that is not widely discussed but quite prevalent," paediatric consultant Dr Sanjeev Bagai said.

*The Times of India, Delhi,
dated 07 March, 2013*

Agro fair has green ideas for city homes

TIMES NEWS NETWORK

New Delhi: A lush vegetable garden in the cramped confines of your balcony is not impossible. The ongoing Krishi Vigyan Mela organized by Indian Agricultural Research Institute (IARI) has some interesting ideas for the 'apartment farmer', too. Vegetables believed to grow only in farms have been cultivated in pots. Cauliflower, Chinese cabbage, broccoli and Brussels sprouts are just some of the possibilities with a little guidance from IARI scientists.

Rajesh Mehta



GROW GREEN AT HOME

Growing flowers on terraces or balconies is also possible. "We have kept in mind the space crunch in Delhi. At the institute we have developed 30 varieties of gladiolus that are much cheaper and suited to Indian conditions," said senior scientist, IARI, JPS Dabas. The institute is also preparing new mango varieties that can be grown in small spaces with less chemical use.

Kulwant Singh, a farmer from Bulandshahr, is showing a new variety of gram which is green in colour and rich in protein. One stall also has indigenous rice varieties from Bihar.

The Mela is on till March 8 at the Pusa campus.

*The Times of India, Delhi,
dated 08 March, 2013*

Green notice to govt on Rajokri roads

TIMES NEWS NETWORK

New Delhi: Taking cognizance of TOI reports on the illegal construction of three roads inside the Rajokri Forest, an application has been filed with National Green Tribunal (NGT). The environment watchdog has now sent no-



NOT PERMITTED: Forest is being used for many non-forest purposes

tices to the Delhi government and other agencies concerned.

Amicus curiae Raj Panjwani said, "The ridge area is being used for several non-forest purposes without any prior permission of

the central government which is a clear violation of the Forest (Conservation) Act, 1980, and orders of the Supreme Court."

The Bench has asked the secretary department of environment and forests, Delhi; chief secretary of Delhi; DDA vice chairman; chairman of Ridge Management Board and the Delhi Police commissioner to reply by March 14.

TOI first highlighted the unauthorized construction on Febru-

TIMES IMPACT

ary 23 and pointed out that large-scale dumping of debris had taken place in the reserved forest to create a road that had been used by heavy vehicles like trucks.

The application also mentions illegal construction in Sanjay Van, based on a report by Toxics Link, an NGO, and use of the central ridge forest land as a polo ground by the President's Bodyguard.

The Times of India,
Delhi dated 09
March, 2013

Reverse swing: Antarctic ice grows by 4.6%

Kounteya Sinha | TNN

London: Around all the gloomy news of a glacial melt down across the world, good news is coming from Antarctica. Scientists at the British Antarctic Survey (BAS) have found that the volume of ice in Antarctica is 4.6% greater than previously thought.

The most detailed map yet of Antarctica's landmass created by British scientists along with institutes and researchers from US, Italy, Chile, Belgium, Germany, Denmark, Japan, Sweden, Norway, New Zealand, Russia and Australia has shown that the bed depth of Antarctica, at 95 metres, is 60 metres lower than estimated and the volume of ice that is grounded with a bed below sea level is 23% greater.

However, scientists warned that this also means that there is a larger volume of ice that is susceptible to rapid melting. The ice that rests just below sea level is vulnerable to warming from ocean currents.

According to the BAS, which has been working to create Bedmap2, reveals a landscape of mountain ranges and valleys much deeper than previously seen. The find says that the total potential contribution to global sea level rise from Antarctica is 58 metres. The new deepest point is under Byrd Glacier, around 400 metres deeper than the previously



CHILL FACTOR

Canada's Arctic glaciers thawing

Canadian glaciers that are the world's third biggest store of ice after Antarctica and Greenland seem headed for an irreversible melt that will push up sea levels, scientists said on Thursday. About 20% of the ice in glaciers, on islands such as Ellesmere or Devon off northern Canada, could vanish by the end of the 21st century in a melt that would add 3.5 cm (1.4 inch) to global sea levels, they said. **REUTERS**

identified deepest point. BAS said, "Several features of the bed have been revealed for the first time including a new deepest point. The bed under the Byrd Glacier in Victoria Land is 2,870 metres below sea level making it the lowest point on any of the Earth's continental plates."

The Times of India,
Delhi dated 09
March, 2013

Pollution forces Beijing to scrap expansion plan

Saibal Dasgupta | TNN

Beijing: Shaken by the high level of air pollution that has sent scores of people to hospitals and attracted negative publicity worldwide, China's capital city has set about reversing its expansion plans. It would rather be small and less modernized to avoid suffering levels of smog, say city administration officials.

"We will make efforts to control Beijing's scale through economic, legal and administrative means," Wang Anshun, Beijing mayor said.

"The conflict between rapid population growth and limited resources is our city's growing pain," Wang said at a panel discussion during the annual parliamentary session in Beijing.

The city government has also rolled out plans to encourage use of electric vehicles, offering purchase



MAXIMUM CITY?

subsidies and licenses without the long waiting period, and steep license charges associated with fuel driven vehicles.

There are signs the government will stop giving fresh licenses for industries in areas around the capital city as they contribute nearly one-third of the air pollution in Beijing.

Recent weeks have seen smog levels calculated in terms of PM2.5 – particulate matter that includes a mix of solids and liquid droplets – crossing the danger level of 500 against the tolerable level of 20. The government has managed to keep the smog levels low during the ongoing parliament session through climate control measures and because of the reduction of chill in the atmosphere.

Beijing has one vehicle for four residents. Its population has reached 20.6 million and is growing by about 600,000 people annually. The capital now has 5.2 million motor vehicles and the number is expected to reach 6.5 million in five years, the mayor said.

These have resulted in many "city diseases" such as traffic congestion and air pollution. "The city can not expand in an uncontrolled way," Wang said.

The Times of India, Delhi dated 09 March, 2013

In 2100, Earth will be hottest in 11,300 years

After A 5,000-Yr Cooling Off Period, Global Temp Rising Sharply In The Last 100 Yrs: Study

Kounteya Sinha | TNN

London: In another 87 years, Earth will be the warmest ever. For the first time, scientists have reconstructed Earth's temperature history back to the end of the last Ice Age using data from 73 sites across the world. They have found that the planet today is warmer than it has been over the last 11,300 years.

