

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

Fukushima fish 'may be inedible for a decade'

Marine scientist finds levels of radioactivity in fish near stricken Fukushima nuclear plant are higher than expected

By **Fiona Harvey**, environment correspondent, The Guardian,



Photograph: Jeremy Sutton-Hibbert

Tests have found that radioactivity levels in fish near the Fukushima nuclear site have been slow to fall. Fish from the waters around the Fukushima nuclear plant in Japan could be too radioactive to eat for a decade to come, as samples show that radioactivity levels remain elevated and show little sign of coming down, a marine scientist has warned.

According to a paper published in the journal *Science* on Thursday, large and bottom-dwelling species carry most risk, which means cod, flounder, halibut, pollock, skate and sole from the waters in question could be off limits for years.

Sample fish caught in waters near the stricken reactors suggest there is still a source of *caesium* either on the seafloor or still being discharged into the sea, perhaps from what is left of the

cooling waters. As the levels of radioactive isotopes in the fish are not declining as fast as they should have, the outlook for fishing in the area is likely to be poor for the next 10 years, the paper's author told the Guardian.

"These fish could have to be banned for a long time. The most surprising thing for me was that the levels [of radioactivity] in the fish were not going down. There should have been much lower numbers," said Ken Buesseler, senior scientist at the Woods Hole Oceanographic Institution in the US, who wrote the paper titled *Fishing For Answers Off Fukushima*.

He said his findings – taken in part from Japanese research and sampling of fish in the area – showed how difficult it was to predict the outcome of a nuclear incident such as that at Fukushima. In 2011, after the earthquake and tsunami that struck Japan on 11 March and killed nearly 20,000 people, the nuclear reactors suffered a series of serious radiation leaks as their cooling systems failed, and workers fought frantically to try to shut them down. It was the world's worst nuclear accident since Chernobyl, in Ukraine in 1986.

In the wake of the incident, the Japanese government sought to calm public fears by lowering the levels of radioactivity that would mean a fish was deemed unsafe for human consumption. As of April 2012, fish can only be sold in Japan if it contains less than 100 becquerels of caesium 134 and 137 in seafood per kilogram of wet weight, down from a previous limit of 500 becquerels.

Buesseler said this was not because scientific advice had changed, but because the government wanted to reassure people. "This is not lethal – I'm not trying to be alarmist," he said. "But the levels [of radioactivity in the fish] are measurable and consistent. It's a small increase in risk."

However, eating large quantities of such fish over a long period could be harmful, he said. Fish is a more important part of the Japanese diet than in countries such as the US and the UK.

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Will algae become a growth business?

By Marc Gunther

Algae are fascinating little creatures. They're easy to grow (as anyone with an outdoor swimming pool knows), they grow fast, they consume a waste product (CO₂) and they make oil. It's no wonder that for nearly half a century, scientists have tried to unlock the energy potential in algae.

They're making progress. Sapphire Energy, a company backed by



Image of green algae pool provided by Andi Berger via Shutterstock.

venture capitalists and, among others, Bill Gates, is building the world's largest algae farm that is designed to make oil in the New Mexico desert. But commercialization of algal biofuels remains several years away, at the least, and perhaps much more.

In a story headlined *Green Crude: The Quest to Unlock Algae's Potential* published today at *YaleEnvironment360* (it's an excellent website, check it out!), I took a look at the US algae industry. Here's how the story begins:

Tiny Columbus, New Mexico (population, 1,678) is hot, flat and uncrowded -- an ideal place to launch a new green revolution in agriculture. That, in essence, is what a well-funded startup company called *Sapphire Energy* wants to do: It is turning a 300-acre expanse of desert scrub into the world's largest algae farm designed to produce crude oil. Sapphire began making oil there in May, and its goal is to produce about 100 barrels a day, or 1.5 million gallons a year, of oil, once construction of the "green crude farm" is completed next year.

"We take algae, CO₂, water and sunlight, and then we refine it," said Cynthia Warner, the chief executive of Sapphire, who joined the company after working for more than 20 years at oil company giants Amoco and BP. Algae, she says, has the potential to change the world, by reducing carbon dioxide emissions and enabling almost any country to make its own oil. "This technology is so compelling -- and it will make such a big difference -- that, once it gets out of the gate, it will ramp up very quickly," Warner says.

Sapphire is one of scores of companies worldwide that today are making biofuels from microalgae, albeit on a small scale, according to the Algae Biomass Organization, a trade group. *Solazyme*, which is arguably the industry leader, last year sold an algae-derived jet fuel to

United Airlines, which used it to fly a Boeing 737-800 from Houston to Chicago -- the first time a commercial jet flew using a biofuel made using algae. Synthetic Genomics, a company founded by geneticist J. Craig Venter and financed by ExxonMobil, is building an algae farm in the Imperial Valley of southern California. Other algae farms are under development in Hawaii, by Phycal, and in Karratha, Australia, by Aurora Algae, and in Florida, by Algenol. In Europe, the Swedish energy company Vattenfall and Italy's Enel Group have been using algae, which is then made into fuel or food, to absorb greenhouse gas emissions from power plants, and Algae-Tec, an Australia-based company, has agreed to operate an algae-based biofuel plant in Europe to supply *Lufthansa* with jet fuel.

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12 US Shopping Malls Get Solar

SustainableBusiness.com News

12 shopping malls in Arizona, California, New York and Connecticut are getting solar PV over the next year, as part of real estate owner Macerich's corporate sustainability efforts.

Panasonic is developing the 12 megawatt solar project, which is financed and owned by Panasonic's financial platform partner, Coronal Management.

This is the first phase of a national solar strategy for Macerich, which owns 62 regional shopping centers across the country. The company is also focused on energy and water efficiency, green building and renovation, and green operational practices and procurement for its malls.

"Our partnership with Panasonic allows us to deliver on our commitment to sustainability with a large-scale solar program that is environmentally responsible and delivers attractive financial returns: it's just good business," says Jeff Bedell, Vice President of Sustainability for Macerich.

Some of Macerich's shopping centers are:

- Queens Center in New York City
- Tysons Corner Center in Northern Virginia just outside Washington, D.C.
- Scottsdale Fashion Square in Arizona
- Broadway Plaza in Walnut Creek, California
- Washington Square near Portland, Oregon

Its open-air shopping destination in Santa Monica, California, Santa Monica Place, is LEED-Gold certified. They recycled the existing structure into an indoor mall and outdoor center, which minimizes energy use through energy management and submetering. The mall has water-efficient landscaping, a green roof, among its green features.

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Carbon Fibre Technology can Deliver more Fuel-Efficient Vehicles

Ford

Ford has developed carbon fibre technology that could deliver more fuel-efficient vehicles, which are also lighter in weight.

Dusseldorf, Germany - Ford Motor Company demonstrated on October 9 a prototype carbon fibre bonnet that could help lower fuel consumption for Ford customers.

The carbon fibre reinforced plastic Ford Focus bonnet displayed at the Composites Europe event in Dusseldorf, Germany, is constructed from the super-strong material usually associated with bespoke racing vehicles or high-performance sports cars.

The prototype bonnet weighs 50 percent less than a standard steel version. As a result of progress made during an on-going research project involving engineers from the Ford European Research Centre, production time for an individual carbon fibre bonnet is fast enough to be employed on a production line - a significant step towards increased usage of light-weight materials in Ford vehicles.

"It's no secret that reducing a vehicle's weight can deliver major benefits for fuel consumption, but a process for fast and affordable production of carbon fibre automotive parts in large numbers has never been available," said Inga Wehmeyer, Advanced Materials and Processes Research Engineer, Ford European Research Centre. "By partnering with materials experts through the Hightech.NRW Research Project, Ford is working to develop a solution that supports cost efficient manufacturing of carbon fibre components."

The involvement of Ford European Research Centre in the Hightech.NRW research project follows Ford's partnership with Dow Automotive Systems; a collaboration announced earlier this year that will investigate new materials, design processes and manufacturing techniques.

Dow Automotive Systems and Ford will focus on establishing an economical source of automotive-grade carbon fibre, as well as high-volume

Manufacturing methods: both critical to increasing the range of future Ford battery electric vehicles and plug-in hybrid electric vehicles.

Carbon fibre offers a very high strength-to-weight ratio. It is up to five times as strong as steel, twice as stiff, and one-third the weight. Advanced materials such as carbon fibre are key to Ford's plans to reduce the weight of its cars by upto 340 kg by the end of the decade.

"There are two ways to reduce energy use in vehicles: improving the conversion efficiency of fuels to motion and reducing the amount of work that powertrains need to do," said Paul Mascarenas, Ford Chief Technical Officer and Vice President, Research and Innovation. "Ford is tackling the conversion problem primarily through downsizing engines with EcoBoost and electrification while mass reduction and improved aerodynamics are keys to reducing the workload."

Ford has partnered with specialists from the Institute of Automotive Engineering at RWTH Aachen University, Henkel, Evonik, IKV (Institute of Plastics Processing), Composite Impulse and Toho Tenax for the course of the Hightech.NRW research project.



Ford Develops Carbon Fibre Technology

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Tips:

- Carry your own personal water bottle, and refill it rather than buying plastic or PET bottles of water. Instead buying drinking water in container/ jars install a water filter and use tap water.
- Keep reusable coffee mugs at office so that use of disposable mugs can be avoided.
- Transport groceries, vegetables etc in your own refillable/ reusable canvas bags instead of using either paper or polythene/ plastic bags.
- Re-use the plastic grocery bags you have. There are a million uses for them, from picking up pet droppings to re-using as trash bags in the car or home.
- Make smarter choices and get involved in the fight against pollution and global warming. Be an ambassador.
- Dry your clothes using a clothesline/ rope in atmosphere instead of running your dryer.
- Unless it is very much required use cold water in your washing machine.
- Air-dry dishes instead of using your dishwasher's heat cycle.
- Wash only full loads in your washing machine and dishwasher.
- Plant trees or shrubs to shade air conditioning units but not to block airflow. Place your room air conditioner on the side of the house where sun shine remains for comparatively shorter period. A unit operating in the shade uses as much as 10 percent less electricity than the same one operating in the sun.
- If you are able to, avoid the need for paint whenever you can. Use other materials, such as natural brick or wood paneling. If you must paint, shop around for zero VOC paints, study material safety data sheets, and investigate the ingredients.
- Use recycled and handmade paper files, as this will save natural resources on one hand and on the other will generate employment.
- Bring your lunch in reusable containers and reduce wastage.
- Don't change the appliances, equipments, furniture etc if they are repairable.

GREEN MARKETING 101: SELL WHAT THEY'RE BUYING

By **Andy Goodman**

Here's how popular coal was in Utah in 2002: When the Winter Olympics were held in Salt Lake City, one of the official mascots of the games was a jolly black bear named Coal. Let others decry the air pollution and greenhouse gases that come from burning the stuff, in Utah coal was seen as an inexpensive source of energy, a reliable job creator, a huggable dancing bear.

Now imagine it's your job to break up this romance. Specifically, your twin assignments are to whip up public support for wind power and convince state legislators to pass tax incentives for renewable energy. Keep in mind that you'll be doing all this in a region where hunting, fishing and snowmobiling are higher priorities than protecting the environment. And did I mention that the last bill requiring utilities to develop clean energy went up in smoke?

Such was the task taken on by Cathy Hartman and Edwin Stafford, two marketing professors at the Jon M. Huntsman School of Business at Utah State University. In 2003, Hartman and Stafford volunteered to be part of the Utah Wind Working Group, a cross-sector forum of environmentalists, coal utility executives, educators, community leaders and other stakeholders who generally didn't play well together.



Given their considerable marketing expertise, Hartman and Stafford were confident they could help design an effective public awareness campaign, but they had no illusions about the team they had to lead. "I often felt after meetings that we hadn't made any progress and were just stumbling around," Hartman told me. What started as a forum of 50 quickly evolved into a smaller working group of about a dozen.

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Deepwater corals may be key to restoring damaged reefs, survey finds

By **Alison Rourke**, Guardian.co.uk,

Healthy habitats at depths of 30-120 metres on the Great Barrier Reef suggest deeper waters may provide a refuge for corals

The Great Barrier Reef is the largest coral reef ecosystem in the world, stretching 2,000km along the Queensland coast. Photographer: Queensland Tourism/AP

Healthy corals that lie deep below the ocean's surface may be the key to regenerating parts of Australia's badly damaged Great Barrier Reef, according to an underwater survey being carried out off the coast of northern Queensland.

Using remote operated vehicles (ROVs) and deep-sea diving techniques, the Catlin Seaview Survey has found healthy coral



habitats at depths of 30-120 metres, right underneath badly damaged areas of the Great Barrier Reef.

"Some of the shallow areas of the reefs we've been diving on have been completely devastated by cyclones, but as soon as we dive to depths of 40m and below, the areas are almost completely untouched," said Pim Bongaerts of the University of Queensland's global change institute, who is leading the deep reef survey.

Until now, very little has been known about the deep reefs and knowledge has been largely limited to depths of 30m, which is accessible by scuba diving. For the first time, the survey's findings suggest deeper waters may provide a form of refuge for corals.

"One of the most striking things we've seen is the abundance of coral on the deep reef, even at 70 or 80m. We have also already seen a few species in the deep areas that also exist in the shallow water," said Bongaerts.

This may suggest that the upper and lower corals are part of the same population and have moved between deep and shallow waters, which could be an important part of regenerating the damaged upper reef.

Earlier this month, a report by the Australian Institute of Marine Science showed that coral cover in the shallow part of the Great Barrier Reef has dropped by more than half over the past 27 years, with 48% of the damage caused by storms.

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Walmart commits to scale sustainability of global supply chain

By Kristine A. Wong

Retail giant Walmart announced new commitments Thursday which the company says will increase the sustainability of its supply chain in China, the U.S. and around the world.

The world's largest retailer -- which operates a chain of big-box stores around the globe known for deep discounts -- is placing China at the center of its plans to fund research focused on sustainable business and supply chains, as well as to increase the standards of its sourcing and product design.

"The impacts of these commitments will be global and make a difference around the globe," Walmart CEO Mike Duke said in front of a Beijing, China audience that included U.S. Ambassador to China Gary Locke, Chinese government officials, nongovernmental organizations, suppliers and academics.

Duke announced the Walmart Foundation will grant \$2 million to The Sustainability Consortium to set up shop in China and begin research aimed at stimulating the growth of sustainable business.

First launched with Walmart funding in 2009, The Sustainability Consortium develops reporting tools and metrics designed to measure sustainability. It worked together with Walmart to develop the retailer's Sustainability Index, a much-publicized effort launched three years ago. The index



measures the sustainability of products across a list of 100-plus categories. By the end of 2012, Walmart says that 100 more product categories will be added.

On average, 70 percent of purchases at Walmart are of products which have been evaluated by the Sustainability Index, the retailer estimates, and come from the 500 suppliers which have provided data and information to the index.

"[The Sustainability Consortium] China will provide the local research and reporting systems to help China build more sustainable and more competitive businesses," Duke said. "Walmart and others will use the knowledge TSC generates to enhance supply chain sustainability in China."

As a result of the research, "we will have a deeper insight into how we can make manufacturing more sustainable for people and communities in China," he added.

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Virtual energy storage: Using buildings as batteries

By Greg Kats and Andrew Seal

Thomas Edison once remarked "When we learn how to store electricity, we will cease being apes ourselves; until then we are tailless orangutans." True to Edison's insights, recent investment in battery banks, compressed air systems and ultra-capacitors show interest in solutions that improve energy storage technologies.

Utilities and the venture capital (VC) community are spending vast sums in search of solutions to curb peak power loads and to address the intermittency of renewable power sources. Edison would likely view these expensive investments in *hard storage* technologies as noble but misguided efforts to transcend our collective simian roots.



Better solutions within our grasp

The rush to invest in new capital-intensive storage technologies overlooks a larger, lower cost and lower risk opportunity -- what we call *virtual storage*. Unlike hard storage technologies, virtual storage does not require large capital costs. Instead, virtual storage proposes creating intelligent distributed energy efficiency as well as harnessing the latent potential in building structures and systems to dynamically modify building energy usage. Virtual storage promises to reshape energy demand to match a variable energy supply.

Virtual storage offers a far more cost-effective and lower-risk solution than hard storage technologies to solve most power supply and demand mismatches. The rapid rise of virtual storage will more effectively meet energy storage needs at a lower cost than most hard-storage technologies now receiving investment from utilities and VC firms. Shifting to a virtual storage strategy can save tens of billions of dollars, serve as a catalyst for the renewable energy industry, improve utility profitability, strengthen security and slow global climate change.

Buildings as batteries

Buildings represent close to 75 percent of electricity consumption. Building energy demand peaks during hot summer afternoons when the need for air conditioning is greatest. While buildings are the dominant source of unbalanced load demand, buildings -- through virtual storage -- also represent the largest opportunity to cost-effectively reshape load, thereby saving tens of billions of dollars by avoiding costs relating to both inefficient generation and costs of transmission and distribution (T&D) infrastructure.

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The new-build solar opportunity

By Jesse Morris

As many Americans who bought a home in the mid-2000s might remember, it was generally very good business to buy and live in a home, flip it, move and get a predictable double-digit return on investment.



For many in the real estate industry, these were the golden days, when homes were being constructed like wildfire at an annual pace of about 2 million new builds a year with housing prices hitting all-time highs in 2005-2006.

Obviously things are a little different now. In fact, we're only building about a third as many residences per year than we were during the housing bubble's peak. But picture this: If we could somehow get one-fourth of new residential units in 2012 to be built with solar photovoltaic (PV) systems, the total number of rooftop solar systems in the United States would just about double in size.

As this back of the envelope calculation shows, there's an exciting opportunity for solar energy in the world of new residential construction. Even with the sector reeling from the financial crisis, 700,000 new builds a year is a huge number for advocates of distributed solar to wrap their head around -- especially considering that about 200,000 total solar systems have been built over the past ten years, according to NREL's Open PV database.

Personally, it's not just sheer numbers that gets me excited about the solar opportunity in the new build market. It's also the potential for rooftop solar PV systems to be installed at much, much lower costs than they would otherwise be on a home that's already built. For new-build PV, steep cost reductions can be found throughout the balance of system side of the cost equation:

- **Hardware and system design costs** can be greatly reduced since designing and sourcing a system would happen at the outset of home design instead of having to customize systems for existing roofs with shading, ventilation or loading issues.
- **Financing costs** that currently account for 23 percent of a residential system's total cost could be removed almost entirely since solar developers wouldn't need to go shopping for outside tax equity appetite. The PV system could simply be included in the total home mortgage amount.
- **Permitting and inspection costs** can also come down dramatically since the system would be constructed, permitted and inspected in lockstep with other home inspections and permitting processes.
- **The cost of acquiring customers** is lessened greatly by simply including PV systems with new homes. For the solar developer, the "customers" really become a few large builders rather than thousands of homeowners who must each individually consider a

major roof system addition to their home with its aesthetic changes and roof functionality concerns.

- **Labor costs** can be greatly reduced on both the permitting and installation fronts, especially when roofers have PV experience and can kill two birds with one stone when building roofs.

These new-build-associated cost reductions aren't simply theoretical. PetersenDean Roofing and Solar recently launched their The Buck a Watt Stops Here campaign. This program intends to offer rooftop solar power to home-builders for a "buck a watt" (that's an 83 percent reduction vs. 2011 costs of about \$5.89 per watt) so long as builders hire Petersen Dean to build both roofs and solar systems for projects.

