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Business Sustainability News

International

How Simpa, Azuri and Angaza make solar affordable for all

By Laurie Guevara-Stone



Ten years ago, many Americans couldn't afford to buy a solar electric system for their home. Today, many consumers still can't stomach the steep sticker price, even if it offers the promise of low-cost, clean renewable energy in the long term. But thanks in large part to third-party financing that

frequently includes no-money-down options for residential PV systems, that's changing.

In 2003 there were only 5,000 residential PV customers in the United States. Last year alone, there were roughly 83,000 residential PV installations. Since 2010, more than 1,100 megawatts of residential PV have been installed across the country.

A similar solar revolution is happening in the developing world. While the scale of the challenge is vastly different, the nature is the same: overcoming the high upfront cost of solar to access its long-term promise of low-cost, low-carbon energy.

Surmounting the upfront cost barrier

The majority of growth in residential PV systems in the U.S. over the past several years has been in households with median incomes of \$40,000 to \$90,000. The upfront cost of installing an average 6 kW system would run \$21,200 at the 2012 price of \$5.30/W and including the federal tax credit. This is approximately 25 to 50 percent of PV customers' median income.

Similarly, a 40-watt solar home system for a rural family in the developing world, which is typically enough to cover the majority of a family's needs, such as lighting, cell phone charging and radio or television, may cost around \$350. For the 1.2 billion people earning less than \$1 per day, that is nearly 50 percent of a family's income, assuming a two wage earner family. Needless to say, it's obvious why many homeowners, in both situations, do not have the capital to buy a system outright.

Pre-pay-as-you-go solar

Third-party financing models such as those offered by SolarCity and Sungevity allow homeowners in the U.S. to lease systems with no or very low money upfront. The homeowner is basically paying monthly for the energy they generate and consume, often at lower rates than they would be paying their utility company. The same thing can be said of the innovative financing programs taking off in off-grid areas of the developing world (1.5 billion people have no access to grid electricity). People pre-pay for the energy their system generates and they consume, often paying less than they did previously for kerosene, batteries and candles. Many of these models in lesser-developed countries rely on cell phone technology. While only 75 percent of people in the developing world have access to electricity, 89 percent have mobile phones. Ironically, those cell phone users not connected to the grid need to charge their phones somehow, and solar energy is often the best option.

In India, Simpa Networks has implemented a pricing model it calls Progressive Purchase, in which customers make a small initial down payment for a PV system and then pre-pay for the electricity it generates by purchasing energy credits using a mobile phone or a local agent. Once paid, the company remotely "unlocks" the customers' equipment until they use what they've paid for. Once the paid-for energy is consumed, the system locks until the customer purchases more energy. Each payment for energy also adds towards the final purchase price. Once fully paid, the system unlocks permanently and produces energy, free and clear.

A similar program by Angaza Design, operating in Tanzania, Kenya and Zambia, is making transferring money to pay for solar energy simple as well. Less than 50 percent of people in the developing world have bank accounts. The lack of banking services makes transferring money from one remote location to another challenging. Thus the rise of mobile banking, allowing the transfer of money through mobile phones. Angaza's PAYG software platform takes advantage of mobile banking and allows people to make pre-payments for the combination solar-powered lanterns/cell phone chargers they provide using only a mobile phone with a voice plan, requiring no Internet access. The user makes a payment to Angaza Design using a mobile money platform. He or she then places the phone on the solar lantern and the devices exchange data encoded in audio tones. Thus the system is unlocked and their payment from one of many mobile money providers is received.

Azuri Technologies' Indigo system uses an approach that might be even more familiar to rural customers. The user buys pay-as-you-go scratch cards, which people use around the world to add minutes to their mobile phones.

Solar-powered hut image by lanafloat via Shutterstock.

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By Oliver Milman, *for theguardian.com*



duration and frequency of heatwaves increase in the period between 1971 and 2008.

□ □ □ □ □ □ □ 1) □ □ □ □ 13 □ □ □
□ □ □ mperature of 46.1C.

The Climate Council, a privately run group of climate scientists and economists who previously formed the government-funded Climate Commission, defines a heatwave to be at least three consecutive days at a temperature in the top 10% for that time of year.

Its interim report states there will still be record cold events but that these events are being eclipsed by record hot events by a ratio of three to one. Heatwave frequency in Australia will

☐ ☐ ☐) ☐ report warns.

likelihood that hot weather will occur and that heatwaves will become longer and more intense.

authorities prepare for the increases that are already occurring in the severity and frequency of many types of extreme weather.

The south-east of Australia, including many of our largest population centres, stands out as being at increased risk from many extreme weather events

Dr Sarah Perkins, report co-author and research fellow at the UNSW, told Guardian
variability.

Before the 2009 Black Saturday fires, there was a decade-long drought, which produced

extreme weather but not this hot scorching weather. Last year was a neutral year too, on the back of a strong La Niña, and we still got extreme weather.

I variability, but there is still the background signal of climate change. The high-change is exacerbating these events.

)
 see its fingerprint.

Heatwaves in Australia are becoming more frequent, are increasing in intensity and are lasting longer, according to an interim report by the Climate Council.

The report, which will be released in full in February, finds that climate change is having a key influence on a trend that has seen the number of hot days in Australia double and the

TIPS

Most people think that they alone cannot make a positive impact on problems pertaining to environment. Please believe, every individual can make a difference to the world. The world is engaged in fighting problems like global warming, depleting rain forests and ozone layer, acid rains etc. Many people think that these situations are beyond control but there are ways to contribute in fighting these. If you as an individual join in then one by one more and more people will join in and if each individual realizes that he can make a difference, ultimately significant difference can

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

initiative start contributing towards the cause by your actions immediately. Here are some tips for sustainability.

1. People subscribe for magazines but sometimes those are not even read. If you have any such subscriptions cancel them.
2. If you do read magazines share them with others. If you have some friends with common interests you may decide among yourselves and subscribe different magazines and exchange them.
3. Once the magazines and newspapers have been read they are mostly thrown and they go in landfill. By donating them to libraries or recycling them you can save lot of trees, water, and power.
4. Now a day cold drinks, beer and other health drinks are available in aluminum cans and you may find empty cans thrown everywhere. Do you know by recycling one can you can save energy to run television for 3 hours or you can save energy sufficient enough to make 20 such cans.
5. According to greenlearning.ca, recycling one tonne of newspaper saves, 19 trees, 3 cubic meters of landfill, 4000-kilowatt hours of energy, 29,000 liters of water and 30 kg of air pollution.
6. In India as well as in many developing and under developed countries there are millions of people who do not get enough food to eat or enough clothes to cover themselves. So do not waste food if some eatables are left give that to poor people. Donate, out fashioned and discarded clothes to people who need them.

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Boeing sees 'green diesel' in the future of air travel

By Garrett Hering

Boeing is seeking to help airlines fly the skies in a more environmentally friendly way.

This week, the Chicago-based aviation giant reported that it is stepping up efforts to expand the use of sustainable aviation biofuel by seeking U.S. Federal Aviation Administration approval for its



biofuel emits at least half the lifecycle carbon dioxide as traditional petroleum-based jet fuel, according to Boeing.

The announcement comes after Boeing researchers found that green diesel a fuel derived from

feedstock such as non-food plant oils, waste cooking oil and animal fats, and algae is chemically similar to sustainable aviation biofuels that already are approved.

James Kinder, a fellow at Boeing Commercial Airplanes Propulsion

According to the aircraft manufacturer, there is already about 600 million gallons of operating green diesel production capacity in the United States, Europe and Singapore percent of worldwide demand for commercial jet fuel. The wholesale cost, says Boeing, is competitive with petroleum jet fuel at about \$3 a gallon.

Boeing is working with the FAA, engine manufacturers, green diesel producers and others to prepare a detailed report on green diesel as part of the federal regulatory approval process. If approved, green diesel would likely be blended with traditional jet fuel.

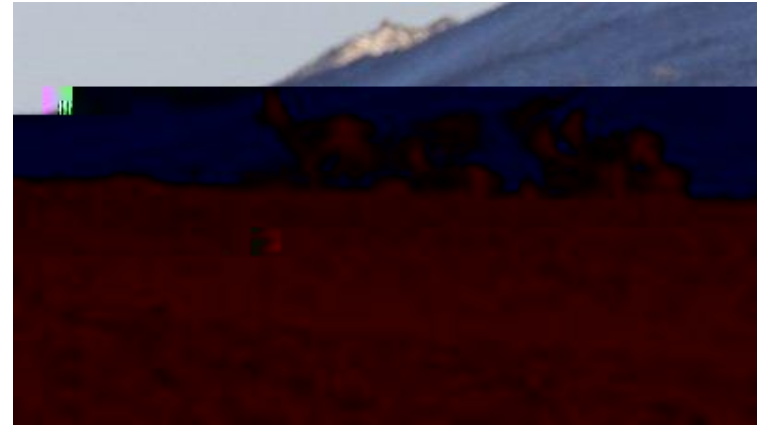
spokeswoman Jessica Kowal told GreenBiz. A previous regulatory process for aviation biofuels produced from hydro-processed esters and fatty acids (HEFA) required two years before being approved in

a series of actions by aircraft manufacturers, airlines and engine makers to improve the sustainability of aircraft travel. The Sustainable Aviation Fuel Users Group which includes Boeing, Airbus and 27 airlines has the stated goal of achieving carbon-neutral growth in the airline industry by 2020 by accelerating the development and commercialization of sustainable aviation biofuel.

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shawls threatens rare Tibetan antelope

By Rina Saeed Khan, for theguardian.com



A flock of Tibetan antelope or chiru in north-west China's Gansu province. Photograph: Hayrat/Corbis

In the musty back room of the Kashmiri handicrafts store in counter with the keys to open a concealed black suitcase. He retrieves half a dozen luxury shawls made from the fur of an endangered antelope, which are so fine they can be passed through a ring.

The shahtoosh shawls are delicate, incredibly soft and unstained. But the trade in these shawls, which appear to be new, is illegal.

Shahtoosh shawls are made by highly skilled Kashmiri artisans from the fine under-fur of the chiru (the Tibetan antelope) and they are prized in Pakistan. Processing or wearing shahtoosh is a punishable offence in India, and in Pakistan where they are smuggled into from Indian Kashmir anyone selling them face prison sentences of up to two years and fine of up to Rs1m (£5,805). International trade in the Tibetan antelope is also banned under the Convention on International Trade in Endangered Species (Cites), to which Pakistan is a signatory.

Despite these controls, possessing a shahtoosh shawl is still a status symbol among the rich elite. During the winter months the brown-beige shawls are worn by men and women, and can be seen draped over many a sari and salwar kameez at lavish weddings and dinner the shopkeeper, proudly displaying a rare creamy white shahtoosh, on sale for \$4,000.

The ubiquitous Kashmiri handicrafts stores in Islamabad are aware of the law, hence the shawls are not openly displayed but only brought buy these delicate shawls have traditionally been given as wedding gifts in India and Sadly Khan, whose daughter will be getting married in October this year.

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Giving US energy efficiency a jolt

by other consumer-facing industries may help utilities convince residential customers to save more energy.

By David Frankel & Humayun Tai

Many US consumers increasingly aware of the benefits of using less energy and the even modest behavioral changes. And campaigns that utilities have undertaken to promote energy efficiency as part of their energy-saving mandates are becoming less and less effective.¹ disconnect?

In short, we believe utilities need to follow the lead of their consumer-facing peers to improve their understanding of how consumers behave and adopt better ways of engaging them. Only then will utilities make inroads into convincing consumers to play their part in capturing the sizable energy savings that could be available.

The energy-efficiency challenge

Awareness of and interest in energy efficiency is already substantial, even though the United States lags behind most other wealthy countries when it comes to energy efficiency.² Ratepayer-funded energy-efficiency programs in the United States expanded from \$2.6 billion in 2006 to nearly \$7 billion in 2011, and the number of states with energy-resource standards rose from 8 in 2006 to 24 in 2012. Our research³ shows that around 80 percent of consumers are aware of energy efficiency and its benefits, and of a broad array of energy-efficient appliances or home-modification options. And energy efficiency is the most important stated characteristic after price when buying an appliance or considering a home-improvement project.

At the same time, utilities have ramped up their energy-efficiency programs, while appliance vendors and providers of demand-management systems are marketing new, more sophisticated offerings. We estimate that a range of initiatives that includes upgrading lighting, appliances, and electrical devices, as well as installing better insulation and other measures in existing and new houses, could reduce US residential-energy demand by 20 percent or more.⁴

The stakes are significant: more than \$1 trillion in value through 2020. Yet despite growing consumer awareness and increased spending by utilities to encourage energy efficiency, most residential-consumption habits remain largely the same.

In fact, our latest research⁵ paints more clearly than ever a picture of untapped promise: even modest behavioral changes that would have little to no impact on the lifestyle of US residential consumers could lead to significant savings as much as an additional 20 percent of residential-power demand (exhibit). Yet not much is happening. Users typically perceive purchased appliances and devices to be more energy efficient than they actually are. They underuse rebates and incentives that would make purchasing more-efficient appliances more affordable. And even when they buy these appliances, they are failing to set the controls in ways that let them capture the full energy-saving potential.

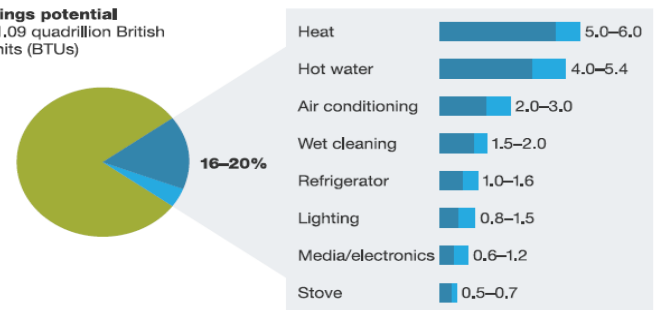
Exhibit

Modest changes in energy-use behavior on the part of US residential customers could yield significant energy-efficiency savings.

Modest changes in energy-use behavior on the part of US residential customers could yield significant energy-efficiency savings.

% of US annual residential-energy use (excluding transportation)¹

Total savings potential
100% = 11.09 quadrillion British thermal units (BTUs)



¹Figures do not sum to total, because of rounding.

Source: California Energy Commission; Lawrence Berkeley National Laboratory; National Renewable Energy Laboratory; US Department of Energy Residential Energy Consumption Survey; US Energy Information Administration Annual Energy Outlook; 2011 McKinsey survey on energy efficiency in the United States

Converting awareness to action

There is clearly a need to better understand and communicate with consumers. Some utilities and appliance vendors use demographic segmentation (for example, by age or zip code) to build an understanding of the customer base. But the information this generates remains fairly general and does not provide utilities with a clear basis on which to engage with consumers on energy-efficiency issues. By looking at residential-power users in the same way that other consumer-facing industries have long addressed their markets, industry players can build a more effective approach to fostering behavioral energy efficiency.

Our research identified five consumer segments that show significantly different levels of concern about energy-saving behavior:

- About 20 percent of the population is made up of *green advocates*, who care about energy-saving behavior as a goal in its own right. This is the only segment that is motivated by perceived environmental benefits from more- includes an interest in using new technologies.
- At the other extreme are *disengaged energy wasters*, a group (also energy or saving money. They are neither interested in new technologies nor the environment.
- The rest of the population is primarily motivated by saving money but still comprises three distinct segments. Cost savings entirely motivate *traditionalist cost-focused energy savers*. *Home-focused selective energy savers* primarily seek home improvement, which may include a technological and cost-saving dimension; both of these can clearly link to more-efficient use of energy. Members of the third segment, nongreen selective energy savers, are happy to save energy have to think about it actions.

Communicating in a way that includes an emotional appeal to the priorities of each of the five segments is critical to increasing the adoption of energy-efficiency programs. Yet even within these segments, specific initiatives require varying approaches. For example, while we found that

usage has the broadest appeal across all consumer segments, a message of eliminating wasteful energy drain resonates best with green advocates. Among cost-focused, home-focused, and selective-energy- lower energy bills with no perceptible lifestyle impact.