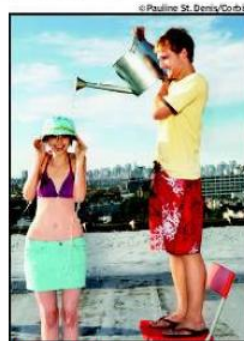
The projection of global temperature for the year 2100 is most alarming. The Intergovernmental Panel on Climate Change (IPCC) shows that temperatures are set to surpass the maximum temperatures in the 11,300-year period known as the Holocene — under all plausible greenhouse gas emission scenarios.

This is of particular interest because the Holocene spans the entire

period of human civilization.

According to the researchers, history shows that over the past 5,000 years, the Earth on average cooled about -17°C (1.3°F) — until the past 100 years, when it warmed by -17°C (1.3°F).

The largest changes were in the northern hemisphere, specially Asia. Climate models project that global temperature will rise another -16.7 to -11.3°C (2.0 to 11.5°F) by the end of this century, largely dependent on the magnitude of carbon emissions. "What is troubling is that this warming will be significantly greater than at any time during the past 11,300 years," researchers said. Results of the study by researchers at Oregon State University and Harvard University were published in the journal Science.



THE HEAT IS ON

Lead author Shaun Marcott says previous research on past global temperature change has largely focused on the last 2,000 years. Extending the reconstruction of global temperatures back to the end of the last Ice Age puts today's climate into a larger context.

"We already knew that on a global scale, Earth is warmer today than it was over much of the past 2,000 years. Now we know that it is warmer than most of the past 11,300 years," Marcott said. Peter Clark, co-author said, "When you just look at one part of the world, the temperature history can be affected by regional climate processes like El Niño or monsoon variations. But when you combine the data from sites all around the world, you can average out those regional anomalies and get

a clear sense of the Earth's global temperature history."

According to the team, the most important natural factor affecting global temperatures during the last 11,300 years is a gradual change in the distribution of solar insolation linked with Earth's position relative to the sun.

"During the warmest period of the Holocene, the Earth was positioned such that Northern Hemisphere summers warmed more. As the Earth's orientation changed, Northern Hemisphere summers became cooler, and we should now be near the bottom of this long-term cooling trend — but obviously, we're not," they said.

According to Marcott the earth's climate responds tremendously to carbon dioxide and solar insolation.

The Times of India, Delhi dated 11 March, 2013

Warming Arctic turning greener, finds study

Amit Bhattacharya | TNN

Scientists have rung another warning bell about changes in the fragile ecosystem of the Arctic, saying that vegetation found in areas several degrees to the south of the region 30 years ago was now showing up in parts of the Arctic due to global warming-linked temperature rise.

A Nasa-funded international study published in Nature Climate Change on Sunday, used a new 30-year satellite data set and temperature records to study the effect of temperature rise on vegetation in the Arctic and regions just below it.

The researchers found a 10% increase in Arctic plant growth since the early 1980s. This increase was seen in more than one-third of the vegetated lands. During the same period, the mean temperature of land in the re-



FACING HARSH REALITY

gion, excluding ice sheets, rose by 1 to 2 degrees Celsius.

The findings were reported by an international team of 21 authors from seven countries, who used latitude as a yardstick to study seasonality changes. "Arctic plant growth during the early 1980s equalled that of lands above 64 degrees north. Today, just 30 years later, it equals that of lands above 57 degrees north," said co-author Terry Chapin of University of Alaska.

The study also found that temperature seasonality —

the temperature difference between summer and winter — was reducing in many Arctic regions because the colder seasons were warming more rapidly than the summers.

The Arctic region is witnessing some of the most dramatic fallouts of climate change. Changes in vegetation and seasons may hit availability of food and alter the life pattern of many animals like the polar bear. These could also hit migratory birds.

A warmer Arctic has implications for the rest of the world, too. "The warming reduces polar sea ice and snow cover in the Arctic land mass, thereby increasing the solar energy absorbed by the no-longer energy-reflecting surface. This sets in motion a cycle of positive reinforcement between warming and loss of sea ice and snow cover, amplifying the greenhouse effect," said lead co-author Ranga Myneni of Boston University.

The Times of India, Delhi dated 11 March, 2013

Heavy metals in city's drinking water

Neha Lalchandani | TNN

New Delhi: Delhi's drinking water is contaminated with tonnes of industrial waste. Industries located upstream of the Yamuna have been found to be discharging untreated waste into the river, leading to the presence of heavy metals in water that is picked up at Wazirabad to meet the city's drinking water needs.

Manoj Misra of the Yamuna Jiye Abhiyan had water from the Dhanura Escape — a channel that empties into the Yamuna — tested at a laboratory in Gwalior and found that the levels of chromium, lead and iron were higher than permissible. "While chromium was 0.13 mg/l against 0.05 mg/l, lead was 0.035 mg/l against 0.01 mg/l and iron was 3.51 mg/l against a permissible 0.1 mg/l. The presence of heavy metals is even more problematic since the treatment plants in Delhi are not equipped to detect or treat them," said Misra.

Pollution from industries in Haryana, especially those located in and around Pa-



These can't be treated at Wazirabad water treatment plant

nipat and Sonapat, has caused treatment plants to stop functioning on several occasions after ammonia level went so high that it could not be treated. Untreated industrial effluent from Yamuna Nagar, Misra said, is released into the Dhanura Escape from where it meets the river upstream of Kunjpura in the Karnal district.

"Similarly, toxic waste from Panipat falls into the Yamuna near the village of Simla Gujran in Panipat district. Samples from the Dhanura Escape show presence

of heavy metals, known health hazards and a clear indication of industrial pollution. This water is picked up at Wazirabad for treatment at Chandrawal and Wazirabad treatment plants," he said.

Other than heavy metals, other pollutants, too, were much higher than BIS norms for drinking water. Total coliform was 1,200 against the permissible limit of 10, total dissolved solids were 3,324 against the permissible limit of 500, biochemical oxygen demand was 240 mg/l against a limit of 30 mg/l, and chemical oxygen demand was 768 mg/l against a limit of 250 mg/l, Misra added.