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Achieving zero waste means focusing on destination, not diversion

By Anthony Zolezzi

In striving to create a waste-free world, it is important that we articulate not only our goals but the ways we plan to go about bringing them to fruition. I believe our objectives would be much better served in this regard with a simple word substitution. Rather than focusing on diversion rates as the way we measure recycling success, what we really need to be talking about are "destination rates."

So what's the difference between "diversion" and "destination" when used in this context? To begin with, the idea of material simply being "diverted" is one that reflects a conventional waste-industry mindset. In other words, the mere fact that a consumer deposited it in a recycle bin and the material recovery facility baled it and put it in a container for export to an unknown destination -- which is for the most part the definition of "diversion" -- is far short of what it takes to achieve a zero waste objective.



In a zero waste world, every material relegated for recycling would have a specific destination, just as those liter-size Pepsi bottles are reprocessed into PET (a solid version of polyester) and then converted into new bottles. Another example: Johnson Controls thermostats that have the perfect color and blend of plastics would be continually returned to the company and reused. Likewise, key electronic components would all go back to their manufacturers -- the Apples, Dells, and HPs -- where they could be incorporated into the next generation of products. Even cars would be broken down by components, which would then be returned to auto plants. A focus on destination rather than diversion is the first step in the methodology of zero waste. But to accomplish this, there are certain specific things that need to be done.

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The catch behind Coca-Cola's switch to plant-based bottles

By Adam Gendell



You may have seen the recent news that Coca-Cola is ramping up its production of polyethylene terephthalate (PET) made with plant-based glycol instead of petroleum-derived glycol. In the language of sustainability, this would be described as replacing a non-renewable feedstock with a renewable feedstock.

This isn't a new concept for those of us who are immersed in the sustainability community, but this beginning-of-life change introduces a bit of complexity when it comes to the end-of-life for the PET. What does sustainable recovery look like for this material?

Let's first refresh our memories on the basic concept of sustainable recovery. The SPC's Definition of Sustainable Packaging refers to both biological closed loop cycles as well as technological closed loop cycles, which are two distinct concepts. The idea behind a biological closed loop cycle is that living things are built from nature's inputs, and when they die they must give those inputs back to the natural environment. This ensures that nature won't run out of inputs for new living things—nature's closed loop, if you will.

Conversely, the idea behind a technological closed loop cycle is that non-living things don't automatically renew themselves (at least not at a rate that's anywhere close to being useful), and their use will only be sustainable in the long run if we keep using the finite amount that exists and avoid total depletion. Therefore instead of giving these materials back to nature ("discarding" might be a better word than "giving"), we must keep them in use by people—a technological closed loop.

So what about this PET with its plant-based constituent? The first complexity is that only a portion is plant-based, so the PET is also composed of some things that ought to stay within a technological closed loop. There's no easy way (yet) to separate the different constituents and put them in their respective preferable recovery systems.

Photo of collection of empty used plastic bottles on white background. each one is shot separately provided by Picsfive via Shutterstock

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Panasonic pushes out model eco-factory in Vietnam

By *Sustainable Business News*

Panasonic has opened its fifth "eco ideas" factory in the Asia Pacific region -- this one in Vietnam.

The manufacturing facility makes environmentally responsible products using sustainable processes, says Panasonic. One of the main goals is to use the factory as a model, hosting a range of outreach activities to educate the community.

Panasonic says its vision is to become the top Green Innovation Company in the electronics industry by 2018. It's also using the factories to promote the company's sustainability initiatives.

The Vietnam facility set a benchmark in manufacturing for low emissions and waste, and minimizing chemical use.

Panasonic Asia Pacific committed several years ago to establishing at least one eco ideas factory in each country where it operates manufacturing sites by March 2013.



There are eco ideas factories in Singapore, Thailand, Malaysia and Indonesia, making lighting, appliances and electronics. A factory opens in India this year, and two more are planned for next year.

"Environmental deterioration is prevalent not only in Vietnam, but also in many other parts of the world. The choice is ours to reduce the impact of this alarming trend and ensure environmental sustainability. 'eco ideas' and eco activities have been a core focus in Panasonic since 2007. We hope through the 'eco ideas' Factory and eco activities being conducted, Panasonic is able to play an effective role in changing mindsets and driving individuals to assume greater environmental responsibility in their communities," says Mr. Shinichi Wakita, General Director of Panasonic Vietnam Group.

Panasonic hopes to reach 200,000 students through factory tours by early next year, to raise awareness of the need for more sustainability manufacturing practices throughout the region.

Panasonic's eco ideas encompasses a wide range of initiatives, including the development of technologies to support a zero-carbon lifestyle and the adoption of sustainable business practices across the entire company.

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Disney's radical new paper policy to have major impact

By Marc Gunther

Back in 2010, the activist group Rainforest Action Network sent a bunch of children's books to a lab for analysis. The group learned that the paper in most books -- including those from The Walt Disney Co., which is the world's largest publisher of children's books and magazines, producing 50 million books and 30 million magazines a year -- contained tropical hardwood pulp, likely from Indonesia. Many kids books are made in China, and China gets much of its paper from Indonesia, where rainforests are threatened by logging, mining and agriculture. Not long after, RAN launched a campaign against Disney, which included protests at the company's corporate headquarters in Burbank. The campaign ended today with a big victory, in the form of a Disney paper buying policy that RAN's executive director, Rebecca Tarbotton, describes as second to none.

"We've seen a tremendous commitment from Disney," she told me, by phone, from RAN's offices in San Francisco.

Here's Disney's announcement and here is a summary of the policy. It's complicated, and far-reaching, and it will be rolled out in two phases -- with the first covering paper sourced directly by Disney or for use in Disney-branded products and packaging, and the second addressing paper sourced by independent licensees.

Among the key principles: Disney is promising to reduce its overall paper use. It will increase its use of recycled paper and paper certified by the Forest Stewardship Council. It will avoid paper that comes from "High Conservation Value Forests" as well as "High Carbon Value Forests," recognizing the importance of forests not only to protect biodiversity but to absorb CO2 from the air.

Importantly, the company specifically highlights Indonesia as a hotspot, and says Disney has "taken and will take action to eliminate paper fiber from unwanted sources in this region."

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Delivering what people want – without sacrificing sustainability

By Steve McCoy-Thompson

How can sustainability play a meaningful role in a business world that caters to a rather base goal to "deliver what people want"? In short - by seeing the reality as an opportunity.



Here, we continue with the second half of this deceptively simple equation: understanding what people want and then delivering it to them.

Want

One rule that economists have figured out is the principle of rising expectations. Once people have something -- take the internet, for example -- they typically and rather quickly want more, such as access on their phone or on a plane. Or as Pete Townsend of The Who exclaims in "Magic Bus" -- "I want it, I want it, I want it!"

Sustainability planners have an opportunity here as well. In China, for example, a rising middle class increasingly wants healthy food and air and is willing to pay for what they want. In the U.S., the success of Whole Foods and Patagonia demonstrate the strength of the demands of "sustainable" consumers. At its root, want is fundamentally a term of value. To the extent CSOs can demonstrate that people legitimately want a car that goes further without refueling or food that is healthy or

technology that benefits the community, then they have integrated sustainable principles into the core business model.

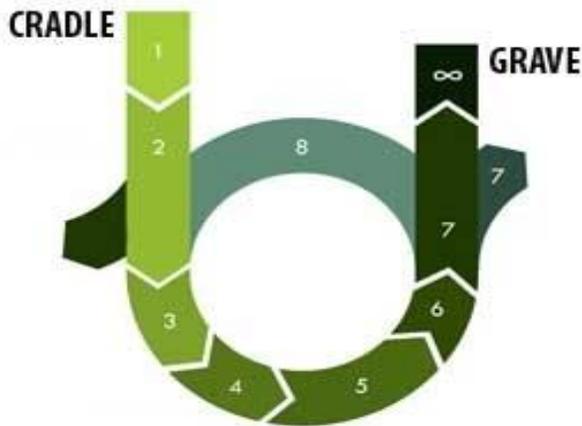
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New tools for small suppliers in global value chains

By Tom Swarr, Jodie Bricout and Sonia Valdivia

Belching smokestacks were once viewed as encouraging signs of progress. Today, a smokestack showing a cloud on condensing water vapor is viewed with suspicion. Companies are expected to meet a daunting array of certifications, standards, reporting requirements and best practices; and to drive these requirements across their



global supply chain.

Companies are caught in a dilemma. To maintain economic competitiveness, they have no choice but to obey the global logic of markets. However, sustainability is inherently place-based. The appropriate response is dependent on the unique features of the local ecosystem and the values and development priorities of the community.

The United Nations Environment Programme (UNEP) and the Society of Environmental Toxicology and Chemistry (SETCAC) are partnering to promote a capability approach that can help small- and medium-sized enterprises (SMEs) at lower tiers of the supply chain develop the necessary life-cycle management systems and structures to effectively balance global economic drivers with local sustainability requirements.

Balancing Performance Measures with Capability Development

The various reporting and certification initiatives, such as GRI G3 guidelines for sustainability reporting or the ULE 880 Sustainability for Manufacturing Operations are vital and necessary contributions to developing some common vision of what is meant by sustainability and for holding organizations accountable. However, these efforts are not sufficient by themselves. The National Research Council, in its report *Our Common Journey*, noted that a critical challenge of sustainability is the interactions among environmental and human activities that were previously treated as separate and distinct, creating an urgent need for strategies that "can better integrate incomplete knowledge and experimental action into programs of adaptive management and social learning."

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FTC Says: If You Say a Product is Green, Be Able To Prove It

SustainableBusiness.com News

When a product says it's good for the environment, how do you know if that's true? Green - Environmentally safe - Eco friendly - are just a few of the claims we see, and what, exactly, do they mean?

For the first time since 1998, the Federal Trade Commission (FTC) is trying to clarify that with its updated Green Guides - its message is: if you say a product is "green," you better be able to prove it.

The guidelines - approved unanimously - are designed to help marketers ensure the claims they make about the environmental attributes of their products are truthful and non-deceptive, says the FTC. They provide definitions of commonly used phrases, like non-toxic, biodegradable, compostable, VOC-free, recyclable, recycled, and made with renewable energy.

FTC's new guidelines reflect a wide range of public input, including hundreds of consumer and industry comments on previously proposed revisions. Besides updating existing Guides, there are new sections that cover use of carbon offsets, green certifications and seals, non-toxic, made with renewable energy and renewable materials claims.

It doesn't cover the terms "sustainable," "natural," and "organic," however - some of the most commonly used vague and misleading terms. The FTC says they're left out either because it could contradict or duplicate rules from other agencies (USDA governs "organic"; FDA covers personal care and thus "natural") or because it doesn't have sufficient basis to provide meaningful guidance.

"The introduction of environmentally friendly products into the marketplace is a win for consumers who want to purchase greener products and producers who want to sell them," says FTC Chairman Jon Leibowitz. "But this win-win can only occur if marketers' claims are truthful and substantiated. The FTC's changes to the Green Guides will level the playing field for honest business people and it is one reason why we had such broad support."

FTC cautions marketers about making broad, unqualified claims, such as "environmentally friendly" because few products have such far-reaching environmental benefits, which are nearly impossible to substantiate.

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Nudging the nudgers: brands, persuasion and sustainable lifestyles

The power of brands to change consumer behaviour is one of the most interesting sustainability developments for years

By **Lucy Shea**, Guardian Professional

Brands are experienced at convincing us to buy products but progressive brands have recently been using their persuasion skills to cajole us into being greener. Photograph: Larry Lilac/Alamy

Aesop had already grasped a fundamental truth when he said "persuasion is often more effectual than force," more than 2,600 years ago.



Understanding the mysterious art of persuasion has been an obsession for many ever since and brands have long played the persuasion card

successfully. They are skilled and experienced masters at convincing us to buy products we didn't know we wanted. Recently, and encouragingly, progressive brands have been using their well-honed persuasion muscle to cajole their consumers into being greener.

These brands are building behaviour change into products, modelling green lifestyles through behavioural placement and using the weight of their marketing expertise to persuade. These are the three P's of brands and behaviour change.

Sustainability persuasion is the traditional territory of governments and NGOs. We are familiar with their prods, pleas, and occasional coercion into making us better people. Public information campaigns that play hard on our emotions and anxieties have been successful over the decades at getting us to quit smoking, only drive when sober and wear seat belts.

In each of these cases the reward is obvious: change your behaviour or risk death, disease or legal sanction. However, when campaigns have tried to enter the green lifestyle arena, their successes have been less noteworthy and harder to achieve. Persuasion can quickly morph into nagging and, as a result, the hackles of resistance quickly rise.

Brands, by comparison, are much more confident talking about and changing our lifestyles. By drawing on their powers of persuasion they are able to nudge and push their consumers' environmental behaviour with far more impressive results than expensive public information campaigns.

In Sweden the popular hamburger chain Max has searched for radical sustainability improvements. In 2008 they began putting CO2 labels on the menu. By revealing to customers that its Grand de Luxe Cheese 'n' Bacon beef burger produced five times more carbon dioxide than its vegetarian burger, and six times more than a fish sandwich, Max allowed for clear comparison at point of sale (an attribute other carbon labelling schemes struggle with). Although

information on its own doesn't work, in this context sales of the lower-carbon burgers increased by 16%. Max also believes the move improved the business overall.

McDonald's, as Max's key rival, has had its own persuasive successes. Keen to play a more active role in reducing litter in its communities, the company began to put comparative pictures of a littered street scene next to a litter-free street scene on its food trays and packaging. The simplicity of this visual cue, together with clear messaging on packaging, combines consciously directive messaging with subconscious visual clues to change behaviour. The company reported a 25% reduction in complaints from neighbours about litter.

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1 Million Homes Weatherized Under US Recovery Act

SustainableBusiness.com News

Last week, the Department of Energy (DOE) celebrated a watershed moment - the 1 millionth home was weatherized since work began in April 2009 through the American Recovery and Reinvestment Act.

It's a key achievement of the "stimulus bill," which gave DOE's Weatherization Assistance Program (WAP) a one-time BIG boost with an infusion of \$5 billion - five times what it had to work with in 2008.

It pays for home efficiency improvements for low-income people and has been demonstrated to save families of \$400 a year, says the DOE.



The upgrades usually cut energy consumption by 35%.

The 1 million-homes milestone is impressive, considering that the effort just reached the 600,000-mark at the end last year.

That means almost as many houses and multi-family dwellings were weatherized in the past eight months as in the first two and a half years of the program.

"The weatherization program is particularly important to our friends, neighbors, and family members -- many of them seniors -- who are struggling economically. Studies show that lower income households spend significantly more of their total income on their energy bills than other households -- nearly 14 percent compared to just over three percent for other households," says David Danielson, Assistant Secretary for Energy Efficiency and Renewable Energy, DOE.

Photo courtesy of Dennis Schroeder, NREL.

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Levi's stitches plastic bottles into latest denim collection

By **BusinessGreen Staff**

Levi Strauss & Co is set to launch a new denim collection incorporating 3.5 million recycled bottles to reduce the environmental impact of its products and promote recycling to consumers.

A year after the launch of its Water<Less collection that reduced the amount of water used in manufacturing jeans and jackets by an average of 20 percent, Levi's this week confirmed that its next spring collection will include a new Waste<Less range.

The Waste<Less denim trousers will each include at least 20 percent post-consumer waste, equating to eight 300ml to 500ml plastic bottles per pair.

The denim will include PET plastic and other polyethylene terephthalate materials, such as brown beer bottles and black food trays that have been collected by local recycling programs across the U.S.

The bottles and food trays will be sorted by color, crushed into flakes and made into a polyester fiber, which will then be mixed with cotton fiber to create cotton yarn by Levi's partner company Cone Denim.

Levi's said the resulting fabric will also have an undertone of the color of the bottles used.

"By adding value to waste, we hope to change the way people think about recycling, ultimately incentivizing them to do more of it," said James Curleigh, global president of Levi's brand. "This collection proves that you don't have to sacrifice quality, comfort or style to give an end a new beginning."

Levi's is the latest in a series of high-street clothing brands to use post-consumer waste in its products, including Nike and Adidas.

Image of denim clothing provided by Dmitry Kalinovsky via Shutterstock.



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Fish to shrink by up to a quarter due to climate change, study reveals

By **Damian Carrington**, Guardian.co.uk

This article titled "Fish to shrink by up to a quarter due to climate change, study reveals" was written on Sunday 30th September 2012 17.00 UTC

Global warming is likely to shrink the size of fish by as much as a quarter in coming decades, according to a groundbreaking new study of the world's oceans.

The reduction in individual fish size will be matched by a dwindling of overall fish stocks, warned scientists, at a time when the world's growing human population is putting ever greater pressure on fisheries.

"We were surprised as we did not think the effects would be so strong and so widespread," said Prof William Cheung from the University of British Columbia in Canada, who led the research. His team examined the effect of rising ocean temperatures on the

growth and distribution of more than 600 species of fish around the world and found that they are expected to shrink in size by 14-24% by 2050, with the biggest effects in tropical regions.

"It could be worse than that," said Prof Callum Roberts, at the University of York, who described the research as the most comprehensive to date. Roberts, who was not one of the study's authors, said additional impacts of climate change such as the acidification of the ocean and reduction of nutrients in surface waters could decrease fish stocks even further, as would continued overfishing.

"We will see dramatic changes in the oceans likely to reduce productivity," said Roberts. "One billion people rely on fish for primary animal protein and that is going to increase, especially in developing countries. We have to get to grips with our dependence on fossil fuels otherwise we are stuffed."

The fish shrinkage predicted by the new research results from two effects: the difficulty of growing in warmer, oxygen-poor waters, and migration.

"The metabolic rate of fish in the warm oceans increases and therefore they need more oxygen," said Cheung, whose work is published in Nature Climate Change. But warm water holds less oxygen and so their growth is limited.

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World Bank urges nations to end 'wasteful' gas flaring

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

Gas flaring in 20 of the world's leading oil-producing countries contributes as much to climate change as a major economy like Italy, new estimates show.

While flaring has been cut by 30% since 2005, \$50bn worth of gas is still wasted annually, the World Bank said on Wednesday.



Gas flaring in Nigeria. The World Bank says \$50bn of gas is wasted annually. Photograph: Friedrich Stark/Alamy

New satellite analysis of the flares – that are a by-product of oil drilling and which commonly light the night skies in oil fields around the world – suggests that bans and fines in some countries and the introduction of technology in newer oil fields has significantly reduced the pollution and waste in some countries, but has failed in others.

According to the bank, Azerbaijan has cut flaring by 50% in two years, Mexico by 66% and Kuwait now only flares 1% of its excess gas. Other countries, including Qatar and the Democratic Republic of the Congo, now use large volumes of previously wasted gas to generate electricity.

The bank's estimates show that flaring was reduced from 172bn cubic metres a year in 2007 to 142bn cubic metres in 2011. However, most of the reduction came between 2005-07 and only six of the world's big 20 oil-producing countries managed to actually reduce flaring in 2011.

The figures show that the momentum to reduce flaring is now levelling off with only 10% overall cuts achieved by the world's top 20 emitters since 2007 despite pledges to drastically reduce flaring.

The US, ranked fifth for highest volume in the world's gas flaring league table, increased the amount it flared by nearly 50% in 2010-2011 and has nearly tripled the amount it flares in the last five years largely because of shale oil developments in places like North Dakota. Russia, by far the world's greatest flarer, emitted 37.4bn cubic metres of gas in 2011, 1.8bn cubic metres more than the previous year.

The bank urged countries and companies to reduce flaring by at least 30% in the next five years, saying it made financial and developmental sense. "It's a realistic goal. Given the need for energy in so many countries – one in five people in the world are without electricity – we simply cannot afford to waste this gas anymore," said Rachel Kyte, World Bank vice-president for sustainable development.