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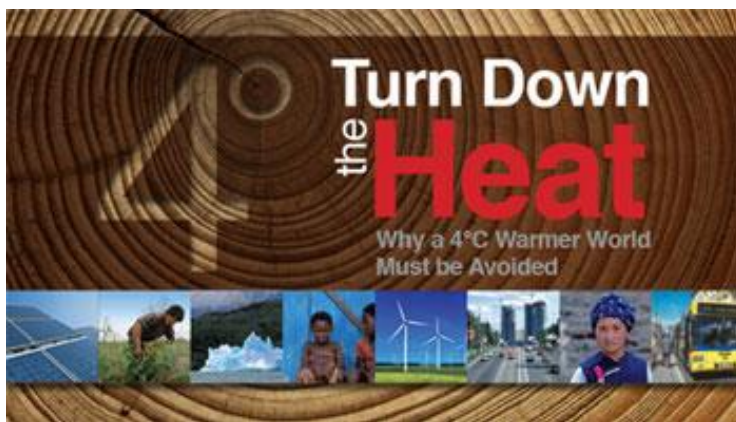
World Bank Offers Free Online Course on Climate Change

SustainableBusiness.com News

If you ever wanted to delve deep into the science and policy options on climate change, this is a good chance to do it.

Beginning on January 27, The World Bank is offering a free, online course to the public and policy makers, **"Turn Down the Heat: Why a 4°C Warmer World Must be Avoided."**

The course, led by renowned scientists, will present the most recent scientific evidence, projections for the 21st century, and opportunities for urgent policy action, with an emphasis on developing countries.



The four-week course takes place over a month and requires 3-5 hours of work per week.

Module 1: Observed Climate Changes and Impacts: Hundreds of Thousands of Years to Now.

Module 2: Possible 21st Century Climates

Module 3: Life in a 4°C Warmer World

- a) Impacts Across Key Human Support Systems.
- b) Risks of Large-Scale and Disruptive Changes in the Climate System

Module 4: What Can We Do About It? The Choice Is in Your Hands

Here are the details:

Website: www.coursera.org/course/warmerworld

By Jay Griffiths, for *theguardian.com*

dullest, the most stagnant ache. It is stale with unhappiness, misery at its most lifeless. Often, it is compounded by the low-level nerve-eroding hum of constant anxiety.

A new study illustrates that people in urban areas who live near parks and green spaces suffer less depression. Taking socioeconomic status into account, the research showed

greener areas have significant and long-lasting improvements in



What is it that happens to the human mind in the natural world that no research can ever quite grasp and pin down? Photograph: OJO Images/Rex Features

Green is good for you. Ecotherapy, supported by Mind among others, is a form of treatment shown to be effective for mental health issues. In my last book, *Kith: The Riddle of the Childscape*, I explored some of the numerous studies which show the beneficial effects for the mental health of children of having access to green areas: from how playing on asphalt appeared to generate more conflict compared to playing in natural environments, to the value of pets, and the good effects of adventure therapy and forest schools. Very little green stuff is needed. Little but not nothing.

There are studies which link proximity to green space with physical fitness but, although exercise is good for depressives, there is more going on when it comes to mental health and nature. Our minds are not lego sets built for a Bauhaus world. We are not machines; we are animals. Incontrovertibly so, and a cause for celebration. We happily use the term human nature to describe our humanity, and can do so without the fatuous dualism which always seeks to oppose nature to culture. The prevalence of mental health distress tells us one thing as a society: we must be kinder to our human nature and our animal bodies.

If a dog is caged indoors and not allowed to play outside, its owners

greenery, are expressing normal behaviour and should have rights equal to dogs.

What is it that happens to the human mind in the natural world that no research can ever quite grasp and pin down? The studies, taken collectively, demonstrate the fact that the green stuff is good for the psyche, but they can seldom say exactly why this is the case. And in that margin, many of us who know both depression and a love for nature may feel our way, tendrils by tendrils, like ivy asking questions of the gaps between the railings and the branch.

In depression, the psyche turns inwards, feeding on itself, for the ill mind demands attention as much as the ill body does. In green spaces, though, the mind is repeatedly invited to turn its gaze outward, to notice, see and hear.

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What's Our Biggest Export to China? Scrap!

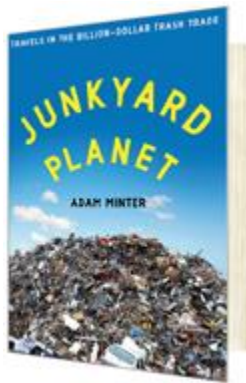
SustainableBusiness.com News

Yes, you're probably as surprised as I am to learn that US throw-aways have been our biggest export to China for several years (by value), bested only in 2012 by record soybean sales.

That year, we sent over 46 million metric tons of scrap metal, paper, rubber and plastic to China.

Historically, these materials stayed in the US to be recycled, landfilled or burned, but because of China's much lower labor costs and lax environmental regulations, that's no longer the case.

In the book, *Junkyard Planet*, Adam Minter writes about the globalization of the scrap market. The industry "turns over as much as \$500 billion annually" and "employs more people than any other industry except agriculture." Wow.



Here's an excerpt from Elizabeth Royte's review of the book, which appears in *OnEarth*, a magazine produced by the Natural Resources Defense Council. We offer it to you not because of the book, but to give you some insight into how this massive industry works.

In China's Hebei Province, for example, formerly bucolic farmland is now filled with 20,000 mom and pop shops that wash, sort and melt plastics from car bumpers,

baskets and crates. The money they make pays to send children to school, to pave roads and construct buildings.

But the area is choked with traffic, polymer fumes and grime, and its young workers succumb to pulmonary fibrosis and paralyzing strokes.

But Minter points to the importance of recycling: in 2012, it kept 135 million metric tons of materials out of landfills and it prevents the mining or extraction of natural resources (oil and gas in the case of plastics). To get one ton of virgin copper requires processing 100 tons of ore, an energy-intensive process that rips up vast landscapes, contaminates waterways, and leaves sulfuric acid in its wake.

As Minter says, why would anyone mine this metal when "there's an endless supply of perfectly recyclable and reusable copper - worth billions - in the junkyards and recycling bins of America?"

As he traipses through trash heaps in India, the Middle East, Africa, Brazil, Taiwan and beyond, he describes piles in scrapyards, warehouses and in front of shacks. He's as awestruck watching a million-dollar machine in Indiana pulverize cars into streams of metals, plastics and glass, as observing thousands of low-wage workers in Asia unwind copper wires from electric motors and hack aluminum from discarded water meters.

That's not to say we don't have a recycling industry in the US, because we do, but clearly it could be much bigger and handle more of our materials.

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Sustainability at a Sri Lankan hotel

By Martin Wright, for *theguardian.com*



Koggala Beach south of Galle, Sri Lanka, 2010. Photograph: Yadid Levy / Alamy/Alamy

If you were going to pick a name for one of the most ecologically

It might smack of a tacky 1960s love affair with the glamour of air travel but this family-owned Sri Lankan business is quietly transforming itself into something of a green pioneer.

-and-thatch, earthy adobe ambience of your typical eco- latest hotels, are exercises in defiant modernism. The new Jetwing resort in the Yala National Park looks more like a bold new art complex in Berlin that has been parachuted onto the Indian Ocean shoreline than a sensitive development on a world heritage site.

The green stuff solar panels, biomass boilers, bottling plants which avoid the use of plastic bottles rather coy. But that could be about to change.

I met up with the chairman, Hiran Cooray, at a Jetwing hotel on the ayurvedic retreat in an effort to offset the health effects of a corporate lifestyle. This is boomtime in Sri Lanka: the end of the Tamil Tiger insurgency has brought about a heady rush of optimism, with heavy spending on infrastructure, and areas once off limits opening up. Tourists are returning in droves, undeterred by controversy over the has to run to stand still. So sustainability has to prove it can pay its way, or it will get trampled in the rush.

-initiatives are starting to look like sound economic sense, with savings on everything from diesel to electricity bills. But the business logic w when a stirring talk by Greenpeace activist David Suzuki convinced persuaded his father, Jetwing founder Herbert Cooray, to set up a

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BP study predicts greenhouse emissions will rise by almost a third in 20 years

By Fiona Harvey and Terry Macalister, for *The Guardian*



Rig in BP oil-field near Prudhoe Bay, Alaska. Research by the energy firm looks at the likelihood of curtailing climate change. Photograph: Worldfoto/Alamy

Global greenhouse gas emissions are set to rise by nearly a third in the next two decades, putting hopes of curtailing dangerous climate change beyond reach, a new report by BP has found.

The drastic rise in emissions, despite international efforts to cut carbon, will come despite the predicted enormous growth in the use of shale gas, according to the oil and gas giant.

Shale gas previously inaccessible because the exploitation of these resources requires technology only recently perfected will account for a rising proportion of the growth in energy in the years to 2035, but its use will not cause a decline in greenhouse gases.

The finding deals a blow to proponents of shale gas, who have argued that its use will cut emissions. Burning gas produces much less CO₂ than burning coal, but the effect of a huge rise in shale gas exploration will not ameliorate the increases in emissions that scientists say will take the world to dangerous climate change.

Proponents of the fuel have argued that shale gas can counteract dependence on coal. But while shale gas use has increased dramatically, particularly in the US, where it brought down gas prices from \$12 (£7) to below \$3 (£1.80) at one stage, global emissions have continued to rise as the coal that would otherwise have been used has been exported elsewhere.

Christof Ruehl, BP chief economist, said that fuel switching had little impact on overall emissions. Coal use globally had risen to record levels, even as shale gas had risen.

In the UK, shale gas has received a boost from David Cameron, who vowed to go all out for shale by offering taxpayer-funded giveaways to companies. But the news that such a move will not cut overall emissions takes away a key plank in the arguments put forward by shale companies.

BP in its global energy outlook said gas would take a 27% share of global energy consumption by 2035, with a similar share for coal, oil,

and an amalgamated low-carbon sector including nuclear, hydro, wind and sun.

BP predicts that global emissions will rise 29% by 2035. The Intergovernmental Panel on Climate Change says that emissions must peak by 2020 to give the world a chance to avoid a further two degrees of warming, beyond which the effects of climate change become catastrophic and irreversible.

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SustainableBusiness.com News

Wind energy played an important role in keeping the lights on and homes warm during Polar Vortex week.

In some cases, it made all the difference - without wind energy being available, the power would have gone out as frigid temperatures severely strained the grid.

The American Wind Energy Association (AWEA) reports:

- As natural gas prices surged because of demand in Nebraska, the utility turned to 300 megawatts of wind to provide 13% of demand and keep prices down. It shut down natural gas flow because prices were up more than 300%.
- In Texas, utilities struggled with numerous outages at conventional power plants, but wind farms filled in with 2 gigawatts (GW) of energy.
- In the Mid-Atlantic and Great Lakes states the grid operator



(which serves 60 million people) was able to turn to 3 GW of wind output when numerous fossil fuel plants and two nuclear plants unexpectedly failed. A whopping 20% of capacity was down because of problems with natural gas supply and weather-related mechanical failures, according to *Reuters*.

- High natural gas prices across New England were also reduced by high output from the region's wind farms.

This serves as a powerful reminder that wind energy plays a critical role in diversifying our energy mix, improving energy reliability and reducing energy costs for homes and businesses," says Michael Goggin, Senior Electric Industry Analyst of AWEA.

"Diversity inherently makes the power system more reliable by protecting against the unexpected failures that afflict all energy sources from time to time. While wind energy output does change with the wind speed, such changes occur far more slowly than the unexpected outages that frequently occur at large conventional power plants. Moreover, changes in wind energy output are predictable using weather forecasting, while conventional power plant failures are not, making them far more difficult and costly for grid operators to accommodate."

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A new fellowship seeks to bring young designers and engineers together to reinvent the economy with a sustainable philosophy

By William McDonough, Guardian Professional



At launch of The Schmidt-MacArthur Fellowship, Eric Schmidt, former CEO of Google, noted education and innovation have always been solution to world's problems. Photograph: Scott Olson/Getty Images

In a watershed event in the emergence of the circular economy, hundreds of business leaders, educators and entrepreneurs joined to celebrate the launch of The Schmidt-MacArthur Fellowship.

The fellowship is an international postgraduate programme on the circular economy, pairing students and academics from leading universities in Europe, India and the US for year-long research and design projects. Its co-founder, Wendy Schmidt, said it was established "to promote a revolution in education and equip the next generation of designers, engineers and inventors with the skills and innovative instincts they need to create a regenerative global economy".

Along with Walter Stahel, The Performance Economy; Janine Benyus, Biomimicry 3.8; and Fellowship co-founder Ellen MacArthur, The Circular Economy 100, I was there with Michael Braungart, representing our concept, Cradle to Cradle.

In the inaugural address, Eric Schmidt, executive chairman and former CEO of Google, noted that education and innovation have always been the solution to the world's problems. He imagined a generation of young designers and engineers, led by the fellows, figuring out "subtle strategies" to create a productive, regenerative economy, unleashing a wave of "business opportunities, investment, creativity and dynamism" comparable in scale to the tech revolution in Silicon Valley.

We need that kind of creativity and dynamism, now more than ever, to generate ecologically intelligent economic growth that meets the needs of all the world's citizens while honouring the laws of nature. The fellows' "subtle strategies" will produce good growth long-term, meaningful, regenerative growth because their strategies will be built on principled innovation.

The academics mentoring the fellows, along with other thought leaders working on the circular economy, are building the frameworks for principled innovation. They are values-based frameworks,

purpose-oriented and attentive to social and ecological concerns, and they yield profitable, restorative products and services because they are modeled on the structures and cycles of living systems. Like Cradle to Cradle, they have nature's principles in their DNA.

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Sonoma County: First 100% Sustainable Wine Region in the World

SustainableBusiness.com News

California's Sonoma County has long been known for wineries that lead on sustainability, and now they are joining to create the first 100% sustainable wine region in the world.

Shooting for 100% is a big goal but Sonoma County Winegrowers - which represents 1800 businesses - say they'll get there in five years - by 2019.

forefront of creating and utilizing sustainable practices in the vineyard, in the winery and in running their businesses, so this is the next president of

They hope to accomplish it through these phases:

1. Convey best practice management by directly helping vineyards access where they are now on land use, canopy management, energy efficiency, water quality, carbon emissions, healthcare and employee training. They plan to assess 15,000 acres a year until they cover every last 59, 218 acres - 6% of the county's acreage.

2. Work directly with vineyard owners to achieve certification from a third-party, such as the California Sustainable Winegrowing Alliance Code of Sustainability. Wineries will receive regular progress updates, an annual Report Card and will be able to track their progress in real-time at the Winegrowers website.



"I commend the growers and wineries of Sonoma County for pursuing this bold initiative. It speaks volumes about their love of the land and their commitment to

environmental stewardship, their community and their

Ross, Secretary of California's Department

Comprised mostly of multi-generational family

businesses, most of the county's wineries are on under 100 acres. Within Sonoma county there are 17 distinct climate zones which give the various wines their distinctive tastes.

All this, of course, is threatened by climate change as is evidenced now by the state's searing drought. Going forward, the highest sustainability standards will really be necessary to protect their fragile crops.

[<Source>](#)

double extreme El Niño weather

By Damian Carrington, for *The Guardian*



A child shields himself from torrential rains in flooding north of Lima, 17 March, 1998. The most recent extreme El Niño events were in 1982-83 and 1997-98. Photograph: Jaime Razuri/AFP/Getty Images

the weather will double in frequency to once a decade if global warming remains unchecked, according to what scientists believe is a major step forward in the understanding of such events.

The last extreme El Niño, in 1997-98, resulted in the hottest year on record, and the accompanying floods, cyclones, droughts and wildfires killed an estimated 23,000 people and caused £21bn-£28bn in damage, particularly to food production. But until now scientists have been unable to agree how climate change will affect the frequency of extreme El Niños.