Central Pollution Control Board officials said they had made it compulsory for all industries to have effluent treatment plants. "Most industries have installed ETPs but either the treatment is not up to mark or not all effluent is reaching the ETPs. We have set up a real time water pollution monitoring station at Wazirabad where we monitor 10 parameters... heavy metals are not monitored as they cannot be treated in the plants," said an official.

Deccan Chronicle, Hyderabad dated 11 March, 2013

POLLUTION BOARD BATTLES PLASTIC TINS, THERMOCOL

DC CORRESPONDENT
HYDERABAD, MARCH 10

The state Pollution Control Board is mulling ways to manage styrofoam, thermocol and plastic in the form of containers and other derivatives not covered by the Plastic Waste Rules, 2011.

Officials and activists are also considering moving the ministry of environment and forests and the Central Pollution Control Board, suggesting that these pollutants, composing of non-biodegradable urban litter, be brought under the ambit of plastic waste management rules.

W.G. Prasanna Kumar, director, National Green Corps, AP, said the use of foamed plastic or styrofoam packages, serving plates, made of composite materials, should be discouraged. Stricter regulations are required to deal with the use of thermocol, styrofoam, plastic bottles etc since even rain cannot carry these away.

A. Arun Kumar, chief environmental engineer (AFC) of the APPCB said: "Thermocol which you discard carelessly will lie there for years resulting in soil pollution. On being burnt, it leads to air pollution."

The Times of India, Delhi dated 11 March, 2013

The Economic Times, Delhi
dated March 14, 2013

Baikal Teal returns to NCR after two years

Long-Billed Dowitcher Shows Up For 1st Time

Neha Lalchandani | TNN

New Delhi: A week after conclusion of Delhi's annual bird count, three extremely rare birds were spotted around the city. The Long-Billed Dowitcher, sighted only twice in India and never in NCR, was seen in Sultanpur National Park. There were also reports of a Baikal Teal in

the park, a bird that was last seen in Okhla two years ago after a gap of about 40 years. The other rare sighting was of the 'vulnerable' Marbled Teal, 100km from Delhi in Haryana's Dighal.

Word about the birds spread after local guides at both locations called up regular birders. "The Marbled Teal was spotted by a birder

on February 1 who immediately put up pictures on the Delhi Birders' webpage. On Feb 2, two other birders went to Dighal to see the Teal when they got a call from Sanjay, a local guide in Sultanpur, that he had seen a Dowitcher. He first identified it as the Asian Dowitcher but later the birders confirmed it as a Long-billed Dowitcher," said Dr Surya Prakash, a birder.

Many birdwatchers made their way to Dighal and Sultanpur over the weekend. They were "lifers" for many i.e. they saw these for the first time in their lives. K B Singh went to Sultanpur on Sunday to see the Dowitcher. "It was a lifer for me. The bird has been seen about three times in India and for the first time in Delhi and Haryana. The bird winters in the US and east Asia and India is out of the way for it. It had strayed from its flock," he said.

Nikhil Devasar, who has recorded two of the three known sightings of Dowitcher in India including the latest one in Sultanpur, said all sightings had been in February, indicating that the bird was in passage. "Baikal Teal was spotted in Sultanpur first in the end of February and again in March. It was too far to photograph but it was a confirmed sighting," Devasar said. The Baikal Teal created a flutter two years back after it was spotted at the Okhla Bird Park. It has earlier been seen once in 1947 and again in 1970.

Surya Prakash said that Dighal has several wetlands, is frequented by both raptors and waders and is most conducive to bird life.

RARE BEAUTIES

Long-billed Dowitcher

The wader has yellowish legs and the most distinguishing feature is its long straight dark bill. The body is dark brown on top and reddish underneath with spotted throat and breast. The tail has a black-and-white barred pattern. The bird breeds in North America and from Siberia to Alaska. It winters in the US and east Asia.



Photos: Surya Prakash



Marbled Teal

The adult teal is a pale sandy-brown bird with a dark eyepatch and shaggy head. The duck used to breed in Mediterranean region but is now restricted to a few sites in southern Spain, northwest Africa and Israel. In the east it is found in the Mesopotamian marshland in southern Iraq, Iran and isolated pockets in Turkey, Armenia, Azerbaijan, Iraq, western India and western China.

Baikal Teal

The bird is a small dabbling duck with a striking head pattern. Males have a green, white and black head pattern with a dark spotted pinkish breast; grey flanks; black undertail-coverts; long chestnut, black and whitish scapulars. It breeds within the forest zone of eastern Siberia, and winters in South Korea, Japan, Taiwan, northern and eastern China.



Nestle Too Sets Social, Green Targets for 2020

Out There

REUTERS
ZURICH

Nestle, the world's biggest food company, published on Wednesday a raft of social and environmental targets it aims to meet by 2020, including better labelling of its products, only using sustainable palm oil and cutting greenhouse gas emissions.

Nestle said the 30 goals it was setting included making sure all of its palm oil was responsibly sourced by the end of 2013, two years ahead of an initial commitment made in 2010 after campaigners Greenpeace targeted its Kit Kat chocolate brand. In targets published alongside its annual report on Wednesday, it also pledged to cut greenhouse gas emissions per tonne of product by 35% by 2015 compared to 2005, and cut direct water withdrawal per tonne of product by 40%.

Consumer goods firms are coming under increasing scrutiny over their environmental impact and sourcing of raw materials, courting criticism on issues ranging from child labour on cocoa farms to the impact of palm oil planta-

tions on rainforests.

"At Nestle we recognise that our position in society brings not only opportunities, but also responsibilities," Chief Executive Paul Bulcke said. "mentally believe our company can only be successful over time if we also create value for society."

In 2010, rival Unilever won praise for launching sustainability targets aimed at halving the environmental impact of the company that makes products from Dove soap to Flora margarine by 2020 while doubling the size of the business.

In response to mounting concerns about the global obesity epidemic, Nestle said it would provide portion guidance on all children's products by 2015 and would put guideline daily amounts (GDA) on the front of pack on more products by 2016.

It also said it would provide 200 billion servings of products fortified with micronutrients by 2016, with a focus on children and women of childbearing age. Last year, Nestle and General Mills Inc said they will cut sugar and salt in the children's breakfast cereals they jointly market outside North America.

Goals include pledges on sustainable palm oil, emissions. To improve nutrition labelling on products

Solar power project in the dark

AMRITA DIDYALA | DC
HYDERABAD, MARCH 11

The solar-powered project taken up at Salojipalli village in Medak district on an experimental basis over a decade back, has collapsed completely in the absence of any kind of maintenance.