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Saudi Arabia reveals plans to be powered entirely by renewable energy

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

This article titled "Saudi Arabia reveals plans to be powered entirely by renewable energy" was written on Friday 19th October 2012 10.14 UTC

Saudi Arabia, the world's biggest oil producer, has plans to become 100% powered by renewable and low-carbon forms of energy, according to an influential member of the royal family.

But the process is likely to take decades, and some observers are sceptical as to whether it is any more than window-dressing.

Prince Turki Al Faisal Al Saud, founder of the King Faisal Foundation and one of the state's top spokesmen, told the Global Economic Symposium in Brazil that he hoped the kingdom might be powered entirely by low-carbon energy within his lifetime – he is 67 – but that he thought it was likely to take longer.

However, he insisted Saudi was moving ahead with investment in renewable energy, nuclear power and other alternatives to fossil

fuels and that it could use its vast oil reserves for other goods, such as plastics and polymers.

"Oil is more precious for us underground than as a fuel source," he said. "If we can get to the point where we can replace fossil fuels and use oil to produce other products that are useful, that would be very good for the world. I wish that may be in my lifetime, but I don't think it will be."



Saudi Arabia says it wants to use fossil fuels to produce other goods rather than use it for power generation. Photograph: Fayeze Nureldine/AFP/Getty Images

Joss Garman, political director of Greenpeace, said: "It speaks volumes that a Saudi prince can see the benefits of switching to clean energy sources when [UK chancellor] George Osborne seemingly cannot, but Saudi Arabia will only truly be a green economy when it leaves its fossil fuels in the ground."

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Climate change may force evacuation of vulnerable island states within a decade

By **Jo Confino**, Guardian.co.uk

One of the world's foremost climate scientists has warned that vulnerable island states may need to consider evacuating their populations within a decade due to a much faster than anticipated melting of the world's ice sheets.

Michael Mann, director of the Earth System Science Center at Pennsylvania State University, said the latest evidence shows that models have underestimated the speed at which the Greenland and



An iceberg melting off the coast of Ammasalik, Greenland.
Photograph: John Mcconnico/AP

west Antarctic ice sheets will start to shrink.

Mann, who was part of the IPCC team awarded the Nobel peace prize in 2007, said it had been expected that island nations would have several decades to adapt to rising sea levels, but that evacuation may now be their only option.

His warning comes just weeks after the National Snow and Ice Data Centre in Boulder, Colorado disclosed that sea ice in the Arctic shrank a dramatic 18% this year on the previous record set in 2007 to a record low of 3.41m sq km.

"We know Arctic sea ice is declining faster than the models predict," Mann told the Guardian at the SXSW Eco conference in Austin, Texas. "When you look at the major Greenland and the west Antarctic ice sheets, which are critical from the standpoint of sea level rise, once they begin to melt we really start to see sea level rises accelerate.

"The models have typically predicted that will not happen for decades but the measurements that are coming in tell us it is already happening so once again we are decades ahead of schedule.

"Island nations that have considered the possibility of evacuation at some point, like Tuvalu, may have to be contending those sort of decisions within the matter of a decade or so."

Mann says the Pacific islands, which are only 4.6 metres above sea level at their highest point, are facing the imminent prospect of flooding, with salt water intrusion destroying fresh water supplies and increased erosion.

Suggesting evacuations would accelerate a change in public consciousness around the issue of climate change, he said: "Thousands of years of culture is at risk of disappearing as the populations of vulnerable island states have no place to go.

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UN warns of rising food costs after year's extreme weather

Warning comes as shops struggle to fill shelves and farmers' union reports wheat yields are at lowest level since 1980s

By **John Vidal, Rebecca Smithers** and **Shiv Malik**, The Guardian

Barley is checked in a field south of Moscow. This summer, Russia banned grain exports after a severe drought reduced harvest estimates. Photo: Ivan Sekretarev/AP

The UN has warned of increasing meat and dairy prices in the wake of extreme weather in the United States and across large parts of Europe and other centres of global food production.

According to the Food and Agriculture Organisation (FAO) in Rome, global wheat production is expected to fall 5.2% in 2012 and yields from many other crops grown to feed animals could be 10% down on last year.

"Populations are growing but production is not keeping up with consumption. Prices for wheat have already risen 25% in 2012, maize 13% and dairy prices rose 7% just last month. Food reserves, [held to provide a buffer against rising prices] are at a critical low level

"It means that food supplies are tight across the board and there is very little room for unexpected events," said Abdolreza Abbassian, a senior economist with the FAO.



"The decrease in cereal production this year will result in a significant reduction in world reserves by the close of seasons in 2013, even with world demand sliding as a result of high prices," he said.

The warning of further food prices came as some British supermarkets said they were struggling to keep shelves stocked with fresh produce and the National Farmers Union (NFU) reported that UK wheat yields have been the lowest since the late 1980s as a result of abnormal rain fall.

The NFU president, Peter Kendall, said: "There are many farmers who are down 25% to 30% on the wheat crop. In some cases you looked from the outside and you thought, this crop will do over four tonnes to the acre – and it's been struggling to do three and some cases two tonnes to the acre."

"It's been soul-destroying for the farmers growing the crops," he said.

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Sustainable cities: innovative urban planning in Singapore

As competition for resources increases and urban populations expand, Singapore is embracing sustainable development. Other cities must follow suit, argues Flemmich Webb

By **Flemmich Webb**, Guardian Professional,



Investment in a new smart card payment system in Singapore has integrated the city's transport systems, making travel more efficient.
Photograph: Roslan Rahman/AFP/Getty Images

Cities present a sustainability conundrum: though they are the most efficient way to provide infrastructure and services for large populations, they are, in absolute terms, incredibly inefficient. Cities cover just 2% of the Earth's surface yet consume about 75% of the world's resources, and given that more of the world's population now live in cities than in rural areas, it's clear they are key to tackling climate change and reducing resource use.

Urban administrators face huge challenges to make cities more sustainable. From traffic jams and inefficient buildings to social inequality and housing, the problems are complex and hard to tackle — but not insurmountable.

Some cities are forging ahead with the use of innovative urban planning, technological and governance models, showing that with the right focus and resources, cities can become "smart" or more sustainable.

According to the latest Siemens' Green City Index for Asia, Singapore is the best-performing city in the region when measured against a range of sustainability criteria.

"Singapore is at the leading edge of sustainability," says Nicholas You, chairman of the World Urban Campaign Steering Committee at UN-Habitat. "It's an island state with limited resources so it had no choice but to go green if it wanted to survive economically."

Singapore's experiences have important lessons for other urban centres. Take its water treatment. In 1963, water functionality was shared between multiple ministries and agencies, which made it difficult to formulate a coordinated, long-term strategy.

With a rising population and finite freshwater resources, action was needed, so ministers set up a national water agency, PUB, which became the sole body responsible for the collection, production, distribution and reclamation of water in the city.

Today, its water operation has been transformed. Two thirds of Singapore's land surface is now a water catchment area with water stored in 17 reservoirs, including the Marina Basin, right in the heart of the city.

Called NEWater, wastewater is collected and treated to produce water that's good enough to drink. This meets 30% of the city's water needs, a target that will be increased to 50% of future needs by 2060.

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Toyota Turns On Fuel Cells, but Blocks Mexico Fuel Economy Law

SustainableBusiness.com News

Just as we heard Toyota's powering its US headquarters on fuel cells, we also heard the company is preventing Mexico from implementing higher fuel economy standards.

Toyota announced that a 1.1 megawatt hydrogen fuel cell is now operating at its California headquarters campus, which will supply about half the electricity for six buildings during peak demand.

No, it's not the Bloom Box we keep hearing so much about, this one is built by Ballard Power Systems, the largest Proton Exchange Membrane (PEM) stationary fuel cell of its kind, and the first supplied by Ballard.

The fuel cell is powered by hydrogen gas fed directly from a pre-existing industrial hydrogen pipeline, also a first for this technology. The pipeline also supplies a hydrogen filling station that will fuel Toyota's and other manufacturers fuel cell hybrid vehicle fleets.

The hydrogen is made by natural gas reformation. To mitigate those emissions, Toyota is buying landfill generated biogas.

"Supporting alternative energy sources like hydrogen supports Toyota's overarching commitment to lessen our impact on the environment and drive forward innovative technology," says Bob Daly, senior vice president. "Not only will this new hydrogen fuel cell generator reduce the environmental footprint of our headquarters campus, but it showcases the power and potential of hydrogen as a fuel source."

Toyota expects to save \$130,000 a year by buying less energy from the grid.

Toyota's Fuel Cell Hybrid Vehicle, which it plans to debut in 2015, is also powered by PEM technology.

The company is also part of partnership marketing residential fuel cell systems in Japan.

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Can we feed an ever more crowded, hungrier, and less spacious world?

By Sir Gordon Conway and Katy Wilson



A Kenyan woman farmer sun dries her maize harvest.
Photograph: Tony Karumba/AFP/Getty Images

For most people reading this, hunger is a feeling of slight discomfort when a meal is late or missed. In developing countries, hunger is a chronic affliction. Images in the media often convey the realities of hunger – emaciated and starving children – in war-torn countries or in the aftermath of droughts, floods, or other calamities. Yet for nearly a billion people in the developed countries, hunger is a day-to-day occurrence, both persistent and widespread.

Achieving food security, having "access by all people at all times to enough food for an active, healthy life", is not as easy as it might seem. Nobel Prize winner professor Amartya Sen was instrumental in pointing out that food security was not just about producing more food, but ensuring the needy had access to it. There can be plenty of food in shops, as was true of the famines in Ireland in the 19th century and West Bengal in the 1940s, but if poor people cannot afford to buy

that food (or produce enough on their own), they will go hungry.

This is not to say that we do not need to produce more food. As Sen acknowledges, the technologies of the Green Revolution helped food production keep pace with population growth. Food prices fell and many (although not all) of the poor and hungry benefited.

Today food prices are rising again and we are experiencing food price spikes. These are caused by an actual or perceived shortage of grains, but are exacerbated by competition between food crops and biofuel crops, by countries rushing to impose export bans and by a degree of financial speculation.

We are thought to be in the middle of the world's third food price spike since 2007. Its effects have been predicted to be moderate, in part because the Agricultural Market Information System (Amis) has given us greater transparency. But recent announcements that the world's grain reserves have fallen to a five-year low and that world grain production for the 2012-13 season is unlikely to match the level of need, due to failing or reduced harvests, have meant the impacts could be worse than originally thought.

In order to achieve a food-secure world, we must feed a population expected to grow to over 9 billion by 2050. We must also feed this population in the face of rising incomes and an increase in resource-intensive western-style diets, declining land and water availability and climate change. All of which decrease our ability to produce food for all. .

Some 400 to 500 million smallholder farmers from around the world will provide the necessary increased food production and access to food. In many countries, 80% of the population are farmers, as are 80% of the chronically hungry. So why can't farmers, whose job it is to produce and grow food, feed themselves?

Mrs Namarunda is an example of the myriad problems faced by smallholder farmers. She farms a single hectare near Lake Victoria in Kenya. She has four children to care for. Without access to fertiliser, or the credit to buy it, she starts each season with a maximum potential harvest of two tons from her land, half of which is enough to feed her family and the other half to generate a modest income. But during the course of the season she is beset by weeds, pests and diseases and is subject to periodic drought, which means she actually harvests less than one ton. She and her children are often hungry and there is no money for schooling or healthcare.

So what can be done to tackle these challenges?

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Biofuels: EU weakens proposals to reduce indirect climate impact

Fuel suppliers will not be responsible for emissions that biofuels create through forest clearance and peatland draining

Reuters, Guardian.co.uk,

The European commission has watered down proposals to reduce the indirect climate impact of biofuels, but is sticking to a strict new limit on the amount of food crops that can be used to make fuel, draft legislation showed.

The late changes mean that fuel suppliers will not, as originally planned, be held accountable for the indirect emissions biofuels cause by displacing food production into new areas, resulting in forest clearance and peatland draining known as indirect land-use change, or ILUC.

"The 5% limit is still in, but the ILUC factors are now purely for reporting purposes and not part of the sustainability accounting rules for biofuels," one EU source involved in the discussions said.

The plan to limit use of crop-based biofuels to 5% of total EU transport energy demand by 2020 represents a virtual halving of the bloc's current goal, which mandates a 10% share of renewables in transport by the end of the decade.



The EU has weakened proposals to reduce the indirect climate impact of biofuels. Photograph: Chip

The share of energy from biofuels produced from cereal and other starch rich crops, sugars and oil crops shall be no more than 5% ... of the final consumption of energy in transport in 2020," said the draft legislation, seen by Reuters.

A commission source, who also spoke on condition of anonymity, confirmed that the proposed indirect land use change (ILUC) emission factors for biofuels made from cereals, sugars and oilseeds would carry no legal weight.

As a result, fuel suppliers will be free to continue blending biodiesel made from rapeseed, palm oil and soybeans into their fuels and claiming credit for cutting emissions, despite EU scientific studies showing that overall emissions from biodiesel are higher than from fossil fuel.

Figures in the proposals show that ILUC emissions linked to biodiesel from oilseeds are more than four times higher than those for ethanol made from cereals or sugar.

The changes are a victory for European biodiesel producers who said the commission's original proposal would have wiped out their industry practically overnight, and who have complained that the scientific models underpinning ILUC calculations are too uncertain.

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Norway Raises Carbon Tax on Oil Industry to Fund Low-Carbon Transition

SustainableBusiness.com News

Norway is demonstrating how its income from oil can be used to fund the transition away from oil.

The world's third-largest oil exporter charges a carbon tax on companies that drill offshore, and as of January 1, it plans to double it. Companies will be charged \$72 for each ton of carbon they emit.

In its draft 2013 budget, it also proposes carbon taxes on the fishing industry of \$8.84 per ton.

The proceeds will be used to fund a wide range of initiatives:

- Climate and Energy Fund focuses on reducing greenhouse gas emissions and increasing industrial efficiency by developing and implementing new technologies. \$1.6 billion will be added to the Fund in 2013, bringing the total to \$6.1 billion, and more will be added each year.
- Increased funding for the Norwegian Climate and Forest Initiative, which combats deforestation in developing countries - \$525 million more in 2013.
- The program has been achieving considerable emissions reductions in Brazil and better forest management in Indonesia, Ethiopia, Guyana and Tanzania, among others, they say.
- The initiative also helps developing nations mitigate and adapt to climate change through investments in clean energy and food security - \$350 million more in 2013.
- Buy over \$100 million worth of carbon offsets to offset the country's emissions
- Expand public transport and facilitate the transition to electric cars - almost \$2 billion.
- Norway charges a CO2 and NOX tax on the purchase of cars, which has already led to significant reductions in the average CO2 emissions of new cars. There's also an annual tax on the weight of a vehicle.
- Building energy efficiency requirements will be raised to Passive House standards in 2015 and to near-net-zero by 2020.

Norway is the world's third richest nation per capita, largely because of oil and gas exports. Employees in the industry earn an average of \$180,000 a year.

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Can British Airways, Lufthansa push biofuels into the mainstream?

By **Bruce Kennedy**

How realistic is the concept of a passenger plane flying with biofuel? There's been a lot of buzz around the topic lately. GreenBiz recently reported on an upcoming publicity stunt – where a small private aircraft is expected to fly the 10,000 miles from Australia to the U.K.

using only fuel made from plastic waste.

But a lot of mainstream commercial air carriers are beginning to consider biofuel in earnest. British Airways will reportedly break ground

on a plant in greater London before the end of the year. It had plans to begin using biofuel in its air fleet starting in 2014 when the airline announced a partnership with Solena to build Europe's first sustainable jet-fuel plant.

Germany's Lufthansa, meanwhile, recently signed a collaboration agreement with Australian-based Algae-Tec to build a large-scale, algae-to-aviation fuel production facility somewhere in Europe. Lufthansa is agreeing to purchase at least half of the biofuel produced.

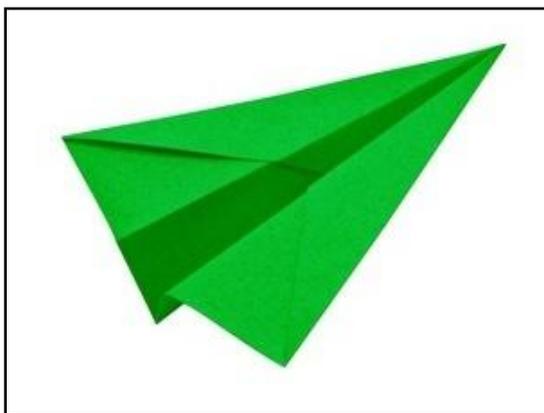
European airlines are looking towards biofuels to help them comply with European Union standards. The EU has imposed a limit to CO₂ emissions from any flights arriving at or departing from EU airports.

Image of paper airplane by Walaiporn Yotharat via Shutterstock.

It's one thing to demand cleaner fuel. But it's another thing altogether to be able to use it effectively. This is a challenge for aircraft builders. Darrin Morgan, director of sustainable biofuel strategy for Boeing's (NYSE: BA) commercial airplanes unit, told GreenBiz via email that his company hopes "to have these fuels available and in regular use as soon as possible."

He adds that Boeing has set a goal of helping the greater aviation industry have one percent of its annual aviation fuel use come from biofuel sources by 2015. That sounds small, but Morgan notes that figure would be equivalent to about 600 billion gallons of fuel – and would likely need up to five production facilities.

"Boeing's role," he said, "is to accelerate market development along, so that aviation biofuels become a reality as quickly as possible, but sustainably and at an economic price point."



San Francisco's Famous Exploratorium Aims for Net-Zero Energy

SustainableBusiness.com News

While we're hearing more often about net-zero energy buildings - those that produce as much energy as they consume - many of the projects are relatively small, such as a branch of TD Bank, the filming of the Avatar movies and a new community in South Carolina and an apartment building in Sacramento.

That's about to change. San Francisco's famed Exploratorium museum is moving to a new 333,000-square-foot campus and aims to achieve net-zero energy.

That's an apt vision for a science museum that encourages a high degree of interactivity from its 560,000 annual visitors. If the organization succeeds with its plan, the facility will be the largest net-zero use museum in the US – if not the world.

Scheduled to open in spring 2013, the museum is tripling in size as its being re-located to a pier on the city's iconic Embarcadero waterfront, with indoor and outdoor exhibits.

100% of its electricity will come from a 1.3-megawatt (MW) rooftop solar PV installation that's already in place. An innovative heating and cooling system will draw on water from the San Francisco Bay – saving at least 2 million gallons of water a year compared to conventional buildings.

These technologies won't be hidden behind-the-scenes, they will be showcased publicly – with live real-time energy use and solar PV production statistics on display in the lobby, updated every 15 minutes.



"This project combines an effort to both innovate and think critically about the impact science can have on the world. Our net-zero goal is, in part, a way to reduce our global footprint and help improve the community we've been a part of for more than 40 years," says Dennis Bartels, executive director of the Exploratorium. "Net-zero is a process – and an opportunity for the public to learn with us."

The museum expects that reaching and maintaining net zero status will "require monitoring and tinkering over the next couple of years."

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Divestment Campaign Begins Against Fossil Fuel Industries

SustainableBusiness.com News

On the day after Election Day, November 7th, Bill McKibben begins a cross-country tour that launches a divestment campaign against the oil, gas and coal industries.

"Together we'll mount an unprecedented campaign to cut off the industry's financial and political support by divesting our schools, churches and government from fossil fuels," he says.