A study, published in the journal *Nature Climate Change*, concludes that in stark contrast to earlier work, the current rate of carbon emissions would mean twice as many extreme El Niños over the next 100 years, with profound socioeconomic consequences.

Professor Mat Collins of the University of Exeter, part of the research led by climate change. Tropical rainfall conditions such as those experienced in

Another team member, Professor Eric Guilyardi of the University of the issue to produce robust and convincing results about extreme El

El Niños begin with an unusual warming of the sea surface at the tropics of the eastern Pacific and spread to affect many parts of the world. Previous attempts to ascertain the effect of climate change were inconclusive, as different computer climate models produced conflicting results.

By focusing on those models known to best represent the changes in temperature, currents and clouds that occur in the real world, the researchers were able to produce a clear result for the first time. The work showed that climate change is most likely to warm the tropical Pacific waters that drive El Niño more rapidly than surrounding regions, meaning that extreme events would become twice as common.

Professor Myles Allen, a climate modelling expert at the University of

and a very sensible approach. In the past people said models disagreed to repeat this study with the computer models used for seasonal weather forecasting, which have higher spatial resolution than climate change

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The Greenest Superbowl Ever, Says NFL

SustainableBusiness.com News

These days, US sport teams and stadiums are competing on who is the greenest, with energy efficiency, renewable energy, recycling and composting becoming common in the professional sports world.

Once again, the National Football League (NFL) says it will serve up the greenest Super Bowl ever at MetLife Stadium in Rutherford, New Jersey.

Although it only got a score of "2" (out of 4) from the Green Restaurant Association, MetLife is the first stadium in the world to meet its rigorous standards.

With over 200 restaurants on-site serving up to 100,000 people in a day, it's also the largest food service operation to receive this certification.

Notably, all the waste oil generated from food production will be converted into biodiesel fuel and all food scraps will be composted. Leftover food will be donated and materials such as plastic, glass, aluminum and paper will be recycled. No styrofoam containers will be used at the game. Energy Star equipment will be used to make all the food.

"From the very beginning, our Owners committed to build and operate one of the most environmentally responsible stadiums in the National Football thank our partners at Delaware North for their efforts in helping MetLife Stadium become the first Certified Green Restaurant® stadium in the



MetLife Stadium incorporates some solar, recycled materials in construction and in its seats, in addition to a heavy emphasis on recycling and composting during events. Other innovative stadiums include: net-zero energy for the San Francisco 49ers and Philadelphia Eagles; the Giants' edible garden; Washington Redskins; Seattle Seahawks; and a LEED-Platinum stadium in Texas.

Of the 126 professional sports teams in the five major North American leagues, 38 have shifted at least partially to renewable energy and have energy efficiency programs, reports the Natural Resources Defense Council (NRDC) and the Green Sports Alliance. They are also taking the opportunity to educate millions of people about these practices - 61% of Americans identify themselves as sports fans, compared to just 13% who follow science.

Take a look at how the stadium rates on the Green Restaurant Association's criteria:

Website: <http://dinegreen.com/customers/featured.asp?ID=REST11967>

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Speed limit on 34-mile stretch of M1 to be limited to 60mph to cut air pollution

By Gwyn Topham, for *The Guardian*



The speed limit is set to be reduced from 70mph to 60 mph on a 34-mile stretch of the M1. Photograph: Rui Vieira/PA

Motorway drivers are set to be limited to a speed of just 60mph for a 34-mile stretch of the M1 in a bid to meet European standards on air pollution.

The Highways Agency is proposing introducing the new lower speed limit on a 34-mile stretch of the M1 - south of Leeds - in Yorkshire and the Midlands.

The new curb on speed comes less than two years after coalition proposals to increase the motorway speed limit to 80mph, which were quietly dropped in the face of safety concerns. The 60mph limit would be enforced between 7am and 7pm seven days a week as part of the 'congestion charging' scheme, where extra capacity is added by converting the hard shoulder into a fourth lane and variable speed limits are imposed to help traffic flow.

The agency said its environmental assessments showed local air quality would be further damaged if the motorway continued to operate at the current national speed limit of 70mph. More stringent EU regulations on air quality came into force last year.

The Campaign for Better Transport welcomed the proposed speed limit. It said the Highways Agency is taking public health seriously.

However, as long as the proposal still includes plans to widen the road by opening the hard shoulder to traffic, this is just an exercise in damage limitation and will simply prevent air quality worsening, rather than improve it.

But it warned that it would negate the benefits of the M1 upgrade for motorists and said it feared it could just be the start. Technical director David Bizley said: "We have never before lowered the speed limit on a 34-mile stretch of the M1, which seems highly likely, it would certainly negate some of the current benefits of the upgrade."

motorway speed limits have not previously been lowered in order to comply with environmental legislation.

It said the 34-mile stretch of the M1, which seems highly likely, it would certainly negate some of the current benefits of the upgrade.

motorway where motorists are allowed to use the hard shoulder to reduce congestion.

sections of motorway.

will inevitably be a negative impact on business efficiency and individual mobility.

and many will be surprised to hear that a reduction of just 10mph can have such a significant effect on improving a

He said the government should consider reintroducing incentives to scrap older high polluting vehicles to avoid further such speed restrictions.

Roads minister Robert Goodwill said no final decision had yet been made. He said speed restrictions to improve air quality would be temporary, only ever considered as part of road improvement work and would not be appropriate for the vast majority of projects started

[Source](#)

Latin America Gets Its First Concentrating Solar Plant

SustainableBusiness.com News

Construction on Latin America's first concentrating solar plant starts this year, and Abengoa won the \$1 billion contract.

The 110 megawatt solar tower project with molten salt energy storage will be built in Chile on the world's driest desert. Atacama Desert has the highest solar radiation concentration in the world.

While Abengoa's parabolic concentrating plant in Arizona is more than twice the size, Solana can only store energy for six hours. Chile's plant will be able to produce energy without sunshine for a very impressive 17.5 hours.

"This makes the technology highly manageable, enabling it to supply electricity in a stable way, 24 hours a day, responding to all periods of electricity demand," says Abengoa.

The world's largest solar tower plant, Ivanpah, is 377 megawatts and is also in Arizona:



Construction and operation of the project is expected to catalyze regional socio-economic development, creating a large number of direct and indirect jobs.

The Chilean Government and European Union are supporting the project through

subsidies in addition to financing from the Inter-American Development Bank, KfW Kreditanstalt für Wiederaufbau, the Clean Technology Fund and Canadian Fund.

Chile's goal is to get 20% of its electricity from renewable energy by 2025.

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Philips Introduces 'Lighting as a Service'

SustainableBusiness.com News

Washington, DC is following in the footsteps of a bunch of cities that have or are in the process of switching their lighting to LEDs. But unlike the other cities, Washington is taking advantage of Philips Lighting's (which manufactures the LEDs) first foray into offering "Lighting as a Service". While the municipality has been used for lighting. Philips will pay the upfront costs of installation and be compensated through a performance contract the energy savings the retrofit produces.

In Washington, DC, Philips will upgrade over 13,000 lighting fixtures in all its parking garages at no upfront cost to the city and provide a 10-year maintenance contract. Philips will get paid from the \$2 million in savings the LEDs are expected to provide each year. The project starts this spring and will take about a year.

The bulbs will automatically adjust based on the amount of natural light available. Philips is looking to the services and delivery models of the software industry to understand the future of lighting and how we can remove one of the barriers to LED adoption. Biasiotta, CEO of Philips Lighting Americas.

A survey of 300 mayors released this week shows that switching to LEDs is a high priority (82%), second only to public building retrofits (86%). LEDs and other energy-efficient lighting are the "most promising technologies" for reducing energy use and carbon emissions, they say. The most significant barriers are budget constraints (84%) and upfront costs (71%).

Even with these barriers, 23% of mayors say they will continue on their course of increasing efficiency, and 67% plan to invest more. LED streetlights:

And while only 36% of cities currently have a comprehensive energy plan,



a third more say they will have one within two years. 90% of mayors surveyed say they will have a plan to keep vital services operating during sustained power outages within three years, and 75% have already developed such plans.

At the June meeting of the US Conference of Mayors, they adopted a policy that affirms the importance and benefits of advanced lighting systems in cities.

Philips will provide free energy audits, technical assistance and its new financing option.

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Sustainable brands and big data set to go mainstream in 2014

No more hairshirts and niche products, **Tom Adams** predicts 'conscious' brands will go mainstream and the best will use big data to influence consumer behaviour

By Tom Adams, Guardian Professional



Technology can build a detailed picture of personal activity in many realms, from fitness to energy use and finance. Photograph: Carol and Mike Werner/Alamy

Toyota, Tesla, Method, American Apparel and Nespresso all, in their own way, attempt to let us have our cake and eat it: sexy fast cars that run on batteries; a green washing up liquid that actually cleans; sweat shirts not made in sweat shops; luxury coffee that supports coffee grower profits and sustainable farming practices.

These brands achieved many of the highest prices in an online stock market for brands created by FutureBrand, bringing together more than 1,000 traders worldwide who bought and sold virtual shares in over 1,000 global brands for a year. The results seemed to show a significant interest in brands that manage a balance between what we want and need, or immediate gratification and long-term benefits.

Common sense might suggest that brands, however enlightened, are only designed to increase consumption and therefore production, ultimately militating against a future that is truly sustainable. So is this just tinkering? I think not. Evidence that more conscious brands are going mainstream is significant and they set the stage for a future where brands help us curb our demand too. But why and how would they do this?

The brands selected by our traders remind us of an obvious human truth. We like nice things but we often feel guilty about having them for reasons of health, environment or ethics. So we're willing to embrace alternatives that help to offset the guilt as long as they do an equally good job as the alternative, less sustainable option.

It's unsurprising perhaps that Tesla was the number one selling car in Norway in September. Or that Americans are using environmentally-friendly cleaning liquid Method. They aren't choosing these brands just out of a sense that our individual consumption decisions have an impact on the world around us, they're also doing it because the product works well and looks great. This is significant because an array of new values are becoming embedded in consumption considerations, to a degree that brands cannot ignore and which will collectively have a positive impact.

However, brands that do a slightly better job of being sustainable in the process of helping us avoid more kinds of compromise might not overcome the challenge of over-consumption. Wasting food, packaging and other costly resources at the current rate means brands could still be complicit in the bigger picture issue of non-sustainable production. This, in one possible future, is where data comes in.

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Sustainability is impossible until companies admit environmental cost

While companies' impact on the environment remains ignored the question of how society deals with the consequence of this damage will remain unanswered

By Joseph Zammit-Lucia, Guardian Professional



A report on farmed salmon by Green Warriors of Norway, stated that "farmed fish is Norway's most toxic product." Photograph: Tatyana Makeyeva/AFP/Getty Images

On holiday recently, I visited the Japanese sacred area of Kumano Kodo. Miles of treks mark pilgrim routes from the ancient capital of Kyoto to a number of shrines located around the Wakayama peninsula.

We were walking on a high ridge and stopped to look and to listen to the forest sounds – bird song, a variety of insect noises and large butterflies.

But something was strange. The sound was coming at us in mono not in stereo. One side of the ridge fell off steeply. The forest was lush, varied and full of animal and insect life. It was from this side that the cacophony of sound was coming. The other side of the ridge was less steep and had been commercially exploited as a wood plantation: a monoculture of pine trees. No or very little life other than the pine trees themselves could survive here.

By some standards, the pine plantations can be considered "sustainable". They are well managed, re-planting takes place and the soil is maintained in good condition. But what of the vast amount of other life that has been driven out and destroyed in the process of turning whole mountain ranges into managed forests? Who bears the cost of that? The management of "externalities" – as such damage is unemotionally labelled by economists – has proven to be one of the most intractable issues in moving towards sustainability.

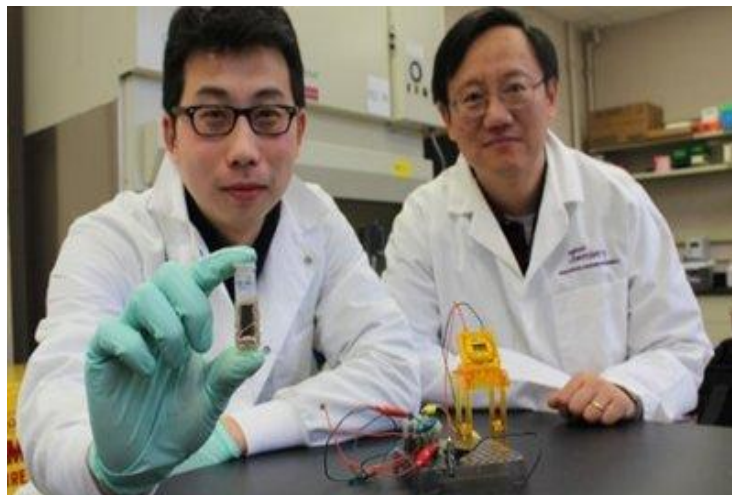
Neither does the ability for businesses to do damage or dump their waste unhindered only hurt the environment. It can lead to the creation of products that can be harmful to human health. Take the Norwegian salmon farming industry – and most salmon farming elsewhere, much of which is controlled by Norwegian companies. A report on farmed salmon by Green Warriors of Norway, stated that "farmed fish is Norway's most toxic product." Why?

Some salmon farms dump toxic waste into rivers and oceans. Besides the obvious and substantial damage both to the oceans and to ocean life, the ability to dump waste unhindered allows the salmon producers to use antibiotics and carcinogenic chemicals in the farms in order to "optimise" the commercial value of their product.

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Sugar battery offers hope of green-powered gadgets within three years

By Samuel Gibbs, for theguardian.com



Researchers from Virginia Tech show off their new sugar battery that could power gadgets within three years. Photograph: Virginia Tech College of Agriculture and Life Sciences

Scientists in the US have developed a sugar-powered battery that they say stores 10 times more energy than the equivalent-size lithium-ion batteries found in smartphones.

According to the team at Virginia Tech university, the results of their work could be in use within three years and recharging could be a matter simply of adding some more sugar.

The new battery technology produces significantly more energy from the sugar fuel than the lithium-ion batteries commonly used in portable electronics and electric cars, claim the researchers. That could greatly extend the battery life of smartphones, tablets, and electric cars.

The researchers reported their work in the latest issue of Nature Communications.

The new battery technology produces significantly more energy from the sugar fuel than the lithium-ion batteries commonly used in portable electronics and electric cars, claim the researchers. That could greatly extend the battery life of smartphones, tablets, and electric cars.

From potatoes to batteries

The battery operates like other types of fuel cell, breaking down a fuel and releasing energy in the process. It is powered by a partially digested starch – the foodstuff present in high-energy plant-based foods such as potatoes that are broken down into sugar in the gut.

The starch is broken down into a complex sugar called maltodextrin (already available as a food additive), which is then further broken down by a chain of 13 enzymes. The process releases significant quantities of electrons – which can be used to generate a current, which can in turn power electronic devices. The main byproduct is water being its main byproduct, making it environmentally friendly.

The battery operates like other types of fuel cell, breaking down a fuel and releasing energy in the process. It is powered by a partially digested starch – the foodstuff present in high-energy plant-based foods such as potatoes that are broken down into sugar in the gut.

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Climate change models underestimate likely temperature rise, report shows

By Oliver Milman, for theguardian.com



Understanding cloud formation is key to predicting climate change.
Photograph: CBW/Alamy

than previously thought, heightening the likelihood of a 4C temperature rise by 2100, new Australian-led research of cloud systems has found.

The study, published in Nature, provides new understanding on the role of cloud formation in climate sensitivity one of the key uncertainties in predictions of climate change.

Report authors Steven Sherwood, Sandrine Bony and Jean-Louis Dufresne found climate models which show a low global temperature response to CO2 emissions do not factor in all the water vapour released into the atmosphere.

Models typically simulate water vapour as rising to 15km and forming clouds, rather than updraughts of water vapour that rise only a few kilometres and pull away the cloud-forming vapour. This prediction of cloud cover is important because clouds reflect sunlight, lessening the impact of global warming.