While the state government has been stressing on solar-based power projects now, such experiments in the past have shown that solar power generation has not been successfully implemented in the state.

The solar project was started in the 1980s on an

experimental basis by BHEL in association with the American Association.

Its failure may be a sign of how solar power projects in remote villages are still unviable. Insiders say that the projects for village electrification in Salojipalli village collapsed in the absence of any maintenance of the project since its installation, because of unavailability of spare parts required for maintenance purposes.

The plant is lying in a completely dilapidated condition for years now. While solar power is being banked upon for electrification of

remote villages by APTRANSCO for electrification of the last mile, the project failure at the Salojipalli village has a lesson all can learn from.

Experts say that the biggest challenge in such projects comes in maintaining inverters and batteries for storage of the AC current for use at night-time.

APTRANSCO, meanwhile, had earmarked a plan for energizing 200 remote hamlets which have less than 1MW power consumption by using solar projects, as it is believed that solar power is ideal for villages and remote areas, but the plan is still on paper.

The energy department now has come up with a plan where they have identified 100 sub-stations across the state, where solar power projects can be started and the power generated in the daytime can be transferred to the substation and later on transmitted from there.

While this may seem to be a solution to the problem of storage of power generated during the daytime, it is, however, being limited to areas near the sub-stations but the plan does not deal with the problem of electrification of remote corners of the state.

Deccan Chronicle,
Hyderabad dated 12 March,
2013

The Economic Times, Delhi dated 15 March, 2013

Retailing Ozone-Purified Veggies

Fresco Retail uses ozone technology to remove pesticides and micro-organisms from the fruits and vegetables it retails

Clean Grocer

FRESCO RETAIL



FOUNDER

Karan Gaba (In picture) in 2011

WHAT IT DOES

Uses ozone to remove pesticides and micro-organisms from vegetables and fruits, retails them through its two stores and supplies to other institutions

PURIFICATION PROCESS

- Produce is washed with water to remove visible dirt.
- Dried produce is placed in the purification machine, which converts oxygen into ozone to remove surface pesticides and micro-organisms
- The cleaned produce is packed in sealed packets and sent to stores

TARGET TURNOVER FOR FY 2014

₹6 crore



HOT STARTUP

RADHIKA P NAIR

Until a few years ago, Mumbai-based Karan Gaba, 28, had never been to a vegetable market.

Now as the founder of a one-of-its-kind grocery chain in Mumbai, which is targeting ₹6 crore in turnover next fiscal, the better part of Gaba's day is spent amidst vegetables. Fresco Retail, a venture he launched in November 2011 primarily retails vegetables and fruits that have been treated with ozone to remove pesticides and micro-organisms.

But the journey to becoming a retail entrepreneur began five years back when his mother dragged him to a vegetable market for the first time in his life to buy groceries for a party. "It was an eye-opening experience for me as the vegetables were all so dirty and I asked my mother 'is this what we eat?'" says Gaba, who passed out of Mumbai's Thadomal Shahani Engineering College that year.

He began working with his father in his import business but remained keen to begin a new venture in food and honed in on organic farming. But he soon realised that he did not have the skills for it.

"At that time we had bought a water purifier for our home. That is how I thought of developing a machine to purify food," says Gaba, who set up Walto Technologies and spent two years designing and building an ozone-technology based machine that purifies vegetables and fruits at

home. He began marketing the product in 2010 and in under a year he had sold around 500 units without any large-scale marketing initiatives. Though the company had reached profitability, Gaba realised he would need heavy investments to build the brand and scale it up nationally.

That is when he realised there was an opportunity to sell cleaned vegetables and food directly to customers. The profits from his appliance business, which he shut down, and a loan from his father helped Gaba set up a central purification centre in Santa Cruz and a retail store in Bandra.

Every morning at 4.30 am the produce from the whole sale markets reach the 2,000 square feet purification centre. It is weighed, sorted and graded and then machine washed with water to remove visible dirt. Once the produce is dry it is put for around 10 minutes in the purification machine, in which oxygen is converted into ozone to remove surface pesticides and micro-organisms. The cleaned produce is packed in sealed packets and is ready to be sent to stores by 8.45 am.

Ozone treatment has been widely used internationally in food processing as ozone removes impurities without leaving any harmful residue as it decomposes to become oxygen. However, retailers are yet to offer this to customers.

"Ozone will be the future for ensuring food safety especially for fresh produce," said Brijesh Tiwari, a professor at the Manchester Metropolitan University, UK, who has published numerous papers on use of ozone technology in food processing.

Gaba says the technology was the easy part, learning sourcing and

stocking was much tougher. "At first I did not stock vegetables that I did not like, wholesalers would sell me 2-kg cauliflowers that no customer would pick up and I would buy too much or too little for a day." It took him a couple of months to iron out these issues.

Fresco has set up a home delivery unit and also started wholesale supplies to two restaurants, a school and a temple.

The company, which has net margins of around 20%, is planning to launch three stores this year. "I want to cover Mumbai first and then I will expand nationally," says Gaba.

radhika.nair@timesgroup.com

Is yours a Hot Startup?

FIND OUT WITH THIS QUIZ

- 1 Do you have enough cash to tide over operating expenses for six months? **Y/N**
 - 2 Do you have a team that can steer the business in your absence? **Y/N**
 - 3 Have you launched a product or service in the market? **Y/N**
 - 4 Do you have paying customers? **Y/N**
 - 5 Are you earning profits? **Y/N**
- A score of 4/5 makes yours a hot startup. If you know of such a compelling firm, please write to us at indiaemerging@timesgroup.com

The Times of India,
Delhi dated 18
March, 2013

Green energy to get special lending window at PSBs

Sidhartha | TNN

New Delhi: The government is set to ask banks to carve out a special window for lending to renewable energy projects. The advisory may come as early as Monday when finance minister P Chidambaram meets state-run bank chiefs.

While lending to the power sector has consistently increased, there is preference to finance conventional projects, resulting in a meager loan flow for the renewable energy sector, sources privy to the discussions said. According to latest data, bank loans to the power sector added up to over Rs 4 lakh crore at

the end of January 2013.

