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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

How to create a net-zero office

By Brent Hardy

For homebuilders, the latest iteration of the green building movement are net-zero homes. These structures generate as much energy as they consume and have very small carbon footprints. Improvements in technology have now made net-zero homes a viable option for many homeowners.

But the success of net zero homes begs the question: Can you create a net-zero office?

The answer is a resounding "Yes!" Of course, many offices do present more challenges than a typical home, but there are clearly ways to improve their sustainability even if net-zero status cannot be fully achieved.

There are two parts to the net-zero equation:

1. **Energy Consumption:** The first order of business is to reduce the energy that your facility uses. The obvious candidates for energy savings also apply to homes: efficient lighting, insulation, programmable thermostats and Low-E windows.

For offices, there are some additional opportunities for energy savings:

- Power down computer equipment at night.
- If you have multiple computer servers, combine them into one box using new virtualization technologies.
- Move your data storage and applications to the cloud. This can potentially eliminate computer servers from your facility altogether. Not only does this reduce the energy consumption of the box, but the energy required to keep it cool as well. It is true that some of this energy requirement is simply moved to a third party service provider, but most large data centers are much more energy efficient than a small local IT facility.
- Almost every office has rules addressing energy use of items such as personal heaters, refrigerators -- even changing the thermostat. It would be worthwhile to re-visit your particular rules with an eye towards energy efficiency.
- Install skylights or solar tubes to reduce the use of electronic light fixtures during the day.
- Ensure that large copy machines and printers are energy efficient and switch to sleep mode when not in use.
- Because they are used so frequently in the office, make sure that you have motion sensing switches or timers on the lights in your bathrooms.
- If your exterior doors are opened frequently during the business day, review your options for mitigating the heat and cooling loss. Two sets of doors or air curtains are sometimes used to address this problem.

2. **Energy Generation:** Now that you have minimized your energy consumption, you know how much energy you need to generate in order to achieve the net-zero goal.

Here is where some businesses have big challenges. Many proprietors do not own their buildings. Some offices are not in stand-alone buildings and many may not have land or roof space available. You may be able to work with your landlord to get around some of these limitations.

After assessing your particular situation, consider the following alternatives for generating energy:

- Solar is the obvious choice for homes and offices alike. Solar panels can be used to generate electricity and solar water systems can generate hot water and even heat the facility. The big challenge for an office is to find enough room to install the solar panels.
- Wind Power: Here is where an office may have an advantage over a home. Building height, noise problems and aesthetics can all be an impediment to installing wind systems on a home. A commercial area, on the other hand, may be more conducive to installation of this equipment.
- Geothermal Energy: These systems pump fluids into the ground to take advantage of moderate temperatures below the surface. The fluids that come back up can then be used to both heat and cool the building.



Photo of keyboard with green button provided by Lasse Kristensen via Shutterstock

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How Ford, Adidas are making climate change work in their favor

By Alison Moodie

Last year was marked by tumultuous weather in the United States. It was the country's hottest year on record, the wildfire season was the second-largest

since the 1960s, a massive drought in the Midwest sent food prices soaring and Hurricane Sandy all but devastated towns along the East Coast.

Globally, temperatures too soared, and Arctic sea ice melted quicker than ever recorded.

Scientists say these extreme weather patterns



(Image of melting Arctic ice cap provided by Wyatt Rivard via Shutterstock.)

can largely be attributed to one thing: humans. And unless we drastically curb our greenhouse gas emissions, they say, the situation will only worsen.

Much of the responsibility rests with the corporate sector. In the U.S., companies accounted for nearly 70 percent of greenhouse gas emissions, according to figures cited during a recent GreenBiz webcast titled Business in the Age of Climate Change. The webcast, which streamed from the North American International Auto Show (NAIAS) in Detroit, looked at how companies can best tackle climate change.

The clock is ticking. According to the Intergovernmental Panel on Climate Change (IPCC), companies need to reduce their carbon emissions by 80 percent by 2050 to blunt the impact of climate change. That means the U.S. corporate sector would need to cut its emissions by more than 3 percent annually by 2020, which amounts to roughly 1.2 billion tons of carbon emissions, said Matthew Banks, senior program officer of climate change at the World Wildlife Fund (WWF), during the webcast. If companies don't start acting now, it will soon be too late, he said.

"The window is closing very quickly to combat this problem," Banks said. "We won't be able to catch up if we don't do it now."

But many companies still believe going green is expensive, which simply isn't true, said Banks. Since 1999 the WWF has spearheaded an initiative called Climate Savers, which helps mobilize companies to cut their carbon emissions. Many of the companies involved, which include Coca-Cola, Sony and HP, have reported a higher return on investment for sustainability projects than their average portfolio investments across other business units, said Banks.

"It makes incredibly good business sense," he said. "There is a significant amount of savings to be harvested."

Author and green business expert Andrew Winston told the webcast audience that companies should move away from the notion that being sustainable costs money. Rather, the key is for businesses to make sustainability their driving goal, and integrate it into their core mission.

"We have to pivot and think of it as profitable and an incredible opportunity to create value," Winston said. "Innovation needs to get much deeper. Change needs to get much deeper." Ilow Patagonia's lead and ask, "what if we pitched customers on using less of our product?" he said.

Ford is an example of a company that has made sustainability a core part of its strategy, said John Viera, global director of sustainability and environmental matter at Ford, during the webcast. He said Ford recognized that as a big name company, it had a responsibility to put sustainability first.

"Climate change is real, man has an impact on addressing climate change, and we as a company need to do something about it," he said.

Viera said the challenge has been convincing employees of the importance of becoming more sustainable. To get their cooperation, Viera emphasized the financial benefits to cutting emissions.

"The economic piece is really important," he said. "You have to create the business case when addressing climate change."

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How Andronico's is busting barriers to cut food waste, make money

By Dana Gunders

On the surface, it's a common display. A bin of apples with a sale sign greets customers as they enter the grocery store. Behind the scenes, however, it's uncharted territory. Those apples are too small to be considered sufficient quality, or grade, for retail grocery stores. They were destined to be juice, cattle feed, or maybe even landfill waste -- until a few crafty folks and a bold supermarket decided to break the grade barrier.



Meet FoodStar and its courageous partner Andronico's Community Market, a small Northern California grocery chain. Together, they are taking a chance on the idea that maybe we consumers aren't as picky as most supermarkets seem to think we are. Maybe we'd be willing to buy a slightly smaller apple that only has 37 percent red coverage instead of the requisite 40 percent needed to qualify as the "fancy" grade that stores usually buy (yes, it's actually measured). Maybe we consumers would even consider it a score to get a bag of Pink Lady apples for just \$0.69 per pound.

Last month, NRDC released a survey of farmers that indicated sometimes as much as 30 percent of fresh produce does not make it off the farm. This is a waste of nutrition in addition to all of the money and resources that went into growing that food. One key driver that causes fruits and veggies to be left on the field or fed to cattle is that they are not cosmetically perfect enough to meet the high standards that grocery stores mandate. Many retailers insist that fruits and veggies meet exact cosmetic criteria including specifications for size, color, weight and blemish level -- leading to culling and incorporating waste as part of doing business. Waste, however, is not cheap. The USDA estimates that supermarkets lose \$15 billion each year in fruit and vegetable losses alone.

"We're proud to be working with FoodStar to launch this initiative, since it simultaneously addresses several problems in the food supply chain," Andronico's Jonathan Packman said of the project. "FoodStar presented Andronico's with an opportunity to partner on this concept to divert food from the waste stream and create a viable, marketable product."

"Groundbreaking stuff"

"This is very groundbreaking stuff because a retailer has broken the grade barrier and passed along the significant cost savings to the consumer," said Ron Clark, coordinator for the Farm Direct aspect of FoodStar and former director of the California Farm to Family program, which distributed 120 million pounds of rescued produce to food banks in 2011 alone. By breaking the "grade barrier," Clark is describing the highly specified standard of quality and aesthetics that most supermarkets would not dare to go below for fear a customer will be disappointed with their produce offerings.

Photo of apples in wooden bins provided by V. J. Matthew/Shutterstock

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Green energy makes up half of new U.S. capacity

By BusinessGreen Staff



Renewable energy accounted for just under half of all new electrical generating capacity installed in the US over 2012, updated government figures have shown.

The latest *Energy Infrastructure Update* report from the Office of

Energy Projects, part of the Federal Energy Regulatory Commission (FERC), lists just shy of 13GW of green energy projects coming online last year, a more than 50 percent rise on the 8.5GW of capacity added in 2011.

Around a quarter of this capacity became operational in December alone, as wind energy developers rushed to complete projects before the feared expiration of federal tax credits.

Wind projects led the way in 2012 with 164 new developments totalling over 10.5GW of capacity, a figure that dwarfed the 8.7GW of new natural gas generation capacity and 4.5GW of coal added in the same period.

In addition, around 1.5GW of new solar capacity was added, along with 0.5GW of biomass and 0.1GW of geothermal projects.

As a result, wind power accounts for just under five percent of the United States' total electricity capacity, which is still well short of the 42 percent provided by natural gas and 29 per cent from coal. Of the other green energy sources, hydropower contributes almost 8.5 percent, biomass 1.3 percent, and solar 0.3 percent to the power mix.

The increase in capacity will come as good news for the renewable energy sector, which saw investment fall for the first time during 2012.

Photo of wind turbines provided by chuyu/Shutterstock

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4 steps to marketing EVs more effectively via mobility

By Richard Rosen and George Beard



In 2011, President Obama announced an ambitious goal of one million EVs on U.S. roads by 2015. Judging by the numbers at the end of 2012 (with best estimates putting about 70,000 EVs on the road today—only 7 percent of the goal), it's a long shot at best.

The blogosphere is full of speculation about why we're not closer to the goal, with pundits pointing to causes ranging from insufficient

infrastructure to lack of consumer enthusiasm, sticker shock and/or range anxiety. While increasing consumer adoption of EVs is a complex challenge and while we don't see a single silver bullet, our decades of experience in both the marketing and policy sides of transportation lead us to a different conclusion.

The core problem lies in the way we're all talking about EVs. Government agencies, automobile manufacturers and environmental advocates alike are focusing on the "vehicle" side of EVs – attempting to promote adoption using the same channels and marketing techniques that have been used to sell gasoline-powered vehicles for

nearly half a century. But the problem is more than just *how* we're marketing; it's *what* we're marketing.

What's needed is not simply an "either-or" conversation about the merits of one vehicle over another. Instead, we need to start addressing the fundamental concept of mobility. We have spent so much time focusing on the object of transportation electrification—the cars—that we haven't begun to address the subject: the economics and the gloomy reality of owning and operating a gas-powered vehicle in modern America.

Americans have a love affair with cars that is deeply ingrained in our psyche and history. It's an extension of our notion of the frontier, the pioneer venturing out into the wild and building success from scratch. Cars have literally become the "vehicle" for this storyline in the modern era, not only in advertising and pop culture but also in the very fabric and design of our cities, most of which (at least on the West Coast) was built with the personal car in mind. Cars are a symbol of status and escape, the ultimate getaway vehicle. It's easy for us to relate to the image of a hero speeding off into the sunset, not on a horse, but in a sexy sports car, top down with nothing but open road ahead.

Consumer concept of cars evolving with increased population

But the consumer concept of cars has to evolve with the reality of massive population growth. In 1950, there were 2.7 billion people on the planet. Today there are 7 billion; by 2040, there will be nearly 9 billion people on our planet. For the first time in history, half of our population lives in cities. And that shift will continue. Twenty-five years from now, two out of three people will be living in cities.

People increasingly understand that more cars on the road means gridlock. And more time stuck in traffic in a gasoline-powered vehicle means more pollution and more money out of our pockets. We need to ask ourselves: how will consumers respond if we reposition the narrative of the car from the appeal of freedom to the efficiency of mobility?

There is mounting evidence that the millennial generation (those born from the early 1980s to the early 2000s) is less inclined toward car ownership than the generation before them. In survey after survey, more of today's 20-somethings are reporting that they don't have a drivers' license, don't own a car, and never plan to. Between 2001 and 2009, the number of vehicle miles traveled by 16- to 34-year-old Americans dropped 23 percent. This is not an anomaly; it's a fundamental demographic shift.

Photo of highway at night provided by fuyu liu/Shutterstock

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Cellulosic Biofuels Finally Gaining Ground

By SustainableBusiness.com News

It looks like 2013 could be the year when cellulosic biofuels shift from experimental pilots to broad commercial deployment, as the first large volume plants come online.

Over the next 12 months, production is expected to expand almost 20-fold, from just 500,000 gallons this year to 9.6 million gallons in 2013, according to the US Energy Information Administration and reported by *Bloomberg News*.

Cellulosic biofuels come from non-food sources such as agricultural waste, wood chips and household trash.

That's about a billion gallons less that required by the US Renewable Fuel Standard, which for the past five years has set minimum production levels of biofuels to reduce US dependence on oil and cut greenhouse gases.

The standard requires gasoline and diesel producers to blend 36 billion gallons of biofuel (such as ethanol or algae) a year into their products by 2022, including 16 billion gallons of cellulosic fuel.

So far, advanced biomass companies haven't come anywhere near that and the EPA has had to drastically cut targets every year.

Now companies like KiOR, Abengoa, Bioenergy, BlueFire Renewables, Mascoma and Fulcrum Bioenergy all have plants coming online next year or the year after.

Most of the plants range in annual production from 13 million to 20 million gallons, and are being built across the country in 20 states like Florida, Mississippi, Iowa and Nevada.

Enzyme costs - the key to breaking down biomass into fuel - have dropped 80% over the last decade, and cellulosic biofuels are being produced for \$2 per gallon or less today, says the Advanced Ethanol Council in their progress report.

The US could produce 75 billion gallons of cellulosic biofuels without putting stress on food and feed crops, estimates Sandia National Lab.

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Unilever to phase out plastic microbeads from facial scrubs

Marine conservation groups welcome the move, saying the tiny particles pose a long-term danger to the world's oceans

By Rebecca Smithers, guardian.co.uk



Unilever has agreed to phase out miniscule plastic "microbeads" used in its facial scrubs and exfoliators because of the environmental damage they cause. Photograph: Graham Turner for the Guardian.

UK marine conservation groups are claiming victory after Unilever agreed to phase out miniscule plastic "microbeads" used in its facial scrubs and exfoliators because of the environmental damage they cause.

After a campaign highlighting the long-term danger of the tiny particles to the world's oceans and natural ecosystems, The Marine Conservation Society (MCS) and the North Sea Foundation welcomed the move by Unilever, which is one of the world's biggest manufacturers of cosmetics and bathing products.

Exfoliation to remove dead skin cells on the skin's surface is believed to date back to ancient Egypt and is popular as a way of maintaining a healthy and clean skin while unblocking pores. But traditional methods involving the use of loofahs, brushes and pumice stones have gradually made way for dedicated, over-the-counter products containing microbeads and microcrystals made of plastic, which can take years to biodegrade. Instead, they are ending up in oceans where they can damage marine life and get into the food chain. Some products contain alternative ingredients such as crushed apricot kernel or almond shells and grains, jojoba, salt, suagar and sand.

Unilever's change of policy applies to all its personal care products worldwide although in the UK the main brands involved are Dove and Radox. In a statement it said: "We can confirm that we are phasing out the use of microbeads in all of our personal care products. The issue of plastics particles in the ocean is an important issue and we have reviewed the use of microbeads in our portfolio (both current products and those in the pipeline). We have decided to phase out the use of plastic micro beads as a 'scrub' material in all of our personal care products. We expect to complete this phase-out globally by 2015."

The MCS welcomed the move and said it hoped more companies would follow suit. Sue Kinsey, MCS litter policy officer, said: "Many people don't realise that the daily facial scrubs and exfoliants they use may ultimately be causing damage to the unique habitats and wildlife around the UK's coastline. This is because the use of micro plastic beads in such beauty products is widespread, and once we have washed them off our skin the tiny pieces of plastic they contain can drain into our coastal waters via the country's network of sewers and be eaten by marine wildlife."

She urged consumers to scrutinise labels and look for natural alternatives such as products containing sand. Unilever's change of policy applies to all its personal care products worldwide although in the UK the main brands involved are Dove and Radox. In a statement it said: "We can confirm that we are phasing out the use of microbeads in all of our personal care products. The issue of plastics particles in the ocean is an important issue and we have reviewed the use of microbeads in our portfolio (both current products and those in the pipeline). We have decided to phase out the use of plastic micro

beads as a 'scrub' material in all of our personal care products. We expect to complete this phase-out globally by 2015."

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Why brand awareness helps to win sustainability consulting gigs

By Heather Clancy

While big-name accounting and management consulting firms have the most brand awareness within the sustainability consulting community, specialized expertise offered by smaller boutiques can still prevail in outsourcing decisions.

The so-called Big Four currently dominate sustainability consulting engagements among midsize and enterprise firms, according to the latest survey about global sustainability leaders conducted by independent analyst firm Verdantix.

Ernst & Young has been used by 16 percent of the 250 respondents, compared with 14 percent for KPMG and 12 percent for both Deloitte and PwC.

Not surprisingly, these companies had the highest positive brand awareness among the companies considered by the Global Sustainability Leaders 2013 Survey: Brands study. For example, more than three-quarters of the sustainability decisions makers indicated that they had enough information about Ernst & Young to make a decision about whether or not to use its services.

The survey was conducted among companies with at least \$250 million in annual revenue across 13 countries and 21 different industries.

The Verdantix survey also gathered perceptions about sustainability software providers. Microsoft had the most positive brand awareness, while SAP trailed close behind. IBM and Oracle were next. A much smaller company, Credit360, rounded out the top five, the data shows.



(Image of brain with gears provided by Bruce Rolff/Shutterstock)

What motivates these relationships?

One big reason companies engage outside expertise is for the assurance of having someone develop and critique the plan.

"Firms keep board requirements, competitive positioning and reputational risk in mind when crafting sustainability strategies — responding to scrutiny from stakeholders and demands for transparency around sustainability initiatives," said Patty Satkiewicz, Verdantix industry analyst and author of the report. "Despite the growing number of firms actively adopting such strategies, it's a new challenge for many firms, and they'll seek help from strategy consultants if they don't have the bandwidth or the in-house expertise to develop a sustainability strategy."

That sentiment is echoed by telecommunications giant Sprint, which seeks outside resources for specific business intelligence rather than broader consulting projects, said Amy Hargrove, manager of CSR for the company.

One example is the collaborative development process behind the supplier scorecards that it uses to rate the sustainability of various mobile computing devices, which involved insight from Samsung, UL Environment and others.

While Sprint tends to look first to boutique sustainability consultants, she recognizes that size matters to the Fortune 500. "The big four have a huge advantage over their boutique sisters — existing work history, existing contracts, internal credibility, purchase history and financial stability," she said. "Also, they are now purchasing many of the boutique firms — acquiring that specialized information they had been lacking — that provides the most significant value for experienced practitioners of corporate responsibility."

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The State of the Profession, 2013

By John Davies



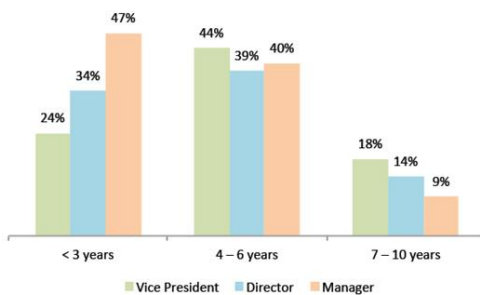
rather than an important career path.

Birth of a profession

We started to look at what it might mean to have a sustainability career in our 2013 State of the Profession report ([download here](#)). For the past few years, we mainly looked at compensation, staffing, budgets and the tasks these professionals undertake. This year we looked more at how they got there and where they're going.

We asked survey respondents how many years they've worked on sustainability issues. As shown in Figure 1 below, 68 percent of vice presidents and 73 percent of directors have logged fewer than six years working on these issues within their present companies.

Figure 1: Number of years working on sustainability issues at your present company.



Source: GreenBiz Intelligence Panel (n = 258)

executives?

Given that the job of leading sustainability is so new, we've engaged in a number of discussions to find out which corporate role can provide a model for the sustainability profession. What's interesting is that many of the professions we take for granted today are also relatively new when it comes to management structures.

Chief Information Officers (CIOs) evolved as companies became more dependent on technology to both run their business and provide a competitive advantage. The job of the CIO emerged as companies employed greater numbers of programmers and systems analysts who needed to be managed by someone who understood how they worked and, perhaps more importantly, how to talk with them.

How supply chain leadership jobs are similar to sustainability jobs

Supply chain leadership jobs have grown in a similar snowball-down-the-mountain way. One key difference is that, like sustainability, a supply chain career can start from almost anywhere within a company, as it is not a purist career like finance or sales or marketing. There are generally accepted core competencies for supply chain specialists including planning, procurement, manufacturing and logistics. The challenge in pursuing a supply chain career is to avoid become too much of an expert in one area that it inhibits your promotion to senior management.

In both cases, the leadership job, whether in IT or supply chain, evolved as the number of workers performing specialized functions needed an executive to manage their efforts. This is the complete opposite of how sustainability leadership roles have evolved. They have mostly come about with the appointment of an individual with a mandate from the top either in response to a collection of grassroots initiatives or the CEOs vision for the company.

Image by Liviu Ionut Pantelimon via Shutterstock

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Tips:

Sustainability is of utmost importance today because whatever we practice will have impact on generation to come in future. If we continue to lead the life the way we are presently living, the opportunities of future generations will be limited to a great extent. The essence of sustainability is to conserve by using the limited resources judiciously and by protecting the natural resources from degradation. If we do not put a stop to our unwise actions and keep on degrading the environment the living being and vegetation etc is bound to suffer. So, let us do whatever is possible at our end. With this intention some tips are being given below.

1. During winters use exhausts fixed in bath and kitchen only when it is required as it draws heated air out of your home.
2. The room heaters and blowers consume lot of electricity therefore do not keep these appliances running when not required.
3. Ensure proper insulation of rooms it will keep the room less affected from the temperature outside.
4. Select refrigerator of appropriate size and not very large because larger the size more the energy will be consumed.
5. Keep the refrigerator filled to its capacity but do not over crowd to the point that air circulation around food is obstructed.
6. Ensure that insulation of your refrigerator is proper. To find this put a 100 watt bulb in side refrigerator and see it in darkened room whether shining is coming out. If it does then your refrigerator door is needed to be adjusted or the gasket needs to be replaced.
7. Avoid leisurely open door inspection of refrigerator.
8. While going on long vacation remove all perishable items and turn off the refrigerator.
9. If your refrigerator needs manual defrosting ensure that thick frost is not deposited. Do defrost refrigerator at regular intervals.
10. Lighting fixtures should be cleaned regularly as dust on reflectors, bulbs, CFLs, tube lights adversely affect the lighting efficiency.
11. Use focus lights instead of flood lighting.
12. Make it a habit to turn off lights while leaving the room unoccupied and develop this habit in every individual. Put the wall lighting switches at convenient place.

Barack Obama 'seriously considering' hosting climate summit

Campaign groups say US president could use bipartisan summit to launch a national climate strategy

By **Suzanne Goldenberg**, *guardian.co.uk*



Barack Obama listed climate change among the top three priorities of his second term. Photograph: Alex Wong/Getty

Barack Obama may intervene directly on climate change by hosting a summit at the White House early in his second term, environmental groups say.

They say the White House has given

encouraging signals to a proposal for Obama to use the broad-based and bipartisan summit to launch a national climate action strategy.

"What we talked about with the White House is using it as catalyst not just for the development of a national strategy but for mobilising people all over the country at every level," said Bob Doppelt, executive director of the Resource Innovation Group, the Oregon-based thinktank that has been pushing for the high-level meeting. He said it would not be a one-off event.

"What I think has excited the White House is that it does put the president in a leadership role, but it is not aimed at what Congress can do, or what he can do *per se*, so much as it is aimed at apprising the American public about how they can act."

Campaign groups and major donors have been pushing Obama to outline a strategy on climate change, in the wake of his re-election and superstorm Sandy.

Jeremy Symons, senior vice-president for conservation and education at the National Wildlife Federation (NWF), said Obama needed to give a clear indication early on of what he intended to do on climate change – ideally before the State of the Union address when presidents typically outline their agenda.

"The clock is ticking. The threat is urgent, and we would like to see a commitment in time for the president to address it in the State of the Union address," Symons said. "That would be the window I see. We can't wait forever."

The proposed summit, as envisaged by Doppelt, would be centred on Washington but would be linked up with similar events occurring in communities across the country on the same day. It would take place within the first few months of Obama's second term.

Doppelt said he has had a number of exchanges with White House staff about the summit, and he believed the proposal was under "very serious consideration". The White House would not respond to requests for comment.

Obama listed climate change among the top three priorities of his second term. He gave private assurances to donors at a White House event in early December the issue remains on his agenda.

But there is growing concern among campaign groups and fellow Democrats that Obama has yet to come up with a clear plan for deploying government agencies to protect against future events like Sandy, or for rallying the public behind a strategy to cut emissions.

The political opportunity created by Sandy could be slipping away, said Betsy Taylor, an environmental consultant in Washington DC. "We are disappointed that he hasn't talked or used his bully pulpit. When he went to New York after Sandy he said almost nothing about climate change," she said. "In the very short-term there was an opportunity post-Sandy but I don't think it has been seized."

Unlike Obama's first term, when the larger campaign groups in particular seemed reluctant to force the climate issue, environmental leaders say they intend to keep up the pressure on the White House.

Democrats in Congress are also moving more forcefully to keep climate change on the public radar. Barbara Boxer, who chairs the Senate environment and public works committee, said this month she was reviving efforts to pass climate change legislation, focused on strengthening coastal communities against future superstorms.

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McDonald's, Unilever, Pepsi, Adidas make news at Davos

By **Liz Enochs**



As global leaders hobnobbed at the World Economic Forum's annual meeting in Davos, Switzerland this week, the gathering's theme of "resilient dynamism" resonated around the planet through several big announcements from major corporations and

nonprofits.

While not a huge surprise, considering its 2011 commitment to source its file-o-fish sandwiches sold in Europe from only Marine Stewardship Council-certified seafood, McDonald's scored with the biggest corporate sustainability news of the day in announcing it will become the first U.S. restaurant chain to serve sustainable seafood at all of its U.S. locations.

From the Huffington Post story on the announcement:

Packaging for all fish dishes at McDonald's 14,000 U.S. locations will be marked with the blue ecolabel of the Marine Stewardship Council, an independent nonprofit organization that sets standards for sustainable fishing based on fish stock health, impacts of the fishery on its ecosystem and the fishery's management system.

McDonald's fish was actually first certified in 2005, but the company has since performed an audit of its supply chain to ensure sustainability and traceability. Various types of fish have been used in McDonald's dishes over the years -- while some may have been considered sustainable at one point, the recent certification ensures that all seafood are from sustainable sources.