The report, conducted between the University of New South Wales and the Université Pierre et Marie Curie

In reality, the study found, water vapour is distributed to different heights in the atmosphere, causing fewer clouds to form as the climate warms.

In turn, this increases the amount of sunlight entering the atmosphere, making the level of warming far more sensitive to heat-trapping gases such as CO2.

As a result, the world could see a 4C by 2100 if, as predicted, there is a doubling of CO2 in the atmosphere. This could then rise by more than 8C by 2200.

This is beyond the lower range of predictions and double the 2C limit, compared with pre-industrial times, agreed by countries to prevent the impact of runaway climate change. By comparison, average temperatures have risen 0.8C over the past 100 years.

a climate sensitivity of 1.0C, thereby constraining model projections to an accepted lower bound of 1.5C, thereby constraining model projections

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CO2 emissions are being 'outsourced' by

By Suzanne Goldenberg, for theguardian.com



Jinhuarun chemical plant in Zekou Town, Qianjiang City of Hubei Province, China. A draft UN report says the west is increasingly outsourcing its carbon pollution to China and other rising economies. Photograph: How Hwee Young/EPA

pollution to China and other rising economies, according to a draft UN report.

Outsourcing of emissions comes in the form of electronic devices such as smartphones, cheap clothes and other goods manufactured in China and other rising economies but consumed in the US and Europe.

A draft of the latest report from the Intergovernmental Panel on Climate Change, obtained by the Guardian, says emissions of carbon dioxide and the other greenhouse gases warming the planet grew twice as fast in the first decade of the 21st century as they did during the previous three decades.

Much of that rise was due to the burning of coal, the report says. And much of that coal was used to power factories in China and other rising economies that produce goods for US and European consumers, the draft adds.

Since 2000, annual carbon dioxide emissions for China and the other rising economies have more than doubled to nearly 14 gigatonnes a year, according to the draft report. But about 2 GT a year of that was produced making goods for export.

The picture is similar for other rising economies producing goods for export, the report finds.

developing countries is released in the production of goods and services exported, notably from upper-middle-income countries to high-income countries

Other middle income countries, with smaller exports, saw a more gradual rise in emissions. For the poorest countries in the world, however, emissions have flat-lined since 1990.

Factories in China and other rising economies now produce more carbon pollution than industries in America and Europe.

The newly wealthy elites of China, India and Brazil are flying more, buying more cars and otherwise fuelling the consumption that is driving climate change.

But their per capita greenhouse gas emissions are still below those in America and Europe a gap that China and India regularly cite at climate talks to deflect pressure to cut emissions.

In addition, a large and growing share of the carbon pollution attributed to China and those rising economies was generated in the production of goods that ended up in America and Europe.

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DOE Launches National Incubator Initiative for Clean Energy

SustainableBusiness.com News

The Department of Energy (DOE) announced a new initiative to support clean energy entrepreneurs, The National Incubator Initiative for Clean Energy.

This new organization will coordinate a national network of clean energy-focused incubators. It will serve as a central source of information, enabling entrepreneurs to access incubators more easily, while connecting industry with innovative start-ups.

DOE is kickstarting the initiative with \$3 million. While that may not sound like a lot of money, it's a critical infusion for these services which provide vital support for entrepreneurs that are trying to commercialize new technologies.

The funds support mentorship, business development, capital access, and manufacturing support provided by incubators.



DOE will fund up to five incubators to identify, develop, and implement best practices for top-performing, clean energy-focused incubators. In 2007, DOE launched a solar incubator program as part of

its SunShot Initiative. It has since invested some \$92 million in 54 solar start-ups. The funding has inspired almost \$1.7 billion in private investment or roughly \$20 in private-sector money for every \$1 of federal support, says the DOE.

There are 12 clean energy incubators in New England alone, and NYC recently launched one more generally focused on clean technologies. San Francisco's "CleantechSF" nurtures start-ups.

[<Source>](#)

EU to cut carbon emissions by 40% by 2030

By Fiona Harvey & Ian Traynor, for theguardian.com

Europe will cut its greenhouse gas emissions by 40% by 2030, compared with 1990 levels, the toughest climate change target of any region in the world, and will produce 27% of its energy from renewable sources by the same date.

The landmark deal was reached after grinding negotiations dragged on to the deadline of 11am on Wednesday, as warring factions within the European commission and member states fought over whether to water down the proposals.

The EU is now the first to set out emissions reduction targets ahead of a crunch meeting of world governments in Paris in 2015 that will decide a global framework for avoiding dangerous levels of global warming. Every other major developed and developing economy is expected to set out its own binding national emissions target within the next year, for the United Nations talks to go ahead.

opposed the renewable energy target, but was overruled as big member states including Germany, France and Italy backed it.

towards an ambitious emissions reduction target for Europe. They provide the flexibility to tackle climate change in the most cost-effective way, so that British consumers are

the 2030 energy and climate package, with a more flexible mechanism to allow the surplus of carbon permits to be curbed, and that is, not legally



European energy commissioner Guenther Oettinger (l), EC president Jose Manuel Barroso (c) and climate chief Connie Hedegaard at the EU2030 Framework for Climate and Energy conference in Brussels. Photograph: Yves Herman/Reuters

binding of improving energy efficiency by 25% by 2030.

Disputes behind the scenes meant that the unveiling of the blueprint, the biggest climate initiative delivered by Brussels since 2008, was delayed by 40 minutes.

The targets are weaker than many green campaigners had called for, but stronger than the alternatives that some member states and commissioners were championing right to the final stages of the negotiations. The Guardian understands that some commissioners were calling for an emissions target of only 35%, compared with 1990 levels, while the UK failed to gather support for its own opposition to a binding renewable energy target. emissions are likely to be 25% below 1990 levels by 2020, making the targets easier to meet.

Jose Manuel Barroso, president of the European commission, told a owned by all Europeans. We believe that this package is ambitious climate change.

The measures will be debated by member state governments and the European parliament, before they can be fully accepted. The European council, made up of the heads of state or government of the EU member states, will discuss the proposals in March.

relatively ambitious effort equal to what we are now proposing, the world will be

However, reaction to the deal was mixed. The European Wind Energy Association said that the renewables target included in the deal, which had been in doubt until the final moments, was too weak and would cost potential jobs as a result. Thomas Becker, chief executive of the industry body, cited a study from the European commission that found a 30% target on renewables could have created more than 560,000 jobs and boosted economic growth by saving on expensive fuel imports.

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Geoengineering could bring severe drought to the tropics, research shows

By Damian Carrington, *for theguardian.com*

Earth's atmosphere, following the 1991 eruption of Mount Pinatubo in the

Reversing climate change via huge artificial volcanic eruptions could bring severe droughts to large regions of the tropics, according to new scientific research.

The controversial idea of geoengineering – deliberately changing the atmosphere – is being seriously discussed as a last-ditch way of avoiding dangerous global warming if efforts to slash greenhouse gas emissions fail.

But the new work shows that a leading contender – pumping sulphate particles into the stratosphere to block sunlight – could have side-effects just as serious as the effects of global warming itself. Furthermore, the impacts would be different around the world, raising

How the Hungarian town flooded by red toxic sludge went green

By Sean Williams, for theguardian.com



Red toxic mud from the sludge reservoir of the Ajka aluminium works flooded Devecser and other towns and villages in Hungary, killing 10 people and injuring many more on 5 October 2010. Photograph: Tomas Benedikovic/isifa/Getty Images

Toldi Tamás was nursing a hangover when a wave of toxic sludge hit his family home. The night before he had won an election to become mayor. It was the fall of communism in Hungary. Champagne had flowed. But just hours later, on 4 October 2010, his phone was buzzing with messages from frightened locals. They kept saying: "The sludge is coming."

There was a dam, six metre-high, a couple of miles away, that held back the sludge. But it had burst, and a million cubic metres of the slime was rushing toward Devecser, with waves of up to two metres. Within minutes the town was overcome: cars washed down streets and residents lay stricken on the roofs of their ruined homes. By 2 p.m. the sludge had reached the town.



An aerial view of the broken dyke of a reservoir containing red sludge from aluminium factory is seen near Ajka on 8 October 2010. Photograph: Balazs Mohai/AP

Looking out on a new park marking the ruined area. Next to it is a 30-hectare poplar copse whose trees are used to heat 87 homes built just eight months after the disaster.

hectare poplar copse whose trees are used to heat 87 homes built just eight months after the disaster.

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Hope for Antarctic Emperor Penguins Amidst Changing Climate

SustainableBusiness.com News

Among the great tragedies associated with climate change is that it is causing one of the greatest species extinctions of all time - a majority of plants and animals won't be able to adapt fast enough to the changing climate.

But there's some hope for Antarctic Emperor Penguins as a new study shows they may be adapting to environmental changes.

Satellite observations reveal that penguin colonies are actually moving away from traditional breeding grounds when there's not enough ice.

Emperor penguins are not alone in seeking out sea ice because it gives them relatively easy access to waters where they hunt for food. Satellite observations captured of one colony in 2008, 2009 and 2010 show that the concentration of annual sea ice was dense enough to sustain a colony. But this was not the case in 2011 and 2012 when sea ice didn't form until a month after the breeding season began. During those years the birds moved up onto the neighbouring floating ice shelf to raise their young," says Peter Fretwell, lead author of the research and from the British Antarctic Survey.



One problem is that climbing up the sides of a floating ice shelf which at this site can be up to 30 metres high is a very difficult manoeuvre for emperor penguins. Whilst they are very agile swimmers they have often been thought of as clumsy out of the water.

Reporting this week in the online journal, PLOS ONE, a team of scientists from British Antarctic Survey, the Australian Antarctic Division and the Scripps Institution of Oceanography at UC San Diego in California, describe this extraordinary change in behaviour.

Because emperor penguins rely on sea ice as a breeding platform coupled with concerns about changing patterns of sea ice, the species is on the International Union for Conservation of Nature (IUCN) red list.

Scientific models suggest that levels of sea ice around Antarctica will decline over coming decades. Some forecasts predict Emperor Penguin numbers will halve before 2052 and more northerly colonies could be lost.

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Pakistan's government deflates dream of gas-powered cars

By Jon Boone in Islamabad, for *The Guardian*



Motorists in Pakistan are being forced to wait for hours to refuel their cars with compressed natural gas. Photograph: Farooq Naeem/AFP/Getty Images

When Pakistan first started promoting compressed natural gas to the wonder fuel.

Getting motorists to convert their cars to run on cleaner, cheaper gas would cure urban pollution and lower demand for the imported oil that

Car owners loved it and today 80% of all cars in Pakistan run off compressed natural gas (CNG), according to the Natural and Bio Gas Vehicle Association (NGVA), a European lobby group. Only Iran has more gas cars running on the road.

20-year CNG experiment seems to have been thrown into reverse gear.

The government has introduced strict rationing. And there have even been discussions about shutting down thousands of gas stations for

Qureshi, the owner of a handful of once lucrative gas stations in

It has been years since he has been legally allowed to sell and install in the boot of a car to feed the engine. The system allows for cars to still be able to use petrol instead, if required.

Although CNG is popular with an estimated 2.8m motorists in Pakistan, according to the NGVA, the increasingly scarce resource is also in demand from other sectors and for domestic use.

government actively promoted CNG knowing full well that natural gas reserves would not last beyond 22

Successive governments heavily subsidised CNG, ran schemes to encourage car conversions and dished out licences to political allies to build gas stations.

But abandoned stations are now a common sight around the country. So too are queues of hundreds of motorists waiting to fill their cars on Wednesdays – the last remaining day of the week in many places on which CNG is legally allowed to be sold.

This weekly ordeal for CNG users is compounded by a chronic lack of electricity, the other aspect of Pa electricity is needed to run the gas compressors used by CNG stations car re-filling grinds to a halt during the many power cuts.

But cash-strapped motorists are usually prepared to queue for many hours for the gas to be turned back on, with many saying they cannot afford the higher price of petrol.

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Improving design rules for reuse, remaking and recycling

Creating products optimized for disassembly allows Philips to capture and improve the residual value at the end of life

Philips, *theguardian.com*,

Philips has more than 15 years of experience in eco design, which is our procedure to reduce the environmental footprint of products throughout their life cycle. We continuously improve our design rules.



Philips is teaming up with partners in the circular economy for further exploration on Design for 'R' as well as the infrastructure to support the concept. Photograph: Philips
Photograph: Simon Belcher/Alamy

With the increasing volume of electronic products manufactured, it is important that we manage the waste generated at the end of life of those products. This is why we extended our eco design program

with Design for reuse, remake and recycling (Design for 'R') to help us close the

materials loop at the end-of-life of a product.

Recently, we applied this approach to a MR16 LED light bulb and developed a new lamp prototype optimized for recyclability. This activity was funded by ENIAC JU and carried out as part of the GreenElec project, a project that actively develops the strategies and processes needed for the efficient recycling of electronics equipment. Here, we learned the benefits of easy disassembly: reusing components of the products, secure purity of materials in the recycling process, as well as reducing recycling costs.

In this project, the electronic board of the light bulb can be easily upgraded and parts of the lamp can be reused. If the light bulb finally ends up in a shredder, the recyclability and purity of materials are improved because materials are separated. This video illustrates the process of disassembling and re-assembling the prototype.

With this experiment we have shown that we are able to design and make products in this way. Creating products that are optimized for disassembly allows us to capture and improve the residual value at the end of life of a product. The challenge to implement this concept in regular business lies in organising the return flow of the used products. The value can be best captured by having a separate collection stream and recycling infrastructure for them. Today, products are being collected through collective schemes and end up at recyclers who shred the products in order to primarily recover precious materials.

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Retd engineer combines solar, biomass, biogas to generate power

An electrical engineer from Punjab Mandi Board has developed a concept of a micro hybrid power producing unit, which is an amalgamation of biomass, biogas and solar power. Bulwant Singh Brar, who has conceived the micro hybrid power plant of 250 kilowatt generating capacity, said tonnes of garbage, agricultural waste, cow dung and solar energy could be utilised as fuel to generate clean power and provide additional source of income to the small and marginal farmers. "Fuel is in abundance in north India," said Brar. Addressing reporters on Wednesday, Brar, giving example of Punjab, explained that currently all major power generation projects in Punjab were thermal-based run on coal supplied from far-off coal fields and mines. There were a series of power plants coming up in the state which faced fuel shortage and were not cost-efficient. Disposal of fly ash from these plants was also a challenge, said Brar. He said that an area of 2 to 2.5 acres, an investment of Rs. 3.5 crore and a manpower of 20-25 people was required to operate the plant and the per unit cost of electricity would be Rs. 4.29. The construction time for the micro hybrid plant is six months as compared to a few years on constructing the conventional thermal plants. "For 27 tonnes of cow dung (biogas), 2,700 to 3,000 cattle heads are needed, which are available in one village. This would enable each village to own and run its own power plant. The additional units could even be sold off," said Brar.

[<Source>](#)

Solar panels to power Churchgate station

In one of the Western Railways most ambitious plans to save energy, they have decided to install solar panels at Churchgate Station to produce electricity that will be six times the amount the station consumes every year. The excess electricity produced will be given back to the grid said WR officials.

As per the details chalked out by the electrical department of WR, the 2,600 sqm area comprising the roof of Churchgate building will be covered with solar panels. These panels will produce 100 kilowatt of electricity (in terms of units this would be 150 lakh units).

Currently the Churchgate station complex uses around 6 lakh units per year whereas the multi-storeyed glass facade office and the old heritage one - use 19 lakhs units, making a total of 25 lakh units.

The plan, currently in the proposal stage, is moving fast especially Officials said that the work should be completed by the end of 2014.

use at Churchgate for all things apart from running trains (also called

non-traction energy in railway lingo). It will help us improve the lighting of the station which in turn will increase the comfort for the WR.

Officials said that depending on the success of the Churchgate project, there are plans to replicate it in other big stations like Mumbai that some of our station buildings have very long and wide roofs

WR just this week won seven National Energy Conservation awards power. The seven wins are a national record for any organisation, said officials. WR saved 4.44 million units of electricity and Rs 2.88 crore in non traction energy during the year 2012-13.