Banks have been reluctant to lend to renewable energy projects given the higher risks involved and viability concerns. Aggressive bidding under the Solar Mission and lack of evacuation facilities in many states make lending to the sector unviable, said bankers. As a result, the government is suggesting that lenders carve out a separate sectoral exposure limit, which may be separate from the one on power, or can be part of the exposure cap for the electricity sector as a whole.

Banks are also being asked to step up lending directly to individuals as the Re-

serve Bank of India has now decided to include direct funding to individuals for setting up of off-grid solar and other renewable energy solutions for households as priority sector lending.

The working group on power for the 12th plan has projected renewable energy capacity addition of 18,500 Mw, which will need investments of Rs 1.35 lakh crore.

Within this, almost half the fund will be required for setting up wind power capacities, while over one-third (around Rs 50,000 crore) is expected to be used in setting up solar power generation capacity.

The Times of India, Delhi dated 18 March, 2013

US doublespeak on solar sops bared

Offers Incentives To Local Cos, Yet Drags India To WTO Over Solar Mission

Sidhartha | TNN

New Delhi: The US has dragged India to the World Trade Organization for its scheme to incentivize locally-made solar cells, but an analysis shows that there are at least half-a-dozen American states that offer additional sops to equipment made or assembled within their jurisdiction.

The Jawaharlal Nehru Solar Mission (JNSM) requires investors to use locally-made solar modules and source 30% of the inputs from domestic sources, which the US has opposed. It has also protested against the local manufacturing clause in telecom equipment as well, another issue which may be headed to the WTO's dispute panel.

But US states continue to incentivize local content. For

POWER STRUGGLE

- US has traditionally preferred local goods through Buy American, Buy America laws
- California, Washington, New Jersey, Texas, Oregon and Massachusetts offer sops for green energy goods made in these states
- The Indian government maintained there is nothing wrong with Jawaharlal Nehru Solar Mission

“The Solar Mission and the government policy on renewable energy is aimed at providing a boost to sustainable energy processes and is perfectly in harmony with our international commitments

Anand Sharma |
COMMERCE &
INDUSTRY
MINISTER



instance, the Self-Generation Incentive Program offers an additional 20% bonus for California-supplied products. Similarly, Washington's Renewable Energy Cost Recovery Incentive Payment Program

offers higher incentive to locally-manufactured equipment.

New Jersey's Clean Energy Program offers an additional upfront incentive to encourage projects that use renewable energy systems or

components manufactured or assembled in the state. An additional \$0.25 per watt (of capacity) is available for projects using NJ-manufactured or NJ-assembled equipment, such as inverters, solar PV modules, wind turbines or blades or sustainable biomass system components, says a 2009 document.

In Texas, Austin Energy's Solar PV Program, qualifying equipment that is manufactured or assembled in the utility's service area can earn higher incentive. There is a similar benefit from CPS Energy, another electricity utility in the state.

The others on that list include Oregon and Massachusetts, said industry players but the information could not be located on the official websites of these states.

“WTO rules cover federal and sub-federal level incentives and subsidies,” said Biswajit Dhar, director General of Research & Information Systems, a think tank.

Indian officials did not comment on the issue but from available indications, New Delhi may confront US officials during a discussion at the WTO's dispute settlement body on Wednesday and Thursday, where the two trading partners are meeting to thrash out a solution to avoid a confrontation.

Officials said a part of the solar energy flows into the grid and helps meet the Millennium Development Goals on improvement in basic standards of living of the poor. Of the 2.11 lakh megawatt energy in the country, less than 1,500 MW is produced via JNSM.

The Times of India, Delhi dated 19 March, 2013

M&M drives in electric car e2o at ₹5.9L

TIMES NEWS NETWORK

New Delhi: Electric cars may have failed to take off globally but Mahindra & Mahindra believes otherwise. Nearly three years after acquiring a majority stake in fledgling electric carmaker Reva, the Indian utility vehicle and SUV major drove in e2o electric car on Monday, promising a running cost of 0.50 paise per km, nearly one-tenth of a petrol car and about a fifth of a diesel car.

The vehicle, which uses a lithium ion battery and promises a run of 100 km on a single charge, has been priced at an aggressive Rs 5.96 lakh (on-road), which perhaps makes it the world's cheapest electric car. Electric cars selling in the West — which have failed to cut much ice in the market — are priced much higher like Nissan Leaf (33,000 euro or ap-

MOVE ON TO E-POWER

- Has no engine, no tailpipe emission
- Re-generative braking | Charges battery whenever you slow down or brake
- Can be charged from | Any 15 amp power socket
- Diagnostics | Sends alerts in case of fault



Cost in Delhi
₹5.96
Lakh (on road)
Time taken to charge
5 Hours
Distance covered in full charge
100 Km
Can seat
4 people

proximately Rs 23 lakh). Mitsubishi i-MiEV (Rs 25 lakh) and Renault Zoe (Rs 17 lakh).

Anand Mahindra, chairman of the Mahindra group,

said e2o marks a generational change in the Indian car industry. “It also advances the Mahindra group's efforts at redefining sustainable

urbanization with the creation of an eco system that includes mobility solutions along with other environment-friendly innovations.”

The e2o has a maximum speed of 81 km per hour and requires an electricity charge for five hours for a full run. The plastic body panels on the vehicle are resistant to dent and scratches and the car can be charged from any 15 amp power socket.

Chetan Maini, the man behind Reva and now the chief of strategy & technology of Mahindra Reva, said the car does not require regular servicing but a single check-up annually that can be done at home. The battery on the car has a three-year or 60,000 km warranty and at Rs 1.5 lakh, it is the only major source of expenditure once it comes up for replacement.

Mahindra officials said they

expected sales of 500 units monthly to begin with. Asked whether he expected to make money out of the project, considering that electric cars have only got a lukewarm response, including Reva's own previous-generation model, Mahindra said, “We are not in the business of chasing unviable projects.”

Apart from Delhi, Mahindra will launch e2o in seven other cities — Chandigarh, Ahmedabad, Mumbai, Pune, Bangalore, Cochin and Hyderabad. The price of the vehicle may be significantly higher in the other cities considering that the Delhi government has offered a host of incentives to buyers of e2o as it is a clean fuel vehicle. The Delhi government has given a 15% subsidy on the base price of the vehicle, apart from giving a VAT refund of 12.5%, while slashing the road tax by half.