That's right - just like the apartheid movement back in the 1980s, Bill's 350.org - which is largely responsible for the current (but temporary) hold on the Keystone tar sands pipeline - believes the only way to get action on climate change is to directly attack the fossil fuel industries' bottom line.

"Fossil fuel corporations now have 2,795 gigatons of carbon in their reserves, five times the safe amount. And they're planning to burn it all - unless we rise up to stop them," he says.

It's time for a mass uprising, and he plans to galvanize it. It picks up on McKibben's July Rolling Stone article, "Global Warming's Terrifying New Math," one of the most widely read pieces in the magazine's history.

At a University of Vermont event in preparation for the tour, McKibben said, "The fossil fuel industry has behaved so recklessly that they should lose their social license - their veneer of respectability. You want to take away our planet and our future? We're going to take away your money and your good name."

The tour begins in Seattle on November 7, but that venue is sold out. The stop in Boston sold out in less than 24 hours and moved to a venue with 2,700 seats.

As 350's Matt Leonard, explained to *Grist*, the tour isn't simply about "getting butts in seats" for a lecture or concert (musical guests will appear in each city). It's about getting "the right people" in those seats. "This isn't just for publicity and outreach," he says. "We're putting tremendous effort into making sure students, community leaders, college trustees, and influential decision-makers are a part of this event, because they are the ones that will turn this from a talk into a hard-hitting campaign."

Divestment campaigns have already begun at 30 colleges, including several in Vermont, Harvard, Tufts, Brandeis, Amherst University of New Hampshire, Lewis & Clark and Cornell, coordinated by Students for a Just and Stable Future, which say, **We are stepping up to act for justice where our leaders have failed.**

They are calling for an end to fossil fuel subsidies and have launched the Divest For Our Future website.

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Cargill, Huntsman, UNIPEC UK opt for energy-efficient ships

By BusinessGreen Staff

Agricultural giant Cargill has joined with two more of the world's largest ship charterers by pledging to stop using inefficient vessels in a bid to reduce their carbon emissions and operating costs.

Cargill announced the plan yesterday alongside chemicals company Huntsman and oil trader UNIPEC UK, which together charter ships for transporting over 350 million tons of commodities each year, accounting for around 8 percent of the world's cargo.



The three companies said they will only use the greenest vessels as ranked by vetting service RightShip and published on ShippingEfficiency.org, a website established by Richard Branson's Carbon War Room NGO.

The index awards over 60,000 vessels a rating compared to other ships in their class ranging from A, being the most efficient, down to G. Cargill is excluding ships with an F or G rating, which make up between 10 and 15 percent of the global merchant fleet, according to the *Financial Times*.

Jonathan Stoneley, environment and compliance manager at Cargill Ocean Transportation, which spends around \$2 billion a year on fuel, said the move made "a strong statement to the market" that the company is only interested in using the most efficient vessels.

"We hope this action will demonstrate to ship owners that they can and should do more in terms of efficiency, and that the market will reward them and will also show other charterers the decision support tools available if they want to operate more efficiently," he said.

"We will work together with customers, as best appropriate, to help them meet their environmental objectives linked to transportation and this rating system."

Image of a cargo ship provided by Nightman1965 via Shutterstock.

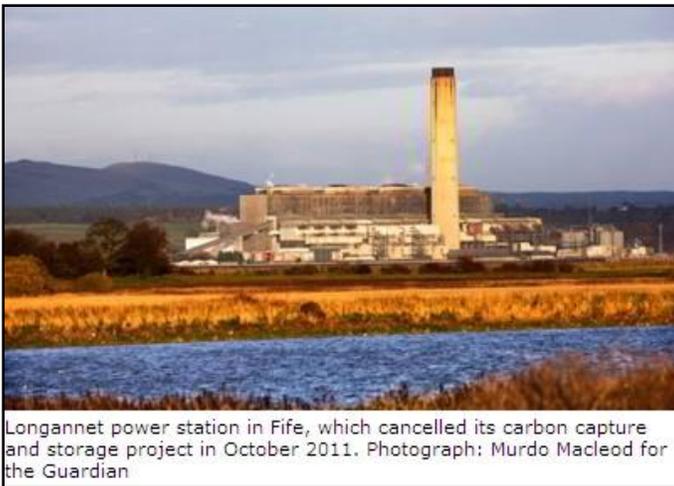
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Carbon capture: 130 plants needed 'to avoid dangerous climate change'

By Adam Vaughan, Guardian.co.uk

More than a hundred carbon capture and storage projects (CCS) must be built to avoid dangerous global warming, an international CCS group said this week, as fears were raised over whether UK projects would benefit from an EU fund for 12 demonstration plants.

The Global CCS Institute said in a report published on Wednesday that governments needed to offer policies that show stronger commitment to CCS. It revealed that only one new large-scale CCS plant was built in the past year, taking the total number to 75, while eight projects were cancelled.



Longannet power station in Fife, which cancelled its carbon capture and storage project in October 2011. Photograph: Murdo Macleod for the Guardian

The chief executive, Brad Page, said CCS could play a key role in keeping temperature rises under 2C, the level deemed "safe" by climate scientists, but only with a huge expansion in projects. "The number of operational projects would need to increase to about 130

by 2020, but this seems unlikely, with institute projections indicating that only 51 of the remaining 59 projects identified in our annual survey may be operational by then."

The report came as it emerged that the UK had been given until the end of the month by the European commission to confirm funding for a multibillion EU funding programme, NER300, for 12 new CCS projects. Under the scheme, host countries must co-fund projects for them to be eligible for the pot. A project in Yorkshire bidding for the money, 2Co's Don Valley Power, was ranked by the commission as the favourite for funding among a tranche of submissions in the summer.

But a spokesman for the Department of Energy and Climate Change said it will be responding to the commission [paywall] by the end of the month. "We are fully aware of each other's processes and we've always made clear that we intend to align with the NER timetable."

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Green deal: households to get up to 1,000 pounds for insulation

By Adam Vaughan, for guardian.co.uk

Householders insulating their homes from January will be able to claim hundreds – and potentially thousands – of pounds back in cash from the government, the energy secretary, Ed Davey, said on Friday.

Following a week of controversy over rising energy bills and confusion over an announcement by David Cameron that energy companies would have to offer



Rates include £650 cashback for fitting solid wall insulation. Photograph: Alamy

customers the "lowest tariff", the Department of Energy and Climate Change (Dec) outlined a £125m pot of cashback money for the first people to increase the energy efficiency of their homes under the green deal.

Under the scheme, the coalition's flagship environmental policy, householders take out a loan with a provider who undertakes work such as upgrading old boilers, lagging lofts and draught proofing. The loan repayments must be offset by the energy savings, under the scheme's so-called "golden rule", though there is no government guarantee underpinning it.

Davey said: "The green deal will provide unprecedented choice for consumers wanting to improve their homes and make them more energy efficient. This cash back offer will help get the green deal off to a flying start. It really is a great offer – the more work householders have done, the more energy they stand to save and the more cash they receive."

The rates initially offered will only be available to the first thousands of households to give their homes an energy makeover, and will be reviewed once £40m is spent, which could be as quickly as "two or three months if it goes well," according to a Dec spokesman.

Rates include £650 cashback for fitting solid wall insulation, £150 for floor insulation and £50 for draught-proofing, and if enough works are undertaken, the cashback could add up to more than £1,000. However, the Dec spokesman said it was expected the average household would get around £350, meaning the rates could be cut after 114,285 households have undergone works.

The cashback will be capped at 50% of a householder's contribution, with the money paid by the company that undertakes the retrofitting. The loan is tied to the property, rather than the individual.

The government hopes the green deal will transform the energy efficiency of 14m homes, 43% of which still have inadequate loft insulation, while creating thousands of jobs and cutting carbon emissions.

"The cashback will help get the green deal away. But the long-term success of the scheme will still depend on the interest rate [of the loans]," David Symons, director at WSP Environment & Energy, told the Guardian.

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Rural India marches on Delhi over landless poor

Adivasis, or tribals, among victims of economic boom seeking not just 'right to land' or compensation but say in India's future

By Jason Burke, Guardian.co.uk,

[Tens of thousands of landless peasant farmers gather in Gwalior in north India to march to the capital, New Delhi, to demand their right to land [Watch the video](#)]

The bus left Badpura village, bounced down a dirt track leading to where the buffalo bathe, then along a narrow lane through scrappy fields and out on to the main road. From the vehicle's windows green and white flags flew.

Inside were a dozen or so landless peasant farmers, heading to Delhi, the capital, to confront their nation's leaders and press their right to land. So far the marchers, 50,000-strong according to the organisers, have covered around 80 kilometres, not even a quarter of the distance they hope to travel. Their march will take another three weeks.

They have come from Kerala in the south-west to Bengal in the north-east, all drawn from the poorest of the Indian poor. They had gathered at the northern town of Gwalior, and then set off last Wednesday, the anniversary of Mahatma Gandhi's birth, inspired by the independence leader's own tactics.

PV Rajagopal, the veteran activist who organised the *yatra* (pilgrimage), told the Guardian that the participants' aim was not just to win a "right to land" but to fundamentally alter the direction of India's development.

"There is conflict at every level with the model we have now. Gandhi's vision in this country is being rejected every day. Now we have a capitalist, consumerist model. If India does not change this, the writing is on the wall," he said, explaining that a similar, smaller march in 2007 had had an insufficient impact.

There are many who argue that such views are naive and that India's development – and thus the eradication of poverty – depends on urbanisation, massive investment in infrastructure and the development of a manufacturing base capable of providing employment for huge numbers of people, especially the young.

Then there are those who argue that the sanctification of rural life inspired by Gandhi has contributed to the tenacity of poverty in India.

Rajagopal, who made his name negotiating the surrender of bandits in the rough countryside around Gwalior in the early 1970s, disagrees.

"Nearly 100,000 villages have been destroyed since India gained its independence. I cannot accept industrialisation at this cost," he said.

The inhabitants of Badpura exist on the margins of Indian society and economy. A cluster of mud-walled homes on a high, rocky ridge

perched above the plains around Gwalior, it is home to around 100 families.

Some are from the lowest ranks of the caste system, the millennia-old social hierarchy that is still powerful in India. Others are so-called "adivasi" (tribals), who can trace their origins back to the subcontinent's most ancient inhabitants and who often live in forest or hill areas that are now prized by industry for their raw materials. At best the *adivasi* have gained little from the two decades of economic boom in India. Often they have lost a great deal.

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India's Suzlon Defaults On \$209 Million Bond

SustainableBusiness.com News

Suzlon Energy (BOM:532667) will fail to repay \$209 million of debt due this week in India's biggest ever convertible bond default.

The world's sixth largest wind turbine manufacturer tried to get a four month extension, but that request was rejected by bondholders.

Maturing bonds include a zero-coupon note with a face value of \$200 million and a 7.5% interest rate, and a note for \$20.8 million – the total default is \$209 million after redemption premiums are factored in.

Suzlon is putting on a brave face, but this is the second time the company has asked for a debt extension this year.

It received a 45-day extension on \$360 million in convertible notes due in June – the company borrowed \$300 million and sold two Indian wind farms to make good.

That brings the company's debt to \$2.8 billion, including \$965 million in revolving facilities related to acquisitions made before a supply glut depressed turbine prices. Suzlon's main lender is the State Bank of India.

The news caused yields for the company's \$175 million, 5% convertible debt due in April 2016 to surge 7.7%, and the company's share price slipped 2.4% on India's stock exchange.

Like other companies in India, Suzlon's difficulties stem from taking advantage of "inexpensive" foreign currency convertible bonds when their share prices were high and the rupee was stronger. In the past three years, Suzlon's stock has dived over 83%, wiping \$2.5 billion from its market value.

The company currently has \$7.2 billion in orders on its books, but it has posted losses for the last three years and is struggling to raise the working capital to fill them.

It's expects to make \$60 million for the sale its manufacturing business in China, and is looking to recoup \$217 million from a division of Edison International for turbines sold for an Illinois wind farm. Edison says Suzlon hasn't met the conditions necessary to be paid.

Suzlon employs 13,000 people worldwide and has 20,000 megawatts (MW) of wind energy capacity installed in 30 countries as of the end of 2011. The company sells one of the most comprehensive product portfolios - ranging from sub-megawatt on-shore turbines at 600 kilowatts (kW) to the world's largest commercial 6.15 MW offshore turbine - built on a vertically integrated, low-cost, manufacturing base. Suzlon has a 95% stake in Germany-based REpower Systems AG (ETR: RPW).

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50 Per Cent of Wetlands Lost During 20th Century

Hyderabad, India – The key role that rapidly diminishing wetlands play in supporting human life and biodiversity needs to be recognized and integrated into decision-making as a vital component of the transition to a resource-efficient, sustainable world economy, according to a new **TEEB** report released on October 16.

Water security is widely regarded as one of the key natural resource challenges currently facing the world. Human drivers of ecosystem change, including destructive extractive industries, unsustainable agriculture and poorly managed urban expansion, are posing a threat to global freshwater biodiversity and water security for 80 per cent of the world's population.

Global and local water cycles are strongly dependent on healthy and productive wetlands, which provide clean drinking water, irrigation for agriculture, and flood regulation, as well as supporting biodiversity and propping up industries such as fisheries and tourism in many locations.



Yet, despite the high value of these ecosystem services, wetlands continue to be degraded or lost at an alarming pace, according to “**The Economics of Ecosystems and Biodiversity (TEEB) for Water and Wetlands**” report, released for consultation on October 16 at the 11th meeting of the Conference of the Parties to the **Convention for Biological Diversity (CBD)**.

Half of the world's wetlands were lost during the twentieth century – due mainly to factors such as intensive agricultural production, unsustainable water extraction for domestic and industrial use, urbanization, infrastructure development and pollution. The continuing degradation of wetlands is resulting in significant economic burdens on communities, countries and businesses.

The report also highlights that the restoration of wetlands and their water-related services, also offers significant opportunities to address sustainable and cost-effective solutions to water

management problems.

“Policies and decisions often do not take into account the many services that wetlands provide – thus leading to the rapid degradation and loss of wetlands globally,” said UN Under-Secretary General and UN Environment Programme Executive Director **Achim Steiner**.

“There is an urgent need to put wetlands and water-related ecosystem services at the heart of water management in order to meet the social, economic and environmental needs of a global population predicted to reach 9 billion by 2050,” he added.

The report – initiated by the **Ramsar Convention on Wetlands** with financial support from the Norwegian, Swiss and Finnish Governments and developed by the **Institute for European Environmental Policy (IEEP)**, together with the Secretariat of the Ramsar Convention, the Secretariat of the Convention on Biological Diversity, **Wetlands International**, the **Helmholtz Centre for Environmental Research (UFZ)**, and the **International Union for Conservation of Nature (IUCN)** – lays out a raft of recommendations that would slow and ultimately halt the degradation of wetlands.

Taking account of the value of water and wetlands in public policy and private decisions; fully integrating the management of wetlands and securing their wise use in water management; and prioritizing the further loss and conversion of wetlands through strategic environmental assessments are among the many steps that must be taken, according to the report.

“In 2008, the world's governments at the Ramsar Convention's 10th Conference of Parties stressed that for water management carrying on ‘business-as-usual’ is no longer an option,” said the Ramsar Convention's Deputy Secretary General, **Nick Davidson**.

“This report tells us bluntly just how much more important than generally realized are our coastal and inland wetlands: for the huge value of the benefits they provide to everyone, particularly in continuing to deliver natural solutions for water – in the right quantity and quality, where and when we need it. If we continue to undervalue wetlands in our decisions for economic growth, we do at our increasing peril for people's livelihoods and the world's economies,” he added.

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Forthcoming Events

International Conference

on

"Global Environmental Change and Human Security (GECS 2012): The Need for a New Vision for Science, Policy and Leadership (Climate Change as an Opportunity)"

November 22-24, 2012 at Marrakech, Morocco

The North-South Center for Social Sciences (NRCS) and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), along with Department of Environment, Ministry of Energy, Mines, Water and Environment, Morocco, and National Council for Climate Change, Sustainable Development and Leadership (NCCSD), India, are organizing the third edition of their annual international conference with focus on the theme, "Global Environmental Change and Human Security: The Need for a New Vision for Science, Policy and Leadership (Climate Change as an Opportunity)".

This edition is expected to provide an update of the newest understanding of environmental change caused by current development models and schemes, human security implications of this change, and options available for different societies to respond to present and future challenges.

Participants will consider how understandings and conceptions of security are being transformed in the face of global environmental change (with a focus on climate change), and how urgent a shift - in science, policy and technology levels - is required to manage efficiently and prudently the current dynamics. The event will serve as a space to conceive this critically needed roadmap.

ThinktoSustain.com is the 'Media Partner' for the event.

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“Sustainable Brands London Conference”

November 27 – 28, 2012

London, UK

The conference titled “Sustainable Brands London Conference” is being organized at The Mermaid Theatre and Conference Center London, UK on 27th and 28th November 2012. The conference intends at providing insight to development of sustainable brands. SB Conferences are being organized since 2007 and has been attended by global & national companies, as well as government officials and NGOs. The sponsors of the event include **Adidas, Sainsbury's, Coca Cola, Philips, Nestle', H&M, Unilever, Marks and Spencer, Nokia** etc.

[<SeeBrochure>](#)

Forthcoming Events

Sustainability Business Management Conclave 2012

November 29-30, 2012

Mumbai, India

The Sustainability Business Management Conclave 2012 is being organized by Yoogma Business Services LLP. The event is scheduled to be held at Hilton Hotel, Mumbai on 29th and 30th November 2012. The conclave would feature India's renowned experts from business sustainability domain to provide insights into the issues related to sustainable business management. During this event, insights on sustainability in business management will be addressed and delivered by nation's renowned experts from this domain. Key themes of the conclave are:

- International and Domestic Policies
- Leaders Lead: Taking a Visible Role in Sustainability
- ESG Issues
- Sustainability Governance, Risk & Compliance Management
- Sustainability Disclosure and Reporting - GRI Formats
- Sustainability Innovations

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“International Conference

on

Creating a Sustainable Business: Managerial Implications and Challenges

at

Jaipuria Institute of Management, Jaipur (India)

December 7-9, 2012

Jaipuria Institute of Management (Lucknow, Noida, Jaipur, Indore) in association with Eastern Mennonite University, USA, University of Applied Sciences, Finland; University of Illinois, USA, Global Institute of Flexible Systems Management and National Entrepreneurship Network (NEN) is organizing “ International Conference on Creating a Sustainable Business: Managerial Implications and Challenges (ICSBMC-12)” on December 7-9, 2012 at Jaipuria, Jaipur campus.

The conference is so designed that participants from India and abroad from various segments, viz., policymakers, regulators, consultants, advisors, academicians, professionals, research scholars/students would attend, participate in deliberations and present papers.

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Forthcoming Events

Corporate Social Responsibility & Sustainability in Mining

Addressing economic, environmental and social challenges

December 3 – 4, 2012

St. Andrew's Club and Conference Centre, Toronto

Insight Information has organized a two-day conference to bring together an esteemed faculty of experts who will provide an in-depth overview of challenges faced by the CSR professionals in the mining industry. Speakers will share best practices in successfully incorporating sustainable methods such as managing human rights issues, reducing environmental impacts and incorporating sustainable practices into your company's business strategy and operations. This presents a valuable opportunity to understand both current issues and emerging trends.

The event will take place at St. Andrews Club and Conference Centre, in Toronto, Ontario during December 3-4, 2012.