[<Source>](#)

Tata firm unveils solar power system for homes

Leading energy solutions provider Tata Power Solar Thursday unveiled a new solar power system to generate one kilo volt-ampere (kva) for providing uninterrupted power supply for eight hours at st product - Tata Dynamo -- gives users easy option to switch over to solar energy for at least eight hours of executive Ajay Goel said in a statement here.

The intelligent system comprising solar panels, inverter and battery charges itself while powering connected appliances through solar sunlight, Dynamo automatically shifts to regular electricity. The system provides four-to-eight hours of back-up to appliances such as -run and private utilities are not able to meet the growing energy needs of even households and smaller businesses, forcing many of them to use diesel generators during power cuts, Dynamo is an eco-friendly substitute for load-shedding, he said.

on grid power and additional cost on operating a diesel generator. By investing in Dynamo, its cost can be recovered in 18 months while product, with 10-year lifespan, also benefits from the 30 percent subsidy the ministry of new and renewable energy provides on solar-based devic and rural middle class to manage power cuts better while reducing energy bills substantially. The system is also easy to install and is

[<Source>](#)

Forthcoming Events

The 2nd Biennial Conference

on

Sustainable Business, Energy and Development in Asia

17-19 March, 2014

HIROSHIMA, JAPAN

The **2014 Biennial Conference on Sustainable Development and Business in Asia**, to be held in Hiroshima, Japan is a biennial international conference that offers a platform for scholarly and applied conversations among a wide variety of stakeholders concerned with the continual challenge of advancing the sustainable development and business agenda: people, planet, and growth. Because this is an emerging paradigm, there is much research and exploration that is needed. Academics, researchers, students and representatives from industry, government and non-governmental organizations need to both share their findings and learn from each other, in order to facilitate the transformation in how economic activity is conducted, allowing human societies to be sustained and to thrive.

The major themes of the conference are: The Sustainable Business, Production and Consumption, Science & Technology of Sustainability, Global Governance of Sustainable Development, Climate Change & Sustainability and Sustainable Energy Policies.

[<ReadMore>](#)

8th Annual Babson Energy & Environmental Conference (BEEC-2014)

27th March, 2014

Wellesley, MA USA

One day conference is being organized by **Babson Energy & Environmental Club**, on March 27th 2014 in Wellesley, U.S.A. The themes of the conference include Green Chemistry, Sustainable mobility, Sustainable energy etc. Eminent speakers from different areas shall give their deliberations on important topics related to sustainability.

The speakers include Dr. John Warner, Dr. Jigar Shah, Jay Dietrich, Doug Foy, President and CEO of Serrafix, Lynnette McIntire, CEO, Silver Birch Communications and Dr. Kerry Healey.

[<ReadMore>](#)

SUSTAINABILITY LIVE 2014

1st to 3rd April, 2014

BIRMINGHAM, UK

from 1st to 3rd April, 2014. This event comprises of an exhibition and seminars. This unique event will showcase the latest products and services from over 250 leading companies making it the perfect place to develop new business relationships, find solutions that suit your organizations requirements and meet your peers. The companies from UK as well as from other countries from different parts of the world are expected to participating in it. There is a new and improved seminar programme featuring panels of leading experts who will put the spotlight on the practical issues featuring the latest advice and case study examples. The seminars are free to attend on first come first serve basis. There are number of speakers from industries, policy makers, Government and sustainability practitioners.

[<ReadMore>](#)



2014 International Conference on Natural Science and Environment (ICNSE 2014) will be held in Dubai, UAE during April 4-5, 2014. This conference shall provide opportunities for the delegates to exchange new ideas and application experiences face to face, to establish business or research relations and to find global partners for future collaboration. The objective of the 2014 International Conference on Natural Science and Environment (ICNSE 2014) is to provide a platform for researchers, engineers, academicians as well as industrial professionals from all over the world to present their research results and development activities in Natural Science and Environment.

Topics of interest include, Environmental Dynamics, Global Environmental Change and Climate & Climatic Changes, Ozone Layer Depletion, Carbon Capture & Storage, Environmental Restoration, Global Warming and Biofuels.

[<ReadMore>](#)

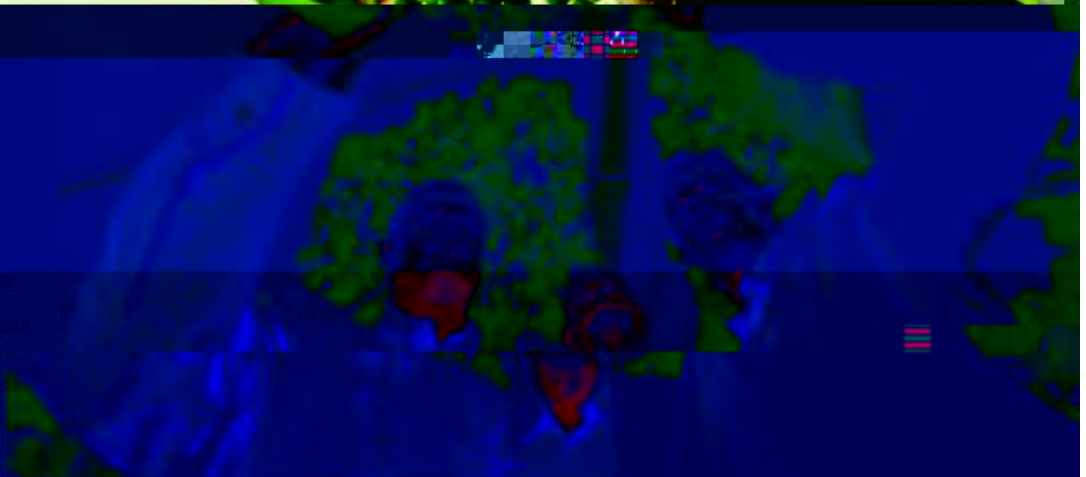
*The Economic Times, Mumbai
dated December 26, 2013*

Jatropha 2.0: The Bush Blooms in a Greenhouse

A Californian start-up has domesticated the wild jatropha. It has deals to plant 250,000 acres of it in India, Brazil and other countries and hopes to produce 70 million gallons of biofuel

Todd Woody

In an unmarked greenhouse, leafy bushes carpet an acre of land tucked into the suburban sprawl



Environment Min Eases State-level Clearance Norms

*The Times of India, Delhi dated
December 27, 2013*

New green norms give teeth to states

VishwaMohan | TNN

New Delhi: Heeding to states' plea for simplification of green clearance process, the Union environment and forests ministry has come out with detailed guidelines giving more powers to states by exempting certain category of industries, constructions and mining of minor minerals — including river sand mining projects in medium size lease area — from going through cumbersome and time-consuming procedures.

The move, which may spur growth in the less-hazardous sectors, will exempt those activities from mandatory "public consultation process" and other lengthy appraisal processes before getting states' green nod.

Though all activities — irrespective of size or nature of projects — will have to get mandatory clearance from the State Level



The new guidelines will exempt certain industries from mandatory 'public consultation' and lengthy appraisal processes

Environment Impact Assessment Authority (SEIAA), the amendments in the EIA notification will quicken the decision-making process for taking call on lesser evils.

Besides the mining of 'brick earth' (mined for making brick), which was put in the fast-track category earlier, the others that will now have to go through simple green clearance process include setting up of manmade fibre manufacturing

units producing fibres from granules or chips and aerial ropeway projects.

Single super phosphate chemical fertilizer plant, coal/lignite/naphtha-based thermal power plants of less than 5mw of capacity and non-toxic secondary metallurgical processing industries among other non-hazardous or less hazardous works will also come under this category.

These activities are clubbed as B2 category under the EIA Notification, 2006, which will be appraised, based on pre-feasibility report and declaration of other information relating to land, water and energy requirement, use of hazardous substances, disposal of waste and emission from production process.

The other activities come under B1 category which will require detailed EIA report for

appraisal and to undergo "public consultation process" that takes lot of time before the SEIAA arrives at a decision. Earlier, both B1 and B2 categories came under a single B category where states empowered to take decision without differentiating between nature and extent of hazards. The guideline of simplifying the green clearance process for states was issued on the day (Tuesday) the new environment minister M Veerappa Moily took charge of the green ministry.

CMs of Maharashtra (Prithviraj Chavan) and Kerala (Chandy) had reportedly raised the issue when they met Moily on Tuesday. Gujarat, Tamil Nadu, and Karnataka have also been pressing the Centre for streamlining the environment clearance process.

For the full report, log on to www.timesofindia.com

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

Green groups riled as Moily eases norms

Vishwa Mohan TNN

New Delhi: The Union environment ministry's liberal approach under the new minister M Veerappa Moily has made the green groups worried.

They also wondered whether the haste shown by the Centre is part of an orchestrated campaign to dismantle environmental regulations in a bid to boost economic activities. "We are worried about the tone and tenor of the debate on green clearances. It is clear that this is an orchestrated campaign to



M Veerappa Moily

dismantle green regulatory controls in the name of growth," environmentalist Sumita Narain said.

Seeking to highlight the problem, Narain said, "Our assessment shows while countless projects have been given environmental clearances, they have not been implemented." She noted that the problem lied elsewhere; hinting at the urgency shown by easing certain norms for quick green clearance is, indeed, a misplaced priority. Her remark is in tune with the concerns expressed by other green activists. They questioned the urgency that prompted Moily not only to decide to review his ministry's recent order on the

ecologically fragile Western Ghats but also come out with guidelines to ease green norms for certain activities where states are supposed to have the final say.

Both decisions were taken on Tuesday, the day Moily took additional charge of the environment ministry. Though Moily promised to take quick decisions without compromising on green norms, his ministry's move gave a different impression. "We need to reform and strengthen green clearances to safeguard people's concerns, not destroy regulatory oversight," Narain said. Amid such concerns expressed by green activists, a wildlife panel has even

pointed out certain violations of green norms by the state-run Oil India Limited (OIL), which comes under Moily's petroleum ministry.

The panel, appointed by the standing committee on National Board for Wildlife (NBWL), came down heavily on OIL for violating norms while laying a pipeline in Assam. "We are deeply distressed that OIL, as a leading PSU, instead of serving as a beacon for environmental compliance to others, appears to have evaded environmental norms," said the two-member NBWL panel in its report.

For the full report, log on to www.timesofindia.com

The Times of India, Delhi dated
January 01, 2014



Restaurants had to clean up act

Jayashree Nandi | TNN

The link between eating out and pollution seemed quite far-fetched until the National Green Tribunal, in an unprecedented order on September 21, directed 34 Hauz Khas Village restaurants to remain shut for four days over discharging untreated waste water into sewers and extracting groundwater.

This case and many others in 2013 seemed to point at a gradual movement towards decentralization of waste management. The focus now is on dealing with waste at the source and by the individual instead of depending on the government's larger infrastructure.

Most restaurant owners had submitted they were not aware they required Delhi Pollution Control Committee's (DPCC) consent for operat-



ing and that installing grease traps or effluent treatment plants is absolutely mandatory. Restaurants in other markets also sat up and took note of the environmental standards they ought to meet.

On September 26, the NGT bench divided the Hauz Khas Village restaurants into four categories. It asked those who have placed orders for ETPs to pay Rs 10,000 each to the NGT bar association and gave them four weeks' time for installation; the rest were asked to obtain DPCC's consent and start installing ETPs immediately.

Green Park councillor Shailender Singh Monty said all 34 restaurants in Hauz Khas Village are in various stages of installing ETPs.

The order set a precedent for all eateries and five star hotels to make sure they were not taking environmental regulations lightly. Soon after, on November 16, DPCC slapped a closure notice on a five star hotel, Lalit, for neither constructing an ETP nor harvesting rain water. Now the hotel is in the process of installing its ETP.

Green ministry indicts ONGC for Mum oil spill

Vishwa Mohan | TNN

New Delhi: The Union environment ministry has indicted ONGC for the oil spill that was reported on September 21, 2013.



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STICKY TERRAIN

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The Times of India,
Delhi
dated January 06, 2014

Fewer migratory birds visit city

Experts Blame Dip In Number On Climate Change And Loss Of Habitat

TIMES NEWS NETWORK

Photo: Anindya Chattopadhyay

New Delhi: The cold may be making many of us uncomfortable, but currently, the capital is a warm stopover for thousands of stunning migratory birds. Biodiversity parks and wetlands are seeing a surge in the number of birds that began their journeys from Europe, Siberia, the Himalayas and other South Asian countries at the onset of winter.

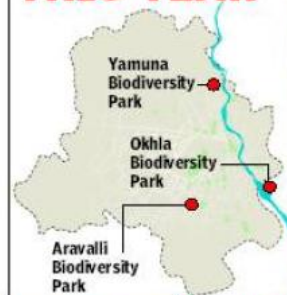
However, in some areas there is a gradual decline in the number of species that visit every year. At Okhla Bird Sanctuary, about 38 species of winter migratory birds (a total of 5,545 birds as per Asian Waterbird Census) were seen last January, but this time only 22 species and a far lesser number of birds have been spotted till now.

Some experts feel this could be a sign of climate change or fallout of too much disturbance of their habitat. "The condition of Okhla Bird Sanctuary is significantly bad. Firstly, because of the high tension wires passing through the park. There is just too much disturbance around the sanctuary," Anand Arya, a birder. He added that migratory bird species have declined in almost all parks.

At Sultanpur Bird Sanctuary in Gurgaon also a far lesser number of birds have been sighted this month. However, about 30 species of colorful migratory birds from the Himalayas and upper reaches have arrived at the Aravalli Biodiversity Park in Vasou Vihar. "These are insectivorous birds that migrate because of scarcity of food during winter in the Himalayas. Delhi is a stopover from them. They may migrate to warmer places," says scientist-in-charge at Aravalli Biodiversity Park, M Shahid Hussain. He added that a lot of closed canopy birds have also started arriving, like Thrushes.

At the Yamuna Biodiversity Park, about 1,000 birds of 13 to 20 species have arrived. "Initially, we were worried about the low number of birds this time but there was a gradual in-

THE GUESTS THIS YEAR



Species	Where it is found
Aravalli Biodiversity Park (terrestrial birds)	
Verditer flycatcher	Lower Himalayas
Orange-headed thrush	India and other parts of south Asia
Eurasian wren	Europe/Asia
Grey-headed canary flycatcher	Pakistan/ Sri Lanka/ south China/ central India
Lesser whitethroat	Europe/ central Asia
Warbler	Southeast Asia
Pied bush chat	West, central and south Asia
Yamuna Biodiversity Park (wetland birds)	
Red-crowned pochard	Southern Europe, central Asia
Common pochard	Northern Europe
Eurasian wigeon	Northeast Europe and Asia
Northern shoveler	Europe
Gadwall	Eastern Europe
Pintail	Central Asia/ Siberia
Coot	Europe and North America



Species	Where it is found
Okhla Biodiversity Park (wetland birds)	
Bar-headed goose	Central Asia
Graylag goose	Europe
Northern shoveler	Europe
Northern pintail	Europe, Asia, North America
Tufted duck	Northern Eurasia
Common pochard	Northern Europe
Common teal	Eurasia
Common coot	Europe and North America
Gadwall	Eastern Europe
Comb duck	South America, India, Africa
Brahminy duck or Ruddy shelduck	Central Asia, southeast Asia
Mallard	Americas, Europe, Asia, north Africa
Eurasian spoonbill	UK, Spain, Japan, north Africa
Greater flamingo	Africa, southern Asia, southern Europe

crease. At Sultanpur Bird Sanctuary, reports suggest the numbers are quite less," said Mohammad Faisal, a scientist at the Yamuna Biodiversity Park. A lot of Bar-headed geese that migrate from Siberia are being seen this time.

"There is too much fluctuation in the water level in the Okhla Bird Sanctuary. For instance, in October, UP government completely withdrew water from the wetland. From the last week of November to the second week of December, the levels were either too high or too low. We are trying to assess how climate change is also affecting the number of birds that come," ex-

plained TRK ecologist. At the National Zoological Park, pointed stocks have arrived in large numbers and given birth to chicks. Teals, wild ducks and pintail ducks have also arrived. Most of these species will return to their breeding grounds in different countries by March.