*The Times of India,
Delhi dated March 19,
2013*

Soon, a car that runs on cold air

New York: A UK-based inventor claims to have developed the ultimate green vehicle — a car that runs on cold air — and it can reach speeds of up to 48 km per hour. Peter Dearman has modified his run-down jalopy — a 25-year-old Vauxhall Nova — to run on nothing but air.

The vehicle by a 61-year-old from Bishop's Stortford, Hertfordshire can drive for about 5 km and reach speed of up to 48 km per hour, New York Daily News reported.

"It will not produce any emissions because it's only air we're using. We're not burning anything. We're just using heat from the atmosphere and liquid air," the man told ABC News.

Dearman's propulsion system is inspired by a steam engine, but he uses very cold liquid air. At -190 Celsius, air turns into a liquid that can be stored in insulated, vacuum-sealed containers. He uses a beer ke as a makeshift container for the liquid air. When the air courses through the engine, it heats up from its cryogenic temperature and boils via a heat exchange fluid (in this case, anti-freeze). PTI

The Economic Times, Delhi dated March 20, 2013

PM Asks Plan Panel to Organise Clean Energy Ministerial in April

SHREYA JAI & RAJEEV JAYASWAL
NEW DELHI

Prime Minister Manmohan Singh has asked the Planning Commission to organise the fourth clean energy ministerial on April 17-18, a directive that comes as part of entrusting the advisory body a nodal role in implementing the government's multi-pronged efforts on renewable energy.

The event, to be inaugurated by the prime minister, will be attended by energy ministers from 20 countries including the US, UK, Japan, China and Canada. "India, for the first time, is hosting the CEM, which will provide the basis for several future initiatives

for clean energy and climate change," said Planning Commission energy advisor AK Jain, about the annual event which has been held earlier in Washington DC, Abu Dhabi and London.

The ministerial signifies the commission's first major direct involvement in clean energy, an official said, adding that the prime minister felt the need for a coordinating agency after seven of the eight missions under the national action plan on climate change did not take off as planned due to interdepartmental stalemates.

*The Economic Times,
Delhi dated March 20,
2013*

Telcos Seek Sops for Meeting Green Targets to Power Cellular Towers

SHREYA JAI
NEW DELHI

Telecom operators have told the government that they will not be able to achieve the 2015 target for using renewable energy to power cellular towers unless they are provided subsidy or viability funding.

At an inter-ministerial meeting with the telecom department, the operators said it would cost about ₹33,000 crore to comply with the directive to run 50% of towers in rural areas and 20% in urban areas on hybrid power by 2015. According to the telecom department, this combination of renewable energy and grid power will help reduce carbon emis-

sion by at least 8% compared with the base year of 2011.

A member of the Tower and Infrastructure Providers Association, who attended the meeting said the operators called the cost of harnessing green power prohibitive.

"This process will require government incentives during the gestation period until economies of scale are achieved that bring down the industry's capital expenditure to shift to renewable energy," said Umang Das, director of the association and chief mentor of Viom Networks. Das added that as per the industry's estimates the government needs to provide subsidies worth ₹2,000 crore

This process will require govt incentives during the gestation period until economies of scale are achieved that bring down the industry's capital expenditure to shift to renewable energy

UMANG DAS
Mentor, Viom Networks

to renewable energy companies gearing up for generating clean energy for the telecom sector.

Just 4,000 of the 400,000 telecom towers in the country run on hybrid power solution of diesel with solar back-up facility, the association said.

Telecom regulator Trai had



said in a report last year that telecom towers running on diesel spewed out nearly 10 million tonne of carbon emissions. Each of the 4 lakh towers consumed an average of 8,760 litres of diesel every year, assuming that diesel generator sets powered the

towers for at least eight hours a day. Thereafter, the regulator recommended the green telecommunications programme, which was accepted by the government.

In a pilot project, done jointly with the ministry of new and renewable energy in 2011 by BSNL, Airtel, Indus Towers and GTL, solar power systems were installed at 100 towers of each operator. But there hasn't been any major progress apart from the pilot programme. While the state-run BSNL has shrugged off the directive as "commercially unviable", private players such as Vodafone and Bharti Infratel have tried to do some significant work in this direction.

The Economic Times, Delhi dated March 20, 2013

Voda Switches Off AC at Towers To Cut Energy Cost, Emission

DEEPA GUPTA
MUMBAI

Vodafone India is switching off the air-conditioning and improving ventilation at its telecom towers to cut energy consumption costs and carbon emission. The change, which is a work in progress, saves nearly a quarter of the energy consumed at each site, but comes with some capital expenditure to increase ventilation at these locations, a company spokesman said in an email.

These are not specially designed base stations but have been in use for years. The discovery that they can run without air-conditioning is new.

"These stations were set up with air-cons because at that time it was the way all telecom equipment was set up by everyone," said a company executive, who did not want to be named.

The conversion to a more energy efficient model requires some capital expenditure on aligning windows and creating vents, but once done the base stations at the towers will require no artificial cooling. Vodafone has already implemented the change at 10% of the towers, said the company statement.

Last year, co managed to reduce diesel consumption by 4.8 million litres and carbon emission by 8,500 tonnes

In the last financial year, with this step and some other green initiatives the company managed to reduce diesel consumption by 4.8 million litres and carbon emission by 8,500 tonnes, said a sustainability report published by the company.

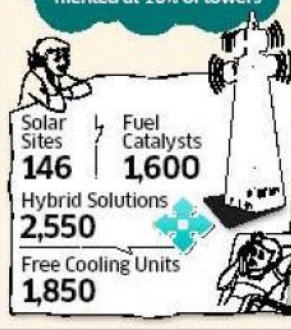
"We cannot commit on the number we will roll out by the end of this year, because that also depends on the execution of Indus Towers, but we will implement one of our green projects at all the towers we own within the next couple of years," said the executive.

Vodafone India uses about 110,000 towers of which nearly 80% are from Indus Towers—a joint venture company between Vodafone, Bharti Airtel and Idea Cellular that owns towers meant to be shared by all operators. Indus Towers is the country's largest tower company.

Apart from ventilation cooling, Vodafone uses hybrid solutions with diesel generators and batteries working in alternate modes; variable speed diesel generators; inverters at indoor sites; fuel catalysts which increase the combustion capability of fuel. "We have successfully deployed solar solution at 146 off grid sites resulting in 75% reduction in diesel generator run time," said a company statement.