But there's more that needs to be done to combat what's been labeled a crisis of overfishing, others say. In a statement issued at Davos, the World Wildlife Fund joined public and private sector leaders in a call for a new global seafood traceability system to combat illegal fishing:

The pronouncement is the first multi-stakeholder call for such a system, and could herald an important role for the World Economic Forum in support of sustainable fisheries. ...

The world is facing an unprecedented crisis of overfishing, with nearly 87 per cent of the world's commercial fisheries now fished to or over maximum levels, according to the United Nations Food and Agriculture Organisation (FAO).

Meanwhile, experts estimate that 20 per cent of worldwide fish catches come from illegal fishing practices.

The world's oceans are merely one small part of the agenda at Davos, where global problems and solutions are debated into the wee hours by major players whose fingers rest on the levers of global power.

Image of Davos on map courtesy of ILLYICH via Shutterstock.

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New tool to boost environmental management in private equity

By Aaron Tilley



The Environmental Defense Fund (EDF) is turning to the private equity industry for greater adoption of environmental management practices in the private sector.

A culmination of four years of work with leading private equity players -- which includes Kohlberg Kravis Roberts & Co. (KKR), The Carlyle Group and Oak Hill Capital Partners -- EDF recently announced that it is releasing a tool for any private equity player to better evaluate non-financial performance via environmental, social and governance (ESG) indicators.

"We saw private equity as a vehicle for speeding up advancement of environmental and social management," said Tom Murray, managing director with EDF's corporate partnerships program.

Large private equity firms oversee the management of dozens of companies. In an industry with such a widespread reach, ESG management becomes a much more scalable opportunity.

The tool, which is free to download as an Excel file, provides a framework for private equity firms to assess and improve ESG management. It allows firms to plug in data to evaluate their current ESG performance and offers steps they can take to improve in their performance.

"Reviewing the [tool] helped expand our thinking about ESG management and best practices," said J. Taylor Crandall, managing partner of Oak Hill Capital, in a statement. "EDF's new [tool] provides clear and helpful guidance on the building blocks necessary for a successful ESG program."

In EDF's work with the private equity industry so far, the nonprofit has shown the extensive cost savings as well as environmental benefits of implementing such a program. Over the past four years, the program has resulted in \$370 million in operating cost savings and 820,000 metric tons of carbon emission reduction at more than 30 portfolio companies at the three private equity firms.

EDF recently talked with GreenBiz about how its pilot program with Oak Hill Capital focused on finding environmental changes along with financial opportunities in middle-market portfolio companies.

"Our work with the private equity industry has shown that doing this can create hundreds of millions in value creation and millions of tons in carbon reduction," said Murray. "There's a strong business case."

The release of the tool is also the result of growing interest among some investors for greater consideration of ESG factors, noted Murray.

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New York Gets Energy Czar, Lots of Cleantech Goodies

By SustainableBusiness.com News

Cleantech and addressing climate change had starring roles in New York Governor Cuomo's State of the State address yesterday.

Early in his speech he said, "Cleantech is the wave of the future - we all know it" ... it's a "footrace" which New York should win.

To get there, the Governor appointed the state's first Energy Czar, a cabinet-level position charged with overseeing the state's energy portfolio and coordinating its cleantech agenda. Richard Kauffman will take the post, who recently served as a senior advisor to Steven Chu, Secretary of the US Department of Energy.

Unfortunately, energy may still include natural gas fracking, which the Governor will soon make a decision whether to ban. More than 1,500 people from across the state rallied against fracking during the speech.

Among the many initiatives Cuomo announced is a \$1 billion **Green Bank**. It would leverage public dollars with private-sector matching funds to facilitate a clean economy in the state. Public funds would partly come from NY's Energy Efficiency Portfolio Standard and/or Renewable Portfolio Standard.

The Bank would also coordinate NY's clean energy programs. Currently, \$1.4 billion is spent by various state entities on renewables and energy efficiency.

"The NY Green Bank would overcome a number of obstacles and uncertainties in the clean energy sector, including unstable federal funding and policy, uncoordinated action and disparate one-time subsidies at the state level, a lack of appropriate financial instruments, and apprehension in the investor community," states Cuomo. "The lowering of other barriers would enable clean energy markets to function more fluidly, connecting green projects with investors and capital."

Other initiatives for cleantech are:

- Expand the **NY-Sun Solar Jobs** program by \$150 million a year for the next 10 years, which will expand solar systems for homes and businesses, give certainty to the solar industry and create jobs.

The program began in 2011 and the goal is to install four times the amount in 2013.

- **Charge NY** will create a network of 3000 electric vehicle charging stations across the state over the next five years, along with charging infrastructure tax credits at a cost of \$50 million.
- **Innovation Hot Spots:** 10 tax-free, high-tech incubator zones would attract cleantech and other tech startups
- **Innovation NY Network:** would make it easier for academic ideas to be commercialized through collaboration among academics, venture capitalists, business leaders, patent lawyers and other professionals and entrepreneurs
- **Innovation Venture Capital Fund:** a \$50 million fund would help entrepreneurs commercialize their ideas by supporting the prototyping process and the creation of marketable products. It would also provide incentives for entrepreneurs to grow their businesses in NY.

Responding to the Crisis

In terms of rebuilding after superstorm Sandy, Cuomo said, "Extreme weather is the new normal" ... "Let's start by learning from what has happened. The first thing we have to learn is to accept the fact ... that climate change is real."

He emphasized the need to reduce greenhouse gases and adapt to the realities of climate change by expanding local, distributed renewable energy sources that reduce dependence on centralized power plants, as well as make the state's infrastructure more resilient to storms.

He called for NY's utilities to accelerate investments in smart grid and microgrids and for greater incentives, such as new rate structures, for distributed generation.

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Apple to harness stored wind energy via new on-demand system

By Jack Purcher



Patently Apple, a website that celebrates Apple's spirit of innovation, has published the following article on a recent patent filing by Apple Inc. for a new on-demand system to harness stored wind energy.

More specifically, Apple's patent relates to techniques for storing rotational energy from a wind turbine as heat and using the stored heat to subsequently generate electricity on demand.

Apple's Patent Background

Wind energy technology is typically used to convert kinetic energy from wind into mechanical energy or electricity. To harness wind power, a wind turbine may include a set of blades and a rotor shaft connected to the blades. Wind blowing over the blades may cause the blades to turn and the rotor shaft to rotate.

In addition, the rotating rotor shaft may be coupled to a mechanical system that performs tasks such as grinding grain or pumping water. Alternatively, the rotor shaft may be connected to an electric generator that converts the rotational energy into electricity, which may subsequently be used to power a motor vehicle, home, business or electrical grid.

However, the variable nature of wind may interfere with on-demand generation of electricity from wind energy. For example, fluctuations in wind speed may hamper the adequate production of electricity from wind power during periods of peak demand, or conversely, may produce excess electrical power during periods of low demand.

In turn, such variability may limit the ability to incorporate large amounts of wind power into a grid system. For example, other power stations (e.g., coal, natural gas, hydroelectric, nuclear) may be required to offset variations in electricity generated from wind power and maintain reliable electric service in an electrical grid.

Hence, what is needed is a mechanism for mitigating variability and intermittency associated with the production of electricity from wind energy.

Apple's on-demand system for generation of electricity from stored wind energy

Apple's invention provides a system that generates electricity. During operation, the system uses a set of rotating blades to convert rotational energy from a wind turbine into heat in a low-heat-capacity fluid. Next, the system selectively transfers the heat from the low-heat-capacity fluid to a working fluid. Finally, the system uses the transferred heat in the working fluid to generate electricity.

Image by majeczka via Shutterstock.

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How to maximize fleet efficiency – and get a quick ROI

By Heather Clancy



Three of the most common ways to improve fleet efficiency metrics -- driver training, reduced highway speeds and progressive shifting -- also offer the quickest return on investment, according to a new survey conducted by logistics company Transplace.

These measures were also among the most common fleet efficiency initiatives among the 65 shipper and carrier fleets studied for the survey. Most of the carriers (59) were part of the U.S. Environmental Protection Agency's SmartWay Fleet program, which delivers resources for benchmarking environmental performance.

Common practices embraced by the respondents include recording engine data for more comprehensive driver feedback, or implementing aerodynamic mirrors and verified low-rolling resistance tires.

Other SmartWay-suggested initiatives are used far less frequently, including nitrogen-filled tires, advanced trailer end fairings, verified retrofit technologies and truck stop electrifications. Slightly less than half of the survey respondents, however, were evaluating at least some of these ideas.

"We designed the survey, which grew out of the PepsiCo sustainability team, with key input from leading shippers and carriers such as PepsiCo, Con-way, J.B. Hunt and Western Express," said Ben Cubitt, senior vice president of consulting and engineering for Transpace. "We will continue our commitment to this initiative by investing engineering resources to include more carriers in the survey, continuing to update and modify the survey, and conducting additional analysis in focus areas."

Where's the best payback?

Although not all of the surveyed fleet operators are measuring their fleet efficiency programs, here are five measures that consistently met or exceeded expectations. All of these measures were also described as "easy" to implement. The examples provided are drawn from published case studies, not from the Transplace survey.

- **Weight Reduction** – The EPA figures that every 10 percent reduction in truck loads can reduce fuel use by 5 percent to 10 percent. Common ways to achieve this include using cast-aluminum alloy wheels, downsizing to lighter engines and using aluminum cab frames.
- **Reducing Highway Speed** – Estimates suggest that a long-haul truck that reduces its top speed from 65 miles per hour (MPH) to 60 MPH can save more than 1,200 gallons of fuel annually, cutting costs and reducing greenhouse gas emissions.
- **Progressive Shifting** – This involves another fuel reduction technique -- changing gears as early as possible while accelerating. It is one of the practices used by J.B. Hunt Transport, which has received several SmartWay Excellence awards for its fleet innovations.
- **Intermodal Shipping** – This is a strategy employed heavily by Sharp Electronics, which sends approximately 15 percent to 18 percent of products – from televisions to solar panels – by rail. It also uses electric forklifts in distribution centers and keeps terminals open at night, using motion sensors to help reduce idle times.
- **Trailer Side Skirts** – "We were told we would get between 2.5 percent to 5 percent increase in fuel savings, and we are seeing 3 percent currently," one Transplace survey respondents commented. "These have been installed on new trailers since 2010."

Photo of truck fleet provided by Centurion Studio/Shutterstock

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IBM links EV charging networks across Europe

By SustainableBusiness.com News

A new project spearheaded by IBM could ease EV range anxiety in Europe by

making it simpler for drivers to recharge their vehicles at public charging stations — regardless of whether or not they use the same service or network at home.

Through the so-called B2B Marketplace effort, IBM is developing technology that will allow utility companies and services providers to link their networks



more easily.

This will reduce the challenges associated with managing payments across different charging networks and handling international currency conversions.

The system will be transparent for EV drivers, allowing them to roam from region to region using public charging infrastructure as necessary -- regardless of what energy provider or EV infrastructure company "owns" it.

B2B Marketplace borrows from the model used to support international roaming services on mobile phones, says IBM. It would create a network of EV charging services that are compatible regionally in Europe.

The initiative is part of the Green eMotion project funded by the European Union, which aims to establish a Europe-wide EV charging network by 2015.

"This marketplace will pave the way for the electromobility mass market in Europe. It allows for open access to charging spots throughout Europe thus making the journey with an e-car simple and convenient," says Heike Barlag, an engineer with Siemens AG and Project Coordinator Green for eMotion.

IBM is one of 43 energy providers, EV manufacturers, technology companies, municipalities and research organizations involved in Green eMotion. The new marketplace uses data analytics software from the IBM SmartCloud Enterprise group along with technology and services from Enel, SAP and Siemens.

Photo of chain provided by Wolfgang Berroth via Shutterstock.

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Why it pays more to bake in CSR vs. ignoring it completely

By Lisa Richmond

Several decades ago, economist Milton Friedman argued social performance and financial performance are negatively related. According to his theory, when a company increases its social performance, they incur costs and lose competitive advantage. These factors lower profitability.

But many researchers have examined the relationship between social performance and profit and made the case for a positive relationship between the two. The underlying argument is: companies that foster stakeholder trust through social performance have the potential for price premiums, lower transaction costs and greater marketing opportunities. And these factors all increase profitability.

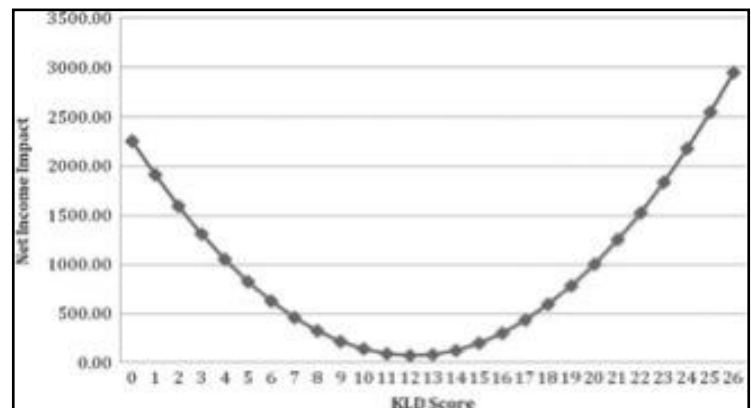
So, who's right? Everyone, apparently.

Michael Barnett of Rutgers University and Robert Salomon of New York University have found a way to reconcile inconsistencies in past research. The researchers studied the performance of 1,214 companies, drawn from the S&P 500 and Russell 3000 indices, from 1998 to 2006. They determined financial

performance by net income and return on assets (ROA). And they determined social performance using Kinder, Lydenberg and Domini data, which evaluate companies according to 13 sustainability criteria.



The firms rated low and high in social performance tended to have high financial performance, and the firms with the highest social performance had the highest income and ROA. The most unattractive position was in the middle: firms with only moderate levels of social performance had the lowest financial performance. In other words, the relationship between sustainability



and profitability is "U-shaped" and -- crucially -- the right side of the U rises higher than the left. The greatest profitability accrues to the companies with the highest commitment to sustainability.

Milton Friedman and his detractors were both correct because their theories were focused on different parts of the U-curve. Barnett and Salomon reconcile seemingly conflicting past research findings by factoring in a firm's ability to influence stakeholders over time by investing in social performance.

The key take-aways for business leaders in this debate are:

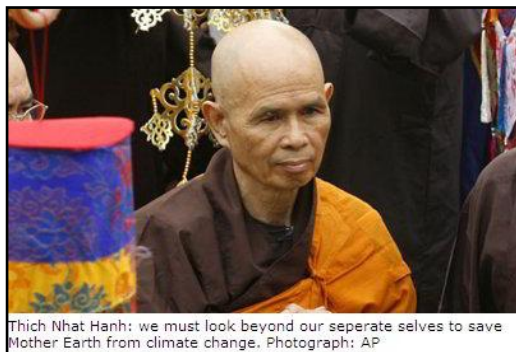
- **Dabbling in CSR gets you stuck in the trough.** Superficial improvements to social performance will increase costs and leave stakeholders unmoved -- and financial performance will decline. Instead, leaders should view CSR as a long-term commitment, making it their organization's *raison d'être*.
- **Build trust to escape the trough.** Stakeholders need to see serious and sustained social performance before firms can accrue the financial benefits of their CSR activities. The key challenge for business leaders is communicating their sustainability efforts such that they generate stakeholder trust.

Photo of CSR button on a keyboard provided by Andrew Sproule via Shutterstock.

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Zen master Thich Nhat Hanh: only love can save us from climate change

By Jo Confino, for guardian.co.uk



Zen master Thich Nhat Hanh, one of the world's leading spiritual teachers, is a man at great peace even as he predicts the possible collapse of civilization within 100 years as a result of runaway climate change.

The 86-year-old Vietnamese monk, who has hundreds of thousands of

followers around the world, believes the reason most people are not responding to the threat of global warming, despite overwhelming scientific evidence, is that they are unable to save themselves from their own personal suffering, never mind worry about the plight of Mother Earth.

Thay, as he is known, says it is possible to be at peace if you pierce through our false reality, which is based on the idea of life and death, to touch the ultimate dimension in Buddhist thinking, in which energy cannot be created or destroyed.

By recognising the inter-connectedness of all life, we can move beyond the idea that we are separate selves and expand our compassion and love in such a way that we take action to protect the Earth.

Look beyond fear

In Thay's new book, *Fear*, he writes about how people spend much of their lives worrying about getting ill, ageing and losing the things they treasure most, despite the obvious fact that one day they will have to let them all go.

When we understand that we are more than our physical bodies, that we didn't come from nothingness and will not disappear into nothingness, we are liberated from fear, he says; fearlessness is not only possible but the ultimate joy.

"Our perception of time may help," Thay told me in his modest home in Plum Village monastery near Bordeaux. "For us it is very alarming and urgent, but for Mother Earth, if she suffers she knows she has the power to heal herself even if it takes 100m years. We think our time on earth is only 100 years, which is why we are impatient. The collective karma and ignorance of our race, the collective anger and violence will lead to our destruction and we have to learn to accept that."

"And maybe Mother Earth will produce a great being sometime in the next decade ... We don't know and we cannot predict. Mother Earth is very talented. She has produced Buddhas, bodhisattvas, great beings."

"So take refuge in Mother Earth and surrender to her and ask her to heal us, to help us. And we have to accept that the worst can happen; that most of us will die as a species and many other species will die also and Mother Earth will be capable after maybe a few million years to bring us out again and this time wiser."

Confront the truth

Thay suggests that our search for fame, wealth, power and sexual gratification provides the perfect refuge for people to hide from the truth about the many challenges facing the world. Worse still, our addiction to material goods and a hectic lifestyle provides only a temporary plaster for gaping emotional and spiritual wounds, which only drives greater loneliness and unhappiness.

Thay, who has just celebrated the 70th anniversary of his ordination, reflects on the lack of action over the destruction of ecosystems and the rapid rate of biodiversity loss: "When they see the truth it is too late to act ... but they don't want to wake up because it may make them suffer. They cannot confront the truth. It is not that they don't know what is going to happen. They just don't want to think about it."

"They want to get busy in order to forget. We should not talk in terms of what they should do, what they should not do, for the sake of the future. We should talk to them in such a way that touches their hearts, that helps them to engage on the path that will bring them true happiness; the path of love and understanding, the courage to let go. When they have tasted a little bit of peace and love, they may wake up."

Thay created the Engaged Buddhism movement, which promotes the individual's active role in creating change, and his mindfulness training – an ethical roadmap –

calls on practitioners to boycott products that damage the environment and to confront social injustice.

Given the difficulty of convincing those with vested interests to change their behaviour, Thay says a grassroots movement is necessary, citing the tactics used by Gandhi, but insists that this can be effective only if activists first deal with their own anger and fears, rather than projecting them onto those they see at fault.

Awakened consumers can influence how companies act

On companies that produce harmful products, he says: "They should not continue to produce these things. We don't need them. We need other kinds of products that help us to be healthier. If there is awakening in the ranks of consumers, then the producer will have to change. We can force him to change by not buying."

"Gandhi was capable of urging his people to boycott a number of things. He knew how to take care of himself during non-violent operations. He knew how to preserve energy because the struggle is long, so spiritual practice is very much needed in an attempt to help change society."

Thay, the author of more than 100 books, including the best-selling *Miracle of Mindfulness*, says that while it is difficult for those holding the strings of power to speak out against the destructive nature of the current economic system, for fear of being ostracised and ridiculed, we do need more leaders to have the courage to challenge the status quo.

For business and political leaders to do that, they need to cultivate compassion in order to embrace and diminish the ego, Thay says.

"You have the courage to do it [speak out] because you have compassion, because compassion is a powerful energy," he says. "With compassion you can die for other people, like the mother who can die for her child. You have the courage to say it because you are not afraid of losing anything, because you know that understanding and love is the foundation of happiness. But if you have fear of losing your status, your position, you will not have the courage to do it."

A moment of contemplation

While many people are becoming disorientated by the complexity of their lives and by the overwhelming array of choices offered by our consumer society, Thay's retreats offer a profoundly simple alternative.

Over Plum Village's three-month winter retreat, Thay repeatedly instructs the hundreds of monks, nuns and lay practitioners about switching off the non-stop noise in their heads and focusing on the core of mindfulness; the joy of breathing, of walking, of contemplation in the present moment.

Rather than searching for answers to life in the study of philosophy, or seeking adrenaline charged peak experiences, Thay suggests that true happiness can be found by touching the sacred in the very ordinary experiences of life, which we largely overlook.

How often do we fully appreciate, for example, how hard our hearts work day and night to keep us alive? He suggests it is possible to discover profound truths through concentrating on something as basic as eating a carrot, as you get the insight that the vegetable cannot exist without the support of the entire universe.

"If you truly get in touch with a piece of carrot, you get in touch with the soil, the rain, the sunshine," he says. "You get in touch with Mother Earth and eating in such a way, you feel in touch with true life, your roots, and that is meditation. If we chew every morsel of our food in that way we become grateful and when you are grateful, you are happy."

Despite meditating every day for the past seven decades, Thay believes there is still much to learn. "In Buddhism we speak of love as something limitless," he says. "The four elements of love which are loving kindness, compassion, joy and equanimity, have no frontiers."

"Buddha is thinking like that. His followers call him the perfect one but that is out of love, for the truth is you can never be perfect. But we don't need to be perfect. That is a good thing to know. If you make a little bit of progress every day, a little bit more joy and peace, that is good enough so Thay continues to practice and his insight grows deeper every day."

"There is no limit of the practice. And I think that is true of the human race. We can continue to learn generation after generation and now is time to begin to learn how to love in a non-discriminatory way because we are intelligent enough, but we are not loving enough as a species."

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Solar-powered lamp-post provides ray of light for Mali

By **Tamasin Ford**, *guardian.co.uk*



Momodou Keita and his family with one of the solar lamps inside his compound. Photograph: Tamasin Ford/guardian.co.uk

Momodou Keita, town chief of Sanogola, a small village 300km north of Bamako, Mali's capital, stands proudly beside the community's solar-powered lamp-post – a shiny, blue, enamel-coated construction of welded bicycle parts and water pipes. "Ten villages now want these lamps," he

announces with pride from inside his traditional Malian mud-walled compound. "Now we have electricity and it helps us so much," he says.

Solar technology is spreading throughout countries across Africa and it is getting cheaper and more efficient. The searing rays of sunlight coupled with the lack of electricity grids on the continent make this renewable form of energy a no-brainer. But what makes Foroba Yelen, or Collective Light – the name given to the lamp-posts by the women of the area – so different is that it was designed specifically for the Malian communities who would end up using it, earning funding from the University of Barcelona for winning a special mention in the City to City Barcelona FAD (El Foment de les Arts i el Disseny/Support for Art and Design) award, a competition recognizing initiatives that transform communities across the world.

Italian architect Matteo Ferroni spent three years studying villages in rural Mali, where close to 90% of the population have no access to electricity. He wanted to design a light that villagers could manufacture for themselves, so went on to study how welders in nearby Cinzana built donkey carts, the traditional mode of transport that is still widely used today. He used their expertise, along with parts that could be found in any small village in the country, and came up with a design that would "work for the people, not the manufacturers".

"Wherever we need the lamp to be, we just move it," says Assitan Coulibaly, the town chief's wife, gesturing to her son who proceeds to rock the lamp-post gently backwards on to its built-in wheel and trundle it around the yard. "Children can do that. Elders can do that. Everyone can do that," she says with a smile. And they make money from renting the lamp-posts out to other communities too, adds Keita. "When other villages need light for any occasion they borrow it and go for the ceremony and bring it back," he says. "They have to pay to know the value of the lights."



Children in the village of Sanogola, Mali, learn to read and write using the solar lamp. Photograph: Matteo Ferroni / guardian.co.uk

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Davos 2013: water scarcity is 'second most important world risk'

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

We tend to look after only what we value. Perhaps that is the reason why we have literally been pouring the world's fresh water down the drain.

Yesterday, Ban Ki-moon, secretary general at the United Nations, reminded presidents, business leaders and NGOs at a meeting in Davos that "most of us do not appreciate water. We just take it for granted. Someone with a lavish life, we say he is spending money like water."

The secretary general likes to practice what he preaches; he keeps only a small jug of water in his office and exhorts his staff not to waste the precious resource. He wants the world to do the same.

He is by no means alone. Christopher Chiza, Tanzania's minister of agriculture, said it was a crying shame that 80% of the water used for irrigation in his country goes to waste.

But times are changing and the World Economic Forum (WEF) has recognised water scarcity as the second most important risk facing the world in the years ahead.

The problem with finding solutions is that many developing countries have little idea of how to address the problem, and are not able to measure rainfall patterns or water usage.

To complicate matters, answers do not lie in the hands of any one group in society and the debate is highly political.

But paradoxically, these difficulties are actually helping the Water Resources Group (WRG), created five years ago at the secretary general's request, to make more progress than any other initiative within WEF. This is because everyone recognises that they have no other alternative but to work together.

Companies, in particular, recognise that water shortages cannot be solved inside the factory gates. If there is a lack of energy, they can purchase generators. They cannot take an easy route with water.

The WRG has also achieved progress because the original group of individuals who set it up are still largely in place. It has therefore avoided the problems faced by other cross-sector initiatives that have faded once key players move on.

Projects have already been developed in countries from South Africa to Mexico and new cross-sector partnerships will soon be created in other countries such as Peru and Bangladesh.

Two interesting developments are worth noting. First, the key stakeholders, including multinational companies, are beginning to recognise that they need to involve those at the very bottom of the pyramid in the debate. This means that smallholder farmers will be included on the WRG's governing council.

The companies engaged in the WRG, such as Nestle and Coke, also recognise that they have to be honest about the fact that they are operating not from a sense of charity, but from self interest.

Another welcome development is that the group is starting to bare its teeth a little, even if they couch it in the most diplomatic of ways. Business leaders do not usually criticise each other but yesterday they took a pop at the mining industry for not doing enough to deal with the water pollution.



Davos 2013: tackling water stress is high on the agenda at this year's World Economic Forum. Photograph: Jim Lo Scalzo/EPA

The WRG's annual report says, when referring to South Africa: "The country's gold, coal and copper extraction houses could clean up contaminated acid mine drainage to potable standards, and pay for this process by selling the treated water to municipalities. We will help overcome legal and institutional constraints to treatment, allowing mines and downstream users to benefit."

One of the big challenges these cross-sector partnerships need to overcome is a lack of trust from governments and NGOs in the corporate sector. This is largely the result of decades when companies put the bottom line first, regardless of the impact on local communities.

But it is also true to note that in some cases, while there has been a welcome change in attitude from some business leaders to a more inclusive approach, this is often not trickling down to executives on the ground, who often still put profits first. The brewer SABMiller, for example, has learnt just how important it is for local managers to own these projects.

The WRG is at the very beginning of a process, and while it has created a methodology for action, it now has to prove it can scale this up if there is going to be any meaningful change on the ground.

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Can 'nexus thinking' alleviate global water, food and energy pressures?