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The Times of India,
Delhi
dated January 06, 2014

Rainwater harvesting can help AAP

Focus Should Be On Constructing, Monitoring RWH Systems, Say Experts

Jayashree Nandi | TNN

New Delhi: Aam Aadmi Party may be yet to achieve its goal of equitable water supply in Delhi but this can be worked out in the long run. It is hoped that AAP will take up rainwater harvesting in a big way to meet the massive demand of consumers, especially those in unauthorized colonies. But the trick lies in not just creating rainwater harvesting structures but monitoring them constantly.

Delhi Jal Board is already preparing maps of districts where there are over 2,000 square metres of open space—which may include rooftops, roads, drains and green areas—to create rainwater harvesting structures. "The govern-

ment should monitor rainwater harvesting structures for the coming monsoon to make sure there is enough water. It costs about Rs 30 lakh to set up a rainwater

RELIEF FROM THE SKY



Delhi has capacity to harvest 5,600 billion litres of rainwater.

Even if 50% of the potential is harnessed, there can be huge savings, experts say.

Cost per structure: ₹ 30,000-50,000 for 1,000 litre rainwater harvesting unit.

For roof-top tanks, pits, wells etc.

harvesting system for a colony or block of 400 residents," Jyoti Sharma of NGO FORCE said.

Estimates of how much water can be harvested in Delhi are mindboggling. According to estimates by Centre for Science and Environment, 5,600 billion litres of rainwater can be harvested in Delhi every year. Even if half of this is harvested, it can meet the needs of more than four crore households. RWH is already mandatory for new buildings in the city but there is no penalty for those who default nor do we have a monitoring system. There is no documentation of how much rainwater has Delhi harvested till date or how many RWH structures are currently present.

There is an monitoring agency to check if the system is actually implemented or whether it's effective. AAP gov-

ernment should focus on conserving lakes and ponds because they are very important groundwater recharge zones. The plan should integrate conservation of water bodies with erecting RWH structures across the city," Sushmita Sen Gupta, in charge of water policy advocacy at CSE, said.

It would be more efficient to work on groundwater recharge than storing the rainwater in tanks. AAP may also try to reuse sewage water more efficiently. Prof A K Mittal of IIT says there will be no water crunch provided bulk users are supplied only treated sewage. "Give only treated sewage to Northern Railways, industries and malls. The water saved can be supplied to people in slums. AAP should be utilising the 500 mm of rainfall we receive every year," Mittal said.

*The Times of India, Delhi
dated
January 06, 2014*

Experts slam subsidy, laud solar focus

Jayashree Nandi | TNN

New Delhi: Critics have called CM Arvind Kejriwal's power subsidy "populist" and "economically unsound". But there may be some good in what seems like his government's hurried announcements. Energy experts are excited about what the future may bring given AAP's intention of using solar energy in a big way.

Thumbs are up for this as well as the audit of discoms though not for the 50% power subsidy. While some prefer AAP meeting Delhi's power crisis in a more efficient manner, everyone agrees AAP has taken a step in the right direction by clarifying that the power subsidy is short-term.

"Audit of power companies will help us know the exact price of power. But I don't think a 50% subsidy for consumption up to 400 units is a good idea. It should've been targeted. The poor and well-heeled are benefiting equally. I feel Kejriwal should have invested in subsidizing energy-efficient appliances for households and in renewable energy," says Chandra Bhushan of Centre for Science and Environment.

While he worries that a

WHAT AAP CAN DO TO GO GREEN



AAP plans to meet 20% of Delhi's electricity demand through solar energy in the next 10 years

► DERC has proposed a net-metering system under which large consumers like gated communities, offices and industries can install

solar panels and sell any excess electricity

► Experts suggest govt can subsidize integrated solar

A basic household will need a 5Kw system which can run 1 geyser, 1 air conditioner, 3 fans, 3 lights, 2 room heaters

so once announced might be difficult to withdraw. Bhushan hopes Kejriwal has planned for more efficient use of power in future. "It's good they want to meet 20%

systems for households by 10-20%

► Many, however, say govt doesn't need to subsidize rooftop solar systems

► Rooftop systems can be used both for off-grid

establishments and those linked to the grid

Cost of 5Kw system without subsidies | ₹8 lakh
Cost with 30% subsidy | ₹5.5 lakh

of Delhi's power needs with solar energy in 10 years but it will require a lot of money. Money is limited and planning has to be judicious," he says.

One of the key measures that AAP government can take up is to quickly finalize Delhi Electricity Regulatory Commission's net metering proposal released last week and then help large consumers set up solar rooftop systems to offset the load on the grid. Delhi government's

environment department already has a draft solar policy in place. Opinion is divided on whether solar rooftops should be subsidized in Delhi.

"Due to sharp decline in solar prices, such projects already make economic sense to consumers (mainly commercial and high-end residential) with high electricity use and high tariff. The policy should focus on removal of

procedural hurdles," suggests Ashwin Gambhir of Prayas Energy Group.

But he, too, is against subsidization. Solar Energy Corporation of India has already started a rooftop PV project. Each watt currently costs Rs 87-90 which means about Rs 90,000 per KW. A small household can run on 2KW but solar rooftops must be implemented for large buildings and establishments to achieve economies of scale.

Abhishek Pratap of Greenpeace India, however,

feels the government should subsidize solar rooftops in Delhi to encourage more people to go for it. "The ministry of new and renewable energy already gives a 30% subsidy on solar rooftops. If AAP can add a 10-20% subsidy on panels and batteries, it may push consumers to opt for it as the

cost falls dramatically. All this, however, should be done

The environment department of the Delhi government already has a draft solar policy. However, opinion is divided on whether

it should be subsidized in Delhi

after the discom audit is over and a decision is taken on whether they will continue the current 50% subsidy or conventional power," he

says. The government should consider making solar a "priority lending sector" as banks should also offer soft loans, Pratap suggests.

Though much depends on the audit, all agree that the three months CAG will take should be spent developing a robust renewable energy and energy efficiency plan.

*The Times of India, Delhi dated
January 08, 2014*

PWD wants NGT to speed up trials

Neha Lalchandani | TNN

New Delhi: The PWD will ask National Green Tribunal to decide quickly on cases as some of its critical projects have been held up for months due to litigation. At present, two major PWD projects — Vasant Kunj road-widening project and an elevated road project from Vikaspuri to Meera Bagh — are with NGT.

Sources said the plea to be taken up would be about cost escalation due to delay in work and inconvenience being caused to residents. "It is now immaterial whether the cases are decided against us or in our favour. We only want a speedy trial. At Vasant Kunj, half the road is lying dug up which is a huge inconvenience to the residents. The applicant in this case has put in another objection and the case will drag on even longer now. On our part, we



VK project has been in limbo for almost a year

have made PWD's stand clear," said a source.

The Vasant Kunj project has been lying in limbo for almost a year. Public works department (PWD) had started digging in January-end last year. In the first week of February, some residents objected and claimed that the agency had felled several trees without permis-

sion from the forest department. The then chief minister Sheila Dikshit had ordered an immediate halt in work but a forest department inspection showed that the agency had cut several more trees than they had sought permission for. The matter was taken before NGT in May.

Sources say the dug-up roads slow down traffic and also raise a lot of dust. "We have been complaining to PWD for several months now to clean up the area. Even residents are divided on the matter. PWD says that it will be an expensive and pointless exercise to relay the road at this point when the court is yet to give its order," said a resident.

The elevated road project from Vikaspuri to Meera Bagh is also held up because trees were felled for it. In June 2013, NGT had ordered a stay on work. Officials say if there is a further delay, project costs would get escalated.

First National Wind Energy Mission to Begin by Mid-2014

SHREYA JAI
NEW DELHI

The government will launch its first wind energy mission this year to give a boost to the renewable source and putting it in the same league as the high-profile solar mission. The 'National Wind Energy Mission' (NWEM), which would be launched around the middle of the year, would give incentives to invest, ease land clearances and regulate tariffs. But unlike the flagship 'National Solar Mission' it would not involve projects for bidding. It would act as a "facilitator", officials said.

"We wish to coordinate separate lines of action in the wind sector and involve all the stakeholders. Wind energy led to the establishment of renewable based power in the country but lately it has been marred by several issues," said Alok Srivastava, joint secretary (wind) in the ministry for new and renewable sources of energy.

Under the proposed action plan, MNRE would strengthen grid infrastructure for wind power, identify high wind power potential zones, ease land clearances for the projects, regulate wind power tariff and incentivise investment in the wind sector.

"The proposed NWEM would be placed in the cabinet soon and we wish to kick start it in the next 6 months," said Srivastava. He also said that all stakeholders in the wind sector, ministry of power, Powergrid corporation, central and state electricity regulators,



planning commission, private and public sector project developers would be a part of the mission, with MNRE acting as a key facilitator and moderator amongst all of them. "A national program would uproot the scattered impediments faced by the wind sector and spur it towards the second phase of growth," said Srivastava.

Grid connected wind based power in India has been in existence from almost 20 years now while solar made its debut just 4 years back with the national solar mission. India is the fifth largest wind power producer in the world with an installed capacity of 19GW.

Caught in the policy net, capacity addition in the wind sector fell to a decade low during last & current fiscal. The industry, especially the private sector has also complained about the lack of proper grid infrastructure for evacuation of wind power.

There have been delays in payments by the states to the power developers due to the same. Through

this mission, government aims to have a generating capacity of 100 GW of wind power by 2022. The potential of wind based power in the country is estimated to be 300GW.

MNRE also plans to extend the 'generation based incentive (GBI)' for the project developers for five years. This would amount to a total expenditure of ₹18,000 crore. Budgetary allocation for GBI in the current fiscal is ₹300 crore.

GBI was notified in the union budget 2013. Under this financial scheme, government would pay wind power developers Rs 0.50 for every unit of power generated from the wind facility.

Till April 2012, wind sector enjoyed two fiscal benefits. Accelerated depreciation (AD) has been in force for the wind industry since 2003 till 2012 when it was withdrawn. GBI, announced in 2011 was discontinued in 2012, only to be reintroduced in 2013 in the union budget.

shreya.jai@timesgroup.com

*The Times of India, Delhi dated
January 09, 2014*

Only 300 eating units have green clearance

NGT Panel Sets Pollution Limits, Guidelines For Cutting Waste, Water Reuse

TIMES NEWS NETWORK

New Delhi: Only 300 restaurants and hotels in Delhi have taken clearance from Delhi Pollution Control Committee (DPCC), while thousands of others may be operating without its consent, violating the norms under water and air acts along with other environmental regulations. On Wednesday, a committee formed by National Green Tribunal (NGT), which includes representatives from environmental and civic regulatory bodies, submitted a detailed policy report on the

The report not only specifies effluent standards for all categories of hotels, but also issued guidelines to make hotels with three stars or more, environment-friendly

functioning of hotels and restaurants in the city.

The report not only specifies effluent standards for all categories of hotels—those with five, four and three stars as well as hotels with fewer than 20 rooms, eateries, restaurants—but also issued guidelines to make hotels with three stars or more, environment-friendly. Other than mandatory guidelines like discharging effluents into public sewers and submitting proof of connecting drainage with the sewer, it lays down noise and air quality standards of DG sets being used.

















The 16-page report—prepared by the representatives

WHAT GREEN TRIBUNAL WANTED

THE SEVEN CONDITIONS SET FOR HOTELS

-  Sewage treatment plant to treat waste water
-  Explore possibility of reusing waste water
-  Rainwater harvesting on premises
-  Solar water heating/heat recovery system for water heating
-  Facility for conversion of organic solid waste into compost
-  Switch from oil-based boilers to those running on natural gas
-  Greenbelt to create buffer zone between main roads

ENVIRONMENT-FRIENDLY GUIDELINES

-  Refillable soap, hair rinse, hand lotion dispensers for guest rooms
-  Donate leftover, untouched food to local shelters or food banks
-  Replace toilet paper only after they are completely used
-  Towels and sheets made of 100% cotton, no toxic dyes
-  Give options of ordering half portions
-  Use soaker hoses instead of sprinklers for lawns to minimize evaporation
-  Set thermostat to highest comfortable in summer
-  (about 25 degrees) and lowest comfortable (15 degrees) in winter
-  Use low-flow showerheads, bath and sink faucets and low-flow toilets
-  Try to use inverters instead of generators
-  Solar heating/solar lighting
-  Buy recycled products
-  Tertiary level treatment of water for reuse in cleaning, flushing and gardening
-  Preference of biological method of treatment over physical and chemical treatment of domestic and organic waste water, reduction of sludge as well as use of sludge as manure
-  Composting of organic waste through organic waste converter and reuse as manure
-  Composting of leaves

Agency	Licences/ NOCs issued
North Corporation	1954
South Corporation	1086
East Corporation	91
NDMC	257
Delhi Police	5493
DPCC	300

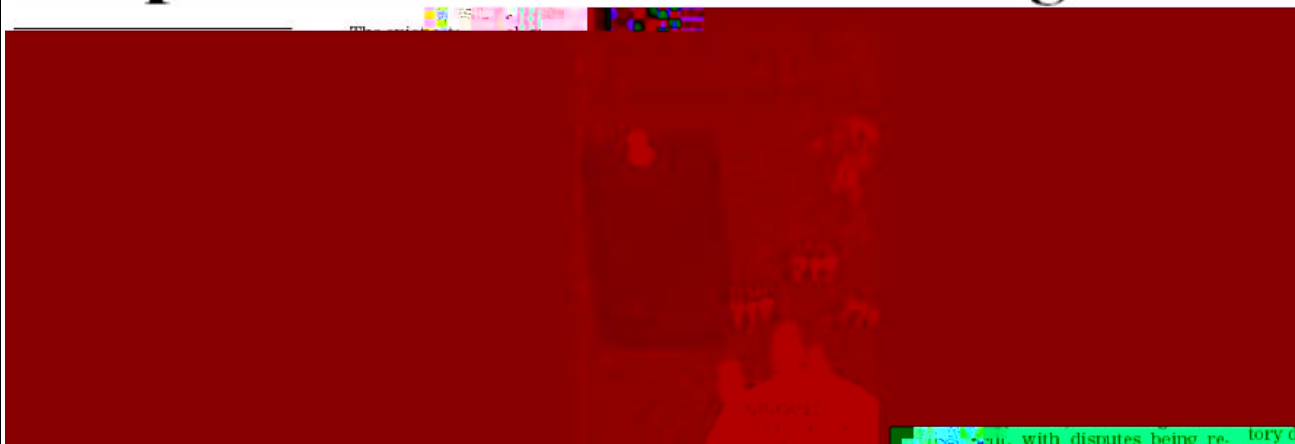
of Central Pollution Control Board (CPCB), New Delhi Municipal Council (NDMC), the three corporations, and members of National Productivity Council, Central Ground Water Authority (CGWA), Delhi Development Authority (DDA), Delhi Police and DPCC—has provided a set of guidelines that could help hotels reduce pollution and waste generation. The policy advises them to carry out rainwater harvesting, compost organic waste, donate leftover food, install water-efficient fixtures in toilets, use CFLs and other energy-efficient appliances, solar water-heating, reusing treated water among other things.

The committee has suggested that agencies issuing licence or carrying out registration, including corporations, NDMC or Delhi Police, should make DPCC's consent mandatory for operating such outlets. DPCC's consent should also be a pre-requisite for renewing licence. A key recommendation, however is to exempt restaurants, eateries and *dhabs* having fewer than 36 seats and establishments annual average production is less than one tonne in a day. For restaurants in highly congested areas, the committee recommends a common effluent treatment plant.

Apart from the musts, the committee has formulated a waste management plan that focuses on segregation of waste, water conservation by dual piping for use of recycled wastewater, checking of leakages, along with a waste minimization scheme.

The Economic Times, Delhi dated January 09, 2014

Naysayers Doubt Effectiveness of Proposed Environmental Regulator



sign are sought to be resolved creation of a new institutional re," says environmentalist Kohli.

environmental governance in divided between the Centre state governments.