Eco-friendly Towers

Telco improves ventilation cooling; change already implemented at 10% of towers



The Times of India, Delhi dated March 20, 2013

Generators, traffic jams polluting Noida

National Green Tribunal Hauls Up Industries For Not Having Proper Pollution Control Systems

Ayaskant Das | TNN

Noida: A six-member expert committee constituted by National Green Tribunal to determine 'sources' and 'extent' of pollution in Noida has taken cognizance of diesel generators operating in large numbers, due to lack of adequate power, for causing sound and air pollution. The committee, in its report submitted to the tribunal on Tuesday, has also held inoperative traffic signals and lack of traffic management responsible for causing vehicular jams which lead to air pollution.

The panel was formed by tribunal chairperson Justice Swatanter Kumar in January during the hearing of a case pertaining to high pollution levels in Noida. The Noida Entrepreneurs' Association had pleaded in the case that industries alone are not responsible for rising pollution levels. However, punching holes into these claims, the panel has detected several industries functioning without proper effluent treatment plants, hazardous waste storage facilities

CLEANSING STEPS

Jan 2013 | National Green Tribunal forms expert panel to study pollution sources in Noida

► Expert panel led by advisor & head, control of pollution division, MoEF, member secretaries of CPCB and UPPCB, and an expert from IIT-Roorkee

Jan-Feb 2013 | Officials conduct survey in the city

Mar 19 | Report submitted to green tribunal



MAJOR SOURCES OF POLLUTION IN NOIDA

- Industries
- Vehicular pollution resulting from traffic jams
- Operation of diesel generator sets
- Mismanagement of municipal solid waste
- Re-suspension of dust from construction and other activities

MEASURES SUGGESTED

- Formulation of a 'comprehensive mobility plan', including traffic management master plan, intelligent transport system, etc
- Proper maintenance of effluent treatment plants in industries
- Installation of fume collecting systems in industries
- Discontinuation of diesel generator sets without acoustic enclosures
- Implementation of solid waste management system by Noida Authority
- Water spraying on dusty roads
- Installation of 9 real-time pollution monitoring systems

and fume collection systems.

The survey lasted two

weeks and the panel was led by the head & advisor of the con-

trol of pollution division of the Union environment ministry.

Apart from a technical expert from IIT-Roorkee appointed by the Noida Authority, the panel also included member secretaries of the Central Pollution Control Board and UP Pollution Control Board (UPPCB).

The committee has recommended for creation of a 'comprehensive mobility plan' by Noida Authority for traffic management. As per the findings of the panel, there has been a manifold increase in the number of vehicles registered in Noida—from 16,276 in 2004 to 2,77,172 in 2012.

The report states that "though construction of expressways, flyovers, underpasses and Metro rail have been undertaken to combat vehicular pollution, there are frequent jams, inoperative signals, etc." The panel has recommended a plan to reduce vehicular pollution that would include a traffic management master plan, an intelligent transport system and an efficient public transport system.

The committee has held diesel generators responsible for sound pollution, besides causing air pollution. The re-

port states that "many industries are using old generators without acoustic enclosures. Similar problems exist in residential areas." The panel has recommended the UPPCB to initiate action against industries using generators that do not have sound-proofing mechanisms and adequate height of exhaust pipes. It has recommended the state power corporation for continuous supply of electricity to all areas.

The committee also found municipal solid waste littered at a few places and stated in its report that this not only gives a shabby appearance to the city but also releases foul stench, besides clogging storm-water drains. Noida generates 400 tonnes of municipal solid waste daily. "Noida Authority should implement a state-of-the-art solid waste management system," states the report.

To tackle industrial pollution, the panel has recommended upgrading effluent treatment plants of industrial units and construction of physical barriers and watering of dusty roads around construction sites.

The Economic Times, Delhi dated March 21, 2013

FROM GREY TO GREEN

NEHA BHATIA

The growing global environment crisis, along with excessive consumption of energy and excessive emission of green house gases, has fuelled the need to adopt sustainability and it is becoming increasingly imperative to adopt not only green buildings but green roofs too. Green roofs are intentionally vegetated roof surfaces that also have a very positive impact on the local microclimate. As a result of heat absorption and radiation from buildings and roads, the temperature in cities can locally increase by six to nine degrees celsius. Under

specific circumstances this 'heat island' effect, can seriously damage health but in all cases, it is expensive because it causes air conditioners to work harder. Green roofs not only bring down local temperatures but they also cool the spaces below, by the evaporation from the plants. They absorb and store rainwater and thus, help to prevent flooding of sewage systems. Dusty Gedge, president, European Federation of Green Roof Associations, lists down the two kinds of green roofs. "The intensive green roofs that require intensive maintenance and generally are like parks and gardens on roofs.

The other is the extensive green roof that is low maintenance and is generally at a depth of 80-150 mm. It is planted with drought and wind tolerant plants. In the southern part of India, most green roofs would be intensive, as it is more tropical. Extensive green roofs would struggle in the dry season in the south. In the north, along the Himalayas, extensive green roofs would be achievable. In the central, green roofs would need to be designed to retain as much water as possible and be designed to have little irrigation," he elaborates. Ton Venhoeven, founder of Venhoeven CS Architects, an in-

novative office for sustainable architecture, urban development and infrastructure, adds that "With normal temperatures rising to 45 degrees celsius, an extra local increase by six to nine degrees is unbearable. With growing demand for air conditioned spaces, more hot air will be blown in the streets. Under these circumstances, large scale implementation of green roofs is inevitable to improve the quality of life in the cities," he feels. To this, Jörg Breuning, president, founder, Green Roof Service LLC adds, "Today, ecological benefits such as, reduced energy consumption for heating and cooling, storm water retention and heat island mitigation, are the main reasons for the growing

popularity of green roofs. Other benefits include, habitat restoration, filtration of acid rain and air pollutants, noise pollution reduction and the therapeutic effects found from being in the presence of nature," he points out. Gedge feels that "Photovoltaic tiles work better when installed on green roofs and are likely to produce condensation in the early morning. Air conditioning units also produce water that could be used to help irrigate the roofs. This water, then evaporates and cools the buildings," he informs. With some thought on how to achieve the desired growth in the sector, green roofs could give the rapidly increasing urbanisation in India, a positive turn.