By **Tim Smedley**, for *guardian.co.uk*

With the world population growing at a rate of around 80 million people a year, it is estimated that by 2030 the world will need 30% more water, 40% more energy and 50% more food. That's not just to feed, water and power the new arrivals, but also those currently living "off grid" in developing countries as they rise out of poverty.



Agriculture accounts for 70% of freshwater consumption worldwide. Photograph: National Geographic Image Collec/Alamy

In the past, water, food and energy have too often been dealt with as separate issues. Biofuels are a classic example. Once the great hope for sustainable energy, bio-diesel's insatiable appetite for wheat saw global food prices spike in 2008 and 2011, causing civil unrest. Panicked into action, the international community spoke out at the German government's Bonn 2011 conference and the water-food-energy nexus.

What is nexus thinking?

The nexus is a recognition that any solution for one problem, for example water, must equally consider the other two in the nexus. Jeff Erikson, senior vice president at environmental consultancy SustainAbility, explains: "Water is required all the way through the lifecycle of electricity and power generation, from fuel extraction to production; electricity is required to move and process water, while agriculture accounts for 70% of the freshwater consumption worldwide. One is dependent on the other, and the demand for all three is going to continue to grow."

"Then you put climate change on top of that, which is going to have a significant impact on both agriculture and water availability, and you can see how things will continue to get squeezed over the next number of decades."

From the World Economic Forum in Davos, Jon Williams, partner, sustainability and climate change at PricewaterhouseCoopers (PwC), says unsustainable resource consumption can only get worse without the nexus. "Water is pretty much used for everything that we do and is already becoming scarce in large parts of the world; the more energy we use, the more water we need to cool power stations ... [And] If the whole world ate like Europeans or Americans there would be no way there would be sufficient food, let alone the water to grow it. The three competing pressures [water, food, energy are] pulling in completely the wrong direction at the moment."

China as a case study

China is an interesting case study. Professor Declan Conway of the UEA Water Security Research Centre has extensively researched water and energy use in the world's most populous country: "Many of the pressures we're talking about globally are all occurring within China," Conway says.

"It is the world's second largest irrigator, using a huge quantity of water for growing of crops, much of which is pumped from underground – and that requires a lot of energy. We recently found that 0.5% of China's total emissions come simply from the pumping of groundwater for irrigation."

Potential responses to these issues are still in their infancy, but China's next five year plan includes planning goals for energy efficiency and emissions, food production and water use, including "how much water goes into growing a particular crop," says Conway. "A lot of effort has gone into softening the blow on agriculture while incentivising much more efficient use of water."

But these are not strident solutions. China is currently pumping water out of the ground at a rate of 20 cubic kilometres per year faster than nature can replenish. Worse still is the US at 30 cubic kilometres, and India at 190 cubic kilometres.

Policy has yet to catch up with the rhetoric of international conferences, argues Jeremy Allouche, research fellow at the Institute of Development Studies. "The problem with the nexus at the moment is it hasn't led to any policy concepts ... and it hasn't led to key players taking it forward," he says.

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H&M: an ambitious new water management strategy?

By **Oliver Balch**, for *guardian.co.uk*

The citizens of Dhaka, Bangladesh, know a thing or two about fresh water. They know there isn't much of it, for starters. And they know that what exists isn't very fresh. And much of that has to do with the local textile industry.

Bangladesh has more than 1,700 washing, dyeing and finishing units, many of them clustered around the capital. Together, they consume 1,500bn litres of water, much of which is then returned as chemically-charged waste.

Clothing retailer H&M says it wants to help. Many of the clothes in its high street stores started life in Bangladesh. Many others originate in China's textile belt where similar water problems are unfolding. To put that right, the Swedish clothing giant has unveiled what it says is an ambitious water management strategy. "This is about stewardship, meaning that we want to become a leader to take responsibility in the whole value chain," says Helena Helmersson, H&M's head of sustainability.



Clothing giant unveils strategy that aims to engage suppliers and use partnership to tackle issue of water scarcity and pollution in Dhaka, Bangladesh. Photograph: Abir Abdullah/EPA

The strategy includes 30 water-connected objectives and activities in five different focus areas: raising awareness around water, increasing knowledge about water impacts in the value chain, internal actions around water management, engaging external stakeholders, and influencing governments on water policy. The strategy will cover Bangladesh as well as other operations in China and Asia.

It's a laudable ambition. But will it work? There is evidence for hope. First, the strategy doesn't come out of the blue. H&M has a steady track record on tackling water issues, dating back to 2005 when it joined the Better Cotton Initiative. It can claim some notable successes too. In Bangladesh, for example, its main denim manufacturers cut water use by a third simply by cutting out unnecessary washes – the equivalent of by 300m litres.

The high-street brand is teaming up with WWF and from H&M's perspective, the environmental conservation charity brings the local expertise and technical knowledge that it lacks in-house. For WWF, it's an opportunity to move from "ad hoc and piecemeal" engagement with the textile sector to a more "cohesive strategy".

As WWF's fresh water manager Stuart Orr explains: "We're not going to change the world through [changing] one company at a time. We hope that these more holistic partnerships ... will generate a stronger strategy built on everything we've learned and everything that companies are grappling with."

H&M is not the only apparel brand to make a push for water efficiency as Levi's Water<Less jeans or Nike's Materials Sustainability Index demonstrate. However, what's different about this week's announcement is H&M's explicit commitment to look beyond its own four walls and engage others, through a holistic approach.

Challenges ahead

Suppliers, rightly, find themselves at the top of H&M's to-do list. In the first instance, the company has committed to engage 190 of its largest garment producers. That's no small feat, but it still leaves 560 direct suppliers waiting in line.

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Moral case for sustainability more effective than economic?

By Adam Corner, for guardian.co.uk



Over the past five years, a simple idea about the best way of promoting sustainable behaviour has taken root, and grown. The idea – once radical but now understood as fundamental to developing serious public engagement with climate change – is straightforward: that encouraging people to adopt sustainable

behaviours because it will save them money is a flawed and potentially counter-productive strategy.

A paper published this month in Nature Climate Change by psychologist Jan Willem Bolderdijk of the University of Groningen and others, is the latest in a growing body of empirical evidence that challenges the idea that “save money, save the planet” is a viable message for promoting engagement with climate change.

In an experiment conducted at a petrol station in Holland, the researchers compared two different messages aimed at persuading people to get their tyre pressure checked (because cars with tyres inflated to the correct pressure use less petrol).

The researchers targeted either economic or “biospheric” (i.e., caring for the natural world) values in their messages, comparing the effectiveness of an environmental slogan, “care about the environment? Get a free tyre check”; a money saving slogan, “Care about your finances? Get a free tyre check”; and a control group message that asked people to think about their safety on the road.

Although the overall number of people that actually responded to the messages and checked their tyres was fairly low, the results were intriguing: not a single coupon for a tyre check was taken from the economic message, while the environmental slogan produced the highest number of takers (a statistically significant result).

In two other studies, they also found that people reported feeling more positive towards biospheric appeals, and that these types of messages made them feel better about themselves. People thought it was better to be green than it was to be greedy.

As the authors say: “Reliance on economic appeals matches the widespread misconception that people are primarily motivated by (economic) self-interest, and are not motivated to change unless some personal benefit is implicated. However, in doing so, an important, perhaps even more basic source of human motivation is overlooked: people are motivated to maintain a positive self-concept which can be achieved by acting in line with one’s internal moral standards.”

Given that everyone – even the most materialistic and extrinsically-focused among us – places some value on intrinsically oriented messages and issues, Bolderdijk’s study raises important questions for any campaign that starts from the assumption that people are inherently motivated by financial considerations (and financial considerations only).

The evidence is now becoming impossible to ignore. Based on converging theoretical and empirical evidence, we know that certain types of values cluster together, and are associated with pro-environmental attitudes and behaviour (in particular, biospheric and altruistic values). People have a range of values. They are deep-rooted, and seeking to ‘change’ them is both pointless and potentially unethical.

But different messages and ways of presenting information activate and prime different types of values – and priming or activating biospheric and altruistic

values (which we all possess to some extent) will increase the chances of pro-environmental behaviour occurring, in the long term but perhaps also in the short term too.

Sadly, despite much repetition by researchers and practitioners, this message does not seem to be sinking in at policy level.

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Two inventions that have the power to transform energy use

Two very different companies have come up with innovative technologies that could transform how renewable energy and light are used

Late in 2012, we became aware of two very different companies that have created new technologies to change the way light and power are distributed. Their ideas gave us a renewed sense of the power of innovation, which we need to ensure a sustainable future.

Big company ABB's breakthrough circuit breaker

One of the biggest issues for renewable energy is that few users live in the mountaintops or offshore areas where much wind power is generated, and no one needs electricity in the deserts of North Africa. Instead, the energy that is generated is often converted to high voltage direct current (HVDC) and carried long distances on HVDC lines. They are cheaper to operate and more efficient conductors than AC transmission lines.

This type of technology has been limited

because no one had invented a HVDC circuit breaker, a critical component in a stable and safe grid.

But last November, ABB announced that they had invented a HVDC breaker. “ABB has written a new chapter in the history of electrical engineering,” said Joe Hogan, chief executive of ABB. “This historical breakthrough will make it possible to build the grid of the future.

“Overlay DC grids will be able to interconnect countries and continents, balance loads and reinforce the existing AC transmission networks ... HVDC technology is needed to facilitate the long distance transfer of power from hydropower plants, the integration of offshore wind power, the development of visionary solar projects, and the interconnection of different power networks.”

No doubt ABB has added a certain level of trumpeting to their announcement, but it is exciting to see progress in this area.

Tiny company therefore.com's great prototype – a weight-powered LED

One of the great distinctions between the world’s poor and poorest is the absence of electrical lights in the homes of the latter group. Throughout Africa, Latin America, and Asia, people light kerosene lamps, candles or oil lamps to see at night, risking burns, respiratory health and increasing their risk of cancer. They also spend a significant proportion of their income on kerosene and add CO2 to atmosphere.

The increasing availability and decreasing price of LED lights has a great deal of potential to change this landscape. But in terms of electricity supply, most people who live far from the grid have little cash to pay for the solar cells and battery storage systems that power solar lighting. People have less money to pay for ongoing maintenance and support of larger systems, so solar lighting becomes a project for communities rather than households.

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Ford-Led Alliance Links Electric Vehicles & Home Energy Management

By *SustainableBusiness.com News*

Ford Motor Company is launching the "MyEnergi Lifestyle" collaboration to show how a typical American family can significantly reduce electricity bills and their carbon footprint by integrating electric vehicles (EV), smart appliances and solar energy.

Georgia Institute of Technology computer models show that homeowners can achieve a 60% reduction in energy costs and a 55% reduction in carbon emissions by using this approach.

Comprised of leaders in the home appliance, renewable energy and power management industries, including Eaton (EV charger), SunPower (solar), Whirlpool (smart refrigerator), Infineon (energy sensors) and Nest Labs (smart thermostat), they will demonstrate how combining renewable energy generation with "time-flexible" loads optimizes energy consumption in both vehicles and home appliances.

"More than ever, cars are sharing the same energy source as the home," says Mike Tinskey, global director of Vehicle Electrification and Infrastructure for Ford. "The time is right for the home appliance and transportation sectors to converge if we are going to tackle a myriad of sustainability challenges in a rapidly changing world."

If every US homeowner managed electricity use this way, the power saved would be the equivalent of removing all the homes in California, Texas and New York off the grid.

Some of the energy is saved by simply replacing energy hog appliances with efficient models, but much more is saved by controlling when devices draw energy from the grid.

Accessed via the cloud, homeowners can take advantage of varying utility prices so their EVs are charged and appliances, such as dishwashers and icemakers, kick in when demand (and prices) are low.

Ford already offers a software application that lets owners of its C-MAX Energi, Fusion Energi and Focus Electric vehicles schedule charging cycles when local utility rates are lowest – often overnight or in the early morning.

Essentially, the technology being developed by MyEnergi Lifestyle extends that management capability across the entire household. The approach is utility-agnostic, because Ford has built its own database of utility rates.

Drivers just need to enable a single setting in an app and then plug their cars in without worrying about what time the rates change in their area. The network monitors utility rate schedules and automatically transmits a signal to the vehicle through embedded cellular connectivity to start charging at the lowest cost.

The alliance builds on Ford's partnership with SunPower, which offers customers a solar-powered EV charging station for less than \$10,000.

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Check Out the World's Largest Living Wall

By *SustainableBusiness.com News*

A shopping mall in Italy is home to the world's largest "living wall," which has even made it into the Guinness Book of World Records.

Covering 13,594 square feet, the vertical garden near Milan bursts with more than 44,000 colorful mosses, flowers and other vegetation.

The wall cuts down on the mall's energy consumption, cooling it during the hot Italian summer months and insulating it during the cooler winter. The plants also absorb noise, improve air quality, and counteracts some car emissions from the parking lot.

It cost about \$1.3 million to build. "It took us a year to grow the plants in a greenhouse and 90 days to build the facade. It was like building a giant Lego," architect Francesco Bollani told the *Daily Mail*.

The next biggest vertical garden is a four-story wall that's in the center of Madrid.

A 27-story "vertical forest" is also going up in Milan, which features apartment buildings covered in plants and trees. It's under construction as part of the BioMilano green belt that will surround the city.

Another example of a living wall is Kyocera's "green curtains," which save energy and produce food.



In his visualization of a self-sufficient city, Architect Michael Sorkin visualizes NYC as covered in green.

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Some of NYC's Oldest Buildings More Efficient Than LEED-Certified Ones

By *SustainableBusiness.com News*

Some of New York City's oldest buildings are more energy efficient than LEED-certified buildings.

Although the recently built 7 World Trade Center trumpets its LEED-Gold rating to lure renters, it isn't as efficient as the Chrysler Building, constructed in the 1930s.

While 7 World Trade Center gets an Energy Star score of 74 - just below the minimum allowed for that certification - the Chrysler building scores 84 thanks to extensive efficiency upgrades as does the Empire State Building (scored at 80).

That's because old structures tend to have thicker walls, fewer windows and less ventilation, and also don't lend themselves to massive data centers that consume lots of electricity.

It's also because of energy consumption by tenants. Tenants at the World Trade Center tend to be more data-crunching oriented with firms like Moody's, whereas nonprofits and other firms that require basic computing tend to occupy highly efficient buildings.

Not all older buildings score well, of course. The MetLife Building, built in 1963, scored 39, and the Seagram Building, built in 1958, scored 3.

Those numbers will change for Seagram, which will soon get extensive energy upgrades.

"Some scores will not be flattering, but identifying buildings with the most opportunity to improve is a big part of driving energy savings," Andrew Burr, a performance expert at the Institute for Market Transformation, told the *New York Times*. "It does put energy on the radar of real estate consumers."

In 2009, NYC passed a first-in-the-nation law that all privately-owned buildings must measure and report on energy consumption. This is the first year that buildings were required to publicly disclose that data.

Some of the information they must divulge includes energy and water use per square foot (energy intensity); greenhouse gas emissions; and Energy Star scores.

80% of the city's carbon emissions come from heating and cooling buildings, which NYC wants to cut by a third by 2030, as part of its sustainability plan, PlaNYC.

The data shows that the biggest buildings, which constitute 2% of the city's one million buildings, consume 45% of the city's energy. If they all reached median levels of energy intensity, the city would cut energy consumption 18% and greenhouse gas emissions 20%.

Still, NYC buildings generally consume less energy and water than the national average.

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New CDP report suggests suppliers lag behind on sustainability

By Jo Confino, for guardian.co.uk



New CDP report: the majority of suppliers didn't respond to the CDP's request for information. Photograph: Duncan Willetts / Sportsphoto Ltd.

I wonder whether the Carbon Disclosure Project (CDP), which provides the only global system for companies and cities to measure, disclose, manage and share vital environmental information, is the business equivalent of Alcoholics Anonymous.

The way the NGO, which has backing from

655 institutional investors with assets worth \$78tn (£49tn), works is very similar to AA's 12-step recovery programme. It helps companies to face up to a major issue they have largely been in denial about, examine past errors, make amends, learn to live a new life with a new code of behaviour and help others who suffer from the same addictions or compulsions.

Reducing risk and driving business value, a new report from the CDP, shows that those multinational companies who have moved beyond basic mandatory reporting – in other words those who admit there is a problem and want to do something about it – are going further than their more reticent competitors in reducing carbon emissions and also saving more money.

The study shows they are more than twice as likely to accomplish year-on-year emissions reductions – 63% who report compared to 29% who don't.

The reason they are acting is clear. More than two-thirds of respondents identify a current or future risk related to climate change that is likely to seriously affect business or revenue.

More than half of the supply chain risks that are identified, due to extreme weather, are already affecting respondents' operations or are expected to have an effect within the next five years. Just 13% identified regulation as being a sole driver of change.

Gary Hanifan, global sustainability lead for supply chain at Accenture, which co-commissioned the report, says it shows how much more can be achieved with a little bit more openness: "This report provides clear evidence that those who are most transparent about their climate change risks are more likely to achieve the greatest emissions reductions."

What the study also shows is that companies now need to be much more proactive in meeting the last step in the original AA programme: "Having had a spiritual awakening as the result of these steps, we tried to carry this message to alcoholics, and to practice these principles in all our affairs."

The need to spread the message is made clear because the report shows that companies' thousands of suppliers are not so keen to admit they have a problem and have a significantly lower level of ambition to mitigate climate change risk.

The survey, sent out on behalf of 52 multinationals with annual spending power of nearly \$1tn, showed that only about a third of the 2,363 suppliers who responded are setting emission reductions targets, compared to 92% of purchasing companies.

Worse still, only about a quarter of these suppliers are investing in activities to reduce emissions, compared with more than two-thirds of CDP's member companies.

And if you want to know the really bad news: the majority of suppliers didn't even bother to answer the CDP's request for information. Of the more than 6,000 approached, 3,627 did not respond and 173 declined to take part, although on the positive side, this was a marked improvement on the previous year.

The higher response rate suggests pressure from big purchasers is working. Although only 42% of suppliers receiving one invitation agree to report physical risks related to climate change, the percentage rises to more than two thirds for those receiving three or more requests.

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Recycling old fishing nets to limit environmental damage

By Jim Witkin, for guardian.co.uk

Every year, tonnes of abandoned and lost fishing nets pile up on beaches, create a navigational hazard for boats, or settle to the ocean floor to damage sensitive ecosystems. Recent estimates by the United Nations suggest that up to 10% of the trash that collects in our oceans is now comprised of this debris.



Small-scale fishing can often lead to discarded fishing nets washing up on beaches or damaging marine life

Addressing this problem may not seem the most obvious

business strategy for one of the world's largest carpet manufacturers, but as it turns out, most of the nylon used in these nets can be recycled and used to make yarn for carpets.

Giving old fishing nets a new life is the focus of Net-Works, an innovative commercial venture partnering carpet-maker Interface with the Zoological Society of London (ZSL), a conservation and educational charity. The program has just completed a six-month pilot working with four fishing communities near Danajon Bank in the Philippines.

In this fragile coral reef area, fishermen eke out a living from the local waters, but leave behind thousands of miles of discarded nets each year. Through the Net-Works program, they now have an incentive to collect these nets, which are purchased and recycled by an Interface supplier to make nylon carpet yarn.

Payment for the nets provides income to the local fishermen and will also be used to develop micro finance and village savings and loan schemes in the community, according to Nigel Stansfield, Interface's chief innovations officer.

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How Starbucks plans to reduce its paper cup waste

By Jessica Shankleman



Starbucks is seeking to serve greener refills by selling cheap, reusable plastic cups to replace some of the billions of paper cups handed out in stores each year.

The world's largest coffee shop chain began offering the so-called "personal tumblers" for \$1 a piece across its stores in the U.S. and Canada yesterday.

The move is the latest promotion by Starbucks to reduce waste sent to

landfill. Customers who bring their own cups already receive a discount on their drinks in stores globally.

According to Starbucks' latest sustainability report, the company requires approximately four billion cups globally each year, the majority of which are handed out in disposable paper cups – many of which are not recycled.

In 2008, the company set a goal to serve a quarter of all its drinks in reusable plastic cups by 2015, and has promoted them in the past by offering free coffee to customers who brought their own cups.

However, Starbucks was forced to revise its target down to five percent by 2015 last year after finding the initial 25 percent target too challenging.

The company said 1.9 percent of drinks were sold in reusable cups in 2011, meaning customers brought their own cups into stores more than 34 million times. As a result, more than 1.5 million pounds of paper waste were saved from landfill.

Photo of Starbucks coffeehouse provided by Tupungato/Shutterstock

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Costa Rica, Leader in Green Economic Development

By *SustainableBusiness.com News*

Costa Rica has tripled its GDP over the past 25 years while doubling the size of its forests, and its goal is to be the world's first carbon-neutral country by 2021.

The country is preparing for a cap-and-trade program and is one of eight countries to receive a \$350,000 grant from the World Bank to assist in its design and implementation.

Also considered as part of its green economic development, a marine protected area larger than Yellowstone National Park ensures that fisheries are managed sustainably.

Carlos Manuel Rodriguez, a vice president with Conservation International (CI) and former environment and energy minister of Costa Rica, tells us how they are doing it:

As global economic and environmental struggles continue to make headlines, perhaps the world should look toward Costa Rica for answers. In the last 25 years, my home country has tripled its GDP while doubling the size of its forests; it has also pledged to become the world's first carbon-neutral nation by 2021.

These unique and wonderful achievements reveal that shifting our global patterns of consumption and production into a greener economy is not only possible, but necessary.

In 1996 Costa Rica created its **Payment for Environmental Services (PES) program** partially in response to deforestation pressures. The program was established to compensate landowners for protecting the ecosystems that supply fresh water, absorb carbon and provide other services for people.

At the time, it took those of us working in the Ministry of Environment many years to truly understand the economics of conservation, but as Costa Rica's environment and energy minister, I led this innovative program with high expectations.

More than 15 years later, this program benefits 8,000 landowners in a territory covering 10 percent of the country, all outside national parks. The payment averages \$78 per hectare per year, with most compensation focusing on carbon and water services.

Since 2005, CI's Global Conservation Fund (GCF) has supported Costa Rica in engaging key landowners in the Osa Peninsula to enter into long-term payment for ecosystem services (PES) agreements. The region contains one of the best examples of lowland tropical rainforest remaining in Central America, featuring a range of distinct tropical ecosystems that are home to 50 percent of all species found in Costa Rica, including jaguars, harpy eagles, peccaries and giant anteaters.

Support from CI and many others has helped achieve unprecedented conservation objectives here, including halting the loss of tropical forest, restoring degraded forest and establishing innovative economic instruments to value biodiversity.

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California Residents Will Receive Carbon Dividends

By *SustainableBusiness.com News*

People that live in California are about to start receiving a share of the state's proceeds from its historic cap-and-trade program - a Climate Dividend.

Every six months, all residential utility customers will see a credit on their account for \$20-\$40, after the California Public Utilities Commission (CPUC) unanimously approved the climate dividend in mid-December.

From 2013-2020, ratepayers will receive a total of \$5.7 billion to \$22.6 billion, reports the *San Jose Mercury News*.

The dividends, which will be appearing on utility bills in July, are intended to offset potential price increases for goods and services that stem from cap-and-trade. Power plants and other large-scale industrial polluters now must pay to emit greenhouse gases or invest in carbon credits to offset them.

"It's a way to compensate households for the fact that the price of milk might go up at the corner store and that the price of gas will go up," Scott Murtishaw, an energy adviser to CPUC told the *San Jose Mercury News*.

The state held its first cap-and-trade auction in November, selling 23 million allowances for \$10.09 each (slightly above the minimum) and raising about \$290 million in revenue.

Polluters received 90% of carbon permits for free, but have to buy credits if they exceed the carbon cap. Utilities got free permits for the first year but had to agree to sell them in the auction.

"This sets an important precedent. It's the first time in the history of cap-and-trade where the value of allowances are flowing back to households," Michael Peevey, CPUC President told the *San Jose Mercury News*.

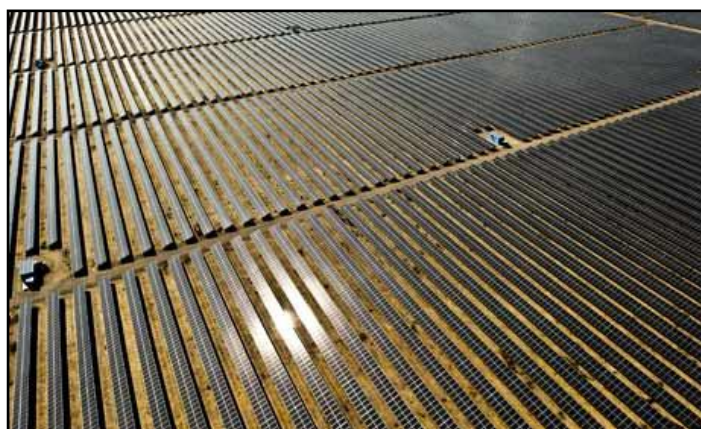
"We are supportive of the proposal," says Joe Como of the CPUC's Division of Ratepayer Advocates. "It appears to strike a good balance between supporting a carbon market and minimizing the cost burden to residential and small business customers."

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US urged to capitalise on hundreds of billions in renewable energy investment

Pew Charitable Trusts research finds US could net \$276bn from renewable energy investments over next six years

BusinessGreen, *Guardian Environment Network*, guardian.co.uk,



A massive solar power site in California, where Native American tribes have filed six lawsuits against companies. Photograph: Proehl Studios/Corbis

The United States government has been urged to provide greater policy stability for the renewables market, after a new report found global clean energy investment could total \$1.9tr (£1.2tr) between 2012 and 2018.

The Pew Charitable Trusts published research on Thursday predicting revenue from the installation of renewable energy technologies, including wind and solar projects, would grow at a compound annual rate of eight per cent from \$200bn in 2012 to \$327bn by 2018, delivering cumulative revenue of \$1.9tr.

The report suggested the US could secure 14.5 per cent of that revenue, equal to \$276bn over the next six years.

However, Pew warned the US could fail to capitalise on the opportunity, because of uncertainty about government policies, including the future of recently extended tax breaks for wind farm developers, which are again scheduled to expire at the end of this year.

The study also detailed the results of roundtable discussions with industry representatives in which they discussed barriers to investment in clean energy.

"Industry is telling us in no uncertain terms that the United States needs to adopt clear, consistent, long-term energy policies that allow American businesses to thrive, make our country more energy secure, and advance environmental imperatives," said Phyllis Cuttino, director of Pew's Clean Energy Program.

"Our research shows that there is a multi-trillion-dollar opportunity in the clean energy sector. US industry has the capacity to be a leader, provided we have the right policies in place."

Pew made a series of recommendations for the US that would provide greater stability to markets. They include establishing a clean energy standard to guide deployment and investment and significantly scaling up energy research and development funding.