Centre, the ministry of environment and forests (MoEF) makes and clears large projects. Its parts at the state level clear projects and oversee the state in control boards, which monitor compliance by units and handle part of the clearances.

ll, it is a system that has been wanting. Projects clearances filled with delays — and graft. ag to ET on the condition of city, a former environment r had referred to the MoEF as M ministry". Further, as the Narain Committee report on mi Port and SEZ Complex at a shows, both monitoring and ince can be poor:

The MoEF has created autonomous bodies earlier too, like the National Tiger Conservation Authority and the National Environmental Appellate Authority

Given that environmental clearances can be a source of political rent, it is important to delink the new regulator — in aspects like staffing and funding — from political pressures. In an earlier draft note on the regulator, first proposed by Jairam Ramesh when he was the environment minister from 2009-

have not functioned effectively because the MoEF is not interested in supporting them," says Geetanjoy Sahu, an assistant professor at the Tata Institute of Social Sciences, Mumbai. In Maharashtra, he adds, 800 proposals are pending before the state environmental impact assessment authority because appointments to it are delayed at the MoEF's end.

March 31 deadline?

solidated Fund of India?

11, it was suggested the regulator's chairperson be selected by the cabinet secretary, secretaries of the departments of personnel and training, science and technology, the MoEF, and two experts nominated by the Centre. It was also proposed the regulator draw its funds not from the MoEF but directly from the Centre.

It is also unclear whether the new regulator will only appraise projects or also approve them. In its summation, the Supreme Court judgement says India needs a regulator that can appraise and approve projects, besides monitoring.

However, it instructs the ministry of environment and forests to set up a regulator "as directed in the case of Lafarge Umiam Mining".

In that judgment, however, the court had directed the Centre to set up a reg-

ent, with disputes being resolved by the green tribunals.

Under this arrangement, the implementing agency has an incentive to flag whenever laws are un-implementable, and the law-making agency can highlight poor implementation. The MoEF, in control of both functions, currently has no incentive to highlight weaknesses in laws. Time remains an issue. For example, the state pollution control boards, which monitor projects, are answerable to the state governments.

To make them answerable to the new regulator, laws will need to be amended. "For instance, the Parliament will have to amend the Water Act, which will then have to be adopted by the state governments," says Ghosh.

Similarly, adds Sahu, the relationship of the new regulator will be defined vis-a-vis other existing institutions like the coastal regulation zone committees. This will take time. And the SC has given the Centre a deadline of March 31 to comply with its order.

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The Times of India, Delhi dated January 09, 2014



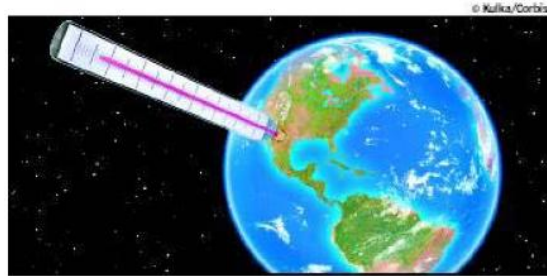
'Warming can't be averted artificially'

Mimicking Cooling Effects Of Volcanic Eruptions Will Lead To Climate Chaos: Study

Steve Connor

A controversial proposal to cool the planet artificially by injecting tiny reflective particles into the upper atmosphere which block out sunlight would cause droughts and climate chaos in the poorest countries of the world, a study has found. One of the plans to "geo-engineer" the global climate would in effect create another climate catastrophe, according to a computer model of the plan.

Some climate researchers have suggested that mimicking the cooling effects of volcanic eruptions with massive injections of sulphate particles into the atmosphere may be necessary in an emergency if global temperatures and carbon dioxide levels



Injecting tiny reflective sulphate particles into the upper atmosphere to block out sunlight would cause droughts in the poorest countries, say experts

continue to rise unabated. It is known that the sulphate particles produced by volcanoes, which are relatively quickly washed out of the atmosphere, can reduce incoming solar radiation significantly, and so cause average global temperatures to dip.

However, a study by scientists at Reading University has found that the effect of a massive and continuous injection of sul-

phates into the air would be to alter the rainfall patterns over vast regions of the world, notably Africa, South America and Asia which could as a result be devastated by drought. "We have shown that one of the leading candidates for geo-engineering could cause a new unintended side-effect over a large part of the planet," said Andrew Charlton-Perez of the University of Reading, a co-author of the study.

"The risks from this kind of geo-engineering are huge. A reduction in tropical rainfall of 30% would, for example, quickly dry out Indonesia so much that even the wettest years after a man-made intervention would be equal to drought conditions now," Charlton-Perez said. "The ecosystems of the tropics are among the most

fragile on Earth. We would see changes happening so quickly that there would be little time for people to adapt. Discussion of geo-engineering often prompts heated debate, but very often there is a lack of understanding of what putting large amounts of aerosol in the stratosphere will do to the complex climate system. Our findings should help to fill in some of the gaps about one of the leading candidates," he said.

Volcanoes, such as Mt Pinatubo eruption in 1991, can cool average global temperatures significantly for short periods, but to reverse the expected 4°C rise in temperatures as a result of global warming would need large quantities of sulphate aerosols to be injected into the upper atmosphere for several years. THE INDEPENDENT

Green panel shuts down 12 Hauz Khas eateries

TIMES NEWS NETWORK

New Delhi: The National Green Tribunal on Wednesday ordered the closure of 12 restaurants in south Delhi's popular eating-out spot, Hauz Khas village, for not having applied for a 'consent to operate' from Delhi Pollution Control Committee (DPCC). These establishments were among 32 restaurants shut down last year

CLOSED FOR BUSINESS

*The Times of India, Delhi
dated January
09, 2014*

Decide fate of 12 other eateries in two weeks: NGT

► Continued from P1

"On receiving their applications, the DPCC is directed to immediately take a decision to give them CTO or not," a bench headed by Justice P

Jyothimani and MS Nambiar said. Of the 20 restaurants that applied for a CTO, DPCC was satisfied with only eight and granted them a CTO cer-

other formality."

The bench, meanwhile, directed DPCC to file a status report regarding compliance with NGT's September 25, 2013 order before the next hearing on February 6. Some of the eateries which have not applied for CTO, sought a week's time to apply while pleading that they be allowed to operate in the inter-

*The Economic Times, Delhi
dated January 10, 2014*

Seeding a Green Canopy

Hot Startup**Afforestt**

Startup proves that business opportunities can be found in activities as simple as planting trees

lifestyle in the space of their own creativity," said Sharma who set up Afforestt in January 2011 by dipping in to his personal savings of about ₹2 lakh.

Sharma had to bootstrap the fledgling venture until it bagged the first paying client. The first order to plant about 10,000 trees came from a German furniture maker that had an initiative to give back trees to nature for every piece of wooden furniture sold. The company was

Since then, the three-year old venture has worked with over 28 clients and planted a total of 43,000 trees. Although the ecological focus of Afforestt can make it seem like a social venture, Sharma is clear that he is running a for-profit business.

"If you want to have a meal you can't be satisfied by a biscuit," said the software engineer who once worked with IT serv-

ices Mindtree. In addition to revenue, the six-member team at Afforestt also offers consulting in addition to on-site project work.

The manpower, material, machinery and supervisors are provided by the customer while the Afforestt team directs daily operations.

Afforestt's biggest project so far has been in Indore, where the company planted 15,000 trees over eight acres last year at a township project for engineering firm Dwarika India.

Afforestt charges about ₹150 per square foot, less than half of what the Miyawaki method typically costs. The company aims to plant a million square feet of trees in the first half of this year.

The company which has been cash-positive since the start is likely to fund expansion through internal accruals. It attracts a steady stream of customers. "We want afforestation to grow as an industry and not just Afforestt as a company," said Sharma."



Shubhendu Sharma, founder, Afforestt

ZEESHAN PATEL

The Economic Times, Delhi dated January 11, 2014

Green Clearance Norms Eased for Coal Mines

POWER PUSH Move to boost Coal India output by 30-40 MT, help power sector



URMIA GOSWAMI & DEBJOY SENGUPTA
NEW DELHI | KOLKATA

The government has eased environmental clearance norms for expanding coal mines, which will help state-run Coal India boost output by a record 30-40 million

tonnes in the new financial year and ease the crippling fuel scarcity in the power sector.

The ministry, which has taken a pro-industry stance since Veerappa Moily took charge, has ruled that mines with an annual

capacity of up to 8 million tonnes can expand capacity by up to 50% without holding public hearings.

This exemption will apply to one-time capacity expansion in projects that do not involve land beyond the existing lease area. Several mining projects have been stalled because of the earlier provision that required public hearings if the capacity was being expanded by 25%.

The decision is a big boost for Coal India, which has been under enormous pressure to boost output as large power generation capacity is idling or underutilised because private investment led to record capacity addition in the last fiscal year while coal output stagnated. Coal India produced about 450 million tonnes last fiscal. It has 400 mines with annual production of less than 8 million tonnes.

"We are easily looking at an increase of 30-40 million tonnes increase in production in the next financial year ... the increase could be even more, but, at this stage we will study the possibility of increasing production by 50% for all mines in this category. This order will give a boost to production teams at every mine as they can increase production by 1 to 1.5 million tonnes without additional hearing," said Coal India Limited Director N Kumar.

Tuesday's order increases the ambit of an expansion that has been in place since December 2012. Former environment minister Jayanthi

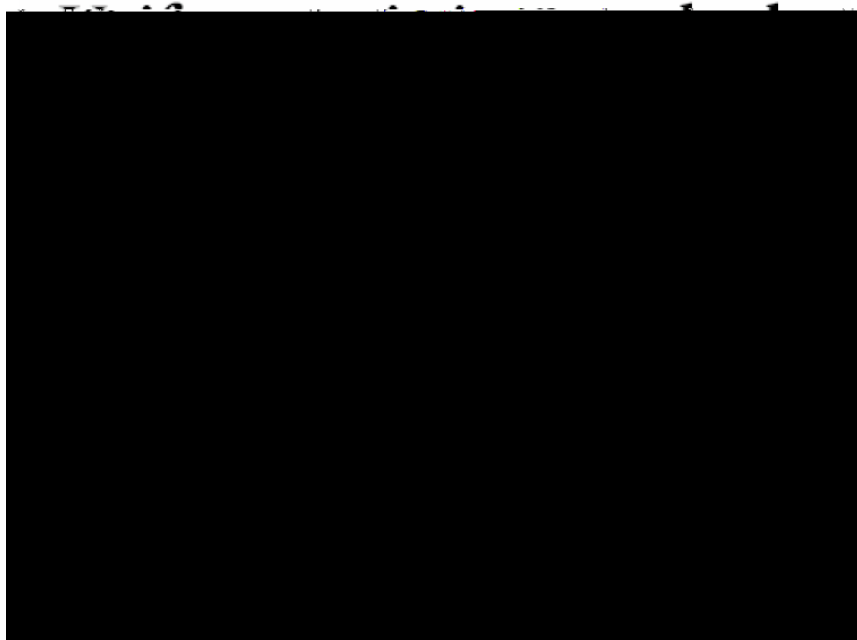
Natarajan had exempted existing coal mines with plans to increase production by as much as a quarter of the current permissible production levels from holding public hearings as part of the environment clearance process.

The decision to further relax the clearance process for expansion projects comes at the behest of the coal ministry, which argued that the December 2012 exemption norms were unfavourable for smaller coal mining projects. For mines with lower permissible annual production levels, a 25% capacity increase worked out to a negligible increase. Therefore, were unable to avail of the exemption from holding public hearings for getting the clearance.

Moily's latest industryfriendly move comes at a time when the environment ministry has been under attack, particularly from infrastructure ministries, for delays in clearing projects. The coal ministry has consistently maintained that these delays were primarily responsible for lower coal production. However, some experts say delays in environmental clearance is only part of the reason for Coal India's failure to meet annual production targets. Lower coal production adversely affected power, steel and other industry projects, all of which a section of the government and industry claimed was derailing India's growth. The coal ministry, in particular, has since 2009 been demanding a more liberal and pro-growth environmental regulatory framework.

Mines with an annual capacity of up to 8 MT can expand capacity by up to 50% without holding public hearings

The Times of India, Delhi dated January 16, 2014



*The Times of India, Delhi dated
January 16, 2014*

Toxic metals in beauty products

CSE Study Finds Leading Brands Using Mercury, Chromium And Nickel

TIMES NEWS NETWORK

New Delhi: Your make-up may be leaving you with a touch of toxic heavy metals, with potential health implications over long-term use. A study by Centre for Science and Environment (CSE) claims to have found high levels of mercury in several well-known national and international brands of skin-whitening creams and chromium in several brands of lipsticks.

High levels of mercury associated with kidney age, skin discoloration scarring, while chromium a carcinogen. Despite use of mercury banned in cosmetics under the Drugs and Cosmetics Act, 44% of the 32 fairness creams that CSE tested reportedly contained mercury and chromium in 50% of lipstick samples tested; nickel in 43%. All the samples were purchased from a market in Delhi and sent to CSE's pollution monitoring lab. The samples included some popular brands.

CSE compared the heavy metals found in the cosmetics with their acceptable daily intake (ADI) — the maximum amount of toxin that a person can be exposed to in a lifetime without any noticeable health risk. The study showed that whitening creams can contribute up to 1% of the ADI for mercury depending on the product and the amount of cream used. Given that mercury is ingested via food, water and air, chances are that a person using a mercury-laden cream may exceed the acceptable daily intake. Lipstick users could be

POISON IVY'S KISS

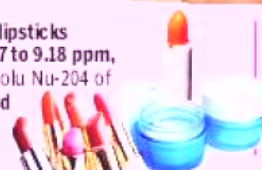
Of 32 fairness creams tested for mercury, 14 had it in the range of 0.10 ppm* to 1.97 ppm. This heavy metal is banned for use in cosmetics under the Drugs and Cosmetics Acts and Rules



Aroma Magic Fair lotion — a product of Blossom Kochhar Beauty Products Pvt Ltd — had the highest level of mercury (1.97 ppm), followed by Procter and Gamble's Olay Natural White (1.79 ppm), and Ponds White Beauty of Hindustan Unilever (1.36 ppm)

Chromium found in 15 lipsticks tested in range of 0.45 ppm to 17.83 ppm; Hearts and Tarts (080V) shade of ColorBar had the highest concentration of chromium

Nickel found in 13 lipsticks tested in range 0.57 to 9.18 ppm, with Lancome Absolu Nu-204 of L'Oreal India Pvt Ltd having the highest concentration



No heavy metals found in anti-ageing creams and lipbalms. Lead and cadmium not detected in lipsticks



30 lipsticks, 8 lipbalms & 3 anti-ageing creams were also tested for lead, cadmium, chromium & nickel

* parts per million

CSE researchers said only 14 of the companies making such products responded. Most of them said there was a 'trace' presence and that the product was safe for long-term use

Sunita Naran.

The CSE study said the worst defaulters in case of mercury concentration in fairness creams were Aroma Magic Fair lotion, a product of Blossom Kochhar Beauty Products Pvt Ltd, followed by Procter and Gamble's Olay Natural White and Ponds

White Beauty of Hindustan Unilever.

When contacted, Hindustan Unilever told TOI "We do not add mercury in our cosmetic products. Like all Unilever cosmetic products, all Ponds' products (including Ponds' White Beauty) are safe — with no added mercury and manufactured in accordance with good manufacturing practices and in line with BIS and US FDA limits on trace metals. All our products are approved by the FDA...and they comply fully to the guidelines in India...on all aspects including contaminants and heavy metals."

Blossom Kochhar Beauty Products Pvt Ltd and Procter

and Gamble did not respond to TOI's queries.

In case of lipsticks, Hearts and Tarts (080V) shade of ColorBar had the highest concentration of chromium while Lancome Absolu Nu-204 of L'Oreal India had the highest concentration of nickel. Lancome told TOI, "Our highest priority is the safety of our consumers. We do not use heavy metals as ingredients in our products and comply fully with Indian and International

al cosmetic regulations."