The Times of India, Delhi dated March 22, 2013

Think tank at work for green riverbank

Ayaskant Das | TNN

Noida: In order to give a clean and green look to the surroundings of the River Yamuna, which has been polluted with filth and debris, the National Green Tribunal has entrusted a high-powered committee constituted by it to suggest measures to develop the banks of the river.

A bench headed by tribunal chairperson, Justice Swatanter Kumar, passed these orders upon the committee on Thursday while hearing upon a case filed by Yamuna Jiye Abhiyaan (YJA). The petition filed by YJA convener, Manoj Mishra, had alleged that dumping of debris and construction material on the riverbed near the Pushta area was resulting in ecological

damage to the region besides polluting the river water.

The high-powered committee, formed by the tribunal in January this year to suggest measures for freeing the river from pollution, is headed the secretary of the Union Environment Ministry. It also comprises additional secretary of the ministry apart from the secretaries of the environment department of Delhi and the UP irrigation department.

The committee has been asked to submit the proposals before the next date of hearing scheduled for April 23. The vice-chairman of DDA has been directed to finalize a complete set of proposals for beautification of the riverbanks on the next meeting of the committee.

The Times of India, Delhi dated March 23, 2013

Delhiites to switch off lights for Earth Hour

New Delhi: Thousands of Delhiites are expected to switch off lights from 8.30-9.30pm on Saturday in a symbolic worldwide fight against climate change. The annual global event seeks to create awareness on energy conservation and climate change. Last year, Earth Hour saved 300 mega watts in Delhi.

On Saturday, lights at Central Park and parts of Connaught Place will be switched off by chief minister Sheila Dikshit. "We are organizing a

cultural evening at Central Park to engage people," said Sonali Nandrajog of World Wildlife Fund.

The campaign, supported by boxer Mary Kom, actors Shruti Hassan, Jiiva and Parabrata, and former cricketer Venkatesh Prasad, will ask people to adopt green household products, companies to go for renewable energy solutions, and governments to resort to pro-renewable energy policies to meet power demands. TNN

Deccan Chronicle, Hyderabad
dated 24 March, 2013

■ Scheme to save at least 20 crore litre of water a day Flats must recycle water

M. ROUSHAN ALI | DC
HYDERABAD, MARCH 23

The Water Board will soon come out with a policy that makes it mandatory for every apartment complex with more than 20 flats to have mini-water recycling plants.

The water recycled by these plants would be utilised for non-drinking purposes like watering gardens, officials said. The measure would also help reduce pressure on ground water.



"If the scheme is implemented, it is expected to save a minimum of 20 crore litres of water every day",

Water Board managing director J. Syamala Rao said.

According to him, the Board officials are on a tour of Bengaluru and Mumbai to study the water recycling plants fitted in multi-storied buildings. "They are working out modalities so that the scheme could be tweaked a bit to suit the requirements of a city like Hyderabad," Mr Rao informed.

He said that installation of recycling plants would be made mandatory depending

upon the number of flats as well as quantity of water used daily.

"Experts are studying various models and the best of these (models) would suit both kinds of apartments, congested and spacious," Mr Rao said. He, however, clarified that flat owners "may have to share the cost" of recycling plants.

"Our officials are studying options such as offering incentives and discounts to flat owners, promoting public-private partnership and other models," he said.

The Times of India, Delhi dated
24 March, 2013

Delhi saves 150 MW during Earth Hour

New Delhi: Many parts of Delhi darkened on Saturday evening for an hour in the hope that their gesture will help fight climate change. Iconic landmarks in the city, including India Gate and Qutub Minar turned off the lights between 8.30pm to 9.30pm as part of the global campaign, Earth Hour.

According to BSES's data BSES Rajdhani Power Limited saved 99 MW and BSES Yamuna Power Limited saved 70 MW owing to so many establishments switching off power connections. Last year, Earth Hour had helped save 300 MW. There was a musical programme at Central Park organized by World Wide Fund for Nature (WWF) in which over 200 people took part. TNN



LET THERE BE LIGHT: Delhiites observe Earth Hour

Deccan Chronicle, Hyderabad
dated 25 March, 2013

AP rivers being polluted by sugar factories, paper mills

JATINDER KAUR TUR | DC
HYDERABAD, MARCH 24

Rivers across Andhra Pradesh are getting polluted as more than half the Grossly Polluting Industries are not complying with the set standards.

There are nine defaulters of the 16 GPIs in the state whose effluents are entering the rivers on whose banks they are situated. Those to blame include paper mills, sugar factories, a thermal power station and chemical units.

Amongst the water bodies getting polluted by these industries are the river Godavari at various points in Rajahmundry, East Godavari District, Chittoor, Adilabad and Warangal; the river Krishna at Ibrahimpatnam in Krishna District; the rivers Pennar and Swarnamukhi in SPSR, Nellore district; the Pedda-

Defaulters list

- AP Paper Mills Ltd, Rajahmundry
- Chittoor Co-op Sugars Ltd., SV Co-op Sugar Factory Ltd., Chittoor
- Sirpur Paper Mills, Kagaznagar, Adilabad
- APDDCF, Lalapet, RR district;
- BGPPL Unit, Kamalapuram, Mangapet, Warangal district
- Kovur Co-op. Sugar Factory Limited., Kovur,
- Nellore Empee Sugars & Chemicals Limited, Naidupet, Nellore.
- Dr Narla Tata Rao Thermal Power Station, Ibrahimpatnam, Krishna district

cheruvu water tank at Nacharam and Nallacheruvu lake at all leading to the river Musi in Ranga Reddy district.

In 1997, Andhra Pradesh had 60 such GPIs, of which only seven were identified to be flouting norms under the Water (Prevention and Control of Pollution) Act 1974 and they were various private sector units, co-operative sector units, state government undertakings and state public units.

The Union ministry of environment and forests has directed that polluting industries have to install effluent treatment systems or face closure. Nine of the 16 identified GPIs in AP do have such plants but they are a mere eye-wash and the units have been found to be 'not complying with standards' set by the APPCB. The Central Pollution Control Board is supposed to be monitoring the implementation of its programme launched way back in 1993-94 for identification of GPIs and compliance for pollution control.

Edited by: Prof. Sushil Kumar
Centre for Business Sustainability,
IIM Lucknow