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Lycra joins Levi's, Nike in move aimed to shrink carbon footprint

By BusinessGreen Staff



Next time you see a group of oversized January dieters jumping around in undersized lycra, try not to be so offended, because the makers of the stretchy fabric are taking steps to go green.

Swiss company INVISTA, owner of the Lycra brand, announced last week that it has joined the Sustainable Apparel Coalition (SAC), which counts high profile brands including Nike, Marks & Spencer and Levi's among its members.

SAC last year unveiled the Higg Index aiming to help clothing companies identify opportunities to reduce the environmental and social impacts of their products.

INVISTA has said it will now help SAC further refine the index, providing data and resources to the group so that its partners can better calculate the environmental impact of the lycra they use in garments.

Bob Kirkwood, INVISTA Apparel executive vice-president of marketing and technology, said environmental stewardship is a core principle of its operations around the globe.

"INVISTA pursues its sustainability vision through its commitment to manufacturing processes, our products and the environment- while seeking to minimize waste and improve the environmental, health and safety aspects of its products and processes," he said.

"As a global leader and integrated supplier for the textile industry, we look forward to working with the SAC to advance environmental stewardship and sustainability."

Photo of bicyclist provided by gorillaimages /Shutterstock

[<Source>](#)

Amazing Design For Underwater Hotels

By SustainableBusiness.com News

The designers of an underwater hotel may not have global warming in mind, but it may be a precursor to future architecture in a world with much higher sea levels.

With underwater hotels planned around the world, the Water Discus concept will be working out ways to build beneath the sea.

Deep Ocean Technology is building the first such hotel in Dubai, offering the opportunity for guests to feel part of the natural habitat.

As shown in the image below, the luxury hotel consists primarily of two giant disk-shaped buildings – one above the water and one below it.

The design calls for the underwater disk to rest 21-stories below the surface, where people in 21 rooms get fish-eye views of surrounding marine life.

Special lighting and underwater viewing technology allow guests to explore the habitat from inside the building, which also includes an underwater airlock where scuba divers enter straight into the ocean.

The above-water disc is anchored to the seabed with five sturdy legs that suspend it high enough to be safe from potential tsunamis or ocean surges. In

the case of an emergency, the disc is also completely buoyant and can be detached from the vertical shaft.

The building is modular, so it can be adapted to different environments and coastlines (and sea levels). The independent structures can also be moved to different places, based on environmental or economic considerations.

"Each design will be tailor-made to suit its future users and local conditions, such as the shape of the coastal line and depth of water around the coral reef," says Deep Ocean.

Deep Ocean and its partner

BIG INVEST Group, conceive of the structure as being an artificial reef, giving back to the marine environment. They also see it as the center of an international environmental program and center for "Underwater World Protection," with the hotel serving as a laboratory for research. Construction of a prototype began in early January.

Deep Ocean is teaming up with BIG InvestConsult AG to explore projects in the United Arab Emirates, the Maldives, Oman and Martinique.

[<Source>](#)

6000 Projects in Developing Countries, Thanks to Kyoto Protocol

By SustainableBusiness.com News

Although many people criticize the ability of corporations or countries to "offset" their emissions by paying for clean energy projects in developing countries, there are now 6000 such projects around the world.

Under the Kyoto Protocol's Clean Development Mechanism (CDM), emission-reduction projects in developing countries - such as conserving high priority forests or developing clean energy projects - apply for certified emission reduction credits, each equivalent to one ton of carbon.

If countries can't meet their carbon reduction targets by cutting emissions alone, they can offset part of that by investing in these projects.

"This mechanism stimulates sustainable development and emission reductions, while giving industrialized countries some flexibility in how they meet their emission reduction limitation targets," says the United Nations, which governs the program.

A 21 megawatt (MW) wind farm in Vietnam is the 6000th project, which displaces fossil-fuel-generated power and reduces emissions by 32,000 ton a year.

In the past 10 years, CDM projects have delivered 110,000 MW of renewable energy capacity, roughly equivalent to Africa's total power generation capacity.

Registered CDM projects are in 83 developing countries and range from replacing inefficient wood stoves to solar projects and increased industrial efficiency.

One example is a forestry project in Ethiopia, which is alleviating poverty as well as cutting emissions and building resilience to climate change. More than 2,700 hectares of degraded land has been restored where just about all the trees had been cleared.

In December, at the international climate summit Qatar, governments agreed to renew the Kyoto Protocol until 2020, which includes market-based tools like the Clean Development Mechanism.

Research shows that the CDM has spurred \$215 billion in investments, but low prices for certified emission reduction credits threaten the program. The value of credits is down over 90% in the past year because of weak demand.

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Inequality and accountability key to post-2015 development, report says

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

The post-2015 development agenda must confront inequality and needs to have stronger accountability mechanisms if the world is to eradicate poverty by 2030, a charity said on Tuesday.



Girls attend class at a school in a slum on the outskirts of Islamabad in Pakistan. Achieving universal primary school education is one of the MDGs. Photograph: Zohra Bensemra/Reuters

Ending Poverty in Our Generation, a report from Save the Children, sets out its priorities in proposals for new targets to replace the UN's millennium development goals (MDGs), which have a 2015 deadline.

Ban Ki-moon, the UN secretary general, has named the UK prime minister, David Cameron, the Liberian president, Ellen Johnson Sirleaf, and Indonesia's President Susilo Bambang Yudhoyono as co-chairs of a high-level panel to advise him on the global development agenda after 2015.

The panel held its first substantive meeting in London in November. The next meeting is scheduled for the end of January in Monrovia, Liberia, to be followed by one in Indonesia. The panel's report is to be submitted to Ban in May. Alongside this process, a working group is being set up to decide a set of global sustainable goals, an outcome of the Rio+20 conference in June.

The MDGs, agreed in 2000, set out eight specific – and ambitious – goals, including eradicating extreme poverty and hunger, achieving universal primary school education, and reducing maternal and child mortality rates. Some of those goals in some countries are expected to be achieved by the 2015 deadline, but not others.

The Save the Children report argues that the post-MDG framework cannot ignore inequality, saying it “must place tackling inequality front and centre”. It says the top 5% of the world's population is understood to have 37% of global income, while the bottom 5% has less than 0.2% – and the income of the top 1.75% of the world's population matches the entire income of the poorest 77%.

Reducing inequality is one of the most effective strategies to accelerate national rates of progress and is an effective those who are most excluded and marginalised, said Save the Children. The NGO is not alone in stressing the importance of addressing inequality in the next development goals. Institutions such as the African Development Bank have acknowledged that the lack of jobs and the gap between rich and poor was a factor behind the Arab spring.

“Gross inequality hinders both economic growth and progress in human wellbeing, and it undermines children's sense of self-worth, which in turn can undermine their life-long development,” says the report.

Núria Molina, director of policy and research at Save the Children acknowledges that inequality is a highly charged political issue, but says it was very much an issue of public concern. “Things that once seemed intractable can shift very quickly,” she says. “Look at India where gender inequality [following the gang rape in Delhi] is now a subject of debate and look at the discussion on tax justice in the UK [after reports of low tax payments by US corporations to the UK].”

The report cites Brazil and China as countries that have made progress against inequality. It said Brazil in the last decade had seen the incomes of the fifth poorest rise by 6% a year, three times as much as those of the top fifth. In China, regional development strategies have helped to narrow the gap between disadvantaged western, central and north-eastern regions and the richer south-east.

Apart from the need to deal with inequality, Save the Children says stronger accountability mechanisms at local, national and global levels are needed to encourage further progress. The report says access to information and

meaningful accountability are inextricably linked, and that better data, transparently available, needs to be a high global priority to support accountability.

Another blind spot in the MDGs is the massive impact of violence in all its manifestations – from family and sexual violence to war – on the lives of children and adults and on poverty reduction. The report says the new framework must pay more attention to protection from violence. But the biggest shortcoming is MDG 8, which promises a global partnership for development. The report says there has been little progress in important areas to the financial and trading systems that would benefit poor countries.

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Ed Davey: UK companies support decarbonising target

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

A “vast majority” of companies in the UK want a government-set target on decarbonising the electricity sector, the energy and climate secretary Ed Davey told MPs on Tuesday.

He said that only “one or two” companies had told him they did not want such a target, but would not name them, in a session of questioning from MPs about the energy bill, currently going through the committee stages.



Ed Davey says a ‘vast majority’ of UK companies want a government-set target on decarbonising the electricity sector. Photograph: Martin Argles for the Guardian

There is no decarbonisation target in the bill, despite calls for such a target from Labour, some Liberal Democrats and some Tories. The government's statutory advisors, the Committee on Climate Change, has called for the UK's electricity sector to produce no more than 50g of carbon dioxide per kilowatt hour by 2030, regarded as the equivalent of decarbonisation. Such a target would require even gas-fired power generation to be fitted with technology to capture and store the CO2 generated.

Tim Yeo, former Tory environment minister and chairman of the energy and environment select committee, is considering a backbench rebellion on the issue.

At present, the government's position is that no such target can be set until 2016 – in the next parliament.

The energy bill is to be under committee scrutiny until mid-February, and is likely to reach the reporting stage in March. That is the time at which any amendments are likely to be proposed. A third reading could be likely after May.

The chancellor of the exchequer, George Osborne, is known to object to any decarbonisation target, and has also stipulated a review of the UK's carbon budget – setting out how much carbon the UK can produce – in 2014.

Davey shed some light on his relationship with Osborne when he gave a speech on Tuesday to the Globe International group, made up of legislators from around the world who are trying to introduce climate change legislation in their national parliaments. Osborne is known to be sceptical of any proposed policies that he fears could lead to increases in energy bills in the short term, including investments in renewable energy, even if they pay off in the medium term.

Davey told them his discussions with Osborne over funding and policy had been “helped immeasurably” by the Climate Change Act, legislation brought in under the last Labour government that requires governments to take a long term view of any policies that affect greenhouse gas emissions, because it requires the setting out of national carbon budgets more than a decade in advance.

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Reduce food waste dramatically with simple acts, says UN

By **Rebecca Smithers**, for guardian.co.uk

Small but simple actions by consumers and food retailers could dramatically cut the 1.3bn tonnes of food lost or wasted across the world each year, according to an unprecedented global campaign launched on Tuesday.

Requesting smaller portions at restaurants, freezing leftovers and donating to



Requesting smaller portions at restaurants, freezing leftovers and donating to food banks can help make a difference, says the UN-led Think, Eat, Save: Reduce Your Foodprint campaign. Photograph: Nick Ansell/PA

food banks can help make a difference, says the UN-led Think, Eat, Save: Reduce Your Foodprint campaign, while retailers and supermarkets should be carrying out audits and working more closely with their suppliers to reduce waste.

Worldwide, it is estimated that about one-third of all food produced – worth around \$1 trillion – gets lost or wasted in production and consumption systems, according to the Food and Agricultural Organisation (FAO). A recent report from the UK's Institute of Mechanical Engineers put the figure higher, warning that as much as half of all the food produced in the world – equivalent to 2bn tonnes – ends up as waste every year.

UN under-secretary-general and UNEP executive director, Achim Steiner, said: "In a world of 7 billion people, set to grow to 9 billion by 2050, wasting food makes no sense – economically, environmentally and ethically."

José Graziano da Silva, FAO director-general, added: "Together, we can reverse this unacceptable trend and improve lives. In industrialised regions, almost half of the total food squandered, around 300m tonnes annually, occurs because producers, retailers and consumers discard food that is still fit for consumption. This is more than the total net food production of sub-Saharan Africa, and would be sufficient to feed the estimated 870 million people hungry in the world."

According to the FAO, 95% of food waste in developing countries are unintentional losses at early stages of the food supply chain, caused by financial, managerial and technical limitations in harvesting techniques; storage and cooling facilities in difficult climatic conditions; infrastructure; packaging and marketing systems.

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Ghana leaves secondhand fridges out in the cold in bid to save energy

By **Afua Hirsch**, for guardian.co.uk

Behind a once mint-coloured concrete wall – now stained by red dust – in a hilly suburb of Ghana's capital, Accra, a large machine is making history as it chugs and whirrs away.

It is a mobile fridge degassing unit – the first of its kind on the entire African continent, its owners say – and it is sucking poisonous gases out of hundreds of Ghana's discarded secondhand fridges. The machine was imported from Germany by City Waste Management, a company specialising in the safe disposal of electronic waste.

"We take out the poisonous gases and we separate the oils," says Vivian Atiaybor, 41, the field co-ordinator and public relations manager for City Waste. "Since October, we have processed 450 fridges here, and there are another 600 already waiting for us to collect. Many of these fridges are so old that even within our households they are already letting off poisonous gases."

City Waste is separating and scrapping old fridges under a rebate scheme that incentivises Ghanaians to replace them with new ones in exchange for a subsidy of 200 cedis (about £70). Others have been confiscated from the port. Secondhand fridges have been banned in Ghana since 1 January, when a new law – passed in 2008 but delayed so that importers and dealers could adjust – came into force.

Officials say there are a number of reasons for banning the devices, including the use of toxic and ozone-unfriendly chlorofluorocarbons (CFCs) – banned under the Montreal protocol – in fridges more than 10 years old. But the main reason was to reduce the energy burden on Ghana's already overstretched national grid, says deputy director of the Energy Commission, Kofi Agyarko.

"Ghana has a lot of used refrigerators – we conducted a study which revealed that we had in excess of 2m, and that on average they were consuming 1,200kW hours of energy in a year," Agyarko says. "That compares with energy-efficient refrigerators in Europe and America which consume 250kW hours in the whole year. That tells you the way we were wantonly dissipating our energy resources."

Ghana is not the first African country to ban secondhand fridges; neighbouring Ivory Coast and nearby Nigeria have both introduced legal prohibitions on the devices in recent years. But Ghana is the first African country to use public funds to subsidise the process of replacing old fridges with new ones, having allocated 3m cedis for the scheme.



A secondhand fridges shop at City Waste in a suburb of Ghana's capital Accra. Photograph: Afua Hirsch

"We are leading the way on the African continent because we are not just banning the importation of used refrigerators. We have also put in place an arrangement to ensure that people who cannot afford to buy new refrigerators are cushioned," Agyarko says.

City Waste – the sole scrapyards manager for the government rebate scheme to dispose of old fridges – earns its income by selling plastics to Ghanaian companies, which recycle them to make flip-flops and plastic containers. The company also sells metals, foam and other, more hazardous, materials extracted from the fridges to recycling plants in Europe.

But the company says processing secondhand fridges is so costly they cannot guarantee they will make any profit from the project. It believes that the cost-effective recycling of appliances such as refrigerators will only come from region-wide collaboration. "In Germany, you don't find mobile degassing units like this one, but one huge factory worth millions of euros," says Jürgen Meinel (pdf), founder and technical director of City Waste. "That is out of reach for Ghana at the moment, but if we got all the Economic Community of West African States together, then it would be worth it."

Despite interest in the scheme among certain consumers, some of whom have already traded in their old fridges, many people in Ghana remain sceptical about the new law. "When they introduced the ban we were very upset, but there is nothing we can do," says Kwesi Akpalu, 50, from Madina in Accra. "We like buying secondhand fridges because they are often good quality and European-made, sometimes they are even brand new cast-offs and store rejects. But the new ones are cheap fridges imported from China, the quality is very bad. Sometimes the secondhand ones even outlive them. If they want us to buy new fridges they have to start importing better-quality new ones that are also affordable."

At Big Twum Ventures, a secondhand fridge repair shop in Haatso, Paul Pappoe, 30, a mechanic, has mixed views. "My business depends on fixing broken fridges – if people start buying new fridges, we will suffer, it will take a longer period before they break," Pappoe says. "But then a lot of the new refrigerators coming in are from China – the quality is very poor, so even though they are new they break anyway. Chinese appliances are very good for our business."

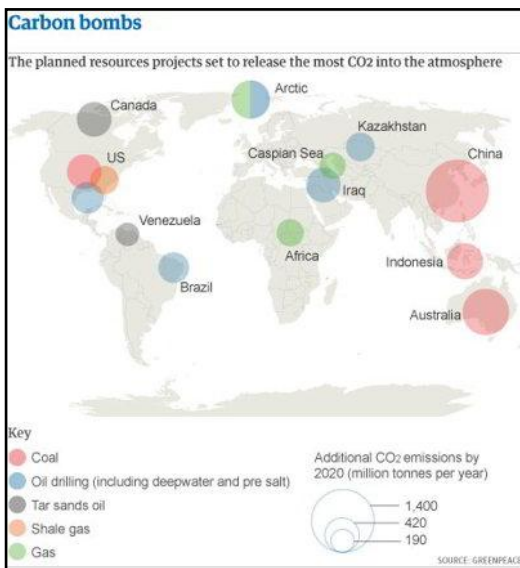
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China and Australia top list of 'carbon bomb' projects

By Oliver Milman, for *guardian.co.uk*



The Shengli opencast coal mine in Xilin Hot, Inner Mongolia. China's five north-western provinces aim to increase coal production by 520m tonnes by 2015. Photograph: Lu Guang/Greenpeace



burgeoning coal export industry, already the largest in the world, is in second place due to its potential growth to 408m tonnes of shipped resource a year by 2025, resulting in an annual 760m tonnes of CO₂.

Meanwhile, controversial exploitation of oil and gas reserves in the Arctic could release 520m tonnes of CO₂ a year, with further major emissions set to flow from other new fossil fuel frontiers, such as tar sands oil in Canada and shale gas in the US.

The Greenpeace report states that these 14 "carbon bomb" projects will increase global emissions by 20% and eat up nearly one-third of the carbon budget that the International Energy Agency says can't be breached if warming is to be kept below 2C, considered the threshold for dangerous climate change.

The analysis suggests that there is a 75% chance of keeping emissions below the 2C target if all 14 projects – which are at varying stages of planning and approval – are cancelled, with emissions peaking in 2015 before falling by 5% annually.

"If these projects aren't wound back, we're looking at an extra 300bn tonnes of CO₂ by 2050, which will make it very difficult to meet the 2C target," said Georgina Woods, lead campaigner for Greenpeace Australia.

"The fossil fuel industry is diversifying and finding new ways to extract resources, often in toxic and dangerous ways."

"This is a last-ditch push by these companies to entrench themselves in a changing energy market. Countries which have agreed [at UN climate talks] that the 2C tipping point can't be passed should not allow these projects to go ahead."

China and Australia top a global list of planned oil, gas and coal projects that will act as "carbon bombs" and push the planet towards catastrophic climate change, a Greenpeace report warned on Tuesday.

The Point of No Return study, by consultancy firm Ecofys for

Greenpeace, calculated that the 14 giant fossil fuel projects would produce 6.3 gigatonnes of CO₂ a year in 2020 – as much as the entire United States emits annually.

The largest contributors will be China's five north-western provinces, which aim to increase coal production by 620m tonnes by 2015, generating an additional 1.4bn tonnes of greenhouse gases a year.

Australia's

Is the food industry running on empty when it comes to water?

By Will Henley, for *guardian.co.uk*

As US farmers struggling with one of the worst droughts in living memory will tell you, a scarcity of water can be crippling to jobs and livelihoods, even in the richest nation on Earth. Amid the rice paddy fields of south-eastern Texas, the situation looks especially bleak.

Last week, the Lower Colorado River Authority voted for a second year running to withhold vital water from downstream farmers, citing precariously low reservoirs and a need to protect town supplies. It was a bitter blow for Edward Sunderman, manager of the Lucy Sunderman Farm in Colorado County, who depends on water as the lifeblood of his business.

"We don't have any crop unless we got irrigation," he says in his distinctive southern drawl. "I'm worried we might lose the farm 'cause we don't have any income." Sunderman, whose family-run farm has been operating since the 1940s, believes the dearth of water will devastate regional productivity.

"There's 60,000 acres of rice that won't be planted all the way from here to the Gulf of Mexico."

The food industry's reliance on water, and susceptibility to drought, of course is nothing new.

According to the United Nations' Food and Agriculture Organisation, food production accounts for 70% of all the freshwater extracted from lakes, aquifers and waterways – rising to almost 95% in developing countries. Industrial usage pales in comparison at 22%.

Erratic and extreme weather, much of which is caused by climate change, only serves to highlight and exacerbate the industry's dependency problem. Yet with two-thirds of the planet predicted to live in water stressed regions by 2025, and a world population hurtling towards eight billion, competition for this precious resource is only set to grow.

Greater affluence in emerging markets and a predilection for water intensive, western-style appetites is seemingly aggravating the problem. According to the International Fund for Agricultural Development, 1,000 to 3,000 litres is generally required to produce a kilogramme of rice, while a kilogramme of grain-fed beef will sap some 15,000 litres. A tomato requires just 13 litres.

Such is the gravity of the growing water/food crisis that scientists from the Stockholm International Water Institute warned last year that unless industry and consumers drastically re-orientated toward vegetarian products by 2050, there may not be enough freshwater to feed the world's population.

"A vegetarian diet is less resource intensive not only in terms of water, but also land and energy use," says professor Jan Lundqvist, senior scientific advisor at the institute. "The problem is that a large part of the world's population is not used to only having vegetarian food." As such, Lundqvist believes businesses and consumers must also be persuaded to reduce excessive overeating and wastage.

"The amount of meat and dairy products that people are buying is much larger than they are eating. If people were more conscientious and would eat only what is necessary from a nutritional point of view, the demand for meat and dairy products could be reduced substantially," he says.

"Water scarcity and getting access to affordable, nutritious food are undoubtedly some of the biggest risks facing humankind – and they are likely to get worse in the future," says Dan Crossley, executive director of the Food Ethics Council, based in Britain. "However, it's not as simple as suggesting we all switch from food with high water footprints, like beef, to food which requires less water."

"Water scarcity is a very localised issue, and it's not just the quantity of water that's important, but also the quality."



Scarcity of water can be crippling to jobs and livelihoods, even in the richest nation on Earth as US farmers face worst droughts in living memory. Photograph: David Gross/ZUMA Press/Corbis

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Futurnomics of food

Vandana Shiva explains the need for a new food production paradigm – one that ditches our reliance on oil and monoculture farming



The economic crisis, the ecological crisis and the food crisis are all a reflection of an outmoded and fossilised economic paradigm – a paradigm that grew out of mobilising resources for war by creating the category of 'growth', and one that is rooted in the age of oil and fossil fuels. It is fossilised both because it is obsolete and because it is a product of the age of fossil fuels. We need to move beyond this fossilised paradigm if we are to address the current economic and ecological crisis.

Economy and ecology have the same root, oikos, an ancient Greek word meaning 'home' – both our planetary home, the Earth, and the home where we live our everyday lives in family and community.

But economy strayed from ecology, forgot the home and focused on the market. An artificial 'production boundary' was created to measure Gross Domestic Product (GDP). The production boundary defined work and production for sustenance as non-production and non-work, taking the position that if you produce what you consume, you don't produce. With one fell swoop, Nature's work in providing goods and services disappeared. The production and work of sustenance economies disappeared and the work of women, in particular, disappeared.

To the false measure of growth is added a false measure of 'productivity'. Productivity is output per unit input. In agriculture this should involve all outputs of biodiverse agro-ecosystems – the compost, energy and dairy products from livestock, the fuel and fodder and fruit from agro-forestry and farm trees, the diverse outputs of diverse crops. When measured honestly in terms of total output, small, biodiverse farms produce more and are more productive.

Inputs should include all inputs – capital, seeds, chemicals, machinery, fossil fuels, labour, land and water. But the false measure of productivity selects one output from diverse outputs: the single commodity to be produced for the market; and one input from diverse inputs: labour.

Thus low-output, high-input chemical, industrial monocultures, which in fact have a negative productivity, are artificially rendered more productive than small, biodiverse, ecological farms. And this is at the root of the false assumption that small farms must now be replaced by large industrial farms.

This false, fossilised measure of productivity is at the root of the multiple crises we face in food and agriculture. It is at the root of hunger and malnutrition, because while commodities grow, food and nutrition have disappeared from the farming system. 'Yield' measures the output of a single commodity, not the output of food and nutrition.

It is at the root of the agrarian crisis, too. When costs of input keep increasing, but are not counted when measuring productivity, small and marginal farmers are pushed into a high-cost farming model that results in debt and, in extreme cases, the epidemic of farmers' suicides that we have now witnessed.

It is at the root of the unemployment crisis. When people are replaced by energy slaves because of a false measure of productivity based on labour inputs alone, destruction of livelihoods and work is the inevitable result.

It is also at the root of the ecological crisis. When natural-resource inputs, fossil-fuel inputs and chemical inputs are increased but not counted, more water and land are wasted, more toxic chemicals are used, more fossil fuels needed. In terms of resource productivity, chemical industrial agriculture is highly inefficient. It uses 10 units of energy to produce just one unit of food. It is responsible for 75% use of water, 75% disappearance of species diversity, 75% land and soil degradation and 40% of all greenhouse-gas emissions, which are destabilising the climate. And according to a recently released report by the Intergovernmental Panel on Climate Change (IPCC), extreme events due to an unstable climate incur an average annual cost of US\$80 billion.

We need to move from these false and fossilised indicators to real indicators that reflect the true health of Nature and the real wellbeing of the economy.

In food and agriculture, we must transcend the false productivity of a fossilised paradigm, and shift from the narrow focus on monoculture yields as the only output, and human labour as the only input. Instead of destroying small farms and farmers, we at the Navdanya movement in India are working to protect them because they are more productive in real terms. Instead of destroying biodiversity, we are working to intensify it, because it gives more food and better nutrition.

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India Sets National Electric Vehicle Targets

By *SustainableBusiness.com News*

India's Prime Minister announced a national electric vehicle plan last week with a target of 6-7 million vehicles sold by 2020.

That would save about 2.5 million ton of liquid fuels and lower emissions from vehicles by 1.5%.

Under the National Electric Mobility Mission Plan 2020, government and the automotive industry will split \$4.2 billion in investments to increase domestic manufacturing and incentivize sales of hybrid and electric vehicles in India.

"At present, significant barriers exist for faster adoption of the new electric mobility technologies by consumers. It is, therefore, necessary to create an eco-system whereby these technologies can be nurtured. The government is committed to work with industry and other stakeholders to make it happen," says Prime Minister Manmohan Singh.

The plan was developed in concert with the automotive industry. India's government will facilitate automotive research and development and put in place charging infrastructure, and industry will be responsible for developing products and creating a manufacturing ecosystem.

Besides being "a very important milestone in our country's efforts for a cleaner and greener transport system for the future," PM Singh pointed to the fact that India imports 80% of the petroleum used in the country.

He says:

"High international prices of oil contribute significantly to India's import bills, to our trade deficit, and also if I may say so in the world of rising energy prices, to inflation, thus putting a big strain on our economy. It is, therefore, very important that we make all possible efforts to reduce the transport sector's dependence on oil.

"These technologies are not only more efficient but they are also cleaner. They have the potential of contributing substantially to our efforts for mitigating the adverse impact of economic development on the environment. Electric and hybrid vehicles have a significantly lower level of emissions, including carbon dioxide emissions, which is one of the major contributors to global warming and to processes of climate change."