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Harvesting the benefits of sustainability

(New business models for a changing economic and environmental landscape)

5th December 2012

Guardian Sustainable Business Quarterly event is being organized on 5th December 2012, at America Square Conference Centre, London. The event is titled "Harvesting the benefits of sustainability: New business models for a changing economic and environmental landscape". The event brings together business leaders who have successfully integrated sustainability into their strategy to get results. The speakers include Richard Ellis, Group Head of Corporate Social Responsibility, Alliance Boots, Christopher Lukezic, Directors of Communications, EMEA, Airbnb.com and Charlotte Wolff, Group Head of Corporate Responsibility, ArcelorMittal

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Forthcoming Events

NATIONAL SEMINAR ON SUSTAINABLE ENERGY FOR DEVELOPMENT - OPPORTUNITIES AND CHALLENGES AHEAD

13th and 14th December 2012

A National Seminar on Sustainable Energy for Development – Opportunities and Challenges ahead is being organized by the department of Botany, St. Xavier's College situated in Palayamkottai in Tamil Nadu. The seminar is being organized to:

- aggregate researchers, academics and scientists from the environmental science community and create an avenue towards robust exchange of information on technological advances, new scientific achievements, and the effectiveness of various environmental issues.
- to provide attendees the platform to deliberate research results, ideas, and recommendations on sustainable energy in a professional setting.
- to challenge and inspire the environmental science community through the interchange of knowledge and sharing of the best practices in a global-scale context and toward advances for sustainable future.

Topics of interest include, but are not limited to:

- Sustainable/ renewable energy
- Behaviour of and impacts of pollutants in atmosphere, soil and water
- Management of ecosystems, environment and water resources
- Assessments of the condition of ecosystems and environmental quality
- Treatment/restoration of ecosystems, environment and water resources
- Water treatment.

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The Economic Times, Delhi dated October 01, 2012

A Multi-Model Boost For Climate Change Research

IISc's new research makes a grim global warming forecast for India, especially post 2030

HARI PULAKKAT
BANGALORE

J Srinivasan, professor at the Indian Institute of Science (IISc) in Bangalore, goes through his work days secretly hoping for a global major climate crisis. As a leading climate change scientist in India, he knows that the country and the world are inching towards disaster. A serious crisis now would shake up people and make them act, he thinks. "I remember the ozone hole crisis while I was a student," says Srinivasan. "Scientists were talking about it for a long time, but they took action only when the hole appeared over the pole."

Srinivasan has reasons to worry, particularly for India. Some of his colleagues at the IISc have done the first multi-model study of climate change for India for the rest of the century. It makes grim reading, particularly after the year 2030. If the world does not cut down its carbon dioxide quickly, temperatures will rise – compared to pre-industrial

This is the first multi-model study anyone has done over the Indian sub-continent, and it has shown agreement over historical data

GOVINDSWAMY BALA
Professor, Divecha Centre for Climate Change, IISc

times – over the Indian sub-continent by 1.7 to 2 degree centigrade by 2030, and 3.3 to 4.8 degree centigrade by 2080.

Since we have warmed by slightly less than a degree so far, the next 20 years would see an additional warming of nearly 1 degree centigrade. Says Govindaswamy Bala, professor at the Divecha Centre for Climate Change at the IISc: "This is the first multi-model study anyone has done over the Indian sub-continent, and it has shown agreement over historical data."

This study is to be published soon by the journal *Current Science*. Bala and his colleagues have used the new climate models that are going to be used for the next report of the Intergovernmental Panel for Climate Change (IPCC). They were available around May this year, and the IISc team has been quick to use them to give the first forecasts. All other studies have looked at only one model, and there are large variations between predictions of different models. The average of different models, as done by the current study, shows good agreement with what has happened in the past. So it is considered a more reliable indicator of future climate trends than those predicted by individual models.

The temperature increase has serious con-

Eco-Peril

The Problem

- If the world does not cut down its carbon dioxide quickly, temperatures will rise – compared to pre-industrial times
- If we do nothing about carbon dioxide, rainfall would increase 4 to 5% by 2030 and 6 to 14% by the end of the Century

The Consequences

- Water is expected to become scarce, forests will decline and agriculture output will fall

The Project

- IISc is carrying out the first multi-model study of climate change for India for the rest of the century
- All other studies have looked at only one model, and there are large variations between predictions of different models
- The average of different models, as done by the current study, shows good agreement with what has happened in the past

Rise in temperature over the India subcontinent

- by 2030: 1.7 - 2° centigrade
- by 2080: 3.3 - 4.8° centigrade

sequences for the Indian sub-continent. Water is expected to become scarce, forests to decline and agriculture output to fall. All models forecast an increase in rainfall over the century, but no one can predict how this increase will happen. What would happen if the increase is over the sea, concomitant with a decrease over land? Models also predict increase in rainfall to happen in intense bursts and not spread over a long period. All this would point to a water scarcity over the sub-continent, although the precise amount will depend on how the rainfall is distributed over the country.

In the *Current Science* study, rainfall – if we do nothing about reducing carbon dioxide – would increase 4 to 5% by 2030 and 6% to 14% by the end of the century. Also shown to increase is the frequency of extreme precipitation. "We have very little ability to predict rainfall accurately," says Srinivasan. For example, in the last decade, the end of September has been a dry period. This is not in tune with what happened over the last century. No one knows why this happens.

Increase in temperature has serious repercussions on our forestry. A study last year by the Centre for Sustainable Technologies at IISc found that nearly 40% of India's forests are at risk. This includes one-third of West-

ern Ghats and almost 50% of Himalayan forests. This team is now working on the new models to estimate the impact of temperature rise on forests. In normal circumstances, plant species migrate and replace vanishing species. But with roads and fields interspersing forests, this is not easy. Says NH Ravindranath, professor at the Centre for Sustainable Technologies: "It will take hundreds of years for forests and biodiversity to grow back again."

So, what could shake up the world? Severe weather is certainly the one to look for and one such phenomenon could be the drought over the American Mid-West. In March this year, temperatures were 15 degrees higher than normal there. The US Mid-West is far away from the sea and so does not get rainfall copiously, as moisture-laden winds have to travel long distances. This area is thus sensitive to climate changes. Yet this area is the bread-basket of the world. Severe and successive droughts there could reduce US farm production enough for policymakers to start thinking seriously, like when the ozone hole problem happened. So should we pray for a calamity to save the world?

For feedback, write to us at et.technology@indiatimes.com

The Economic Times, Delhi dated October 02, 2012

Subsidise Solar, not Diesel

Switching to solar farm pumpsets can ease pollution, subsidy, current account deficit and power shortages



KIRAN KARNIK
INDEPENDENT POLICY &
STRATEGY ANALYST

The increase in diesel price has once again ignited the simmering controversy about the subsidy for various energy products. One fallout of the growing subsidy for diesel is the large rise in sales of diesel cars and SUVs. In fact, diesel cars are growing their share of the total market so rapidly that auto companies that make only petrol cars are in considerable trouble. This dieselisation of cars is resulting in massive subsidies flowing to unintended beneficiaries: rich car owners.

In addition, it is adding to the pollution problem, especially in urban areas. Many suggestions for correctives have been made, but each time, the automobile lobby seems to have the clout to thwart them.

One yet hopes for a special cess — say, 20%, of the cost — at the time of purchase of each diesel car, a large part of which could be used to finance the purchase of buses: CNG-based, thus also minimising pollution. This will not only give a fillip to public transport but will, incidentally, also create more employment and help the automobile industry. Some part of the cess must

also be used to improve facilities for pedestrians, that grossly neglected and long-suffering majority.

Apart from transportation, huge quantities of diesel are consumed in two other sectors: telecom, mainly for generators that provide standby power to mobile phone towers; and agriculture, where diesel gensets are used — given the unreliability of grid electricity — to power motors that pump water. In the former, there is a move to go green by using solar power instead of diesel, though cost and weather are yet barriers.

The more exciting and ideal use of solar power, though, would be for agricultural pumps. Water for irrigating the fields is required to be pumped when there is no rain — that is, at a time when the skies are largely clear and abundant sunshine is available. Also, there is no need for the pump to function at night. This makes solar power the perfect source for this requirement.

The easiest and quickest approach would be to replace the diesel generator with a solar pack. It would, of course, necessitate the reconversion of power — stored in a battery — to alternating current that is fed to the pump. However, there is the interesting possibility of using a direct current motor for the pumpset, obviating the need for DC-to-AC conversion and, thereby, leading to a saving of 25% in power consumption.

With the growth of solar power, the widespread use of DC motors would make eminent



GEETANJALI

sense. Their efficiency and cost saving will generate demand that, in turn, leads to lower costs. Industry should work with academic and research institutions to develop DC motors for various applications with optimal design parameters to minimise cost, while delivering the required performance.

Three technological elements need attention and focused effort. The first is rare earth magnets needed for DC motors: the cost needs to be brought down through research and large-scale production. Second, low-cost storage, i.e., batteries. Third, the production of silicon for solar cells, for which facilities need to be created in India. In the short term, though, it would be worthwhile to invest in obtaining captive plants abroad. Government could either do this directly or incentivise companies to do so.

The present target of 20,000 MW of off-grid solar power by

2022 seems ridiculously low in the context of both need and potential. Industry, working with research organisations, needs to create stand-alone packages for specific applications and aggressively market them to users.

The first target could be institutions and large housing projects in cities, which can easily afford the upfront investment with a long payback period. Such usage could also be mandated by law, particularly for entities with a specified land and/or roof area. Banks could provide loans for this, possibly at a lower interest rate, with the subsidy coming from the government. In addition, encouragement could be given to companies that set up such solar power units for others in a build, own, operate and transfer, or BOOT, model and charge a monthly fee.

Farms, as noted earlier, should be the biggest user of such stand-alone off-grid solar ene-

rgy units, packaged with a DC motor to pump water. The alternative of only the solar unit with an interface to the existing pumpset could also be provided. These units need to be 'productised' and sold as a package, including maintenance and guarantees. Rural entrepreneurs could be trained to install and maintain these units, thus creating employment, entrepreneurship and better service for the farmer.

Subsidies presently being given for diesel — estimated at ₹30,000 crore — could be diverted to such solar units, helping to kick-start these new applications on a massive scale. This would have the advantage of reducing three critical factors: pollution, the oil import bill and — over a period of time — subsidies.

This can work, though, only with a proper policy framework and if there is collaboration between government, research institutions and industry. Given the nascent stage of the industry in this field, the initiative may have to come from the government.

Further, to do this on a scale that has an impact, it would require the involvement of large companies. With the conflicting demands of energy generation and climate change, of diesel subsidy and a ballooning oil-import bill, it is only clean, renewable power that provides hope. Here is an opportunity to tackle many problems — pollution, subsidy, current account deficit and power shortages — with one solution. Government needs to act, and act fast.

The Times of India, Delhi dated October 06, 2012

City to get 9% power from green sources

Discoms Find Purchase Plan 'Over-Ambitious'

Neha Lakhandani | TNN

New Delhi: Taking Delhi's climate change agenda forward, the power regulator has mandated that in the next five years, 9% of Delhi's power supply will come through renewable sources.

The renewable purchase obligation (RPO), under which discoms will have to source a specific amount of power through renewable sources, was declared by Delhi Electricity Regulatory Commission on October 1. For the current financial year, the minimum power to be sourced through renewable energy is 3.40% with a 0.15% solar component. "The RPO was declared six months into the current financial year so at most, we will be required to meet only half of this quantum," said discom sources.

While the environment lobby is thrilled with the order, discoms say that not only is the RPO overly ambitious but the decision will also lead to a tariff hike which the commission should be prepared to defend.

REUSING ENERGY

Minimum quantum of power to be sourced through renewable energy as part of total consumption in Delhi:

Year	Solar	Total
2012-13	0.15	3.40
2013-14	0.20	4.80
2014-15	0.25	6.20
2015-16	0.30	7.60
2016-17	0.35	9.00

Figures in %

Tata Power Delhi Distribution Ltd (TPDDL) CEO Praveer Sinha said it would take them at least six months to arrange for power since local generation was next to impossible. "It will be tough to implement this immediately. We will have to tie up with other states and for this system, we will have to look at long-term power purchase agreements. It is still too early to say but in case we are unable to source power through other states, we will have to consider investing in renewable energy

certificates (REC). That, however, will be our last option," he said.

RECs work like carbon credits. They are generated by those states that produce renewable power more than their respective RPOs. States that are unable to meet their RPOs, can purchase RECs from these states. However, since RECs are very expensive the trade is low.

Delhi is among the last few states to announce an RPO. As renewable energy is highly expensive to produce, RPO in some states is only an advisory.

Delhi will have to implement the order and discoms can be penalized for falling short of the mandated quantum for each year. TPDDL has set up solar plants in Delhi but it produces only two million units against the 12 million units required for the current year.

Industry insiders say that apart from arranging for power, the government will face problem in determining the tariff. Solar power costs Rs 10-12 per unit while the other renewable sources cost Rs 45.

The Times of India, Delhi dated October 06, 2012



BLACK REDSTART



INDIAN ROLLER



PIED BUSHCHAT



GREY HERON



PIED MYNA

LOSS OF HABITAT CLIPS BIRDS' WINGS

Photos: Anindya Chattopadhyay



storks have started nesting in the heronry. So far, the area seems satisfactory for water and grass birds. However, the loss of wetland is a huge problem. Waders will simply bypass the area if they do not find suitable habitat. Places where hundreds of waders could be seen at one point are completely overgrown with grass now," he said.

Since the past few years, the park is being closed for a few months each year, ostensibly during the period when resident birds breed. However, sources say that the park authorities were caught on the wrong foot once when they drained the lake to kill off a variety of fish and no other park, including bigger ones like Bharatpur, are closed ever. "The decision was taken by the government to protect resident birds when they breed and we have seen positive results," said a source.

When asked about the poor maintenance of the park, the DFO says that they are starved of funds and have no money to carry out any work. "We are given Rs 2 lakh annually for maintenance work which is pittance for a park of this size. For a lot of other work, we had sent a proposal to the Centre and funds were sanctioned about two months earlier. That money has to be released to us by the state government but we have heard nothing from them so far. We have no resources to even cut the grass," said Singh.

He also attributes the condition of the park to a poor monsoon. "The wetland would have been fine had the monsoon been good this side. But the rain came quite late and it was too little in quantity. Even water for irrigation was delayed this year. A lot of work is required in the park but we are helpless," he said.

Neha Lalchandani | TNN

Sultanpur Bird Sanctuary opened for the public on October 2 with only one highlight. The park's only pair of resident saras cranes have had two chicks. While the parents can be seen strutting around the heronry, the babies are well concealed in the tall grass that is growing in abundance in the park this year.

"The park was initially scheduled to be opened on September 15 but the cranes had made their nest just off the main path leading towards the heronry and only one chick had hatched by then. We had to wait for the other chick to hatch before the public could be allowed inside. Letting people in any earlier might have been very dangerous for the eggs," said Kulwinder Singh, divisional forest officer

of Haryana.

Migratory birds have already started coming in but it will take a month or so before a sizable population can be seen. Of the winter migrants, a few raptors like the booted eagle, marsh harrier and white-eyed buzzard can be seen at Sultanpur and the neighbouring Basai wetlands.

Others that are easily visible include the northern shoveler, gadwalls, common coot and common pochard.

However, the biggest concern this year seems to be a loss of habitat for waders. The natural wetland is in a state of degradation with extremely tall grass. The only place where waders can be seen is an artificial water body that has been created on one side. Birds like ruff, green sandpiper, black tailed godwit and common red shank can be spotted here. Dr Surya Prakash, a birder who



COMMON WOODSHRIKE

The divisional forest officer attributes the bad condition of Sultanpur Bird Sanctuary to lack of funds and a poor monsoon.



visited the park after it reopened, said, "It is still too early to find many migratory birds though some numbers have already arrived. Painted

*Hindustan Times, Chandigarh dated
October 06, 2012*

A CRORE A YEAR IS SAVED IN ENERGY BILLS

WASTE MANAGEMENT

Waste is segregated at the point of its generation. At PBC, food waste is converted into organic natural manure through vermi-culture. Vermicompost is available at minimal cost and used for horticulture purpose. Inorganic waste like paper, aluminum foils, plastic bottles, are recycled.

ENERGY SAVINGS

In any organisation, about 60% of the total power consumption is attributed to the air conditioning plant. To reduce the load on the air-conditioning plant, green mesh are installed outside the building, green plants have been put in the balcony, all the windows have solar films and are sealed with rubber lining to prevent infiltration of air. The building and its roof are painted white to reflect sunlight and heat and keep the building cooler. The entire HVAC system is monitored and analysed in terms of energy consumption and heat load. A heat recovery wheel has been installed for transferring the heat from the incoming air to the outgoing air from the building, while the coolness of the outgoing air is transferred to the incoming fresh air. Sub meters are also installed at all strategic locations in the building in order to track the daily power consumption and control any wastage. Motion sensors have been installed in the bathrooms in order to control electricity wastage. LEDs are used for lighting. PBC has thus been able to cut down on energy consumption on the demand side, to the tune of 2/3 in the past decade, saving over ₹1 crore/ year in energy bills.

WATER CONSERVATION

Rainwater harvesting: PBC collects rain water from the roof and recharges it back into the ground. The effective water saving at normal rainfall at PBC is 183,000 litres per annum. The surface water from the surrounding areas is diverted to a well in the Nehru Place Greens Park from where the ground water is recharged. Soap-free water is used for gardening. Approximately 150 litres of soap-free waste water/day was going into the drains. They decided to reuse the wastewater by channeling the flow to the garden for irrigation. This not only helped them save water but also saving electricity as now they do not pump water for gardening. Plants that are being watered with drip irrigation to avoid water wastage. They also have sensor taps to reduce water wastage. Waterless urinals have been installed. By doing this, they are able to save 234,000 litres a year.



*Deccan Chronicle, Hyderabad
dated October 08, 2012*

OVER-EXPLOITATION

ALARM OVER VANISHING CORAL REEFS

DC CORRESPONDENT
HYDERABAD, OCT. 7

Executive secretary of the Conference on Biological Diversity (CBD) Braulio F. de Souza Dias, said that CoP 11 has called urgent attention to disappearing coral reefs.

"CoP 11 is going to focus on coral reef conservation in the most urgent way as part of Aichi Targets, with a 2015 deadline. Due to pollution, over-exploitation and ocean acidification, the coral reefs will disappear in a decade. This is the most urgent challenge," said Mr Dias.

"The stock of fish is fast depleting, not only in Asia but also in India. Around 90 per cent of fish in oceans have already disappeared due to indiscriminate exploitation. So in future, there may be no fish to eat!" he said.

He added, "The 'target 10' of Aichi Targets says that by 2015 the multiple anthropogenic pressures on coral reefs and other vulnerable ecosystems impacted by climate change or ocean acidification are to be minimised, to maintain their integrity and functioning."

'Target 6' speaks of sustainable management of fish and other marine organisms. Overfishing is to be avoided and recovery plans for depleted species have to be increased.

'Target 11' dwells on the protection of at least 10 per cent of coastal and marine regions.

The Times of India, Delhi dated October 08, 2012

Tihar ties up with Barc to produce green power

Indrani Basu | TNN

New Delhi: Soon, Tihar Jail will produce its own electricity. In a memorandum of understanding signed between the jail authorities and the Bhabha Atomic Research Centre (Barc), a Nisargruna biogas plant based on biodegradable waste will be set up in sub-jail number 2. This will convert biodegradable kitchen waste into biogas and manure and further produce electricity, said officials.

The scientific data generated during the operation and maintenance of the plant shall be owned and used by Barc and will have capacity of one ton per day.