As the details of the plan are worked out, he also wants "far greater focus to the development of public transport using energy efficient and alternative energy technologies."

"Given our population size and urban densities, public transport should be given greater priority than private transport. In our country, the primary mode of daily commuting should be a high quality energy efficient public transport system."

[<Source>](#)

Punjabi farmers find pastures new, and cheap, in Georgia

By Jason Burke, guardian.co.uk



Dulwinder Singh, headman of Manochahal, Punjab, does not recommend joining the exodus to Georgia. Photograph: Jason Burke for the Guardian

The sun dips, the cattle low as they are driven back to the farms and a telephone rings with a Bollywood soundtrack tone. Tujinder Singh is calling the *sarpanch* – the elected head – of Manochahal, his native village 30 miles from India's western border.

The conversation – about crops, prices, weather and mendacious middlemen – is like a million or so similar early-evening calls placed by farmers across south Asia. Except that the land that Singh is now tilling is in Georgia, the small mountain nation in the Caucasus.

Singh, 38, is one of a new wave of farmers pioneering one of the world's more unlikely migrations. During a recent spell as a cook in Düsseldorf, Germany, he heard about thousands of acres of fertile land on former collective farms lying fallow in Georgia for want of manpower.

The contrast with his native Punjab, with its surging population and high land prices, was striking. So two months ago, he and three friends flew from Amritsar to Tbilisi, the Georgian capital, to seal a deal for the lease of 50 hectares. Back for a short break and some tandoori chicken, Singh said he was very happy with the move, even if he remains slightly vague about the geography of his new home.

"We are paying \$950 [£580] for each hectare for a 99-year lease. You'd not get much for that in the Punjab. I'm not sure if the farm is in the north or south but it is sort of over by Turkey and Armenia," he said.

Singh and his associates are far from alone. A growing number of Punjabi farmers are heading for Georgia. Agents in major towns such as Jalandhar are advertising Georgian land deals and business is brisk.

"It started a while back, just a dozen or so. Maybe now it is hundreds. Once words spreads there will be many. They come to me for passports. They are looking for pastures new," said JS Sodhi, the bureaucrat who issues travel documents in Amritsar, the nearest major city to Manochahal.

The farmers of the Punjab, known as the grain basket of India, have long searched overseas for new land. An earlier wave of migrants went to Canada, where urbanisation meant thousands of farms were empty. More recently, Punjabi farmers have been buying or renting thousands of hectares in Ukraine, Uzbekistan and across eastern and central Africa.

"Punjabi people are always going to different countries. They are very adventurous and enterprising," said Sodhi.

The money the farmers make overseas is often sent back to buy land at home, contributing to the rise in prices that forced them to leave in the first place. Georgian officials in India say the new arrivals may be disappointed.

"We are not encouraging them. They are going on their own. There are some private people in Georgia selling land. We have no programme for this," said one last week.

It is illegal for a foreigner to directly own land in the country and, though it is relatively cheap, it is less abundant than often reported, a second official pointed out. A recent project to attract farmers from overseas, particularly white South Africans, was a failure.

But attempts to dampen enthusiasm seem unlikely to have much immediate effect. "There's a huge hunger for land and it's said to be very good land over there, fertile and well irrigated," said Gokul Patnaik, a Delhi-based specialist on global agriculture. "It's mechanised farming but the Punjab is the one area of India where tractors are widely used so that won't be too much of a problem."

Nor is the cultural gulf separating the Caucasus and western India an obstacle. "I like the food and the people are very friendly," said Singh, though he admitted that not speaking Georgian in a country where few speak Punjabi was "a challenge".

Some in the Punjab fear an exodus from the villages and the end of a centuries-old way of life. Dulwinder Singh, the village head of Manochahal, says he does not think large numbers of young farmers will follow his neighbour to Georgia, however.

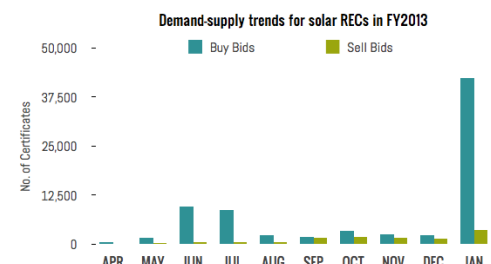
"Over there you work the land, you invest in it, you sweat over it, but it is yours just for 99 years. Then what?" he asked, as he sipped tea with four neighbours outside his farmhouse. "My land here was worked by my father, my father's father, his father and as far back as anyone can remember. What can replace that?"

[Source](#)

REC Trading: Solar REC market continues to strengthen, demand grows 20 times

Climate Connect News, 31 January 2013, New Delhi: The 23rd trading session of Renewable Energy Certificates (RECs) was concluded on 30th January at the Indian Energy Exchange Limited (IEX) in New Delhi and the Power Exchange India Limited (PXIL) in Mumbai.

Of the total RECs offered for trading, about 11% were redeemed. The total transaction value at both the exchanges was over Rs 31.88 crore, a fall of 25.5% over the previous session.



Between 01 and 30 January 2013, the central nodal agency, National Load Dispatch Centre (NLDC), had issued 3,04,357 non-solar RECs. Combined with the 16,68,446 non-solar RECs which remained unredeemed in December 2012, a total of 19,72,803 non-

solar RECs were available for trading during the 23rd session. However, only 17,41,892 non-solar RECs were actually offered for trading by the project developers. NLDC also issued 3,306 solar RECs in January, combined with the 253 solar RECs unredeemed after December trading session 3,559 solar RECs were available and all of these were offered for trading.

IEX received buy bids for 190,875 non-solar RECs and sell bids for 1,371,503 non-solar RECs, against which 190,875 non-solar RECs were cleared at Rs 1,500 per MWh. PXIL received buy bids for 2,462 non-solar RECs and sell bids for 3,70,389 non-solar RECs, against which 2,462 non-solar RECs were cleared at Rs 1,500 per MWh.

IEX received buy bids for 40,138 solar RECs and sell bids for 3,356 solar RECs, against which 2,105 solar RECs were cleared at Rs 12,500 per MWh. PXIL received buy bids for 2,107 solar RECs and sell bids for 203 solar RECs against which 203 solar RECs were cleared at Rs 12,500 per MWh.

[Source](#)

Forthcoming Events

AGRION Energy & Sustainability Summit

19th to 20th February 2013

New York, United States of America

This summit is being organized by **AGRION**, the leading global network for Energy and Corporate Sustainability. The summit will connect the main stakeholders of energy markets as well as Chief Sustainability Officers from the largest corporations in the world. The event is being sponsored by HodgsonRuss, NASDAQ, and NYSEERDA. Speakers from leading organizations are expected to give deliberations in the summit. The main tracks of summit are Clean energy and Sustainability.

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2nd International Conference on Climate Change and Humanity- ICCCH 2013

Rome, Italy

February 24-25, 2013

ICCCH 2013 is to bring together innovative academics and industrial experts in the field of Climate Change and Humanity to a common forum. The conference is scheduled to take place on 24th and 25th February, 2013 at Starhotels Metropole, Rome, Italy. The organizer of the conference is Chemical, Biological & Environmental Engineering Society (CBEES). The primary goal of the conference is to promote research and developmental activities in Climate Change and Humanity. Another goal is to promote scientific information interchange between researchers, developers, engineers, students, and practitioners working in India and abroad. The topic of interest includes Ecology and Biodiversity Conservation, Environmental Pollution & Management, Renewable Energy Sources, Climate Change and Global Warming, Sustainable Development, Hazardous waste and waste treatment, Water pollution and treatment, Solid waste management etc.

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International Conference on Trade, Markets & Sustainability (ICTMS)

Pune, India

February 22-23, 2013

This conference is being organized by **Symbiosis Institute of International Business (SIIB)** at their campus in Pune, Maharashtra. The International Conference on Trade, Markets and Sustainability will be an interdisciplinary conference and seek to understand some of the major opportunities and challenges in global economies particularly in key priority sectors. The Conference will aim to deliberate on issues around global trade mechanisms and networks and its linkages to development, emerging market mechanisms that provide transformative solutions including potential game changers in business and industry, innovative product development for new markets including strategies around innovation and analyze current social, technological, environmental and management issues that govern societal change. Research papers will be presented at the Conference across four tracks: viz. **Trade, Markets, Sustainability and Management Issues.**

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Green Growth

London, UK

25-26 February 2013

Chatham House is organizing a two day conference "GREEN GROWTH" in association with Global Green Growth Institute at 'Chatham House', 10 St James's Square, London UK, during February 25 and 26, 2013. This conference will ask what the benefits and obstacles are to governments of adopting green growth policies and to businesses adopting green growth strategies. How can this economic transformation be made possible politically, and what tools and policies will enable it? What new economic models are emerging? How can green growth rhetoric be turned into operational reality?

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Forthcoming Events



February 25-26, 2013

New Delhi

India Sustainability Conclave is organized by Federation of Indian Chambers of Commerce and Industry (FICCI), the apex industry organization in India FICCI. The second edition of the event - **India Sustainability Conclave 2013 (ISC 2013)** - is scheduled to be held on February 25-26, 2013, at FICCI, Federation House, Tansen Marg, New Delhi. ThinktoSustain.com is the Media Partner for the event.

It aims to address new dimensions like incentivizing sustainability through policy, making reporting a value added proposition, and creation of industrial ecology clusters.

The Conclave focuses on corporate environmental sustainability - challenges that corporate face in addressing sustainability, the enablers that will help address these challenges, and the opportunities that they can harness by aligning their business goals in a sustainability paradigm. The Conclave would also deepen the discussions on areas of external interface for businesses through the supply chain imperative, building external relations through stakeholder engagement, and driving sustainability from the top.

India Sustainability Conclave 2013 is expected to be a knowledge, networking and capacity building platform which will address key issues of sustainability for businesses.

[<Brochure>](#)

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Sustainable Development: Infrastructure Challenges and Solutions

Edinburgh, Scotland

February 26, 2013

Heriot-Watt's Annual Industry Day will take place on the 26th February 2013 at Edinburgh Conference Centre, Heriot-Watt University Edinburgh Campus, Edinburgh, Scotland. Dr. Rajendra Pachauri, Nobel prize winner Dr Rajendra Pachauri, chairperson of the Intergovernmental Panel on Climate Change (IPCC) has been announced as keynote speaker for the Heriot-Watt University Industry Day 2013. This day-long event will focus on sustainability and the issues surrounding Sustainable Development. Speakers from a range of prominent industrial and governmental authorities as well speakers from Heriot-Watt University, giving an academic perspective.

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National Conference on Green Energy (NCGE-13)

CHENNAI, TAMILNADU, India

30th MARCH 2013

The National Conference on Green Energy (NCGE 2013) is a forum for the presentation of technological advances and research results in the fields of Clean and Green Energy. This conference is being organized by Electrical & Electronic Engineering Department, RMD Engineering College, Chennai, India.

The conference will bring together leading researchers, engineers and scientists in the domain of interest from various parts of the country. It is aimed at exchanging information between academic community and industrial organizations and also throwing light on the state of art research observations and results in the field of green energy.

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Deccan Chronicle, Hyderabad dated December 26, 2012

Racing giant Ferrari joins green revolution

LUBOMIR MILASIN

MARANELLO (ITALY) DEC. 25:

Italy's red racing giant Ferrari wants to go green, cutting emissions without sacrificing horsepower and working on a new hybrid model set to thrill pro-environment speed junkies.

"We're working on reducing energy consumption without forgetting that the symbol of Ferrari is performance," Matteo Lanzavecchia, head of development, said at the luxury car-maker's historic factory in Maranello, a small town in the Emilia

Romagna region.

"We've also managed to up horsepower to 100 while still reducing CO2 emissions by 30 per cent," he said.

The sleek "California 30", one of the brand's most sought-after models with a price tag of 180,000 euros (\$230,000), has been revamped up with the new technology — extra horsepower but weighing 30 kilograms less than the previous version.

"We're going all out, not just using the lightest materials but making adjustments across the board. We have improved

the brake system to reduce friction and the fan to reduce energy consumption."

Mr Lanzavecchia said here on Tuesday.

And the green drive does not stop there: among the towering steel machines on the Maranello factory floor trees have been plant-

ed to control the air's humidity levels.

The most recent buildings have also been built with vast glass bays to allow more light in and slash electricity consumption.

The hybrid car — set to hit salesrooms in the next few months — aims to lure customers not only with its green credentials but also the promise of an off-piste taste of a Formula One experience.

It will have t h e

Kinetic energy recovery system used in the famous racer — which recovers energy during braking and stores it for future use — "to reduce consumption but also capture the thrill of driving a Ferrari."

Mr Lanzavecchia said. The luxury brand has managed to avoid fallout from the economic crisis which hit the standard automobile industry.

Last year 7,000 Ferraris were sold around the world, up 10 percent from 2010, and the company's turnover this year has shot up over the two bil-

lion euro level for the first time in its history.

As well as focusing on emerging markets, the brand has been tempting clients with "personal stylist" services and gadgets to gussy up the inside of gleaming new Ferraris.

"There are opportunities all over the world. Of course, we are more prudent about some markets such as Europe, but there are others where the economy is growing — China, Indonesia, Malaysia or the United States," commercial director Enrico Galliera said.

—AFP



The Economic Times, Delhi dated December 26, 2012

Empowering SMEs for Sustainable Growth

SMEs are the engines of growth that enable overall economic growth for the nation. Hence they are needed but what are the challenges and hurdles they face? A panel discussion on the subject

NILAKSHI SHARMA

Recognising the need to nurture and develop the SMEs, the ET NOW-IndiaMART Leaders of Tomorrow Awards 2012 began with a panel discussion on "Building a New India-Empowering SMEs for Sustainable Growth". Moderating the discussion, ET NOW's Paromita Chatterjee began by focusing on the special nature of the challenges faced by MSMEs not just in terms of growth but on just how they should negotiate through the prevailing environment. Advocating a certain kind of confidence, Vineet Nayar, Vice Chairman & CEO, HCL Technologies Ltd., said, "The mess we are in should be seen as an opportunity by the SMEs." If, he pointed out, the SMEs could focus sharply and move quickly, this is the moment to taste success.

Pramod Bhasin, Vice Chairman, Genpact, agreed that the environment was bad but again emphasised the opportunities this presented for the SME. His advice to SMEs was to play to their strengths, be nimble, take quick decisions, take risks, smaller risks,



The Panel in discussion

but take them in way the big companies cannot and ultimately see the silver lining of opportunity in the currently dark economic clouds. Shivinder Mohan Singh, Vice Chairman of the Fortis Healthcare Group, pointed out that the strength of any business, SME or big corporation were always its people. So the need, for all businesses is essentially to acquire the right set of people and then to make the work environment such that they give their best. But alongside people, one

of the biggest requirements of a business is infrastructure. As Suneeta Reddy, Joint MD, Apollo Hospitals Group pointed out, "The biggest challenge for SMEs, especially in the healthcare landscape is the cost of the infrastructure - it accounts for 60 per cent of the cost."

In the current scenario for SMEs in India, Vikram Bakshi, MD, McDonald's India, identified the Retail as the next sunrise sector. According to him, "None of the large companies stepping into

the sector are going to succeed without the SMEs, which they are going to look towards for the niche services and niche products that need to be created. It is not going to be possible for any large organisation to survive without the support of the SME sector." On the policy front, Baijayant Jay Panda, Member of Parliament, was quick to state, "The policy and regulatory framework is important for both SMEs and big companies." But he acknowledged that policy hurdles can

have a far greater impact of the SMEs. Finally the discussion moved on to one of the biggest and perennial problems of SMEs - Finance. Pointing out the seriousness of the problem, Vikram Bakshi said, "At the SME level we are still not getting enough capital. Great ideas are getting wasted simply because capital is not following it." Stressing on the urgent need for better financing in the SME sector, Shivinder Singh pointed out that "If we want to grow as a country we need to look at more funding especially at the smaller, start up level."

Vineet Nayar looked towards improvement of the situation by pointing out that "Firstly, the institutions of finance have become more mature in understanding that SME value and SME business proposition. And secondly, a new class of capital such as Risk Funds, Venture Capital, etc. is also now more available." The discussion concluded with the reiteration of the need to provide better support for the SMEs across categories in order to enable them to grow and expand.

The Times of India, Delhi dated December 26, 2012

'Environment changes spurred human evolution'

Washington: A series of rapid environmental changes in East Africa roughly two-million-years ago may have driven the human evolution, say researchers. "The landscape early humans were inhabiting transitioned rapidly between a closed woodland and an open grassland about five to six times during a period of 200,000 years," said researcher Clayton Magill, from the Penn State University.

DRIVING FORCE? "These changes happened very abruptly, with each transition occurring over hundreds to just a few thousand years," Magill said in a statement.

According to co-researcher Katherine Freeman, the current leading hypothesis suggests that evolutionary changes among humans during the period the team investigated were related to a long, steady environmental change or even one big change in climate. "There is a view this time in Africa was the 'Great Drying', when the environment slowly dried out over three million years. But our data show that it was not a grand progression towards dry; the environment was highly variable," she said. According to Magill, many anthropologists believe that variability of experience can trigger cognitive development. ■

The Times of India, Delhi dated December 26, 2012

Xmas trees absorb greenhouse gas

Washington: Christmas trees are absorbing methane, a super greenhouse gas that they were previously suspected of emitting, scientists claim. The discovery that some trees are absorbing methane comes from Elin Sandqvist and colleagues at Lund University and Stockholm University in Sweden.

"They did forest and laboratory measurements and analysed gases being exchanged by tree branches of pine, spruce and birch trees under a variety of conditions," Discovery News said.

"In contrast to earlier studies of CH₄ (methane) exchange by plants, we find a net consumption by all plants studied both in situ and in the laboratory," researchers concluded.

"The discovery could offer a new explanation to an observed levelling off of methane concentrations in Earth's atmosphere, the researchers said."

Earlier work they cited suggested that the methane levels were slowing as a re-



GREEN BENEFACTOR

sult of less fossil fuel burning while another study suggested that maybe there were fewer microbes making methane in the Northern Hemisphere. "Our results offer a third explanation: that an increasing amount of CH₄ has been taken up by vegetation during the last decades as a

consequence of increased greenness," the experts said.

In other words, the observed increases in vegetation (greening) could mean trees are working harder at absorbing methane.

The study was published in the journal *Geophysical Research Letters*. ■

The Economic Times, Delhi dated December 26, 2012

'Antarctic Thaw Twice as Bad'



OLIVER DUGGAN

Temperatures in the western part of Antarctica are rising almost twice as fast as previously believed, adding to fears that continued thaws are causing sea levels to rise, according to comprehensive research published this week.

In a discovery that raises new concerns about the effects of climate change on the South Pole, the average annual temperature in the region has risen by 2.4C since the 1950s, three times faster than the average around the world.

The unexpected jump was discovered after David Bromwich, professor of geography at Ohio State University, led a research team to the previously uninhabited Byrd Station research centre 700 miles from the South Pole in the heart of West Antarctica.

Their research claims that original estimates, which were half those revealed this week, were based on faulty data. They found that nearly one-third of temperature observations had been missing for the past 60 years due to regular power outages and limited resources.

The link between rising temperature and rising sea levels is based on the principle of dis-

placement. In this instance, the 2.4C rise has added to worries that huge blocks of ice could slide into the ocean, causing the surrounding seas to rise to accommodate new icebergs.

Several ice shelves – thick ice blocks attached to the land at one end – have already collapsed around the Antarctic Peninsula, an area just to the north of the Byrd Research Centre. Once

these shelves break up, glaciers trapped behind them can slide faster into the sea, raising water levels. Professor Bromwich said: "Our record suggests that continued summer warming in West Antarctica could upset the surface mass balance of the ice sheet, so that the region could make an even bigger contribution to sea level rise than it already does." The region contains enough ice to raise sea levels by at least 10.8 feet if it all melted, a process that would likely take centuries.

The region contains enough ice to raise sea levels by at least 10.8 feet if it all melted, a process that would likely take centuries.

The Independent

The Economic Times, Delhi dated December 27, 2012



Belgium Looks To Go Green

India should also seek a strategic partnership to develop clean, environment-friendly sources of technology

HEMA RAMAKRISHNAN

Louis Vyncke, a Belgian blacksmith, forayed into the bio-energy market a century before global warming became the raging topic that it is today. He made a fortune building boilers to produce energy for removing flax fibres from their stalks. His great grandson now steers the family-owned company that designs and builds plants to produce clean energy.

Other small entrepreneurs in Flanders have also taken baby steps to move to a green economy. Yet, Belgium, a founder member of the European Union, is still a fossil-fuel guzzling economy. This appears set to change, perhaps, due to the crisis in the Eurozone. It has triggered a re-think in Belgium's energy policy for which groundwork has begun.

A study by Vision on Technology (Vito), a research organisation, the Federal Planning Bureau and consultancy firm ICEDD claims that it is possible for Belgium to become fully reliant on renewable energy by 2050. The focus is expected to be on solar, wind, biomass, geothermal, hydroelectric and other sustainable solutions. It would require investments worth €300 to 400 billion in the energy system. That is not small change, especially for a country with a GDP of less than \$500 billion.

The transition would impact energy prices and have ramifications for the country's general infrastructure. If Belgium is to succeed in running on renewable energy, its electricity network has to be made more dynamic. Buildings too would need radical adaptations, and become smart. But spin-offs will be huge in the long run. It is estimated to create 20,000 to 60,000 jobs and do away with the country's dependence of oil import.

Citing the study at the Brussels Sustainable Development Summit last week, Steven Vanackere, Deputy Prime Minister of Belgium, said achieving the goal of sustainable development would require both enormous resources and political courage. Prince Philippe of Belgium lis-



ANIMISHA

tened with rapt attention. Vanackere also correctly underscored the importance of meaningful participation by governments and creating an enabling framework for companies to move to a green economy.

Despite the earnestness seen in making the energy-transition, Belgium has challenges in getting there. With a predominantly cloudy weather, the solar source can only contribute so much, and a complex system of conjunctive use of many renewable systems alone can fit the bill. Also needed would be a societal commitment to gradually reduce the per capita consumption of energy, calling for a change in lifestyles of people.

On its part, Vito is promoting Flanders as a strong clean tech region to global investors. Its initiative, the Flanders Cleantech Association, has become a nodal point for potential foreign investors to assess work in cleantech. Flemish companies too want to offer their expertise to emerging markets such as the BRICS. Some of them have made inroads.

Vyncke has partnered with Forbes Marshall in India to build biomass-fired boilers for customers that include Pepsico, Hindustan Lever and UB Group. CEO Peter Vyncke says he is happy dealing with another family-owned business, and not gov-

ernment. Waterleau, a company that develops advanced environmental technology for water, air, waste treatment and renewable energy, boasts of clients such as Arcelor Mittal and Reliance Industries. It has partnered with Ion Exchange in India to build and operate a wastewater treatment plant at the Reliance Jamnagar Export Refinery. Anissa Temsamani, VP International Relations, reckons that India is an interesting but challenging market.

The Antwerp Municipal Association Hooze Maey works in rehabilitation and sustainable exploitation of the landfill with minimal risks to the environment. It is assisting the Chinese to make electricity from waste dump. AppliTek makes online analysers for environmental and industrial applications. The company's CEO David Laurier prefers operating through a distributor network in India.

DEME Blue Energy too is actively involved in the energy market in projects to harness tidal and wave energy, while Induss offers industrial companies in Belgium and overseas the knowhow to manage natural resources especially water in a sustainable way. Solvay positions itself as a major player in chemicals and developing high-value products. The company is also betting big on hydrogen to power cars.

Firing the engine for the Belgian economy is the Port of Antwerp, the second largest port in Europe that houses the largest petrochemical complex. True, the port community is an energy guzzler, but is also making efforts to switch over to sustainable energy.

Not surprisingly, Flanders Investment and Trade is aggressively marketing the region to investors. Dirk Van Steerteghem, who steers the trade body's international business division, says that locational advantage coupled with robust transport infrastructure and fiscal incentives will be a draw.

As Belgium switches to renewable energy, India must also be proactive and seek a strategic partnership on developing clean, environment-friendly sources of technology. The need is to have vision for a joint platform to design, develop and disseminate next generation technologies. Such an initiative would lead to synergy and pay rich dividends. A clear-cut India plan for green initiatives in Europe would mean more bang for that extra buck.

The National Action Plan on Climate Change calls for a strategic knowledge platform to cope with global warming. So, joint initiatives for research make eminent sense. Vito, for instance, has partnered with The Energy Research Institute to set up a joint lab around a bio-based economy. Ludo Diels of Vito who is spearheading this initiative also sees a huge potential in India to use farm waste for producing clean energy.

With scarcity of natural resources, India has been reluctant to commit to reductions in greenhouse gas emissions, though developed economies account for bulk of such emissions. Nevertheless, it would make sense for India to be proactive in devising energy solutions to lower carbon emissions that would increase per capita availability and improve the environment. India-Belgium policy focus in cleantech seems a good idea.

(The author was in Belgium at the invitation of the Flanders Investment & Trade, a government agency and research institution Vito)

The Economic Times, Delhi dated December 28, 2012

Cos to Give More to CSR

THE NEW SPIN 'Doing good' will no longer be an occasional corporate indulgence. With the new Companies Bill, corporate social responsibility will emerge as an independent stream, attracting talent that understands business as well as social issues

RICHA BHATTACHARYYA & ANUMEHA CHATURVEDI
MUMBAI | NEW DELHI

Barely a couple of weeks after the new Companies Bill made it mandatory for firms to spend 2% of their net profit on social welfare, corporate social responsibility (CSR), which has mostly been just a splash in other functional management areas, looks set to emerge as an independent stream with measurable output.

Some companies are already reviewing existing programmes to have a more independent professional league of people in CSR, a move that could lead to competitive salaries, job creation and need for more heavyweights at the top. "The amendment will help the social responsibility sector in India get more corporate attention. That may trigger greater investment of financial and human capital," says Milind Sarwate, group CFO, Marico.

Even if the "initial ripple" is felt at the top, it will cascade to the creation of larger CSR teams in corporates, says Adil Malia, group president (HR), Essar Group. "Whilst strategic alignment of CSR with brand strategy will create jobs at the top of the pyramid, these programmes will have to finally be executed at the grassroots," he adds. Dabur is reviewing its existing CSR programmes in the wake of the latest developments. It will hire more professionals if it feels the need to extend and enhance existing programmes, says A Sudhakar, executive director, HR.

This month, the Companies Bill made it mandatory for firms to spend 2% of their average net profits on CSR. Companies that are not able to meet the norms will have to give explanations or face action, including penalty.

Currently, in most companies, CSR activities are a part of other management areas, mainly HR, marketing and corporate communication. Some companies undertake activities, including education, environment and housing, with the subtler objective of gaining business by establishing a relationship with communities. Others interpret CSR as simply abiding by the law of the land, like paying taxes on time. While for some more, CSR is deeply integrated with their businesses and helps social causes.

However, companies that already have a significant contribution to social development say the Bill per se will not affect their strategies too much. Several large conglomerates like Tata Group, Aditya Birla Group, Essar Group, Marico, among others, are involved in a wide range of such activities in a systematic manner.

"For those who are already doing a lot of work in the area, it might just increase some paperwork. Companies who are relatively new in the journey will have to decide how to work on it,"

says Sanjiv Misra, carbon black business CEO and group HR director, Aditya Birla Group. The Bill could also give a structure to what many companies, particularly those in the infrastructure sector, have been doing. "It will raise the bar for companies that have been spending less than 2%, but will have no bearing on those traditionally spending much more through structured CSR activities," says Malia.

"People were not taking CSR too seriously, but with this development, I see companies moving from a responsive to strategic CSR," adds Prakash Tewari, VP, CSR and education, Jindal Steel and Power. However, the government needs to have a control mechanism to check if there is a return on spends, suggests Gourab Barik, assistant general manager—corporate HR at Emami.

According to placement firm Executive Access, the development could lead to about 30% increase in CSR-linked jobs. While search firm Randstad has a more modest estimate of 10% to 15% increase in CSR jobs. "The Bill will add not only numbers, but greater capability and depth to CSR roles. It will increase financial payout and positioning of the role in organisations," says Rakesh Puri, managing director, Executive Access.

Currently, average compensation for most CSR roles at various levels is low compared with similar levels in other functions. The new Bill could make the gap narrower. The average salary of an entry-level field officer from a top social work school is about Rs3 lakh to Rs5 lakh per annum, while at the GM or VP level, it could go up to Rs60 lakh to Rs80 lakh per annum for large conglomerates with significant presence in CSR (see graphic).

The Bill could also enhance partnerships between companies and voluntary bodies engaged in social work as well as between public bodies, governments and private enterprises. "Earlier, companies were primarily focusing on local areas and the disadvantaged population in surrounding areas; now they will devise newer ways of contributing to society," says P Thiruvengadam, senior director, Deloitte Touche Tohmatsu.

Professional institutes of social work like TISS see CSR emerging as one of the major sources of employment in the days to come. "In the ongoing recruitment process in our graduate school of social work, CSR is emerging as one of the prominent sources of employment," says Bino Paul, professor of labour economics and chairperson of the Centre for HRM and Labour Relations, TISS. He says a more objective, target-based CSR may be embedded with corporate policy. Indian Centre for CSR (ICCSR) plans

to start a 13-month residential course in CSR from September 2013 at Lavassa near Pune. "In most companies, CSR initiatives are led by HR or communications personnel. Companies in India now need to see CSR as a specialised, management function, apart of their strategy-building, rather than an additional responsibility," says Rajesh Tiwari, founder chairman, ICCSR.

Companies are also seen attracting talent that can understand business and social issues. There could also be an exodus of professionals from government agencies and state departments of social work to the corporate sector. "For socially responsible individuals, roles in CSR offer great personal joy... and provide a tremendously valuable pay-out and growth. I see more people targeting such levels of personal growth," says Sarwate.

However, more than corporates, people like Misra feel the Bill will create more jobs in the voluntary or social sectors from where corporates can draw professional help.

rica.bhattacharyya@timesgroup.com

Firms that already make a significant contribution to social development say the Bill will not affect strategies too much

The Economic Times, Delhi dated December 28, 2012

The Times of India, Delhi dated December 28, 2012

For a Greener Tomorrow

Law Street

LUBNA KABLY

Zenobia Aunty is an intelligent and curious old lady, but she doesn't understand much about the functioning of stock markets and stays well away. Yet, when the Bombay Stock Exchange (BSE) recently launched India's first carbon-based thematic index — 'CARBONEX', her interest was piqued.

On calling up her various knowledgeable friends she learnt this index will promote disclosure of carbon footprint by the BSE 100 basket of companies. In turn, it is hoped market forces will help ensure that companies with a low carbon footprint will be adequately rewarded — such as through ease of raising finance, especially from the international markets or even domestically by various stakeholders.

In simpler terms, one can say the method of earning carbon credits falls into two categories, one through utilisation of clean energy — wind, solar, hydro and certain bio-fuels and the other via carbon reduction mechanisms.

The framework for carbon trading is set under the clean development mechanism (CDM) established under the Kyoto protocol. This permits developed countries to offset some of their carbon emissions by investing in qualified projects in developing countries including India.

Eligible projects earn carbon credits that can be sold to

buyers in developed countries, and enable the latter to meet their carbon reduction targets. In this context India stands out, notwithstanding the fact that certain reports have pointed out that some projects in India were not really eligible for CDM certification as these did not meet additional criteria (such as the need for outside assistance). While different reports cite varying figures about the market size in India of carbon credits a fair and conservative estimate could be around \$2 billion.

Many projects in India have gained or could gain under the CDM, like the Delhi Metro Rail Corporation, the first railway project to earn carbon credits due to the use of regenerative braking systems which greatly reduce electricity consumption.

In the global context, one can say that the world is on the brink of a climate-change cliff. The Economic Times has reported extensively on the recent discussions at the Doha summit, where nearly 200 countries were trying to reach a consensus on climate issues. In addition to the low demand for carbon credits owing to

an economic slowdown, the EU has decided not to entertain CDM projects registered after January 1, 2013, by China and India (the world's largest sellers of carbon credits). Further as we have seen in the recent rounds of discussions, only Europe and Australia (accounting for 15% of the global emissions) agreed to sign on the dotted line for quantified emission reduction targets for the second and final phase. The going is likely to be tough.

Amidst all this uncertainty, back home at least on the tax front, a favourable ruling has cheered India Inc. The Hyderabad Income-tax Tribunal in the case of bio-mass power generating company has held that carbon credit was an entitlement received because of contribution to improve the world's environment, thus, sale of these credits would result in a non-taxable capital receipt.

The Hyderabad Income-tax Tribunal held that: Anyone having carbon credit benefits by selling the same to a person who needs carbon credits to offset excessive carbon footprint. Thus, the sale proceeds received is not from sale of any product or

service relating to the business. Nor can such sale proceeds be subjected to tax in any manner under any other head of income.

It agreed with the contention of the bio-mass power generating company that the sale consideration arising from carbon credit sales was not linked to the process of production, sale of power or even sale of any by-product.

Interestingly, the Direct Tax Code, which perhaps continues to remain on the back-burner, had sought to treat carbon credit sales as taxable business income. In developed regimes, companies are typically buyers rather than sellers of carbon credits, however, in case of a sale of carbon credit, countries such as Germany and France treat it as taxable income.

Even as Zenobia Aunty was dictating this column to her favourite niece, Spot curled up and snoozed — after all it was a cold winter evening. However, one hopes that the powers that be who draft our tax laws, don't ignore the message sent by the Hyderabad Income-tax Tribunal.

Given the global scenario and the need to continue to encourage Indian companies to be climate friendly it would augur well for the government to follow the tenet set by this judgement and not subject to tax in India, sales proceeds on sale of carbon credits, arising in the hands of India Inc. Owing to lack of clarity many companies have offered such sale proceeds to tax, they should be eligible to claim a tax refund. We really need a greener India, if not a greener world.

Tax-free carbon credit sale proceeds will make for a greener India
The Hyderabad Income-tax Tribunal has rightly treated it as capital receipts
Tax laws must clarify that these proceeds are not taxable



Economic boom spells doom for China coral reefs

Survey Outlines Grim Degradation: 80% Shrinkage In 30 Years

Sydney: China's economic boom has seen its coral reefs shrink by at least 80% over the past 30 years, a joint Australian study found on Thursday, with researchers describing "grim" levels of damage and loss.

Scientists from the Australian Research Council Centre of Excellence for Coral Reef Studies and the South China Sea Institute of Oceanology said their survey of mainland China and South China Sea reefs showed alarming degradation.

"We found that coral abundance has declined by at least 80% over the past 30 years on coastal fringing reefs along the Chinese mainland and adjoining Hainan Island," said the study.



MARINE DISASTER

"On offshore atolls and archipelagos claimed by six countries in the South China Sea, coral cover has declined from an average of greater than 60% to around 20% within the past 10-15 years," he said.

Coastal development, pollution and overfishing linked to the Asian giant's aggressive economic expansion were the major drivers, the authors said.

Coral loss in the South China Sea — where reefs stretch across some 30,000 square kilometres — was compounded by poor governance stemming from competing territorial claims. Some marine parks aimed at conservation had been established but study author Terry Hughes said they were too small and too far apart to arrest the decline in coral cover. "The window of opportunity to recover the reefs is closing rapidly, given the state of degradation revealed in this study," he said.

Shellfish reef off UK may be world's biggest

London: The discovery of a large shellfish reef on the west coast of the UK could be the biggest find of its kind in the world, experts say.

More than 100 million highly coloured and rare shellfish have been found in Loch Aish, a sea inlet between Skye and the Scottish mainland. The reef of flame shells, or Limaria liana, was found to cover an area of 7.5 sq km during a survey commissioned by Marine Scotland, the independent regulator.

Flame shells have a shape

similar to seashells with many near orange tentacles that appear between the two shells. They group together on the seabed and their tentacles create a living carpet to support other species.

The survey was carried out by Heriot-Watt University on behalf of Marine Scotland.

"Too often, when we go out to check earlier records of a particular species or habitat, we find them damaged, struggling or even gone," Dan Hargies, from the university's School of Life Sciences, said.

The Economic Times, Delhi dated December 28, 2012

Startup Battles Climate Change

Mumbai-based carbon capture technology startup gets ₹33 crore grant from British government

Carbon Clean Solutions

First Step

Founded by two graduates from the Indian Institute of Technology-Kharagpur - Aniruddha Sharma and Prateek Bumb — as a classroom project

Reach

The firm is not only helping power plants and large scale emitters to combat climate change, but it is also enabling them to sell captured carbon as a raw material

Capital

Raised funding of ₹5 crore from global angel investors

Next Step

In discussions with major corporations, targeting eight global deals in 2013

We found many companies capture carbon dioxide, but it is highly energy intensive and that's the real gap

ANIRUDDHA SHARMA
Co-founder



Hot Startup

PEERZADA ABRAR

A combination of innovative technology, efficient pricing and patented solutions has helped catapult a classroom project on clean technology into a startup venture that is garnering global attention.

Carbon Clean Solutions (CCS), founded by two graduates from the Indian Institute of Technology-Kharagpur, has built technology that has the potential to cut the cost of capturing carbon dioxide by more than half, an application that can be widely used by coal-fired power plants.

Aniruddha Sharma, 26, and Prateek Bumb, 27, who first worked on this as a college project, have now been awarded a grant of ₹33 crore by the United Kingdom's Department of Energy and Climate Change.

The Mumbai-based firm, which was chosen as a winner in a global carbon capture and storage innovation competition, will use the grant for larger-scale demonstration of the technology at power plants.

"This technology will be a step-change in the way emissions are managed and mitigated globally," says Dr Martin Haemmig, a Stanford University researcher and lecturer and a mentor to CCS.

The firm is not only helping power plants and large scale emitters to combat climate change, but it is also enabling them to sell captured carbon as a raw material for making marketable chemicals, fire extinguishers, dry ice and fizzy drinks. The biggest market for captured carbon dioxide is by injecting it into oil wells and natural gas fields to enhance recovery.

Lot of attention is moving towards innovative startups like CCS, as energy companies are abandoning expensive projects to remove carbon dioxide from coal-fired power plants. "It costs less than \$30 to capture each ton of carbon dioxide using our innovation, compared with about \$80 for traditional solvents," says Aniruddha Sharma, chief executive of CCS.

CCS is betting big to tap the global carbon capture and storage market worth \$27 billion and expected to grow to \$229 billion in two decades, according to the International Energy Agency. In India it is a \$2-billion opportunity and expected to grow to \$30 billion in the same time period.

Carbon capture was a classroom project for Aniruddha Sharma and Prateek Bumb, when they were studying at IIT-Kharagpur in 2008. Initially they presented the idea at various business plan competitions organised by IITs across India and won many of them.

The two friends were invited to a clean technology forum in San Francisco in US where they met Dr Martin Haemmig from Stanford University who was impressed by their idea and became their mentor and investor.

Haemmig who was also a senior advisor on venture capital to Stanford University, connected Sharma and Bumb to executives from various industries like power, oil and gas to identify the gaps in the carbon capture and storage market.

"We found many companies capture carbon dioxide, but it is highly energy intensive and that's the real gap," says Sharma.

Sharma and Bumb also utilised the two weeks spent in US to scout for funding to build a prototype. They even met top investors like Vinod Khosla and venture capital firms like Sequoia and Kleiner

Perkins Cuffield & Myers. The duo was advised to first build a prototype and come up with proof-of-concept.

The entrepreneurs returned to India and came up with the first design in eight months. They raised a seed capital of ₹25 lakh and registered the company in October 2009. When one year later, CCS demonstrated the technology at various research institutes like IITs and Institute of Chemical Technology it was able to raise funding of ₹5 crore from global angel investors.

"My investment thesis is to invest and partner with expert technical founders with strong domain expertise who are engaged in disruptive innovations and technologies at the seed stage," says Palaniswamy Rajan, managing partner at US-based CTW Venture Partners.

CCS, which has set up offices in US and UK, bagged its first customer few months back. The customer is impressed with the innovation. "The main advantage is 30% lower energy consumption as compared to conventional technology," says Tirthankar Mitra, managing director, Solvay Vishnu Barium, an Indian subsidiary of Belgium-based chemical major Solvay.

"We are now in discussion with many big firms and are expecting to clinch deals with at least eight global clients within a year," says Sharma.

abrar.shz@timesgroup.com

Every fortnight, Hot Startups will profile an innovative venture that captures the spirit of early-stage entrepreneurship across India. If you know of a compelling startup, please write to us at indiaemerging@timesgroup.com

The Times of India, Delhi dated December 29, 2012

Plastic ban: Setback for govt

Hearing Plea, HC Tells Govt To Put Ban On Hold For A While

Neha Lalchandani / TNN

New Delhi: The Delhi government has suffered a major setback in its drive against the use of plastic bags in the capital.

On December 22, its lawyer had communicated in a letter that the Delhi high court has said there should be no prosecution in furtherance of this notification (on ban on use, sale, distribution and manufacturing of plastic bags issued on October 23 this year and effective a month later) till January 11, next year—the next date of hearing.

The court's verbal observation came during a hearing of plastic manufacturers' plea against the ban. "The new notification, issued in October this year, included not just a ban on the use, sale and distribution of plastic bags (which was already a banned activity in Delhi) but also on the manufacturing of plastic bags. The manufacturers went to court on the matter. In the



Though the court has not issued a written order, govt's lawyer advised that the observations should be taken seriously

last hearing, it appears that that court made a general observation on the entire notification and since then, we have had to suspend all work," said a source in the environment department.

The environment department, said a source, has already written to the LG, asking for a senior lawyer who is working on the plastic issue in the Supreme

Court to be brought in to argue on its behalf in this case. "The present lawyer was unable to argue out the case effectively. The high court saw the one that had initially advised the government to ban plastic bags and has already dismissed one petition challenging the earlier ban on use of plastic bags. The court should have been reminded of this when

it made this new observation last week," said sources.

Since the ban came into effect on November 23, the environment department has carried out two raids and warned offenders. It said that prosecutions would commence only after offenders had been given at least one warning. The first raid was carried out on December 1 when teams from Delhi Pollution Control Committee visited 41 malls and 15 five star hotels. The second raid took place on December 9. A total of 168 violations were recorded over these two days.

Though the court has not issued a written order, lawyers said the observation should be taken seriously by the government. "The court seemed forerunning and will re-open in January. This matter is up for hearing January 11. The issue will also be discussed with the chief secretary and a future course of action will be decided," said a source.

The Times of India, Delhi dated December 30, 2012

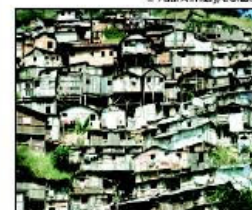
Don't blame it on Rio

© Paul Alamy/CORBIS

Through the eyes of Marcos Rodrigo Neves, an artist who lives and works in Rocinha, one of Rio de Janeiro's most notorious favelas or slums, the Smithsonian magazine uncovers the story of the cleanup of this dangerous refuge of drugs and violence.

The story of Brazil's growth is well-documented; however, like in India, it has pockets of deep lawlessness and a huge rich-poor divide. The favelas have, over time, become centres of dangerous drug-running gangs that deal in cocaine and death.

The crackdown on the gangs operating out of the favelas started in 2008, when military police units conducted assaults on the drug traffickers' territory. The Cidade de Deus (City of God), made famous by the 2002 film, was one of the first favelas to be invaded by security forces. In November 2011, Brazilian police and military carried out a massive security operation in Rocinha – perhaps the most impressive one in Rio de Janeiro's history. Nearly 3,000 soldiers and police invaded the favela, disarmed the drug gangs, arrested



ROCHINA: In better shape

traffickers and set up watchposts and patrolling. Efforts are on to decriminalize the favelas ahead of two important world events Rio is hosting in a few short years: the 2014 football World Cup and the 2016 Summer Olympics.

Rodrigo, initially sceptical of the invasion of Rocinha by uniformed men and women who have time and again proved to be corruptible, is seeing the benefits of the opening up of the favela. His work is more accessible, and he runs a gallery and workshop in the heart of the slum.

For more: smithsonianmag.com

The Economic Times, Delhi dated December 31, 2012

The Times of India, Delhi dated December 31, 2012

Plastic ban comes, but city still chokes



The year brought some crucial changes to Delhi's environment map. The most important decision the government implemented was the ban on plastic bags. Being more inclusive as it included all kinds of bags and even prohibited manufacturing, it is hoped that the ban will finally bring an end to the use of plastic even as an earlier ban implemented in 2009 proved ineffective.

The ban was implemented in the city from November 23. "Our aim is not to punish but to discourage use of plastic bags," said a senior government official. The ban says that no person shall manufacture, import, store, sell or transport any kind of plastic bag inside the National Capital Territory. It stipulates that no person, including a shopkeeper, vendor, wholesaler, retailer, trader and hawkler, shall sell or store or use any kind of plastic carry bag for storing or dispensing eatables or non-eatables goods or materials.

However, in the absence of viable alternatives, the government has started off only with plastic carry bags. Officials say

that they will expand the list of banned items gradually.

Manufacturing of plastic was also to come to an end but manufacturers filed a case in the high court and the court has asked the government to respond to their charges. This is the second effort by the Delhi government to ban the plastic bag. In its first attempt in 2009 it had failed to have an effect as Delhi Pollution Control Committee had been the sole agency to conduct monitoring.

The year also saw Delhi government being pulled up by the Supreme Court for the degraded condition of the Yamuna even after several thousand crores were spent trying to clean it. The Central Pollution Control Board submitted a scathing report on the failure of the state government bearing it for poor management of its sewage treatment plants and failure to provide a sewerage system for the entire city.

The year will also be remembered for one of its worst smogs. Massive pollution, combined with poor weather conditions and burning of agricultural fires in neighboring states of Punjab and Haryana saw visibility plummet. Based on levels of particulate matters and oxides of nitrogen, experts say pollution levels have gone back to pre-CNG days. This is being attributed to the city's ever increasing fleet of private vehicles.



ENVIRONMENT

Cleantech Ventures Find a Warm Reception in China

REUTERS

BEIJING

For American cleantech companies, there's just one country that matters most: China. After years of massive growth that took a heavy toll on the environment and natural resources, China now has an ambitious plan to tackle its energy needs by developing clean energy alternatives. Still, for so-called "cleantech" companies, accessing the market and setting up shop there is no easy task.

That's where Fred Chang comes in. A senior China advisor to Cleantech Group, a San Francisco-based consulting group, as well as a long-time investor in Asia's cleantech industry, Chang compares himself to the Sherpa, a Tibetan tribe that helps foreign mountaineers conquer Everest. With the right partners, Chang said, there are rewards for foreign cleantech companies in China's future.

According to a report by Bloomberg New Energy Finance, new clean energy investment in China has surged in the second and third quarter this year, surpassing the U.S. by \$7.9 and \$7.5 billion respectively. "The Chinese public is not criticizing the government for supporting cleantech companies; they're encouraging it to do more," Chang said. The Obama administration has been under fire for some high-profile failures of federally supported cleantech ventures, such as solar company Solyndra and car battery maker A123.

In its recent five-year plan, China aims to cut its carbon dioxide emission per unit of GDP by 17% by 2015. The plan also has a focus on the development of what some observers call the "new magic seven," namely seven "emerging strategic industries," including nanotechnology, high-end manufacturing and new energy, which are deemed to be the driver of China's future growth.

"The government knows it's (environmental) problems, and the policies are clear and consistent," Chang said.

The Times of India, Delhi dated January 2, 2013

Forest department serves notices to Noida builders

Purusharth Aradhak | INN

Noida: The Gautam Budh Nagar district forest department has issued notices to many developers for undertaking construction work within a 10km radius of the Okhla Bird Sanctuary without obtaining necessary clearances from the National Board for Wildlife. The forest department has also appealed to buyers not to invest in such projects that are runnantly violating norms as in the long run these projects are likely to face the heat of the Union ministry of environment and forest.

Divisional forest officer B Prabhakar said that 53 prominent developers are constructing projects within a 10km radius of the Okhla sanctuary. "We have sent notices and sought a reply from the developers. Earlier, we had issued notices to some of them, but none of the developers filed a reply with the department," Prabhakar said, adding that such projects will soon lead in legal trouble.

Even after 20 months of the MoEF directing states to stop such construction, not tangible action has been taken in Noida region till date. "The buyers



GREEN FIGHT: No developer has sought eco & wildlife clearances

will face trouble in future, so we have advised them not to invest in projects violating wildlife norms and guidelines," Prabhakar added.

Sources said that Uttar Pradesh wildlife officers have not been able to take action against the builders in the eco-sensitive zone under pressure from the strong builders lobby.

"No developer has sought environment and wildlife clearances for their projects. This is illegal because this is a mandatory provision according to a Supreme Court order. If the state government or wildlife officials do not declare it an eco-sensitive zone, ecology will be badly affected. The in-

action would not only harm wildlife but also humans," said a local environmentalist, who has written to the environment minister on the gross violation of norms.

The UP wildlife department has formed a nine-member team headed by Gautam Budh Nagar district magistrate and includes members from pollution control board, public works department, Noida Authority Greater Noida Authority and other departments who are supposed to work towards declaring the area eco-sensitive. But environmentalists say nothing has happened till date in this regard.

The Economic Times, Delhi dated January 3, 2013

Few Takers for Green Energy Certificates

Out of 8.5 Lakh certificates offered for sale in Dec, 1.73 L find takers

DEBJOY SENGUPTA
KOLKATA

Renewable energy certificates (REC) for power generated from wind, bio-mass, bio-fuel and small hydro plants are stacking up in the absence of takers, eroding a key incentive for renewable electricity.

Out of 8.5 lakh such certificates offered for sale in December, barely 1.73 lakh found buyers — at a price of ₹1,500 each, which is about 45% lower than a year ago.

According to data provided by the Indian Energy Exchange, the number of certificates being offered for sale is steadily increasing since April, when it was about 1 lakh. However, buy bids have been hovering at 2 lakh and below every month, except for June when it touched 3.3 lakh. During November as

many as 9.2 lakh RECs were offered for sale — the highest so far. Only about 55,000 were sold during the same month.

An energy certificate is a tradable certificate that represents 1,000 units of power generated from renewable sources and sold to the grid. State utilities are to buy these certificates from a power exchange like the Indian Energy Exchange (IEX) or the Power Exchange India, to meet their obligation of sourcing 5% of power from renewable sources in a year.

These certificates have a life of one year and if they are not sold at the power exchanges during a year they lapse — meaning the non-renewable power generators' income from sale of power turns out to be marginal.

Energy certificate prices were ruling at ₹2,700 during October 2011. This dipped to ₹1,500 per certificate during October 2012 — a 45% fall.

"Prices of certificates are falling due to lack of demand although supplies are on the higher side pushing prices downwards," Rajesh K Mediratta, Sr VP Business Development at IEX told ET.

Deccan Chronicle, Hyderabad dated January 4, 2013

Pollution: 55 units around city lakes to be closed

JATINDER KAUR TUR | DC
HYDERABAD, JAN. 3

AP Pollution Control Board is all set to close down 55 polluting industries operating within a 10-km radius of Osmansagar (Gandipet) and Himayat-sagar, both source of drinking water to Hyderabad, following a meeting with their operators on Friday. The apex court in December 2000 had directed that no polluting industries should be located within the 10-km radius of both the water bodies and the existing ones had to be shifted.

The then AP High Court

Chief Justice G.S. Singhvi, had pulled up the industries and commerce departments and the state government for its inaction on apex court orders and not shifting polluting industrial units.

However, it is the recent rebuke by Lokayukta justice B. Subhashan Reddy, who sought a report from the AP Industrial Infrastructure Corporation Limited by Jan. 29 on the case and status of shifting of the units, that both APIIC and APPCB woke up from their slumber.

After the apex court order, 152 polluting industries in 84 villages, located

upstream of the lakes and industries were identified for shifting.

Of these, 55 industries are operating illegally, violating norms, despite repeated notices and orders from the concerned departments. The reason allegedly was the political patronage to these units.

APIIC sought a report from APPCB on the status of these units and action taken. Following this, these 55 units have been summoned on Friday by APPCB and if they fail to comply, APPCB is all set to close these units with just a short notice, sources said.

The Times of India, Delhi dated January 4, 2013

Forget warming, Alaska facing ice age

Scientists Report Steady Fall In Temp In US State Since Beginning Of 21st Century

London: Bucking the overall global warming trend, Alaska may actually be heading for an ice age with scientists reporting a steady temperature decline in the snow covered US state.

A new study by Alaska Climate Research Center shows that temperatures in Alaska are actually getting colder since the beginning of the 21st century — contrary to global warming concerns. In the Last Frontier, where temperatures can get as cold as 50 degrees below zero, residents of the state have experienced the increasing chill and



CHILLING FUTURE

scientists now confirm that the Northwest state is indeed seeing a temperature drop.

A study by the University of Alaska Fairbanks shows the state has cooled by 2.4 degrees Fahrenheit since 2000, the Daily Mail reported.

Scientists based their research on temperature readings from weather stations operated by the National Weather Service. Based on those, 19 of the 20 stations have measured a consistently cooler climate over time.

The region most impacted is Western Alaska, notably King

Salmon on the Alaska Peninsula, which saw temperatures drop by 4.5 degrees for the decade.