"The jails produce a lot of waste that can be used for environmental and productive purposed. Currently we spend a lot of money every day transporting the waste and depositing it at a landfill in Jahangirpuri. Through this plant, we will save the money and also contribute positively to the environment," explained Tihar law officer and spokesperson Sunil Gupta.

Jail officials claim that this will not only reduce security concerns over the large amount of waste



ENVIRONMENT FRIENDLY

transported out every day, which can be used as an escape route by inmates, but also significantly decrease their electricity costs.

"We are also in talks with the ministry of new and renewable energy to start a solar-powered plant for generating electricity. Rough estimates suggest that we could save Rs 1 crore annually on electricity bills alone if we get solar energy," added Gupta.

Barc has successfully developed the technology of Nisargruna kitchen waste (biodegradable waste) based biogas plant. This

technology has been transferred to more than 80 entrepreneurs by Barc and more than 100 plants have been constructed and are in the country, said officials.

While Barc will set up the plant through one of the agencies to whom they have transferred the technology under its technical guidance, the plant will be operated and run by the same agency. Barc will provide the technical consultancy for construction, installation, operation and maintenance of the plant, said officials.

Tihar authorities will provide about 50 sq m land for the plant and supply electricity and water supply. The jail authorities will pay Rs 12 lakhs for construction of plant, machineries, subsystems and installation and provide funds to the maintenance agency on a quarterly basis for operation and maintenance of the plant which will amount to Rs 3 lakhs in a year.

"The idea is to have sustainable energy and proper waste management. Tihar has been committed to contributing positively to the environment by using recycled material and other efforts," said Gupta.

Deccan Chronicle, Hyderabad dated October 10, 2012

Sand mining, shipwrecks polluting India's coastline

RAM KUMAR RAMASWAMY | DC HYDERABAD, OCT. 9

The 7,000-km long Indian coastline that is home to 30 per cent of the country's population faces a huge threat from unbridled sand mining and commercial coastal activity.

"In AP, the Nellore and Godavari coast is threatened by these mafias who take away large quantities of vital sea sand by using mechanised devices," said Prof B.C. Choudhary of the Wildlife Institute of India. "The sandy stretches of Srikakulam, Vizag, East and West Godavari and the southern region of Nellore are the places where the Indian Rare Earths Ltd is sieving sand for thorium that would fuel nuclear reactors. This has been disastrous for the sensitive marine ecosystem," he said.

"Also, our nation does not have the ability to handle the ships that pass through the Indian coast.

3,000 people in 25 nations respond

World Wide Views on Biodiversity conducted a democratic deliberation in which it gathered citizen views on biodiversity policy issues. About 3,000 people from 25 countries expressed their opinions. The results will be presented at the CoP on Oct. 18

MOST COMMON VIEWS WERE

- Eat less meat
- Intensify agricultural production
- Over-fishing should be phased out
- Protect coral reefs as a shared responsibility
- Declare more protected areas in the high seas.



Women ignored in conservation policies

■ Recognising the importance of marine and coastal areas, 25 countries pledged to increase marine conservation area, but there has been no mention of women in the policies. This despite the fact that women form an integral part of the fisheries sector. About 48 per cent of fisher folk are women and 75 per cent of the fisheries marketing is done by them.

They pollute Indian coastal ecosystems, sometimes end up shipwrecked and the situation is never redressed by the country of these ships' origin," said Sumaira Abdul Ali, Awaaz Foundation.

Deccan Chronicle, Hyderabad dated October 12, 2012

Pollution body to be quizzed by Centre

JATINDER KAUR TUR | DC HYDERABAD, OCT. 11

Andhra Pradesh Pollution Control Board is pulling its socks to face some real quizzing and give explanations, in the wake of the forthcoming visit of Parliamentary Standing Committee on Environment & Forests. APPCB was sent queries with regard to the mitigation measures it took to tackle pollution in Hyderabad and Visakhapatnam. Meanwhile, various oil companies including Indian Oil Corporation Limited, ONGC, Bharat Petroleum etc. have also been asked to furnish information on steps taken to alleviate pollution from ethanol blended fuel. The committee is reportedly keen on knowing

VIZAG IN 'CRITICALLY-POLLUTED' LIST

Visakhapatnam continues to be in the 'critically-polluted' list of the Central Environmental Pollution Control Board. The ministry of environment and forests, after reviewing APPCB's revised action plan for Patancheru-Bolaram areas, had de-listed the same from the critically-polluted

about the implementation of the ban on setting up industries within a 10-km radius of Himayatsagar and Osmansagar reservoirs, which provide water supply to Hyderabad and Secunderabad. Despite repeated instructions and perusals of APPCB, a significant chunk of indus-

tries manufacturing edible oil, textiles and those involved in re-rolling of corrugated iron are yet to shift out of the area. Meanwhile, APPCB is hopeful that the committee headed by T. Subbarami Reddy might pass necessary instructions to the state machinery to get

APPCB to initiate steps to mitigate pollution and to implement its own GOs in true letter and spirit.

APPCB, however, will be forced to divulge about the non-functionality of sewage treatment plants for Hussainsagar lake. The other bones of contention will be its failure to implement the ban on further expansion of industries or setting up of new units in Patancheru and similar areas, dumping of municipal solid waste for twin cities and the ambient air quality status etc.

Though APPCB has a lot to showcase in respect to steps taken to prevent pollution by bulk drug units, the political lobbying to patronise such units might not go unnoticed by the committee.

The Times of India, Delhi dated October 12, 2012

Tiff over carbon tax on aviation may end soon

Nitin Sethi | TNN

New Delhi: The face-off between the European Union (EU) and India over carbon tax on aviation could see a resolution, with a compromise formula likely to evolve at the UN's International Civil Aviation Organization (ICAO)'s meeting to be held in end-October.

Under the proposed formula, an international market-based mechanism would be developed for taxing international flights but it would apply to flights between developing countries at a later date, covering only the developed nations to begin with.

Revenues from developing countries' airlines would be reverted back to the respective nations to deploy in reducing greenhouse gas emissions from the aviation sector. The tax collected from rich countries' carriers would be shared with developing nations.

Sources said, discussions have been held in the Indian government on the proposal, but a decision would be possible only after the contours of the proposal are more clearly etched out internationally. The Indian source, who participated in the talks, said a key consideration remained whether EU would suspend or defer the unilateral imposition of aviation tax that starts next year till a deal can be agreed at ICAO.

EU has blinked once before in the trade row over the



FLYING HIGH

aviation carbon tax when Indian government banned its carriers from submitting data under the scheme. EU had threatened to impose penalty and block Indian airlines if data was not submitted, and New Delhi had made retaliatory statements promising a tit-for-tat, sources in the government said. But even as the deadline passed and India stuck to its guns, the EU did not live up to its threats. The actual collection of tax from international flights landing in the EU starts from next year.

India has had two primary concerns in the debate about any climate change levy on international aviation. It has negotiated to preserve the principle of 'common but differentiated responsibilities' and also ensure that no country takes unilateral trade measures, such as levies based on an environmental ruse.

*The Economic Times, Delhi
dated October 12, 2012*

— Moinak Mitra —

as cities get smarter, technology intertwines with people and existing urban legacy. There's no better person to bring that play alive than Gurudath Banavar, CTO, Global Public Sector, IBM, who has personally met over 300 local governments over the last couple of years. A Bangalorean who has lived most of his life in New York, Banavar is not averse to calling a spade a spade when it comes to integrating technology to the very fabric of urban India. If IBM's Real Time Crime Centre has helped in plunging the crime graph in New York to an all-time low, the Spanish-speaking technocrat recommends a Real Time 'Corruption' Centre for India. In a candid chat with CD, Banavar shoots the breeze on smart cities, Rio as a role model and the catching up that India needs to do. Edited excerpts:

What in your view should be the ingredients that go into the making of a smart city?

We have been trying to use the new resource we have in cities over the last 10 years, that is information—about infrastructure, services being developed, people. We're using information to improve the delivery of services, to improve ultimately the quality of life because you're able to handle requests from citizens in a more targeted way. We're also managing the networks—water networks, power networks etc.—so that we can prevent breakage, which ultimately makes infrastructure sustainable.

So what is the nerve centre of the smart city?

Obviously, the city or the local government will be the best place to manage a city. But you can also have many private sector entities, like a power company or a transportation concessionaire or a developer or an airport manager, who can also manage resources within their limited domain. But if you look at cities as a set of islands of private sector entities, the one entity that can pull it off together ultimately is the local government.

How are local governments empowered to take on such transformation?

Let's talk about the city of Rio de Janeiro, which has many problems similar to India's, like poverty, heterogeneity and it has evolved through bad times. There, the local government had enough executive power and also the political will to make a big transformation by putting everything together and have a central way to manage a city because they have a lot of big events coming up, like the Olympics etc. In India, leadership and political will is still challenging. Secondly, the power of local governments is pretty low right now and there's a constitutional amendment that will increase the power of local governments over state governments.

What do you do with legacy systems in large

Claim It On Rio



urban agglomerations while trying to integrate technology?

Let's take transportation. If we were doing a project in Delhi on transportation, this is how we would approach it. First of all, there are a lot of sensors on the streets, which are already implemented in many segments of Delhi. That gives you the volume of traffic that is moving on the roads. Those are called loop sensors, which are embedded in the roads. There are also traffic lights that can be controlled remotely. There's also the public transport system. Imagine you have GPS systems in all of these buses and metros and BRTs. Also, let's say you have a way to track the number of people who are entering and leaving, say the buses. That is pretty standard technology. Also, you have fares. Now all this is legacy.

What can IBM do on top of all these?

We can collect all of this information from these different sources and integrate it. Now what can we do with that information model? We can analyse the demand for mobility—how many people are going from which point to which point; what is the volume of people; buses and taxis and everything else. Once you understand mobility patterns, you can do lots of things. You can figure out how to manage traffic, you can direct traffic where there is less congestion, you can even change road dynamics. What have you done in New York? Oh, we have done lots of things. There's

the Real Time Crime Centre (RTCC), which is one of the big advancements in crime in the last 10 years. There's been a huge drop in crime rates because of that and we've done the same for Chicago.

What mindsets have you seen at play globally while taking on such projects?

I don't want to get into east or west but there are certain things that come up repeatedly. If you're in Europe, the words 'social' and 'inclusion' keep coming up again and again. In the US, I hear words like 'privacy' a lot. It's as if people are always looking out for some space around them. They don't like it if you tell them that you record information when they go through a toll booth. They didn't like it in the beginning and there was a huge outcry because they simply didn't like the idea of someone finding out that they went through that toll booth. But then the choice was that either you stand in this long line and nobody will track you or go through this toll booth without wasting your time. Most people are doing that now.

In developing countries, save China, I hear the words 'innovation' a lot, for some reason. Why?

It's not because they are innovative. They're saying it because they're not innovative. These people are saying, 'Look, I want to be more innovative but I can't (on my own). Help me to get more innovative'. I also see the word 'development' a lot in use in these countries.

So the demand in the developing world is very basic, by the sound of it?

Yes, much more basic than the developed world because in the latter, they have a lot more things that are taken care of and the emerging nations first have to get there. It's natural.

Do you see more public projects coming your way in India or is it of a private-public nature?

I think the latter. It will be difficult for the public sector alone to pull it off. I think what it requires is willingness and sponsorship of the public sector but the investment has to come in from the private sector because they build the business case and find the right skills to make it happen.

But the moment private sector gets in, corruption sets in, particularly in India. Coal is a classic case in point...

Yes. Even in the west, transparency and good governance doesn't happen. But in places, that's not true and it has happened. When the right mayors or governors come in and start noticing some of these things and start cleaning up, skeletons do come out of the closet. I've sat at rooms and people told me things that I wouldn't reveal anywhere else.

So what's the solution for India?

(Laughs) Instead of 'C' standing for crime, we'll make it corruption. So, Real Time Corruption Centre for India. How's that? So you have a website here and every time someone pays a bribe, that gets highlighted. Imagine a Real Time Corruption Centre, which says corruption just happened and here is where it happened. Then you see where are the centres of corruption, the locations.

Of the 2,500 projects for IBM, how many have you been involved with personally?

I only work with strategic projects. Over the last two years, I've probably worked for 35-40 projects. And I would say I've met with 200-300 city governments, including mayors. That would be one city government every couple of days. That doesn't mean we've done projects with them but I've talked to that many cities.



IBM's tech Guru Gurudath Banavar on cities of the future

moinak.mitra@timesgroup.com

Deccan Chronicle, Hyderabad dated October 14, 2012

■ The yatra is an environmental pilgrimage on foot and non-motorised vehicles

Green Kumbh Yatra begins

DC CORRESPONDENT
HYDERABAD, OCT. 13

The world's first Green Kumbh Yatra will be launched from the CoP-11 conference venue in the city on Sunday which will culminate at Allahabad, the site of the Maha Kumbh Mela, in January 2012. The United Nation's Convention on Biodiversity secretariat will officially take part in the yatra.

Aimed at mobilising masses and bringing awareness, the yatra is an environmental pilgrim- age on foot and non- motorised vehicles traversing 1,125 kilometres through villages.

After Kumbh, the yatra will continue across the continent and reach South Korea for CoP-12 in 2014.

GYAN and Living Planet Foundation, in collaboration with Hyderabad-based Vikasa Tarangan, CBD secretariat, Sacred Natural Sites Initiative, IUCN and other groups are conducting the yatra in which international delegates and spiritual leaders will take part.

A decorated Kumbh consisting of samples of fabric from across the world will be presented to CBD executive secretary Mr D Souza Dias followed by a cultural show on India's culture and biodiversity.

Dr Kusum Vyas, founder of Living Planet Foundation and GYAN of USA said, "Kumbh means a brass pitcher, or kalash, it is an integral part of sacred activities in Hindu culture and it will be turned into Green Kumbh, a symbol of the web of life that includes all biodiversity."

"Our aim is to establish the Green Kumbh Yatra as a powerful focal point around which people can demonstrate their commitment to save the environment and building a clean, healthy, diverse world for generations to come" said Dr Vyas. Around 7 crore people are expected to turn out at the Maha Kumbh Mela which is the world's largest act of faith. The organisers have also asked the gov-



CLOCKWISE: Assam artistes perform the Bihu dance; Unesco director Shigeru Aoyago welcomes Daggubati Purandeswari; Visitors at the Peoples' Biodiversity Festival at Exhibition Grounds; DGP V. Dinesh Reddy's wife V. Kamala Reddy takes families of IPS officers around the main venue on Saturday.

— P. SURENDRA, S. SURENDER REDDY

The Times of India, Delhi dated
October 16, 2012

With green dole, India to set an example for West

Nitin Sethi | TNN

Hyderabad: Prime Minister Manmohan Singh is expected to kick off the high-level meeting of the UN Convention on Biodiversity with not just a speech but also a package, including a financial package for other developing countries, in the hope that reluctant developed countries may also shell out funds.



LEADING THE WAY

With the West in a recession, the chance of the big-ticket result India could have ensured at the Hyderabad meeting of the convention have turned bleak. While negotiations are on to get the developed countries to back their commitments with funds, the PM's package will be as much a gauntlet to the rich countries as a gesture to other smaller economies.

With environment ministers from more than 185 countries expected to gather in the Andhra Pradesh capital, the negotiations on how to finance global recovery and conservation of biodiversity have got stuck in a muddle rather familiar to international negotiations — who shall pay for it?

Sources at the conference said the decision on how to mobilize resources for the convention was deferred last year at the talks in Japan. But another attempt has been made by the developed coun-

tries to further delay it by a year by raising concerns about how effectively the funds would be utilized.

With several developed nations insisting that countries first mesh out details of how the funds would be accounted before the money is committed even nominally, the negotiations are likely to drag into the final day.

Considering the aversion of developed countries to fund targets for conservation, which had been decided earlier, expectations and negotiations have been taken a notch down with hope only of arriving at a short term interim source of funds — a face-saver for the developing as well as the developed world.

Developing countries have also been fighting back an attempt to break down the fire-wall between the developed and the poorer countries when it comes to apportioning financial responsibilities.

Deccan Chronicle, Hyderabad dated October 15, 2012

Climate of threat to food security



Suman Sahai

Despite the fact that independent India has not had large-scale famines, widespread hunger prevails and is growing. According to official data, almost 87 per cent of rural India gets less than the minimum calorie requirement. The decline in agricultural productivity, the diversion of foodgrains to feed poultry and livestock, policies that focus on export products and cash crops, as also inflationary food prices are contributing to a growing food crisis in the country. In addition, there is the proposed diversion of land and water to the production of Jatropha-based biofuels, the rapidly changing land use policy and the government's support for special economic zones

even when they encroach on prime agricultural land. Economic reforms in India have led to disinvestment in the agriculture sector. This has adversely affected more than two-thirds of the population that is dependent on agriculture for its livelihood. Farmers themselves face hunger due to rising input costs and non-remunerative prices of farm products. There is no effective crop and livestock insurance to cover damage and credit is not available at reasonable rates. Food availability has declined. Immediately after Independence, from the 1950s to 1964, it ranged between 140 and 170 kg per capita per annum. Between 1979 and 1994, it went up to 180 kg per capita per annum. After the reform period, foodgrain availability declined sharply to 150 kg per annum. There is a considerable shortfall in the actual

requirement and availability of foodgrains. In the context of the current agrarian crisis, this trend poses a grave danger to communities already afflicted with hunger. Adding to this already grim scenario is the new challenge of climate change. This year's see-saw with the monsoon is a pre-runner of what awaits us ahead. According to climate estimates, agriculture in the productive areas of South Asia will be among the most adversely affected. As temperatures rise, the growing season is expected to shorten with decreases in agricultural productivity of up to 40 per cent. The worst brunt of climate change on food production will be borne by farmers in rain-fed areas. Coping with the impact of climate change on agriculture will require careful management of resources like land, water and biodiversity. A large-scale public education and training programme is necessary to help farmers cope with the changes coming from global warming. Nothing in their experience has prepared them for the rapidly evolving, anthropogenic climate turbulence. The disbanded extension service in the agriculture sector must be resumed urgently.