Researchers credit an ocean phenomenon, the Decadal Oscillation, with bringing colder surface water temperatures and thus beginning the overall cooling effect. This has brought a weakening of the Aleutian Low, the breeding ground for storms that end up regulating weather systems in the other 48 states. With a less active Aleutian Low, cold winter storms have been sticking around Alaska longer and keeping the temperatures chilly. *AFP*

Deccan Chronicle, Hyderabad dated January 6, 2013

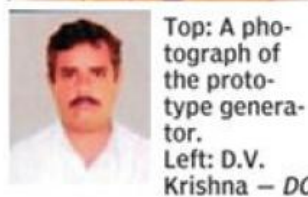
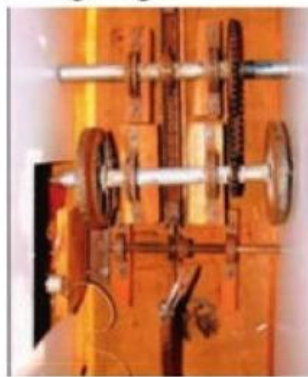
Electricity from traffic? Voila!

SYED AKBAR | DC
HYDERABAD, JAN. 5

An intermediate dropout from a remote village in Guntur district has developed a prototype of power generator that produces electricity utilising the vibrations caused by vehicles passing through busy road junctions. It converts the mechanical energy created by the vehicles into electrical energy, which can be added to the power grid or stored in a battery.

The prototype generator developed by Damalapati Venkata Krishna, of Ganapavaram village of Guntur district, will be displayed at the Renewable Energy World Asia (REWA) conference in Bangkok, Thailand, in October this year.

The 100th session of the Indian Science Congress, underway in Kolkata, had accepted Mr Krishna's



paper for a poster presentation. But when he went to Kolkata, he was denied permission on the grounds that he is not a graduate, he told this newspaper.

"Prof. A.K. Rao, sectional

president, physical sciences, Indian Science Congress Association, 2013, sent the acceptance letter. He also directed me to two of the organisers of the Science Congress for accommodation in Kolkata," Mr Krishna said. "But to my surprise they told me that since I am not a graduate, I am not eligible for the presentation."

Dr Gollapalli Nageswara Rao of Andhra University said generation of electricity from traffic movement is feasible. "Many scientists the world over are involved in research on similar projects. We have to see if the prototype is feasible for mass production," Dr Rao said.

Mr Krishna's prototype generator has two components: a pressure plate and a power-producing device. The pressure plate is placed underneath the

road and is connected to the power-producing device. When a vehicle passes over the plate, the pressure generated from vibrations and the weight is passed on to the device, which converts this mechanical energy into electrical energy.

"It will be useful in heavy traffic roads in cities and national highways. Power generated can be supplied to traffic signals or streetlights. It works better when traffic density is high," Mr Krishna said.

Since the power can be stored in a battery, it can supply continuous power to traffic signals even during non-peak hours," he added.

Earlier, Mr Krishna had developed a device called Kisan Rakshak, which automatically throws a covering shield over chilli crop kept for drying in the sun, whenever it rains.

Deccan Chronicle,
Hyderabad dated
January 7, 2013

Internet emits 830 mt of CO₂

Melbourne, Jan. 6: Internet and other components of information communication and technology (ICT) industry annually produces more than 830 million tonnes of carbon dioxide (CO₂), the main greenhouse gas, and is expected to double by 2020, a new study has found.

Researchers from the Centre for Energy-Efficient Telecommunications (CEET) and Bell Labs explain that the information communications and technology (ICT) industry, which delivers Internet, video, voice and other cloud services, produces about 2 per cent of global CO₂ emissions the same proportion as the aviation industry produces.

In the report published in journal *Environmental Science & Technology*, researchers said their projections suggest that ICT sector's share in greenhouse gas emission is expected to



double by 2020.

They have also found new models of emissions and energy consumption that could help reduce their carbon footprint.

The study said that controlling those emissions requires more accurate but still feasible models, which take into account the data traffic, energy use and CO₂ production in networks and other elements of the ICT industry.

Existing assessment models are inaccurate, so they set out to develop new approaches that better account for variations in

equipment and other factors in the ICT industry.

They describe development and testing of two new models that better estimate the energy consumption and CO₂ emissions of Internet and telecommunications serv-

ices. Researchers suggest, based on their models, that more efficient power usage of facilities, more efficient use of energy-efficient equipment and renewable energy sources are three keys to reducing ICT emissions of CO₂. — PTI

Deccan
Chronicle,
Hyderabad
dated
January 8,
2013

Windmills to power change in fortunes

DC CORRESPONDENT
ANANTAPUR, JAN. 7

The windy season, hitherto a bane for farmers in the drought-prone Anantapur district, is now seen as a lucrative business opportunity by the corporate sector. The winds, which blow at around 45 km per hour from April to September, has attracted the attention of the corporate sector, with many business houses coming forward to set up windmills in the hillock and government lands.

Five major companies, connected to wind energy production business, are investing nearly ₹700 crore to set up windmills that will produce 127 MW of power at Kogira, Kamhalapalli and

Boksampalli in Roddam mandal in the district. Urvakonda, CK Palil, Vajrakarur, Ramagiri and Roddam mandals are also witnessing a rise in the number of windmills.

With its hilly topography that sees high velocity winds, Anantapur has immense potential for wind power generation compared to other districts in the state.

"The companies have come forward to establish windmills for power generation mainly due to high velocity of wind in the district. The wind-speed of about 45 km per hour that is almost constant from April to September is very useful to generate power, the Non-Conventional Energy Devel-



opment Corporation of AP (Nedcap)" officials said.

Soon after the Nedcap confirmed feasibility of the wind power generation business, the corporate sector got allotments from the

state government and started investing.

A Nedcap official told this correspondent, "Presently, we don't have even a single acre of government land feasible for setting up of wind-

mills as the entire land, including hillock areas left, All has been leased out."

Another reason for flow of huge investments in this sector is the recent trouble-free atmosphere. For the last three years, there has been virtually no threat faced by the corporate houses after police stepped up efforts to ensure security for the entrepreneurs and companies. This is in marked contrast to the situation five years ago, when extortion by Naxalites, pseudo-Naxalites, factionists and other anti-social groups was prevalent.

New developers are evincing interest in setting up windmills on potential sites, an assistant manager of a private firm said.

The Economic Times, Delhi dated January 8, 2013

Biting Cold Brings Spectre of Global Warming Closer

Teeth-chattering cold winds from Siberia to intensify; farmers worried, but wheat crop safe

HITURAJ TIWARI & UMMA GOSWAMI
NEW DELHI

icy Siberian winds have chilled northern India and will intensify in the days ahead, making the winter even more severe, and highlighting the vacuum rise in extreme weather patterns such as droughts, hot spells and torrential downpours. The one that swamped Mumbai in 2005.

For companies selling beverages, winter-wear and heaters, business is booming with sales rising up to 40% in one of the coldest Indian winters in decades, but farmers are getting anxious about the impact on vegetables,

pulses and oilseeds although the wheat crops are secure. The weather office says there is no quick relief in the offing.

"There's no respite from the bone-chilling cold. A high-pressure system created over Siberia is pushing cold waves to India. The system doesn't phase out and persists at least for a couple of weeks once it is created," said Lakshmi Singh Rathore, director-general, India Meteorological Department.

The winter will, in fact, become even more biting as the weather office predicts colder nights with wind speed increasing from Tuesday. This should moderate the fog and bring sunshine during the day but piercing gusts

will make it more difficult for people.

"The higher wind speed will raise the intensity of cold. Despite sunny days, the chill will be felt more. Nights will be cooler even if the temperature doesn't dip much," Rathore said.

Experts say the freezing winter is part of a series of extreme weather phenomena such as erratic monsoon rains, floods in Rajasthan, low rainfall in the usually wet northeastern India, extreme heat waves and short but heavy bursts of snow or rain that have averaged difficult parts of the world although no single event can be seen as evidence for climate change.

Frequency of Extreme Weather Events to Rise ►► 14



NO GETTING AWAY: The chill will get worse

The Times of India, Delhi dated January 8, 2013

Rise in sea level due to melting ice sheets higher than estimated

London: Rise in sea levels in the future due to the melting of the Greenland and Antarctic ice sheets could be substantially larger than IPCC estimates, according to a new first-of-its-kind study. Researchers from the University of Bristol found that the future rise in sea levels predicted by the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) may be even greater.

The ice sheets covering Antarctica and Greenland contain about 99.5% of Earth's glacial ice which would raise global sea level by some 63m if they were to melt completely.

They present some unique



HEAT IS ON

challenges for predicting their future response using numerical modelling and, as a consequence, alternative approaches have been explored.

One such approach is via carefully soliciting and pooling the expert judgements borne out by

Using this method, researchers found that the median estimate for the sea level contribution from the ice sheets by 2100 was 29cm with a 5% probability that it could exceed 34cm.

When combined with other sources of sea level rise, this implies a risk of a rise of greater than 1m by 2100, which would have profound consequences, for

The Times of India, Delhi dated January 9, 2013

NHAI to move SC over green delays

20 Highway Contracts Stuck Due To Red Tape Over Environmental Norms

Dipak Kumar Dash | TNN

New Delhi: The National Highways Authority of India has decided to approach the Supreme Court against the environment ministry's norms as a series of projects are held up due to green clearances.

While infrastructure major GMR has already announced its exit from Rs 7,500 crore highway project, there are at least 20 highways contracts — each worth over Rs 1,000 crore — that have been awarded by NHAI but there fate remains unclear as the environment ministry is sitting over forest clearances. The projects have cleared one hurdle of getting environmental approvals but work cannot start until a green signal on the forest side is also received.

Before April 2011, envi-



RABUDOM WOES

ronment clearance was delinked from forest clearance and work on stretches falling outside forest area could start, while construction on the remaining length could only begin after NHAI received the forest clearance. Since then the rules have been changed, resulting in a major holdup.

"We will seek relief for delinking of forest and environment clearance. Since the

Highway authority files caveat in HC

Caught napping by GMR moving Delhi HC to stop NHAI from cashing the performance security of Rs 200 crore after it served termination notice on Kishangarh-Udaipur-Ahmedabad project, the highway authority has filed a caveat before the same court against GVK which has also served termination notice for Shivpuri Dewas stretch. NHAI is likely to "debar" GMR from future bidding. Meanwhile, another infrastructure major IVRCL Group which had bagged 6-laning of Gundugolanu-Rajahmundry section on NH-5 in Andhra, has also filed a caveat before Delhi HC fearing NHAI might cash its security amount after it sought some clarification on "contract condition". [www](#)

MoEF says the norms have been laid as per an SC order; we will now approach the court," said an NHAI official.

TOI on December 29 had reported that NHAI Board has approved the plan to approach SC since it doesn't agree with the MoEF's "interpretation" of the court judgment. NHAI would also seek relief from getting a no-objection certificate (NOC) under the Forest Rights Act

from gram panchayats, where it needs to cut trees on NHAI land in a majority of cases, the plantation activity had been undertaken by NHAI earlier. As a result, locals did not depend on forest produce for sustenance.

"All these issues have already been discussed at length in meetings headed by Cabinet secretary and law secretary. There is no option but to approach SC to get re-

lief," said a highway ministry official.

Now there are fears that many companies which bagged projects quoting high premium would use the "green clearance" excuse to exit from works and it will have severe impact on highway development.

Meanwhile, environment minister Jayanti Natrajan hit back at NHAI on GMR fiasco claiming that the authority forwarded incomplete information. She told a private TV channel that while Rajasthan government has sent all information on the stretch falling under its jurisdiction, "Gujarat government hasn't given all information on the GMR project" and "Application for environmental clearance is still incomplete and incomplete applications cannot be processed."

The Times of India, Delhi dated January 10, 2013

Green gold for lighting up homes, saving commons

Team TOI

Environment, in the Indian context, is closely linked to economic and sustainable development, a fact borne out by the winners in the environment category of the Times of India Social Impact Awards 2012.

A company that lights up poor homes with solar energy, an agricultural university that helps farmers improve yields with new technologies, and two non-governmental organizations working with people to revive shared resources were the jury's picks for the year.

In the corporate category, the smaller Selco Solar Light bested ITC Limited. Choosing the winner was quite a toss-up for the jury. On one hand, Selco stood as a shining example of how technology can be married with financial viability to provide solar electricity to the poor. On the other hand was ITC, a giant that runs a range of much-appreciated programmes, including animal husbandry and

ENVIRONMENT



BREAKING NEW GROUND: (Clockwise from top left) Dhan Foundation's Vellaiappan, head of the Mudukulathor tank farmers federation. With FES's help, villagers map their village's commons. A farmer who collaborates with Anand Agricultural University

farming to improve agriculture. Ultimately Selco, which has created a successful business model to provide solar-powered lamps to those who are not connected to the grid won the day for its pioneering efforts.

The decision was a straight-

forward one in the government sector. The jury chose Anand Agricultural University for its successful replacement of chemical fertilizers with ecologically and occupationally safe bio-fertilizer. They've reached the lives of more than

one lakh people.

The university has not only done research in agricultural sciences but also effectively reached out to farmers to spread alternative technology the jury said. Microbiology scientists at the university have developed

cheaper, eco-friendly liquid formulations of bio-fertilizers, which the university has been supplying to farmers in 18,000 villages for the last three years, besides licensing the technology to other companies. The farmers have saved on costs while increasing their yield.

The last category of NGOs put the jury in a dilemma again. They found it tough to pick between the Foundation for Ecological Security and Dhan Foundation, both of which work to protect, restore and rejuvenate commons resources for the poor.

Foundation for Ecological Security was in the running for its work to restore degraded commons and forests across seven states, with its work in Rajasthan getting a special mention. Dhan Foundation's work to revive village ponds and tanks in drought-prone areas of Tamil Nadu was lauded as exceptional. When the jury realized they just could not pick a clear winner, they decided to award the trophy to

The Economic Times, Delhi dated January 11, 2013

Cos Give Employees a Gentle Nudge on CSR

Dedicated programmes improve productivity & give employees a chance to be change agents

The Do-Good Brigade

CSR ACTIVITIES

Cognizant

20,000 employees

Work as volunteers in Outreach, an internal programme for promoting education for underprivileged children

Maruti: e-Parivartan Programme

2,200 employees

Have contributed more than 20,000 volunteering hours over 4 years towards initiatives like teaching children & tree plantation

Dell

More than 65% of Dell employees in India are engaged in activities like teaching differently-abled children and extending inclusive ICT-based education in rural areas

Airtel

Employees, their family members and friends work for improving the English-speaking skills of Satya Bharti school teachers under its mobile mentoring programme

Godrej

Employees run programmes for education & awareness in municipal schools, and interact and exchange ideas and information with NGOs during the company's volunteering week

Sobha Developers

Professionals at the level of managers and above travel to the company's CSR sites. In the coming financial year, engineers will also do this to understand the company's CSR model

Ingersoll Rand

Employees pledge between one day and three days' salary under their employees' giving campaign to a cause of their choice. The pledged amount is equally matched by Ingersoll Rand India and the global Ingersoll Rand Foundation, and the funds are donated to 15 pre-selected NGOs across India. The funds support causes in education, livelihoods and sustainability

ANUMEHA CHATURVEDI
NEW DELHI

Phebe Pericho (24), is more than a technical writer analyst with Dell in Bangalore. Passionate about social work, Pericho wished to go beyond volunteering, and Dell's corporate social responsibility (CSR) initiatives gave her the opportunity she was looking for. She now heads Dell's Make A Difference CSR initiative for their research and development division.

More than 65% of Dell's employees in India are engaged in volunteering activity. In 2011, they contributed more than 52,500 hours to volunteering, and the numbers doubled in 2012. "Engaging employees gives us the power to do more for the community," says Ranjita Menon, strategic giving manager, Asia Pacific and Japan at Dell.

Companies like Dell are moving beyond the bottom line to the 'triple bottomline': a focus on people, planet and profits. IBM pioneered the concept of employee engagement and CSR through the Corporate Service Corps programme by enabling employees to work on issues like education, environment and sustainability.

For these companies, involving employees in CSR and volunteering is a crucial way to engage them and improve productivity based on the premise that the younger generation has a far more evolved sense of social responsibility. "Grassroots volunteerism has acquired a new dimension. The younger generation actively seeks to support causes that have the potential to bring about a positive change in the communities they live in," says Archana Raghuram, director of Outreach, an employee-driven CSR programme at Cognizant.

Increased productivity is a natural by-product. At Maruti Suzuki, employees who volunteer have a sense of achievement and are more committed to the company, says Ranjit Singh, deputy general manager, CSR. "Many have also shared that due to regular volunteering, they have become more patient and sensitive to others, and understand others better," he adds.

A social audit carried out at Cognizant in 2011 showed 57% of Outreach volunteers reported improved work performance due to volunteering, while 82.4% spoke of greater awareness of social issues and the desire to help society.

With the new Companies Bill making it mandatory for organisations to spend 2% of their net profits on social welfare, more employees will be involved in CSR initiatives through tie-ups with voluntary organisations and other social service groups, says Aditya Narayan Mishra, president, staffing,

and director marketing at Randstad.

Companies like Maruti and Godrej have made volunteering an integral part of the new employees induction programme over the past two years. Maruti made it mandatory for new employees like graduate engineer trainees to undergo a full day of community service for 2012-2013.

The company also runs the e-Parivartan programme, launched about four years ago at the behest of a group of young employees. The initiative is run in partnership with several local voluntary organisations, with the company's CSR department facilitating employee community linkages. Starting with 40 employees, the programme has grown to 2,200 "change agents", who have contributed over 20,000 volunteering hours over the past four years.

Volunteering options include teaching and engaging in recreational activities for children, tree plantation, and spending time with the elderly at old age homes.

Godrej conducts an orientation programme for those who wish to teach students at municipal schools, and nearly 250 employees across functions volunteered last year.

On its part, Cognizant launched Outreach in 2007 to promote the cause of education for underprivileged children. Employees have taught and engaged in extracurricular activities at schools, helped start libraries and water purification systems at more than 150 rural schools, and conducted educational activities at study centres in 29 villages in Tamil Nadu over weekends.

With 20,000 volunteers, the programme has impacted the lives of 400,000 children, says Raghuram.

Companies also encourage senior-level professionals to contribute to volunteering activities. At Bharti Airtel, 98 young leaders mentored teachers and students for a fortnight in 49 schools in Punjab and Rajasthan last year. The company includes CSR and employee volunteering in its induction programme.

Sobha Developers expects all its managers to visit its CSR project sites in Kerala. "Many of them get inspired to make a difference to society. From the coming financial year, all engineer employees will be visiting Sobha's CSR sites," says P. Gopalakrishnan, executive director. "It has a soul-stirring impact on most of them," he says.

anumeha.chaturvedi@timesgroup.com

The Times of India, Delhi dated January 12, 2013

Climate chaos: Bizarre weather grips the world

Deadly Concoction Of Heat Wave, Deluge And Cold Spell Shows Extreme Is The New Commonplace

Sarah Lyall

Worcester: — Britons may remember 2012 as the year the weather spun off its rails in a chaotic concoction of drought, deluge and flooding, but the unpredictability of it all turns out to have been all too predictable: Around the world, extreme has become the new commonplace.

Especially lately, China is enduring its coldest winter in nearly 30 years. Brazil is in the grip of a dreadful heat spell. Eastern Russia is so freezing — minus 45.5 degrees Celsius, and counting — that the traffic lights recently stopped working in the city of Yakutsk.

Bush fires are raging across Australia, fuelled by a record-shattering heat wave. Pakistan was inundated by unexpected



TIMES THEY ARE A-CHANGIN': Snow-covered Jerusalem on Thursday, an example of extreme weather that's growing more frequent and intense

flooding in September. A vicious storm bringing rain, snow and floods just struck the Middle East. And in the United States, scientists confirmed this week what people could have figured out simply by going outside: last year was the hottest since records began.

"Each year we have extreme weather, but it's unusual to have so many extreme events around the world at once," said Omar Baddour, chief of the data management applications division at the World Meteorological Association, in Geneva. "The heat wave in Australia, the flooding in the UK, and most recently the flooding and extensive snowstorm in the Middle East — it's already a big year in terms of extreme weather calamity."

Such events are increasing in

intensity as well as frequency, Baddour said, a sign that climate change is not just about rising temperatures, but also about intense, unpleasant, anomalous weather of all kinds.

In Britain, people are used to thinking of rain as the wallpaper on life's computer screen — an omnipresent, almost comforting background presence. But even the hardiest citizen was rattled by the near-biblical fierceness of the rains that bucketed down, and the floods that followed, three different times in 2012.

The biggest change, said Charles Powell, a spokesman for the Met Office, is the frequency in Britain of "extreme weather events" — defined as rainfall reaching the top 1% of the average amount for that time of year. Fifty years ago, such episodes used to

happen every 100 days; now they happen every 70 days, he said.

The same thing is true in Australia, where bush fires are raging across Tasmania and the current heat wave has come after two of the country's wettest years ever. On Tuesday, Sydney experienced its fifth-hottest day since records began in 1910, with the mercury climbing to 42°C.

To the north, the extremes have swung the other way, with a band of cold settling across Russia and Northern Europe, bringing thick snow and howling winds to Stockholm, Helsinki and Moscow. (Incongruously, there were also severe snowstorms in Sicily and southern Italy for the first time since World War II; in December, tornadoes and waterspouts struck the Italian coast.) **NYT/NEWS SERVICE**

The Times of India, Delhi dated January 13, 2013

Draft water policy calls for recycling

Consumption Must Come Down, Losses Should Be Cut

Neha Lalchandani | TNN

New Delhi: Delhi's draft policy on water has a strong focus on demand management, suggesting that per capita consumption in the city should decrease from the present average of 172 litres per capital per day (lpcd) by a minimum of 10 litres each decade. With limited fresh water sources, the capital also needs to shift focus to recycling and reuse of waste water and curtailing distribution losses.

Delhi Jal Board's 12th Five Year Plan Approach Paper has projected a demand of 1,140 million gallons per day by 2017 for a projected population of 190 million.

The report prepared by Intach and still in the discussion stage says DJB is currently supplying 822 MGD of water which is an average of 220 lpcd. However, the supply is highly inequitable with Delhi Cantt getting 509 lpcd, NDMC areas being supplied 440 lpcd and outer Delhi areas getting as little as 40 lpcd.

Delhi also has an extremely high level of non-revenue water which includes that lost en route to distribution points and that which is either stolen or supplied to areas that are not metered. The

National Water Policy has directed that an acceptable figure of losses is 15%.

Shifting focus from supply to demand will entail reduction in present per capita consumption. The Intach report suggests that Delhi should reduce its per capita consumption of 172 lpcd by a

minimum of 10 litres every decade. The possible additions to Delhi's supply are Munak Canal which will supply 80 MGD and Renuka Dam which, if commissioned in part, will supply 150 MGD and, if fully, an additional 275 MGD. Two other dams that could increase Delhi's supply are Kishau and Lakhway Vyasi with 372 MGD and 185 MGD, respectively.

However, keeping in mind changing climatic conditions, increase in demand

and the fact that Delhi is a riparian state in water sharing agreements, it needs to increase its dependency on recycled water resources. The report suggests that recycled water should form 25% of supply by 2017, 50% by 2022 and a minimum of 80% by 2027.

DJB CEO Debashree Mukherjee said that one way of reducing demand is by in-

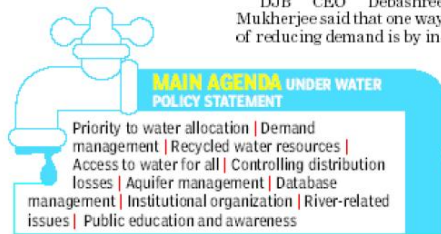
creasing tariff. "For that we are looking at volumetric tariff and full metering by 2020. People should know how much they consume and what they should pay for their consumption. Secondly, awareness building is also our prime focus," she said.

It is essential to increase availability of water by controlling distribution losses. A maximum permissible loss of only 10% should be permitted by 2025. Delhi's dependency on ground water also

needs to be reduced, especially since its level across the city has dropped to alarmingly low levels. The policy advocates passing of the ground water bill that will give the state more control on ground water resources. It says that aquifer exploitation should be neutralized by 2020 and attain full recovery to 1990 levels by 2030.

A Water Resources Commission will be set up. Its mandate will be to deal with the regulatory aspects of water and monitoring of policies. The commission would "coordinate the actions of all agencies involved with water services, resource management, river issues, foster technological and administrative and financial innovations, track developments in the northern river basins, track climate change impacts on resources, benchmark performance on policy parameters and act as a pricing regulator".

A strong focus of the policy is also on development and maintenance of water bodies and river Yamuna. Water quality of the river needs to be improved to bathing quality by 2020.



neha.lalchandani@timesgroup.com

The Times of India, Delhi dated January 14, 2013

Beijing air pollution soars to toxic levels

Yellow Alert Issued As Dense Smog Covers Large Parts Of China; Traffic Hit

Saibal Dasgupta | TNN

Beijing: Chinese meteorological authority has issued a yellow alert for fog indicating dangerous levels of smog in China's northern and western regions, including major cities like Beijing and Chengdu. It said parts of China were facing the worst recorded pollution.

A news agency quoted Beijing Municipal Environmental Monitoring Center website saying the density of PM2.5 particulates had surpassed 700 micrograms per cubic meter in many parts of the city. The World Health Organization considers a safe daily level to be 25 micrograms per cubic meter.

Earlier, the centre had reported that PM2.5, which indicates air quality, had touched the 500 point in some of the monitoring stations. PM2.5 indicates the extent of floating fine particles, and a

level of 350,500 is regarded as hazardous. The WHO had recommended a PM2.5 level at 29. The level was 19 in NY city at 6pm on Saturday. The US embassy in Beijing, which monitors pollution levels, said PM2.5 has exceeded its highest level of record set at 500.

The fog also resulted in the cancellation of 10 flights and delays in others. It reduced visibility to 100 meters at several airports in Beijing, Hebei, Hunan, Yunnan, Guizhou, Zhejiang, Jiangsu, Jilin, Heilongjiang and Sichuan.

It also disrupted road traffic on highways in Hebei, Sichuan, Hunan, Shandong and Liaoning provinces, according to the ministry of transport. The meteorological centre said that north China plains, middle and western regions along the Yellow and Huai rivers, the middle and lower reaches of the Yangtze River and south China will continue to see fog.



EXTRA COVER: People in Beijing wear masks as a dense haze of pollution envelopes the city

Self-immolation resumes in China after a 5-week lull

China saw the first case of self-immolation in 2013 when a Tibetan died after setting himself on fire, according to the London-based pressure group Free Tibet and US-based Radio Free Asia. The incident comes after nearly a 5-week lull in the spate of self-immolation incidents in 2012. A 20-year-old Tibetan identified as Tsebe set himself afire in Xiahe, a county in western China's Gansu province on Saturday. RFA said 96 ethnic Tibetans, many of them monks and nuns have set themselves on fire in China since February 2009 in protest against Beijing's rule in Tibet. There was a sudden spurt in self-immolation incidents in November immediately after the Chinese Communist Party congress, which saw Xi Jinping being named the party's new general secretary. TNN

The Times of India, Delhi dated January 14, 2013

Green tribunal cracks whip on noise pollution

TIMES NEWS NETWORK

New Delhi: Fond of making an impression with that extra loud horn in your car? The next time you go for 'pollution under check' (PUC) certification, it is likely you won't get it if your car is found to be too noisy.

Following a PIL, National Green Tribunal has passed an order to curb noise pollution in Delhi, outlining actions that include making noise pollution a compoundable offence.

Expert member G K Pandey and acting chairperson Justice A S Naidu have said "noise pollution not only causes annoyance but also leads to adverse health impacts like rise of blood pressure, hearing impairment, neurological disorders". It may slow down development of children's mental capacity, they added.

The bench has directed the member secretary of Delhi Pollution Control Committee

NOISY AFFAIR

Noise standards (in decibels)

	Day (6am-10pm)	Night (10pm-6am)
Industrial	75	70
Commercial	65	55
Residential	55	45
Silence	50	40

Action-taking agencies:

Delhi Pollution Control Committee, Transport department, Traffic police, Delhi Police, Education department, Deputy commissioner

(DPCC) to establish and run a 24x7 call centre for registering complaints.

DPCC will draw up an action plan, including a monitoring and surveillance system, to control noise pollution in industrial and institutional areas, and hospitals. Generator sets of 5 KVA and above will be banned in residential areas from 10 pm to 6 am.

The transport department has been directed to include the status of the pressure horn in a vehicle while issuing PUCs. Manufacturing, distribution and sale of pressure horns and modification of silencers in vehicles may also be banned and the fine for violation may be increased. Heavy vehicles with pressure horns should be prohibited from entering the city.

The tribunal has asked traffic cops to act against polluting vehicles. Delhi Police will have to confiscate polluting articles following complaints from the call centre and submit these items before the area sub-divisional magistrate (SDM) within 24 hours of the seizure. Action should also be taken against errant religious places. SDMs will visit these places and remove installations causing pollution.

The education department has been told to incorporate related materials in the curriculum.

The Times of India, Delhi dated January 14, 2013

UP asked why Hindon has shrunk

Green Tribunal Seeks Reply On Dumping Of Debris Near Pontoon Bridge

Ayaskant Das | TNN

Noida: The National Green Tribunal has directed the Uttar Pradesh government to clarify as to why the width of Hindon River has been reduced to just about 50 metres at the place where a pontoon bridge has been opened temporarily. The tribunal passed this direction while hearing a petition alleging the river has changed its course due to construction of a bridge over it near Raj Nagar in Ghaziabad.

Environmental activists in Ghaziabad had alleged that debris was unabatedly dumped into the Hindon for construction of approach roads for the bridge despite a stay imposed by the tribunal in April 2012. This had narrowed the river's course of flow. The tribunal has also issued showcause notices to the UP irrigation department secretary, the chief engineer of the Ganga Project and the managing director of the private firm constructing the bridge as to 'why they should not be punished' if the stay order has been actually contravened.

A bench of the tribunal, headed by chairperson Justice Swatanter Kumar, issued the notices on January 10 granting them two weeks to file their replies. Activists had

BLOCKING THE FLOW

Hindon Bridge planned jointly by GDA and UP irrigation department to connect NH-58 bypass in Raj Nagar with Loni Road



demand appropriate action against the erring parties for violating the stay order.

Apart from the UP government, the tribunal has directed the UP irrigation department and Ghaziabad Development Authority (GDA) to jointly submit a definite proposal as to why the

width of the river has been narrowed at the pontoon bridge. These three departments have also been asked to list out measures 'to restore the natural course of the river as far as possible'.

The petitioners had pointed out that construction of the bridge at a point where the riv-

er meandered and dumping of debris for the approach roads had also resulted in flooding of nearby areas.

The tribunal, observing "a substantial part of the bridge as well as approach road have already been constructed and no useful purpose would be served by their demolition at

December 2011 | NGO Jal Biradiri appeals to National Green Tribunal that debris dumped into Hindon changing course of river. GDA and irrigation department claim bridge is well-planned with IIT-Delhi's nod

April 18, 2012 | NGT imposes stay on dumping of debris into the river at the construction site

May 2012 | Pontoon bridge opened temporarily to allow vehicular movement till construction is completed

July 2012 | NGO activists file perjury application against GDA and irrigation department as IIT-Delhi refuses claims of approving plan

December 18, 2012 | Magsaysay awardee Rajendra Singh stages protest on the bridge after river water enters nearby houses

January 10, 2013 | NGT bench issues showcause notice to UP government for narrowing flow of river. Bench rules out possibility of demolishing any part of the bridge

this stage," has also directed the three authorities to explain how they would protect nearby villages and agricultural land from flooding. It added that it remains to be determined whether any dumping was done to reduce the width of the river for construction of the pontoon bridge.

The Times of India, Delhi dated January 15, 2013

China pollution anger spills into state media

Beijing: Public anger in China at dangerous levels of air pollution, which blanketed Beijing in acrid smog, spread on Monday as state media queried official transparency and the nation's break-neck development.

The media joined internet users in calling for a re-evaluation of China's modernization process, which has seen rapid urbanization and dramatic economic development at the expense of the environment.

Dense smog shrouded large swathes of northern China at the weekend, cutting visibility to 100 metres in some areas and forcing flight cancellations.

Reports said dozens of building sites and a car factory in the capital halted work as an anti-pollution measure. Doctors at two of the city's major hospitals said the number of patients with respiratory problems had increased sharply in the past few days, state media said.

"Now it has been dark with pollution for three days, at least people are starting to realize how important the environment is," said one posting on China's Twitter-like Sina Weibo. At the height of the smog Beijing authorities said readings for PM2.5 — particles small enough deeply to penetrate the lungs — hit 993 micrograms per cubic metre, almost 40 times the



DARK DAYS: A combination of photos shows (top) the Beijing skyline during severe pollution on Monday and an earlier view when the weather was clear.

WHO's safe limit.

Experts quoted by state media blamed low winds, saying fog had mixed with pollutants from vehicles and factories and had been trapped by mountains north and west of Beijing. Coal burning in winter was also a factor, they added. In an editorial on Monday the state-run Global Times called for more transparent figures on pollution and urged the government to change its "previous method of covering up the problems and instead publish the facts". *AFP*

Gas released from oceans behind ozone destruction

London: Scientists have found that a gas released from the oceans on Earth may play a significant role in the destruction of ozone layer.

Researchers at the Universities of York and Leeds found that the principal source of iodine oxide can be explained by emissions of hypiodous acid (HOI) — a gas not yet considered as being released from the ocean — along with a contribution from molecular iodine (I₂). Since the 1970s when methyl iodide (CH₃I) was discovered as ubiquitous in the ocean, the presence of iodine in the atmosphere has been understood to arise mainly from emissions of organic compounds from phytoplankton — microscopic marine plants.

The new research, published in *Nature Geoscience*, builds on an earlier study which showed that reactive iodine, along with bromine, in the atmosphere is responsible for the destruction of vast amounts of ozone — around 50% more than predicted — in the lower atmosphere over the tropical Atlantic Ocean.

The scientists quantified gaseous emissions of inorganic iodine following the reaction of iodide with ozone in a series of experiments.

They showed that the reaction of ozone with iodide on the sea surface could account for 75% of observed iodine oxide levels over the tropical Atlantic Ocean. *THE*

The Times of India, Delhi dated January 15, 2013

On Sankranti, city gives Yamuna a miss

Extremely Contaminated Water An Invitation To Infections And Allergies, Say Doctors

TIMES NEWS NETWORK

New Delhi: Time was when the Yamuna was a revered river and people from far and near gathered to take a dip in its waters, in Delhi, on every colonial event and festival. The French traveller, Francois Bernier, who witnessed a solar eclipse here in 1686, notes: "I took my station on the terrace of my house, situated on the banks of the Ganges, when I saw both shores of the river flanked by a league (5.6 km) in length, covered with gentiles or idlers, who stood in the water up to the waist".

Such scenes were witnessed on the banks of all major rivers across north India on Monday, barring the Yamuna in Delhi. The polluted river was bereft of devotees taking a holy dip to mark the beginning of the harvest season. Even the administration made no arrangements for devotees, not expecting any to turn up to bathe in the dirty waters.

The 22km stretch of the river through Delhi is practically a sewer. Excluding the monsoon months, the river is completely deprived of fresh water flow and creeps towards Uttar Pradesh carrying only Delhi's waste.

Doctors warn that the river's water has chemicals and microbes that can cause serious skin troubles. Dermatologist Dr Kabir Sardana says



A DIP IN YAMUNA IS DANGEROUS

Station	Year	BOD* (max 3)	DO** (min 4)
Palla	2001	1-3	5.9-9.8
	2011	1-4	5-10.3
	Mar-Aug 2012	2-5	6.2
Nizamuddin	2001	3-51	0-61
	2011	4-26	0-45
	Mar-Aug 2012	10-37	0-54
Agr. Canal	2001	4-21	0-33
	2011	3-26	0-35
	Mar-Aug 2012	7-40	0-07
Okhla Barrage	2001	-	-
	2011	12-59	0-24
	Mar-Aug 2012	6-99	0-51

* Bio-chemical oxygen demand ** Dissolved oxygen needed by aquatic life

HEALTH PROBLEMS	PRECAUTIONS
<ul style="list-style-type: none"> Exposure to pollutants can cause skin irritation, dryness, eczema and hair loss People with a weak immune system are at risk of having skin infections 	<ul style="list-style-type: none"> Avoid taking a dip in the river If you must, go to that part which is free flowing Take shower immediately after taking dip in the river Never drink river water

pollutants in the Yamuna pose a serious threat to immune-compromised patients. "They can get skin infections. Bathing in the river can also cause flaring of eczema, irritation, dryness and increased fragility of hair, among other issues. One should avoid bathing in the river water. Even if one does so for religious reasons, precautions like washing the body with normal water immediately thereafter and not drinking the water must be taken."

So far, Rs 4,439 crore has been spent on cleaning the river but other than its worsening water quality nothing has changed. The New Delhi Municipal Committee and the erstwhile Municipal Corporation of Delhi have spent an additional Rs 315 crore for river cleaning work that includes creation of toilets and cleaning of drains. UP and Delhi have also recently been pulled up by the Supreme Court on their ineffective work.

Central Pollution Control Board has been monitoring the water quality of the river, including the working of sewage treatment plants and effluent treatment plants in Delhi. In court, it revealed that the installed sewage treatment capacity in Delhi is 2,460 million litres per day against sewage generation of 3,800 mld. Only about 60% of the installed capacity is being used as several areas lack a sewer network, many drains are



People take a holy dip at Ram Ghat on Monday

blocked and some STPs do not function to capacity. With 1,900 mld of sewage flowing into the river untreated, the effort to treat the remaining sewage has come to naught.

So far, Rs 4,439 crore has been spent on cleaning the Yamuna but nothing has changed. NDMC and the erstwhile MCD have spent an additional Rs 315 crore for cleaning the river

Delhi Jal Board has launched an ambitious project to solve the problem. The interceptor sewerage system entails laying of parallel drains along Delhi's three main drains, Shahdara, Sigga, and Najafgarh.

The sediments will trap all sewage falling into the drains, take it to STPs and carry treated sewage back to the drain. Work on these will take another two to three years. However, even this will not be able to bring the pollution down to levels where the water can be categorized as 'bathing quality'.

CPCB officials say dissolved oxygen (DO), a measure of the "amount of oxygen available in dissolved form in water" is necessary to support aquatic life. If it drops below a certain level, life forms, specifically fish, are unable to continue living. Downstream of Idajocci Pollution, the point where the Najafgarh drain meets the river, DO is down to zero. Microbial levels are also very high by the time the water reaches Okhla Bridge.

The Economic Times, Delhi dated January 21, 2013

UN Gets 140 Nations to Sign Mercury Emissions Treaty

URMIA GOSWAMI
NEW DELHI

More than 140 countries have agreed at the end of a week-long meet to sign a new and legally-binding international treaty to reduce harmful mercury emissions.

The agreement, hammered out after four years of difficult negotiations, aims to cut mercury pollution from mining, utility plants and many products, by setting enforceable limits and encouraging the use of alternative methods that don't involve using, releasing or emitting mercury.

"We have closed a chapter on a journey that has taken four years of often intense but ultimately successful negotiations and opened a new chapter towards a sustainable future," said Uruguay's Fernando Lugris, who chaired the negotiations in Geneva. Some experts say that the agreement stops short of some of

the tougher measures that had been considered.

Mercury is a naturally-found poison that can't either be created or destroyed. The World Health Organisation has said there are no safe limits for consumption of mercury and its compounds, which can also cause brain and kidney damage, memory loss and language impairment.

The main contributors to mercury emissions in India are coal-fired thermal power plants, and cement and steel industries, with the country importing about 137 tonnes of mercury annually. The use of mercury in the chlor-alkali industry has gone down substantially over the years. Countries like India and China will now have to install filters and scrubbers on new coal-fired power plants. New Delhi will also have to reduce emission from the existing coal-fired plants.

Mercury is released in the air from gold mining, coal power plants, discarded electronic or

consumer products such as electrical switches, thermostats and dental amalgam fillings. It is also used in batteries, paints and skin lightening creams. Mercury emissions from artisanal and small-scale gold mines are now the leading sources — they have more than doubled to 727 tonnes in 2010 from 2005 levels — overtaking coal-fired power plants as the main contributors.

The deal includes measures to reduce the use of mercury in small-scale gold mining, although stopped short of an outright ban. The rising gold prices have resulted in an increase in the use of mercury as a catalyst to separate gold from its ore.

Switzerland, Norway and Japan contributed \$1 million each to get the treaty started. In keeping with the demand made by India, along with Bolivia, China, Cuba, Egypt, Jordan, Nigeria and Tanzania, the funds will be distributed through the Global Environment Facility.

The Times of India, Delhi dated January 21, 2013

Wind farm to replace Fukushima N-plant

London: In the wake of the 2011 Fukushima nuclear disaster, Japan has decided to build the world's largest off-shore wind farm to replace the crippled nuke plant.

The country plans to build a total of 143 wind turbines on platforms 16 kilometre off the coast of Fukushima by 2020, which is home to the stricken Daiichi nuclear reactor that hit the headlines in March 2011 when it was damaged by a severe earthquake and tsunami.

The wind farm will generate one gigawatt of power once completed, and is part of a national plan to increase re-

newable energy resources following the post-tsunami shutdown of the country's 54 nuclear reactors. Only two have since come back on line, the New Scientist reported.

The project is part of Fukushima's plan to become completely energy self-sufficient by 2040, using renewable sources alone. The prefecture is also set to build the country's biggest solar park.

The wind farm will surpass the 504 megawatts generated by the 140 turbines at the Greater Gabbard farm off the coast of Suffolk, United Kingdom — currently the world's largest farm. ■

The Times of India, Delhi dated
January 22, 2013

The Economic Times, Delhi dated January 23, 2013



GOVT **SILK ROUTE:** Sahdeo Hembrom, a commercial reeler in Dhibajore village in Bihar's Banka district

Tasar spins new work for tribals

Shilpa Phadnis | NRI

From soil to silk, tribals engaged in tasar sericulture now read the full spectrum towards building sustainable livelihoods in Bihar's Banka and Jannai districts, hotbeds of natat activity. The Central Silk Board (CSB) has been working with marginalized communities in these regions to draw women and young people into silk production, helping them make a better life for themselves.

Non-profit Pradhan was the agency that rolled out the programme, Swarnajayanti Gram Swarozgar Yojana (SGSY). CSB, set up in 1983, promotes tasar silk and works through micro-enterprise pre-neurial models. Tasar silk is produced in Bihar, Jharkhand, Chhattisgarh, Madhya Pradesh, Orissa, Andhra and Maharashtra, and supports 2.5 lakh families in rural and semi-urban areas.

CSB's idea was to increase tribals' income, improve their lives and thereby help check migration to urban areas. CSB mooted the use of private waste lands to raise the plants that host silkworms. The project covered all stages of making silk: pre-cocoon, seed and post-cocoon. Kisan nurseries were set up to raise the host plants. Then block plantations of host plants were raised on 987 ha of private wastelands.

Rearer groups within Tasar Vikas Samitis then formed district-level cooperatives. Women reeler-spinners were grouped into Masuti Producers Company, an all-women tasar yarn producers' collective.

In the process, 3,626 people formed 57 activity groups, 24 producer organizations, one cooperative with 2,000 stakeholders and a producer company. Today, CSB's project has supported 11,000 beneficiaries since it began in 2003-04.

CSB also pitched in with technology to boost production. Traditionally, women used earthen pots (*matka*) and wooden charkha to spin cocoons, a tedious process. Motored reeling-cum-twisting and spinning machines were distributed. But there was a problem. The CSB's machine ran on a 75-watt motor and most of the villages in Bihar's Banka district are power-starved. So, a 'modified' charkha was used to spin the tasar yarn and solar-powered reeling machines were developed.

Central Silk Board was set up in 1983 by an act of Parliament

Promotes tasar silk to improve rural livelihoods

Seeing the benefits of the CSB project, Bihar CM Nitish Kumar rolled out a state-level tasar initiative covering 17,500 beneficiaries

Diesel Price Hikes Make Solar Power Attractive

Many commercial establishments are now switching to solar solutions for their captive power needs

SHREYA JAI & MITUL THAKKAR
NEW DELHI

Rising petroleum prices are expected to benefit renewable energy solution providers as commercial establishments that use diesel generator sets for their captive requirements may find solar power attractive.

The city gas distribution (CGD) players too expect commercial establishments to switch from diesel to piped natural gas in the areas where power supply is unreliable.

Several commercial establishments are now switching to solar solutions for their captive power needs as cost of solar modules is falling and the installation cost can be recovered within five years, industry officials said.

According to Megawatt Solutions CEO Siddharth Malik, "Every square meter of concentrated solar thermal collector can replace up to 200 litres of diesel annually." Megawatt Solutions, in partnership with the renewable energy ministry, has a 0.5 mw project in Gurgaon, which provides a hybrid solution by integrating solar thermal with fossil fuel. "The discounted payback time of a hybrid system can be about 2-3 years and is getting shorter with further diesel price hike," said Malik.

"Rise in diesel price coupled with power shortage will result in financial burden for companies operating in competitive market. It makes sense for companies to switch to solar power that is the best alternative available today," said rooftop solutions provider Solid Solar's director Shubhra Mohanka.

Solar power solution providers are not only targeting the industries but also the agriculture sector. With decreasing cost of solar power installations coupled with expensive diesel, the former will make inroads into farms.

"Payback period for solar pump is anywhere between 3-7 years depending on the capacity and its usage. With diesel price expected to go up further, pay back period for investments in solar pump will also come down for farmers," said Karan Dangayach, business develop-



SUNNY DAYS AHEAD FOR SOLAR INDUSTRY

ment head of Ahmedabad-based Shashwat Green Fuels and Technologies.

He added that the company would launch aggressive campaign in rural India as diesel price goes up month on month. Solar power solution providers are also upbeat on account of 30% subsidy offered by the renewable energy ministry to the farmers opting for solar pumps.

Meanwhile, city gas players say they are compelled to revise their tariffs due to rising gas prices. They are waiting for further hike in diesel prices. "Diesel price hike will not have any material impact on CGD as they do not have access to cheaper natural gas. Natural gas price increases in spot market in tandem with the crude price," said an official with the government of Gujarat that controls India's largest liquefied natural gas importer from spot market, Gujarat State Petroleum Corporation (GSPC). A top official of Gujarat-based CGD player said, "Compressed natural gas won't have any advantage as it will also continue to rise. However, we are expecting commercial establishments to convert to natural gas from diesel generator sets gradually in urban areas."

"CGD largely depends on imported gas and this makes competition with diesel quite tight. CGD operators will try and make profit by focusing more on industrial and commercial consumers. CNG will be a viable option in next 2-3 years when it has a wide network," said Deepak Mahurkar, director, oil & gas industry, PwC. Sensing better prospects in commercial and industrial segments, Delhi-based Indraprastha Gas Limited is expanding in select pockets of Delhi-NCR that houses micro, small and medium enterprises.

The Times of India, Delhi dated January 23, 2013

Garbage separation plan decays

Households Not Sorting Waste Before Disposal, Contractors Doing A Poor Job

Maria Akram &
Neha Lalchandani | TNN

New Delhi: They were set up across several parts of the city with much fanfare in 2009 but the green and blue dustbins that were meant to facilitate waste segregation are being used like ordinary bins now. Even at the household level, waste segregation is a failed initiative. Of Delhi's three municipal zones, one has issued a tender for waste collection and segregation as recently as last week. The other two corporations blame the project's failure on lack of cooperation from residents and underperformance by private concessionaires.

Meanwhile, the city continues to generate over 7,000 metric tonnes of waste every day even as space in landfill sites is running out.

Landfill sites in the city can take 7,100 metric tonnes (MT) of waste every day but three landfills are almost completely exhausted and the fourth at Narela/Bawana with a capacity of 2,100 MT has limited use since it is 21km away from the Bhalswa landfill that it is replacing. Transporting waste over this distance is both difficult and impractical.

"Segregation has become even more important for Delhi because of shortage of space. If recyclable waste is separated and wet waste is composted, very little waste would have to be sent to landfills. Segregation is the only sustainable way of waste management," said an environment department official.

Officials in the north and south corporations say even the effort made to separate waste at the household level goes waste as, after collection, all waste is dumped together at landfill sites. Private concessionaires in the two zones have been penalized for their failure to segregate waste but their contracts are not being revoked.

"If residents are failing to segregate waste, it becomes the responsibility of the concessionaire to do so. But it has come to our knowledge that the work is not happening and we have imposed

GETTING RID OF GARBAGE

Daily solid waste generation in Delhi **7,000 MT**

Landfill sites and their daily capacity in metric tonnes (MT)	
Narela/Bawana	2,100 (1,700 MT utilization)
Bhalswa	2,000
Ghaziपुर	1,900
Okhla	1,100

Waste-to-energy plants

Okhla (Functioning)	1,300
Ghaziपुर (Yet to be commissioned)	1,300

How other cities do it

PATNA | In 2005, an NGO was awarded the contract for segregation of waste. It has been working with rag pickers and educating residents about separation of biodegradable and non-biodegradable waste

KANPUR | In June 2008, a private company was given the contract to process and dispose of solid waste. It was given free land on a 30-year lease, and has set up a waste processing plant of a 1,500 MT capacity

BENGALURU | The municipal corporation is hard pressed for landfill sites. It is planning to rope in NGOs to educate sweepers and rag pickers about segregating waste for efficient disposal

MUMBAI | After the Deonar dumping ground filled up, the municipal corporation set up a new landfill at Kanjurmarg. Plans to start a scientific landfill site and recycle waste dumped at Deonar remain on paper

Progress report

► **South corporation:** Officially, segregation is happening but results not visible

► **North:** Door-to-door collection delayed, corporation blames residents

► **East:** Commissioned an NGO two weeks ago for segregation



of rigid opposition from residents because it was also, lately necessary for handling Delhi's waste — is unable to function.

Apart from imposing penalties, the corporation also started an initiative to educate residents on segregation of waste. Officials say that zone-level officials regularly hold meetings with residents' welfare associations (RWAs), distribute pamphlets, display notices in their offices and have even organized street plays in some colonies. But the RWAs tell a completely different story. "No meetings have been held with RWAs and we have in fact been complaining about poor sanitation," said Keshav Aggarwal of the Chittaranjan Park RWA.

In east Delhi, no segregation has happened till now although the corporation has awarded a tender to the NGO Chintan for door-to-door collection of waste and its segregation. "We will be starting work around February and, for the time being, will collect waste from each house and segregate at a site that the corporation will give us. Initially, we will ask residents to take out glass, blades and similar articles that may injure the workers, and eventually move to full segregation. But this will take at least two years or so," said Bharati Chaturvedi, director Chintan.

heavy penalties on the concessionaires," said a senior North Corporation official.

Recently, in the Rohini and Civil Lines zones, penalties of Rs 51 lakh and Rs 1.25 crore respectively were imposed on the private concessionaire Ranky Group. In another case, a penalty of Rs 64 lakh was imposed on Delhi Waste Management (DWM) for poor sanitary conditions in Santa Vihar.

In the south, the 1,300 MT capacity Okhla-Timarapur waste-to-energy plant, which the government is promoting as the answer to Delhi's waste problems, has been functioning much below capacity for the past few months as it has not been receiving enough waste.

Sources said the corporation has been sending it massive amounts of construction waste which it cannot incinerate and the situation remains unchanged despite repeated complaints. Delhi Waste Management (DWM), which is responsible

for waste management in the area, has held the corporation responsible for the chaos. A senior DWM official said, "We are not supposed to segregate concrete waste from household waste. It is the corporation's responsibility

to segregate waste before it reaches the *dhalao* and our work is only to transport the waste from there to the plant." The corporation claims it is carrying out the work but can't explain why the plant — built in the face



WASTED INTEREST: The idea behind colour-coded bins has not caught on

The Times of India, Delhi dated January 23, 2013

Green buildings likely to get more FAR

Jayashree Nandi | TNN

New Delhi: Green buildings help you reduce the electricity bill, save water and make your living space comfortable but now there is another incentive. Following a recent announcement by the lieutenant governor, green structures in the capital may be allowed a larger floor area ratio (FAR) compared to conventional buildings. FAR is the ratio of a building's total floor area to the size of the land on which it is built. In Delhi, it varies according to the size of the plot.

"The LG has asked all agencies to convert maximum buildings into eco-friendly structures as green buildings are playing a significant role in minimizing the carbon foot-

AREA BENEFITS

- LG recommends hike in floor-area ratio for green buildings
- Says it will be an incentive for builders to invest in green architecture
- Proposal to be included in Master Plan Delhi 2020
- Delhi Urban Art Commission recommends to government that FAR for green buildings can be increased by 1%
- Also recommends use of 15% of roof area if builder uses rooftop photovoltaic solar panels

print of cities. They require less energy both for cooling and heating. Increasing the

FAR will be a good incentive for people to switch to eco-friendly buildings. This proposal will be added to Delhi Master Plan 2020," said Ranjan Mukherjee, the officer-on-special duty to lieutenant governor Tejendra Khanna.

Delhi Urban Art Commission has also recently recommended to the urban development ministry that the FAR for green buildings be increased by 1%. "Two important features of our recent recommendations are that FAR be increased and 15% roof area be allowed to use if builders use roof-top solar photo-voltaic panels. The green rating for integrated habitat assessment (GRIHA) has become almost obligatory now so it shouldn't be difficult to shift to green ar-

chitecture," said DUAC chairman Raj Rewal.

He has also suggested that three independent architects look into each project. While one of them will be the architect of the building, the others can check if all the building bylaws are being followed. If there is no slip-up, the project will be deemed approved, minimizing the time for clearance.

In the West, too, these incentives have been used to promote green buildings. For instance, US Green Building Council recommends reducing duration of the review and permitting process for verifiable green building projects. Many municipalities in the US allow percentage increases in FAR if a building meets green standards.

*Edited by: Prof. Sushil Kumar
Centre for Business Sustainability,
IIM Lucknow*