As temperatures rise, the growing season is expected to shorten with decreases in agricultural productivity of up to 40% and farmers in rain-fed areas getting affected the most

Training and capacity building programmes must help to increase sensitivity to the problems that agriculture will face and understand its causes. At present, there is little understanding among rural communities about global warming and they are facing difficulties adjusting to the unpredictable changes that are throwing their long-held cropping patterns out of gear. The new extension service must be geared to teaching farmers how to adapt their agriculture to the new weather conditions that will negatively impact their food and livelihood security. Not just farmers, it will be necessary to provide education and training to a range of actors. This would include pol-

icymakers. Panchayati Raj institutions, the banking sector, civil society groups, corporate executives and others, in the theory and practice of adapting agriculture to climate turbulence. Such capacity building will enable the successful adoption of adaptation strategies at policy and implementation levels. There will have to be a fundamental strategy change in food production. Practices in agriculture will need to shift from intensive, mechanised, water-demanding agriculture to a more sustainable, conservative agriculture that grows crops using less water. "More crop per drop of water" is a strategy recommended to tackle drought. The same approach is applicable in a wider sense when addressing the challenges posed by global warming. The first step in adapting agriculture to cope with climate change will be to diversify the farm production model to minimise risk and obtain the most benefits from available resources. Such sustainable models will have to include crops, livestock, poultry and where possible, fisheries and agro forestry. As the monsoon rainfall gets reduced and more uncertain

and receding glaciers reduce water flows in rivers, farmers must learn to make maximum use of available water. Rainwater harvesting and traditional water storage structures such as farm ponds, wells and tanks will have to be revived. Watershed development and catchment area recharge treatments to allow for aquifer replenishment will have to be undertaken on priority basis in all ecosystems. As rainfall becomes less reliable, water conserved in tanks, ponds and wells will provide life-saving irrigation to crops. Soil management will need to focus on increasing organic matter to improve soil nutrition and water retention capacity, thus increasing crop productivity. The eco-system approach to agricultural production using crop rotation, maintaining an appropriate balance of soil nutrients and using an integrative and bio-organic approach to pest management will be effective in coping with rapidly changing farm conditions. Contour bunding will be useful, especially in the hill areas, to increase water retention in terraced fields and improve crop productivity. It was a central component in regenerat-

ing degraded soils in Burkina Faso in West Africa and is credited with as much as a 40 per cent increase in agricultural production the first year after its implementation. Planting hedgerows of leguminous plants, especially in poor soils, which constitute the bulk of the soil in India, is important to fix nitrogen, prevent soil erosion and conserve soil moisture. Mulching and other types of soil cover is helpful in arresting soil erosion and extending the availability of soil moisture. Mulching has the added benefit of reducing weed populations by up to 60 per cent, saving on weeding costs. None of these are rocket science but they are neglected in our policy and implementation plans. India's strategy to deal with climate change, encapsulated in the National Action Plan on Climate Change lacks vision and offers no realistic solutions. We need urgently to come up with a policy and framework to protect our agriculture and food production from the onslaught of global warming. *The writer, chairperson of Gene Campaign, is a scientist and development activist. She can be reached at mail@genecampaign.org*

The Times of India, Delhi dated October 18, 2012

More vehicles than trees in S Delhi locality: Census

Neha Lakshandani | TNN

New Delhi: It is a colony that has 4,011 people, 1,583 vehicles and 1,122 trees. A tree census at south Delhi's Sarvodaya Enclave, the first and only in the city, started in April 2011 and ended in May 2012. The results, revealed on Wednesday threw up disturbing observations. The colony has more vehicles than trees, and even these are highly vulnerable due to rampant construction and senseless pruning. The census was carried out over a year by about 20 volunteers: residents, homemakers, children, environmentalists and teachers. Padmavati Dwi-vedi, who coordinated the exer-

cise, said they marked 722 trees along the roads, about 300 trees in parks, and another 100 inside buildings. "During the tree walks it was observed a major portion of roadside trees was under stress due to heavy cementing around trunks, lopping and nails in their trunks, in contrast to the trees in parks," the report says. Over 49% of the 430 damaged trees were found to be heavily lopped, 9.42% had nails driven into them, while 0.97% were being choked by tree guards. One Bakain tree had 22 nails in it and was being used to charge mobiles and

power an electric stove. The census also reported a very low diversity in species, with two non-indigenous trees, Saptaparni and Ashoka, forming 38% of the total tree population. Among the indigenous trees, Amaltas and Bakain saw the highest numbers. "We now have a clear idea of the location of each tree, since they were first numbered with a crayon with the house number in front of which they can be found as its location. Their species, height, girth and condition are also registered now. Nobody still particularly cares about what happens to trees as many of them are choked by heavy cementing and used like poles," said a resident.

CHOKED BY CONCRETE



TREE CENSUS RESULTS	
1,122 trees in colony	58 species of trees found
Saptaparni and Ashoka most dominant species at 38%	
33% are indigenous trees	18 trees have nests
430 damaged trees; lopping claims 354	239 trees completely choked by cementing

Chief secretary of Delhi, P K Tripathi, who released the report, said such a census should be replicated across the city and that he would try and sell the idea to other RWAs.

"We can probably have a website with this information that can be used by residents and others. However, we must also first train people who will help in carrying out such an exer-

cise as they would need to be able to recognize species of trees, birds, etc. Delhi has a geo-spatial map and I suggest that we can also incorporate Delhi's green cover in it," he said. Suhas Borkar, founder member of Green Circle of Delhi, added that the condition in Sarvodaya Enclave mirrored the general condition of trees in Delhi. "There are rules to safeguard trees but nobody takes them seriously. A space of 6 feet by 6 feet should be left around trees while paving foot-paths, but that is not followed. NDMC runs a successful tree ambulance that tends to damaged trees. Each municipal agency should be armed with such ambulance," he said.

Deccan Chronicle, Hyderabad dated October 18, 2012

Between green terror and growth fascism



Shiv Visvanathan
Dividing Lines

Green is a colour that often makes people see red. I am not talking merely of the opposition between environment and justice, but also the battles between green and growth. The tragedy is categories are set up as Manichean dualisms when they should be friendly reciprocities in a democracy. One misses the public nature of public policy that can challenge these false debates with real and lethal consequences.

The recent battle between Jairam Ramesh and Jayanthi Natarajan and an India Inc. crying for growth is one such drama. A recent issue of a magazine characterised the behaviour of the ministry of environment as outdated, creating a stranglehold on the Indian economy. Ironically, corporate India is seducing itself with corporate social responsibility but sees green justice as alien. It is a case of downstream management refusing to recognise upstream ethics.

The drama is a complex one. It began with a series of skirmishes. The initial one was between Montek Singh Ahluwalia and Mr Ramesh on growth. Central to it all was the advice Madhav Gadgil, the great ecologist, gave that ecological zones should be divided into go and no-go territories presenting growth and development.

Mr Gadgil's classification is not just relevant for the Western Ghats; it's not ecology specific. It's a different way of conceptualising reality so as to adjudicate it between sustainability and growth, between green and red. This is why the

Gadgil classification was met with such immaculate hysteria. It tried to provide a conscience for the growth ideologues.

Mr Gadgil is an ecologist with impeccable credentials and a distinguished genealogy. His father was a leading planner; Mr Gadgil himself was a student of the legendary E.O. Wilson. Mr Gadgil's objection to nuclear energy was treated with contempt as if his retirement was a summons to environmental sentimentality. The unfairness and contempt shown to him was to be prelude to later behaviour.

Meanwhile, one witnessed a fascinating and increasingly fertile experiment in environmental democracy. One set of reports said that new environmental sensitivity was encouraged by Sonia Gandhi. Mrs Gandhi, along with Rahul Gandhi, had initiated two zones of conscience called NREGA and environmental regulation.

Mr Ramesh gave this imagination flair and a sensibility. Collaborating with Kartikeya Sarabhai, he held a series of open sessions on BT brinjal. He became the technocratic subaltern, championing the fate of marginal trib-

Ironically, corporate India is seducing itself with corporate social responsibility but sees green justice as alien.

als forgotten after the entry of development masquerading as dams and mines. He was trying to create governance with a conscience fully aware that he was going to be lambasted by both sides. The NGOs felt he was too restrained and corporations felt he was too dictatorial. Eventually his behaviour was seen as egotistic, a flaw in personality rather than in the logic of the institution. Few realised the shrewdness of his balancing act seeking to battle powerful politicians and power-hungry ministries. He gave environment a regulatory touch, a technocratic rendering of justice. He asked for transparency and interrogated about sustainability realising his days were numbered. As early as the international conference on the commons in Hyderabad, a year ago, he hinted that the mine and the reactor had become taboo for the ministry. Soon after, he was replaced by Ms Natarajan. The surprise was that after a slow start, she also showed spunk and verve resisting instant clearances. For corporate India and the gung-ho of ministries of growth the days of Kamal Nath as environment minister appeared as nostalgia.

The two ministers were not populists like Mamata Banerjee. They were literate, logical, cited law and public good emphasising normativity and responsibility over sentimentality. For corporate India, Ms Banerjee might have been intolerable, but these literate ministers were suddenly treated as quislings against development, spreading green terror. The corporate counter-attack followed a specific set of strategies. Growth was defined as national purpose and a public good and the environmental ministry became an enemy of public good.

Environmentalism in its thrust for regulation and accountability was seen as a throwback to

socialism, a return of isms through an outdated bureaucracy. Environmentalism had become pro-active instead of retreating before the corporate onslaught.

The green ministers were committing the cardinal sin in the catechism of growth. They were accused of delays. A whole litany of projects from Lavasa to Posco was laid at their doorsteps. Suddenly the multiplicity of environmental time was reduced to linearity of growth. Speed became sacred. Investment was seen as the Holy Grail and concerns of land and infrastructure were seen as holding up growth. Respectable figures like K.V. Kamath of Infosys and Adi Godrej of CII echoed the new theology. What was interesting in these presentations was that the quotes were exclusively from corporate India. No tribal from a mining area or a dam displaced villager had a presence. It was almost as if corporate India had issued a party whip.

The one word missing in the debate was democracy. One missed keywords like justice, sustainability and balance. All one heard was speed; it was clear that corporate India could no longer wait for the slowness of democracy. One suddenly realised it is not green terror we are comforting but an elite fascism masquerading as growth. The real question is — will India find a public space to debate environment. To treat environmentalists as non-persons may not be the best of beginnings. Inquisitions can be triggered not just by theological fears but by anxieties in economy and politics. The whole debate needs to be reset to focus on issues and frameworks of time beyond market and electoral politics. The green debate is a moral drama that we will have to explain to future generations.

The writer is a social science nomad

Deccan Chronicle, Hyderabad dated October 18, 2012

Jayanthi: Looking for political message

AMAR TEJASWI | DC
HYDERABAD, OCT. 17

Minister speak

Developed countries are fixing rigid baselines while developing countries are against these. Developing countries feel they have gone the extra mile and the baselines fixed can't be the same for everyone.

It seems that a political commitment on resource mobilisation was all that could be expected from the countries at the end of the CoP-11. Minister of environment and forests Jayanthi Natarajan said she was looking for a political message to come out of CoP, not resources.

Addressing the media, she said, "We are not expecting any kind of resources to be given now. We are looking at a political message."

A special negotiations group, established last week for discussion, could not reach a consensus. The group was then dissolved and regional groups formed. But on

Wednesday, Ms Natarajan held bilateral meetings with 10 countries and set up another group to discuss the issue again.

"We are confident that we will arrive at a consensus by tomorrow (Thursday)... As president, we persuaded all countries to resolve the issue. We are working for what is in the best interests of the CBD."

Deccan Chronicle, Hyderabad dated October 19, 2012

IMPENDING DOOM

Global warming freezes economies

New York, Oct. 18: Climate change caused by global warming is freezing the world economy and already leading to millions of deaths every year, a report commissioned by 20 of the world's most vulnerable countries said.

Titled *Climate Vulnerability Monitor: A Guide to the Cold Calculus of a Hot Planet*, the report says global warming will not only lead to environmental catastrophe, but is also choking the global economy.

The findings include estimates that carbon-intensive economies and associated climate change are responsible for five million deaths

a year, 90 per cent related to air pollution.

"Failure to act on already costs the world economy 1.6 per cent of global GDP amounting to \$1.2 trillion in forgone prosperity a year," said the report. "Rapidly escalating temperatures and pollution will double costs to 3.2 per cent of world GDP by 2030," it said.

However, tackling climate change's causes would bring "significant economic benefits for world, major economies and poor alike," the report said.

The report says that while poorer countries face the steepest economic damage in terms of GDP losses, big

Failure to act on climate change already costs the world economy 1.6 per cent of global GDP amounting to \$1.2 trillion in forgone prosperity a year

countries will not be spared.

"In less than 20 years China will incur the greatest share of losses at over \$1.2 trillion. The US will be

held back by more two per cent of GDP; India, over five percent of its GDP."

The forum's chairman, Bangladeshi Prime Minister Sheikh Hasina, said weather pattern changes would be especially devastating for her crowded country.

"One degree Celsius rise in temperature is associated with 10 per cent productivity loss in farming," she said in New York.

"For us, it means losing about four million metric tonnes of food grain, amounting to about \$2.5 billion. That is two per cent of our GDP," she added.

— AFP

The Times of India, Lucknow dated October 20, 2012

Technological advances in LED (Light Emitting Diode) lighting are happening at an incredible speed. The technology is now permeating every area of our lives, from traffic lights and car headlights to laptop computers. Lighting represents an average of 21 percent of a building's total energy consumption (Department of Energy and Climate Change, UK, July 2011) and accounts for 19 percent of global energy production. It is estimated to be responsible for around six percent of global greenhouse gas emissions.

Traditional lighting systems emit around five percent of light for 95 percent of heat energy, which for a product aiming to produce light, does not fulfill even the most relaxed of performance criteria. The very low price of such systems, and the incremental efficiency improvements that technology advancement has brought, have until now kept traditional solutions as a clear favourite

has made it possible for governments to set targets and even ban types of inefficient light bulbs. Proponents of LED lighting argue that a worldwide switch to LED could reduce the energy consumption of lighting by 40%. This equates to approximately 130 billion per year saved in running costs or 670 million tonnes of carbon dioxide emissions avoided - the equivalent output of 640 medium-sized power plants. However to date, most organisations have been slow to investigate the cost- and energy-saving benefits of the technology, often discouraged by widely-discussed myths.



fixture costs may be higher for some LED lighting solutions than for comparable incandescent and fluorescent lighting solutions, but initial fixture cost does not account for the total cost of owning, operating, and maintaining a lighting system. An LED tube lasts five years longer than the average fluorescent tube, and because of their long life, LED lighting fixtures avoid the maintenance and material costs incurred when changing exhausted tubes. Also, with LEDs consuming far less energy, annual power costs can be significantly reduced. The average fluorescent tube generates 58 watts compared to an LED at 23 watts, saving 60 percent and having a dramatic impact on a building's energy consumption. In

are not bright enough. When comparing lighting fixtures on the basis of delivered light, LED fixtures often perform as well, and in some cases significantly better, than conventional fixtures, while consuming far less energy. Plus, with LEDs being inherently directional, they emit almost all of their light output in the desired direction, rather than dispersing it in all directions.

In fact, LED is a revolutionary lighting technology. It offers greater colour variability, "instant on" capability, dimming capacity, and freedom in design. It also has a much wider optimum temperature span; it can withstand extremely cold conditions.

Despite this, technology transitions can create significant uncertainty, and the myths around LED lamps have kept them in the slow lane to adoption, with businesses largely missing out on their great potential. So what is the future for LED in a traditionally slow-moving lighting industry? Legislation is critical to the growth of the lighting market across the next 10 years. According to McKinsey & Company, LED lighting has the potential to be the dominant technology in domestic and commercial lighting by 2015. The word 'potential' is the key here.

BRIGHTER FUTURE

The potential of LED lighting as an efficient light source is immense, says **JAMES CHORLTON**

over greener options.

However, the industry is now changing. The emergence of LED as an efficient light source

The first of these myths is that LED systems cost too much. All too often in lighting situations, for example,

building corridors and car parks, lighting decisions are based on initial cost rather than longer-term benefits. Initial

fact, payback on LED lighting solutions can often be realised in less than three years.

The second myth is that LEDs

The author is Business Director of Honeywell Electrical Devices and Systems (ED&S)

The Times of India, Delhi dated October 20, 2012

No joke: New tech turns air into petrol

Creation Of Synthetic Fuel Could Be A Gamechanger In Fighting Global Warming

London: A small British firm claimed to have developed a revolutionary new technology that can produce petrol using just air and electricity.

A company in the north of England has developed the 'air capture' technology to create synthetic petrol which experts have hailed as a potential "game-changer" in the battle against climate change and a saviour for the world's energy crisis.

The technology, presented to a London engineering conference this week, works by removing carbon dioxide from the atmosphere. The Telegraph reported. The 'petrol from air' technology involves taking sodium hydroxide and mixing it with carbon dioxide before 'electro-



© moodboard/Corbis
TOO GOOD TO BE TRUE?

lysing' the sodium carbonate that it produces to form pure carbon dioxide.

Hydrogen is then produced by electrolysis of water vapour captured with a dehumidifier.

The company, Air Fuel Syndication, uses the carbon dioxide and hydrogen to produce methanol which in turn is passed through a gasoline fuel reactor, creating petrol.

Company officials claimed to have produced five litres of petrol in less than three months from a small refinery in Stockton-on-Tees, Teesside. The fuel produced can be used in any regular petrol tank and, if renewable energy is used to provide the electricity it could become "completely carbon neutral".

The company hopes to build a large plant, which could produce more than a tonne of petrol every day, within two years and a refinery size operation within the next 15 years.

Institution of Mechanical Engineers officials said that while the technology is "too good to be true but it is true", and said that it could prove to be a "game-changer" in the battle against climate change. Stephen Tetlow, the IMechE chief executive, hailed the breakthrough as "truly groundbreaking".

"It has the potential to become a great British success story, which opens up a crucial opportunity to reduce carbon emissions," he was quoted as saying by the paper.

The Times of India, Lucknow dated October 20, 2012

Green bathrooms have several features like water saving in all the sanitaryware and fittings in bathroom projects. Water-saving equipment is a recent advancement, which helps in usage of 20% less water as compared to conventional toilet systems – fittings like high-efficiency flushing systems and high efficiency showers ensure savings.

• Eco-friendly materials have stepped in to give a natural warmth through materials like bamboo, stone, slate and recycled glass, among other things. Eco-friendly tiles, waterproof paints just add to it.

• Waterless urinals, centralised heat pumps, Water Saving Cisterns and Ceramic Discs that reduce wastage of water by close to 400 litres per home per day are some of the features of Green Bathrooms.

• Soy-based paints are eco-friendly and perfect to use when having a bathroom renovation.

• Another feature is a Grey-water sys-

tem that collects water from the sink and shower and feeds the toilet and the garden.

• We can take into account that hot water requirements can be drawn from the solar water heaters or at township level planning can lead to use of heat rejection pumps from commercial areas to meet the hot warm residential and commercial demands.

• Eco-friendly and natural products and accessories should be encouraged, for instance, organic soaps and towels.

• Sensor-based faucets and low flow faucets. Dual flush systems.

• Individual metering for the water usage to be flashed for a general water usage patterns by occupants in various buildings.

• Locally manufactured material should be encouraged along with the high recycled content in the materials used in such bathrooms. Tiles and other naturally replenish able materials should be used.



USE LESS WATER

saving water is vital, and a good place to start is your bathroom

The Times of India, Lucknow dated October 20, 2012

STRIVING FOR A GREEN FUTURE

There are several ways one can help in conserving natural resources, starting with home interiors, says **NISHA SWAMI**

Green buildings are of vital importance and architects, developers and residents are taking steps to save the environment and live the eco-friendly way. Apart from reducing global warming, which is a major concern, green buildings also save time, energy and also benefit residents.

Bobby Mukherji, Principal Architect and Founder, Bobby Mukherji and Associates, says, "Well-designed green buildings will save money, increase comfort and create healthier environments for people to live and work, using improved indoor air quality, natural daylight, and thermal comfort. The structure of the building must breathe."

Mukherji also believes that implementing rain water harvesting and sewage and water treatment is also essential. He feels by adopting green building guidelines, the energy consumption would be reduced by 50 per cent or more and if renewable energy is used an additional 10 per cent could be achieved.

Going green, espe-

cially with small home décor products, can have a great effect. Amrit Borkakoty, Proprietor, Serenity - Blissful Living, says, "Eco-friendly products are the in-thing nowadays and using environmentally friendly products is one of the easiest ways we can support the natural world. By going green you can take care of the planet while at the same time create a statement that stands out. It also helps puts the business in the forefront with customers who also take environmental concerns seriously. They will be proud to use eco-friendly products and appreciate the reasoning behind the decision in purchasing them."

Small yet smart decisions can help save and conserve energy in a big way. When thinking of going green, wall paints in the home also count. It also improves the health of the people living in the home. Sukhpreet Singh, Vice-President of Marketing and Sales (Decorative), Kansai Nerolac, says, "Indoor air quality at home has a great impact on the health of those residing in an apartment. The air



quality is directly connected to the paint used because one would breathe the VOC emissions. The benefits of using eco-friendly paints and stains help reduce health risks like headaches, nausea, respiratory disorders, dizziness, chest congestion, lung irritation, burning sensation in the eyes, nose and throat and so on."

Singh believes that there are many ways one can maintain the indoor air quality at home; the most important one is to use VOC (Volatile Organic Content) free paints. Earlier, it was common for fumes to drive people from their homes during repainting. They diminish air quality, and are detrimental to

one's health.

All these eco-friendly ways and steps surely will have an impact on the future generations. Mukherji says, "Most importantly, there are choices a society makes about the ways it wants to grow, and the legacy it wants to leave to future generations. By constructing a green building, we in a sense, encourage the use of materials which do not impair the environment. The motto should be to reduce, recycle, reuse and reinvent. By being green, we're only extending it and gradually buying time to create a society which is fully dependent on renewable energy. This is vital for the sake of future survival."

The Economic Times, Delhi
dated October 22, 2012

States Way Off Green Power Purchase Targets

There's No Will

Trade Details

Renewable energy purchase obligation (RPO), launched in 2010, makes it obligatory for discoms, open-access consumers and captive power producers to meet part of their energy needs through green energy

The **renewable energy certificate (REC)** regime, which represents 1 mw-hour of power produced from a renewable energy source, is tradable at power exchanges

Discoms can buy these certificates to make up for shortfall in renewable power in their total energy mix

Users prefer RECs, which are valid for 365 days, to buying renewable power from the market

Problem Areas

Solar power is costly and suffers from supply shortfall

Non-solar sources of energy (wind, biomass) have few takers, hence hindering the returns of already established projects

RPO as a concept hasn't stabilised. Most states haven't declared their RPO trajectory for the coming years

Plan of Action

Govt wants state electricity regulatory committees (SERCs) to penalise defaulting distributions companies

The **Central Electricity Regulation Commission (CERC)** advocates a wait-and-watch policy

Distributions companies say they are low on funds and cannot buy costly solar power



Solar power costly for discoms, non-solar energy has no takers

SHREYA JAI
NEW DELHI

Most state electricity distribution utilities have failed to meet their renewable energy purchase obligation for 2011-2012, experts say, citing poor policy enforcement and lack of awareness as reason.

As per data, Rajasthan procured 276 mw of solar power in 2011-12, against its target of 62 mw, while Chhattisgarh and Gujarat met 97% and 52% of their solar power requirements, respectively. In the non-solar segment, procurement was negligible despite supply exceeding demand.

According to the India Energy Exchange, while solar power is costly and suffers from supply shortfall, non-solar sources of energy (wind, biomass) have few takers due to lack of steady returns. This has also affected the renewable energy certificate (REC) regime, the power-trading platform says.

"There is a contrasting trend in solar and non-solar RECs. There is huge demand for solar power but the projects have not come up, as developers are not getting bank loans on ground of RECs. On the other hand, in non-solar the demand is yet to pick up, hence hindering the returns of already established projects," said Rajesh Mediratta, business development director at India Energy Exchange.

An REC, which represents 1mw-hour of power produced from a renewable energy source, is tradable at power exchanges. The states or utilities that are unable to fulfill their renewable energy purchase obligation (RPO) can buy these certificates to make up for shortfall in renewable power in their total energy mix.

RPO, launched in 2010, makes it obligatory for distribution companies, open-access consumers and captive power producers to meet part of their energy needs through green energy.

Users prefer RECs, which are valid for 365 days, to buying renewable power from the market, as they do not involve inter-state scheduling and shield traders from the uncertainty surrounding renewable power.

"The main reason for the demand resistance is because only a few states have shown real intent in achieving the RPO target and some obligated entities still question the applicability of RPO," Mediratta said.

While the government wants state electricity regulatory committees (SERCs) to penalise defaulting distributions companies, the Central Electricity Regulation Commission (CERC) advocates a wait and watch policy.

"RPO is not taken seriously and we want the state electricity regulators to penalise the discoms that have fallen short of target," said Tarun Kapoor, joint secretary in the ministry of new and renewable energy.

Distributions companies say they are low on funds and cannot buy costly solar power. "Discoms are cash strapped and solar power is costly is no excuse by the SERCs," said Kapoor, "They have to comply by the RPO or pay penalty, which will come out to be costlier."

CERC recently predicted the renewable energy capacity addition during the 12th plan period could be 35,715 mw

Penalty for shortfall in units of RPO is calculated on the forbearance price, which is the ceiling price in the price band of renewable power. At present, solar power costs between ₹9.30 and ₹12.40 a unit while that of non-solar power ranges from ₹1.50 to ₹3.30.

"RPO as a concept hasn't stabilised. Most states haven't declared their RPO trajectory for the coming years. Each state will look at it differently and that will impact the tariff regime in the long run," said CERC secretary Rajeev Bansal.

India Energy Exchange's Mediratta said, "The future of REC hinges on how effectively SERCs communicate the need for compliance to the obligated entities. A greater impetus in sensitising the obligated entities for the need for compliance would go a long way in achieving the RPO targets. The SERCs and state nodal agencies are better positioned to do this."

A few months ago, CERC drew an RPO trajectory in which it predicted the capacity addition by renewable energy during the 12th plan period could be 35,715 mw.



GEETANJALI

The Economic Times, Delhi dated October 25, 2012

'Registering Green Projects Cumbersome'

PRESS TRUST OF INDIA
NEW DELHI

Lack of proper infrastructure for registration of projects related with clean development mechanism is leading to increase in the cost of such ventures, says a study by industry body Ficci.

Majority of the respondents participated in the study said that "lack of sufficient number of designated operational entities (DOE) affects the registration process and even increases costs associated with the projects".

The study said the CDM has proved to be a useful mechanism for industry to implement climate change mitigation measures and implement renewable energy projects, it said.

Clean projects like energy efficiency and renewable energy projects have also been provided with financial incentives for undertaking greenhouse gas mitigation measures, it added.

However, "the registration process of CDM is cumbersome and time consuming", the study said.

It has suggested the government to take steps to improve CDM process and its future role in the Indian industry.

"Indian industry has given a big thumbs up to the continuation of CDM and market based mechanisms for climate change mitigation," it said.

The key recommendations include increasing the number of DOE and technical review teams; streamlining project cycle to improve efficiency and lower transaction costs; strengthening the requirements for stakeholder consultation process



and constituting a separate appeals process for registration and issuance.

It also suggested to improve the distribution of projects at international and national levels.

It said that the recommendations of the report provide useful insights which the United Nations Framework Convention on Climate Change (UNFCCC) can look into as it designs a framework for the new market mechanisms which will evolve after December 2012.

India continues to be an important player in CDM as it accounts for more than 800 registered projects and along with China hosts more than 70 per cent of such projects in the world. The recommendations assumes significance as the 18th Conference of Parties of the UNFCCC would be held in Doha next month. It said that a reform of the CDM process is imperative to ensure that steps taken by industry for climate change mitigation get a boost.

The Times of India, Delhi dated
October 26, 2012

Making Bellary green again to cost ₹30k cr

Restoration Will Take 30 Yrs: Panel

Dhananjay Mahapatra | TNN

New Delhi: Rehabilitation of the illegal iron ore mining-ravaged environment in Bellary, Chitradurga and Tumkur districts of Karnataka will need Rs 30,000 crore over the next 30 years, the Supreme Court has been informed.

Submitting a report detailing the plan of action for rehabilitation of the environment, the central empowered committee (CEC) said, "The project period is planned to be 30 years and the current financial year (2012-13) has been taken as the preparatory year. "Financial year 2013-14 has been taken as the first year of the project and financial year 2043-44 would be the last year. The proposed cost is about Rs 30,000 crore.

The CEC report, submitted through amicus curiae and advocate A D N Rao, added, "During the first five years of the project, an amount of about Rs 9,347 crore is expected to be available for transfer to the special purpose vehicle (SPV). The SPV will be constituted under the chairmanship of the Karnataka chief secretary to implement the environment management plans.

"Even on a conservative basis, the total amount expected to be available exceeds the planned project cost of Rs 30,000 crore by about Rs 2,847 crore," said the CEC. Under the 'polluter pays' principle, it proposed recovering the entire amount from the lease-holders.

The CEC has submitted a lease-wise plan prepared by member-secretary M K Jiwrajika for reclamation

and rehabilitation of areas found under illegal mining and also a supplementary environment management plan (SEMP).

On the funding for the plan, the CEC said it would come from 10% sale proceeds of existing stock of category 'A' mining leases (least illegal), 15% sale proceeds of stocks of category 'B' mine leases (rampant illegal mining), 10% sale proceeds of iron ore produced by 'A' & 'B' category mines after they resume production and compensation receivable from 'B' category mines.

Seeking SC's approval, the CEC said it would "provide for mitigating measures in the mining impact zone, ameliorative measures for socio-economic development, infrastructure development, forest and wildlife conservation, health, education and other measures to ensure inclusive growth of the project area and an effective evaluation mechanism".

*The Times of India, Delhi dated
October 29, 2012*

Conserve & Grow: The challenge is to think fresh

TIMES NEWS NETWORK

Environment and the idea of environmentalism — both face serious challenges in India today. The demands of a surging economy require natural resources to be used and exploited at an unprecedented rate. In a populous and poor country, these new demands on resources — land, water and what lies underneath — have aggravated the contests between different stakeholders. Villagers who want to hold on to their lands and water sources are pitted against industries that require raw material. Many of these contests are taking a violent turn. Expanding cities are eating into agrarian land. Industrial hubs are becoming public health nightmares.

The forest and environmental clearances given by the Union government in recent decades are an indicator of the rate at which resources are being consumed. In the past 30 years, about 1.6 lakh hectare of forest land has been diverted for mining. Of this, about 48,537ha was diverted in the 11th five-year Plan alone — 30% of the total forest land diverted for mining.

While policymakers face the challenge of ensuring sustainable development, the idea of environmentalism itself is also in a state of flux. The era when the poor could be squashed between demands of industrial growth and imported ideas of conservation is over. A changed polity today has greater space for the most vulnerable communities to argue, fight if required, and demand their own collective and individual rights. The environment cannot be protected in the name of the poor anymore. The green movement today needs to find a way to ensure that the environment is not exploited in the name of the poor either.

Then there is also the greater challenge that links nations and communities across the globe — climate change. The warming of the atmosphere threatens everybody and makes poorer people more vulnerable. Countries need to take collective action to reduce emissions from fossil fuel burning. But India and its environmental movement will have to ensure that these actions do not come at the cost of a better life for the poor.

The strains and stresses of rising and highly varying consumption levels



GREEN GO-AHEAD

- In the 11th five-year Plan period, **276 thermal power plants** of **2.2 lakh MW capacity**, **203 steel plants** of **132mn tonnes** per annum capacity and **112 cement plants** with capacity to produce an additional **202mn tonnes cement** every year, have got environment clearance
- **8,734 projects** have been granted forest clearance and **2 lakh hectares** of forest land have been diverted
- **119 coal mining** projects have got forest clearance during this period, diverting **31,500ha** of forest land — the highest number cleared in any five-year Plan since 1981

are now visible on natural habitats as well as on the poor. For them, more than anyone else, a healthy environment is a prerequisite for survival and livelihood.

Clearly, people, communities and corporate houses need to abandon the fallacious debate of growth versus environment; those who can find ways to marry the two for the benefit of the less privileged are the environmentalists this era requires.

To apply or nominate for the awards, go to timesocialawards.com, timesofindia.indiatimes.com. Also, follow the entries and vote for those you think deserve to win. Join the 'Social Impact Awards' community on [Facebook](https://www.facebook.com/toisocialawards). Follow [@toisocialawards](https://twitter.com/toisocialawards) on Twitter

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'Bulbs in a bottle' to light up Mumbai shanties

Gitanjali Dang | TNN

Ten years after the light was first thrown on the idea of the bottle bulb, the first batch of these 'lights' will be installed in Mumbai's slums. This week, students from the University of St Gallen, Switzerland, and St Xavier's College, Mumbai, will come together to plant the first seeds of an international grassroots movement in power-starved India.

In 2002, Alfredo Moser, a mechanic in Sao Paulo, Brazil, where power outages are a regular feature, realised that a plastic bottle full of water, when teamed with sunlight, could light up his dark atelier. For developing and under-developed nations of the world, the discovery of the bottle bulb, also known as the solar water bulb or water bulb, was nothing short of a 'eureka' moment.

Without doubt one of the most cost-efficient and green ways to light up a space, the bottle bulb requires a one-litre plastic bottle full of water, bluish to keep the water from growing green and an adhesive of good quality. The bottle full of water should be stuck into the roof in a manner such that the top half of the bottle is exposed to the sun and the bottom half is in the room underneath. When the water in the



ILLUMINATING IDEAS: Students from the University of St Gallen and St Xavier's College will bring the movement to Mumbai's slums this week

bottle above catches the sun, it lights up the room underneath like a 55-watt bulb.

Moser's invention was taken up by his neighbours, but according to Geraldine Lüdi of Liter of Light Switzerland, the idea's breakthrough came about only last year, when Illac Diaz installed the first bottles in the slum of Philippines.

"The Strategy International Management (SIM) students from the University St. Gallen heard about this idea and founded Liter of Light Switzerland (today Liter of Light Europe) in November 2011," she says. "The idea is to evolve a worldwide movement, spread the word about Liter of Light and illuminate millions of homes."

A Filipino entrepreneur, the work of Diaz, who spearheaded the campaign, caught

the attention of four college students in Mumbai.

"A friend showed me a demonstration video and I, in turn, shared it with three other friends. We were all immediately taken in by it and decided to start work in Mumbai's slums. Our project is called 'Jal Jyoti: Lighting lives, One litre at a time'. We're really fortunate that Liter of Light Switzerland announced its decision to visit Mumbai around the same time we started our groundwork," explains Sanjna Malpani of Jal Jyoti.

Lüdi says, "We see ourselves primarily as incubators, hence apart from installing bottles we work towards making the project self-sustaining. We do not want the project to crash when we leave; a local base is really important to establish a grass-roots movement."

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Wake-up call: Will nature's fury put climate change back on prez menu?

Chidanand Rajghatta | TNN

Washington: The eastern seaboard of the US is under attack. Not from Iran, Cuba, North Korea, Venezuela, Libya or any of the usual suspects. The offender assaulting the world's only superpower is a hurricane, bearing the innocuous name Sandy.

Sandy though is an overgrown progenitor of Mother Nature, who no one messes with; not even a superpower. As if to remind US Presidential candidates that it is not a good idea to put global warming on the back burner (as both President Obama and his Republican challenger Mitt Romney have done in this campaign), Mother Nature appears to have let loose Sandy to deliver a kick in the American gut. By Monday noon, the US was on its knees.

Although it is only a category one hurricane just now, Sandy is being described as the largest ever storm to hit the US. A freak occurrence that involves Sandy meeting two winter fronts coming in from the north and west is expected to bring about a massive churn over eastern US, the kind never seen before. It has therefore has been dubbed a Frankenstorm. Sandy's footprint, at nearly 1,000 miles diameter, is almost half the size of India's landmass. Its cover area when it hits mainland is so vast, stretching from the Carolinas to Connecticut and Massachusetts, and deep into Ohio in the west, that no one is even worrying about where it will make landfall.

It's a minor detail. As of Monday morning, the storm is still offshore but the scale of preparations is comparable to one for an alien invasion or a

RIDING OUT THE STORM

HOW BIG IS SANDY?

► Based on sustained wind speeds, hurricanes are classified on scale of 1 (119-153kmph) to 5 (more than 251kmph)



Sandy is category 1 as of now, but it's a lot worse than that for 2 reasons

- The classification does not take into account inches of rain, tidal wave surges and floods Sandy will cause
- Sandy is set to collide with two winter weather systems, creating a superstorm, possibly the biggest seen in East Coast

Graphic: Sunil Singh



US residents on the path of Hurricane Sandy are being advised to:

- Shutter or board up windows and doors
- Store 3-day supply of water, 3.7 litres per person per day
- Stock up 3 days of food
- Tank up one car per family with fuel
- Keep a battery-powered radio, extra batteries, flashlights, fully charged cellphones
- First-aid kit and medicines
- Sleeping bags, rain gear, insect repellent, duct tape

nuclear attack. New York and Washington DC, the country's (and world's) financial and power centre, have shut down. Transit system (subways, metros, buses) have halted, schools and colleges are closed, and even government and local bodies will work with only emergency crews, thousands of whom have been readied for repairing power outages that are expected to occur in next 48 hours.

Right now there is an eerie quiet punctuated by the steady patter of rain and mild winds in Washington DC. Huge amounts of rain accompanied by heavy winds gusting up to 60-70 kmph have been forecast, bringing down trees on power lines.

People have been advised to stock up on water, food, candles and other essentials. While many people are taking the storm lightly, given its mild opening salvo, the National Weather Service issued an unprecedented "Act...or you will die!" kind of warning. Poll pundits are wondering what effect a seriously disruptive storm could have on the elections for which voting is next Tuesday (November 6). Democrats are mocking Republicans, who are traditionally less impressed by climate change theories and want minimal government oversight, whether they plan to survive the storm without government help in restoration.

Insurers may face losses up to \$20bn

Hurricane Sandy is likely to cause insured losses of \$5bn to \$10bn and economic losses of \$10bn to \$20bn, disaster modeling company Egecatsaid on Monday. The company may update the estimate later this week, a spokeswoman said, depending on actual impacts after Sandy makes landfall. Even at the low end of the Egecat estimate, Sandy would rank as one of the worst hurricanes in history by insured losses. Last year's Hurricane Irene, by comparison, caused about \$4.3 billion in insured losses.

REUTERS

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Coming: Roads that glow, charge cars

'Smart Highways' Will Have Power-Saving Lights, Special Lanes For Recharge

London: Roads that glow in the dark and could one day even charge electric cars are set to be introduced in the Netherlands soon.

'Smart Highways' unveiled last week at Dutch Design Week will use the latest technologies in roads which their designers claim will be 'more sustainable, safe and intuitive', the Daily Mail reported recently.

The companies behind the project said their goal is to turn around the usual route of transport innovation by focusing on the highway rather than the vehicles which use it.

Among the most ambitious of the ideas for the future of road travel are special lanes which will allow drivers of electric cars to recharge their vehi-



BRIGHT FUTURE

cles as they travel along them.

Another plan is to fit the roads with power-saving lights which will gradually brighten as vehicles approach and then switch themselves off after they pass.

Those ideas are still some years off, but from next year Dutch roads will be painted with lines made from a photoluminescent powder that charges in sunlight to illuminate the road for up to 10 hours overnight.

Another technology aimed for implementation next year is temperature-responsive dynamic paint which will make ice-crystals visible to drivers when cold weather makes the road surfaces slippery.

The ideas — developed by Dutch

firms Studio Roosegaarde and Heijmans Infrastructure — have already been hailed as the 'Best Future Concept' at the Dutch Design Awards.

However, there is no information yet on how lanes which recharge electric cars travelling among them might work.

"Innovative designs such as the Glow-in-the-Dark Road, Dynamic Paint, Interactive Light, Induction Priority Lane and Wind Light will be realised within the following five years," the Studio Roosegaarde said. "The goal is to make roads that are more sustainable and interactive by using interactive lights, smart energy and road signs that adapt to specific traffic situations," it said. ■

Edited by: Prof. Sushil Kumar
Centre for Business Sustainability,
IIM Lucknow