However, the products named above are not the only defaulters; many other brands tested by CSE were found to be containing these metals.

Shocking to the average user as it might be, scientists are taking a guarded view of the findings because cosmetics have always had trace amounts of heavy metals.

"Skin whitening agents are a wrong thing to use in any case. They are proven to damage the skin in the long run," said Alok Dhawan, National Toxicology Group of CSIR-Indian Institute of Toxicology Research. "It's a risk versus benefit scenario. If the findings of this report are true, it's good for customers to be aware. However, the effects completely depend on the length of usage and the amount used. Cosmetic companies are also evolving. They don't use ammonia, for instance, any more in hair colours. Long-term use of cosmetics with mercury will lead to health implications."

Mercury, Dhawan added, can not just cause damage to skin but to the environment when washed.

*The Times of India, Delhi dated
January 16, 2014*

*The Economic Times, Delhi
dated January 16, 2014*

Sun to light Signature Bridge

Minister Asks Delhi Tourism To Explore Use Of Solar Panels

GOVERNMENT
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BRIGHT IDEA: To be completed by the year-end, the bridge will have water sports facilities nearby and be a tourist hotspot

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late by three years largely because of delays in getting environment clearance, the minister said, he hoped it would meet the year-end completion deadline. "The western approach is open to traffic and the eastern approach will be inaugurated next month," an

official said.

Delhi Tourism and Transportation Development Corporation (DTTDC) is building the bridge and looking into the feasibility of the proposal. A senior tourism official said: "CPWD has done two projects like this, Paryavaran Bhawan

and Rashtrapati Bhawan. The idea is to produce electricity in the day and supply it to the grid. When we need power at night, we draw from the grid. We will pay for only what we consume minus what we supply to the grid."

DTTDC has executed a pilot project in Dilli Haat, making it solar powered. "The Dilli Haat project is done and a couple more are becoming solar powered," added the official.

The Signature Bridge will provide an essential link between North and East Delhi. Once constructed, it will replace the bridge at Wazirabad. "The cable-stayed structure will link NH-1 near the T-point at Wazirabad on the Western bank with Marginal Band Road at Khajuri Khas on the Eastern bank of Yamuna connecting North Delhi to East Delhi," an official said.

New Delhi: The Delhi government is looking into the possibility of installing solar panels on the Signature Bridge project. The project is already at the making and likely to be completed by the year-end. Now the effort is to make it energy-efficient.

"I have requested the Delhi Tourism and Transportation Development Corporation to examine the use of solar energy to power the bridge and the surrounding area," said the tourism minister Somnath Tiwari, who has been in charge of construction work.

Under the bridge, a massive tourist destination is being planned, complete with water sports facilities. The idea is to use solar energy in these areas as well. But these facilities will be developed under the project's second phase.

*The Economic Times, Delhi
dated January 16, 2014*

*The Times of India, Delhi
dated January 17, 2014*

ENERGY RATING STANDARDS AT GLOBAL LEVEL

Your Five-Star Fridge Won't Go Three Star So Fast Now

BEE, which revises standards every 2 years, to review the norms at longer intervals

WRITANKAR MUKHERJEE
KOLKATA

Little did Chennai-based engineer Priyanka Sachdev realise that after spending a shade below ₹25,000 for a five-star rated refrigerator—the most energy efficient—last Diwali, it would turn out to be a not-so-energy efficient model this year. She was not told by the salesman that energy efficiency rating norms would be revised from 2014, turning a five-star refrigerator into a three-star one from January.

Sachdev is among millions of consumers who suffer a notional loss after paying a premium to buy an energy-efficient appliance, with the Bureau of Energy Efficiency (BEE) upgrading the standards every two years. BEE is the nodal body under the Union power ministry that implements energy rating norms.

This increases the obsolescence rate and drives prices up by 10-15%, companies said. For instance, Sachdev's refrigerator became obsolete in three months. In effect, it has become an unending chase for consumers to save more on power consumption by purchasing energy efficient models.

This may soon change with India's appliance and consumer electronic energy rating system set to become more consumer-friendly. BEE plans to replace the present system of biennial changes in rating standards with one that lasts longer to reduce the rate of obsolescence for an energy-efficient model. The agency also plans to include televisions and geysers from this year under mandatory energy ratings, which now includes only frost-free refrigerators, air-conditioners and tube lights.

"The present system of upgrading energy rating norms every two years was prevalent till the latest change effective this calendar year as per what we had decided six years ago and hence will now be evaluated," said BEE director general Ajay Mathur. "Now that Indian energy rating norms are at par with global standards and consumers value energy-efficient products, we can continue with the rating standards for a longer period such as four years," he said.

BEE will soon start consultations with

Up to the Standards Soon

- Bureau of Energy Efficiency upgrades standards every two years
- This increases the obsolescence rate and drives prices up by 10-15%
- This also results in an unending chase for consumers to save more on power consumption
- Due to the changes in norms, a five-star air-conditioner purchased in 2011-12 is now a three-star device



Frost-free refrigerators, air-conditioners and tube lights must have energy efficiency rating as of now



TVs and geysers may have to have the rating from this year

- BEE plans to revise the standards at longer intervals, which would reduce the rate of obsolescence
- The norms are now on a par with global standards

BEE to start consultations with cos., testing labs and consumer rights groups soon to decide on the road map

a less energy-efficient model. Similarly, a five-star AC purchased in 2012-13 has become a four-star unit.

For frost-free refrigerators, there has been a two-level rise in rating norms this year, whereby a five-star unit bought in 2012-13

has become a three-star device, while one bought in 2010-11 is now rated two stars.

White goods makers say they have to increase appliance prices by 10-15% whenever there is an up-gradation of energy rating standards, due to the increase in production costs associated with technology change.

Mathur said BEE also wants to evolve testing protocols and standards so that a rated product delivers the stated efficiency irrespective of varied operating conditions. As per current standards, an air-conditioner measured for its energy efficiency by calculating the power it consumes to cool a room to 22 degrees Celsius when it's 35 degrees Celsius outside. "In reality, this may seldom happen since certain parts of the country experience higher temperature and the appliance may not offer the best efficiency promised," Mathur said. "We want to overcome this problem so that the rating truly reflects the operating conditions."

writankar.mukherjee@timesgroup.com

17 Metro stns to harvest rainwater

TIMES NEWS NETWORK

New Delhi: The Delhi Metro Rail Corporation on Thursday informed the National Green Tribunal that it will set up rainwater harvesting systems at 17 Metro stations. It also said it will not set up systems at 27 other stations due to lack of space.

A bench headed by NGT chairperson, Justice Swatanter Kumar, had asked DMRC in October last year why rainwater harvesting systems (RWHS) cannot be installed in several of its stations. DMRC assured the tribunal that it is "planning to physically execute the work at the 17 stations progressively by March 2015".

North and East Corporations have stated in their affidavits that they grant completion certificates to a building constructed on a plot of 100 sqm or more only if the structure fulfils the criteria of having a RWHS. Without a completion certificate, "no person is permitted to occupy or can permit to occupy any such building". DPCC sought more time to complete their inspection of government departments, hospitals and residential buildings, to check if they have installed RWHS.

*The Times of India, Mumbai
dated January 17, 2014*

'Horny' drivers overtake WHO levels, city at risk

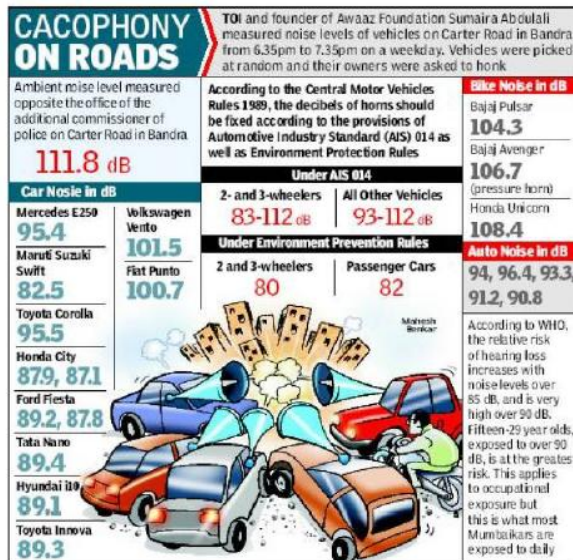
Contradictory Noise Standards In India Add To The Clamour

Anahita Mukherji TNN

Walking on the roads or driving a car in Mumbai can expose residents to noise levels that are well above the standards set by the World Health Organization (WHO) for occupational noise that workers should be subject to. And the law in India seems to be boosting the rising din, thanks to the confusing and contradictory decibel levels set for horns here.

TOI joined anti-noise pollution activist Sumaira Abdulali of Awaaz Foundation in measuring the horns of cars, auto rickshaws and bikes on Bandra's tony Carter Road between 6.35pm and 7.35pm on a weekday evening. Of the 17 cars measured, all except two, had horn decibels that were over 85. A handful was over 90dB and two were over 100dB. All the bike horns measured were over 100dB and for autos, the figures were between 90dB and 96.4dB. The ambient noise level opposite the office of the additional commissioner of police (W) on Carter Road was 111.8dB.

According to WHO guidelines, the relative risk of hearing loss to both men and women rises when being continually exposed to noise levels over 85dB



Horns of dilemma

Motorists in India apparently honk so much that the first component that foreign luxury car brands, such as Mercedes Benz and Audi, tweak are the horns when a new model is launched here. According to car marketers, Indians honk so often that a European horn cannot last more than a fortnight here. P 6

and the danger gets higher at 90dB and above. People facing the highest risk of hearing loss are those between 15 and 29 years who are continually exposed to over 90dB noise. They are at an eight times higher risk than those subject to less than 85dB noise. And according to the US Labour Department standards, "all workers' exposure to noise should be controlled below a level

equivalent to 85dB for eight hours to minimize occupational noise induced hearing loss". In other words, Mumbaiers who spend long hours on roads are being subject to a noise level higher than what America subscribes for its worker, and well above what WHO recommends for occupational exposure to noise.

However, the guidelines in India are contradictory and confusing. What do the Indian guidelines say when it comes to the sound levels of car horns: One section of the Indian Motor Vehicles Rules mandates that horn levels must follow the requirements of the Automotive Industry Standards (AIS), while

another says the sound levels must comply with the standards specified by the Environment Protection Rules. According to AIS guidelines, noise levels should be between 83 dB and 112 dB for two- and three-wheelers. For all others, the level is set at 93 dB-112 dB. Going by these guidelines, virtually all the horns measured on Carter Road were well within the permissible limit. But according to the Environment Protection Rules, the noise levels for two- and three-wheelers should not exceed 80dB, while the limit is 82dB for passenger cars. This guideline makes virtually all the horns measured illegal.

While the National Green Tribunal has directed Maharashtra's pollution control board to set standards for multi-tone horns and sirens, single-tone horns (the ones Abdulali measured with TOI) have not been included.

"The health hazards caused by noise pollution have to be taken seriously while drafting laws that are safe and implementable. Otherwise, there complete chaos will continue on Indian roads," Abdulali said.

The Times of India, Delhi
dated
January 17, 2014

Air quality at 'critical' level

Bad Enough To Harm The Weak As Well As Healthy People

Jayashree Nandil | TNN

New Delhi: Over January 14-16, air pollution levels in Delhi reached a level that's linked to "emergency conditions" for health. Air quality in Delhi reached a "critical" level—i.e. on January 14, 15 and 16 the air was extremely polluted at almost all locations monitored by System of Air Quality Weather Forecasting and Research run by the ministry of earth sciences. "Critical" air quality impacts everyone, not just the vulnerable.

Both PM10 (coarse particles) and PM2.5 (fine respirable particles) levels rose by about 50%. PM10 levels in Delhi peaked to 875-867 micrograms per cubic metre at Delhi University on December 15-16 and fluctuated between 630 and 670 micrograms per cubic metre on all three days at Mathura Road.

"These levels are extremely high considering the standard is only 100 micrograms per cubic metre. Air quality is likely to be poor on January 17 as well. Pollutants are likely to dissipate after January 19," explained chief project scientist, AFAR, Gufran Beig.

Along with a drop in temperature, the boundary layer (lowest part of atmosphere) was lowered drastically. From a boundary layer of 200m it came down to 60-70m on January 15. On January 16, too, the boundary layer remained at 70m trapping all pollutants.

Beig, however, clarified that such critical pollution levels were not because of emissions from far-off places or neighbouring states. The emissions were from localized sources like transport, burning of biomass or firewood. This is why we saw high PM10 and PM2.5 levels in Dhirpur, Mathura Road, Delhi University and Lodhi Road," he said.

"Very poor" air quality has become a regular feature in Delhi with PM10 levels above 300 micrograms per cubic

metre most of the time. "Elderly, those with poor immune system, cardio-vascular diseases, diabetes, hypertension and respiratory illnesses, smokers, children and pregnant women are most vulnerable," Dr TK Joshi, director (projects) at Centre for Occupational and Environmental Health, said.

THAT CHOKING FEELING

PM10 PM2.5

	DHIRPUR	DELHI UNIV	AYA NAGAR	NOIDA
Jan 14	438 296	639 290	327 186	361 230
Jan 15	595 402	876 398	473 292	370 235
Jan 16	497 335	867 394	331 208	507 325

Safe level PM10: Up to 100 microgram/cubic metre
PM2.5: Up to 60 microgram/cubic metre

	MATHURA ROAD	PUSA ROAD	LODHI ROAD	IGI AIRPORT
14 Jan	670 181	189 82	449 275	332 139
15 Jan	640 170	320 141	587 321	440 202
16 Jan	665 168	236 103	525 224	327 114

Deccan Chronicle,
Hyderabad dated
January 20, 2014

In 30 years, India loses 6% forests

Many forests get fragmented, says report

AMAR TEJASWI | DC
HYDERABAD, JAN. 19

The loss of forest area in the country has been a high six per cent between 1975 and 2005, according to a study by the city-based National Remote Sensing Centre (NRSC). The analysis also found that in all bio-geographic zones, like the Himalayas, Deccan Plateau and Eastern Ghats, more than 90 per cent of the total forest area is fragmented, consisting of patches of forest of less than one square kilometre.

Earlier studies have suggested that many medicinal plants and plants exclusive to the sub-continent have been lost in central Indian districts like Karimnagar due to the fragmentation of forests.

The NRSC study said that the Deccan Plateau and Eastern Ghats have the highest proportion of core forest areas. The total core area was highest for islands, at 87.4 per cent, followed by the Eastern Himalayas (82.5 per cent), Deccan Plateau (78.9 per cent), deserts (76.4 per cent) and Eastern Ghats with 76 per cent.

The study also claims that loss of forest area throughout the country between 1975 and 2005 was 5.8 per cent, while the annual rate was 0.2 per cent. C. Sudhakar Reddy, an NRSC scientist, said, "It is a moderate rate of deforestation, but the time period makes a difference. If you look at just one year, then there might be little deforestation."

Forest fragmentation occurs when there is human intervention to change the landscape, or naturally due to forest fires. As a result, there are only patches of forests left and the continuity is lost. A study by the University of Hyderabad and the NRSC showed that about 67.28 per cent core forest area was still intact.

Districts like Karimnagar showed extremely high levels of degradation.

Dr P.S. Roy, chair professor, University Centre for Earth and Space Sciences, University of Hyderabad, said, "Our most significant finding was the extreme fragmentation in central Indian forests. Districts like Karimnagar are heavily affected and biodiversity is degraded due to this."

He said that the higher the fragmentation, the lower is the biodiversity.

*Deccan Chronicle,
Hyderabad dated
January 20, 2014*

*The Times of India, Delhi
dated January 20, 2014*

Cybercity has to dig deeper to strike water

ROUSHAN ALI | DC
HYDERABAD, JAN. 19

Depletion of groundwater levels in Winter season itself in Hitec City, Gachibowli and Cyberabad areas has raised apprehensions among residents about water availability during the summer.

Though the overall average groundwater levels in Hyderabad and its districts have shown an increase, it has gone down in Serilingampally covering Hitec City, Madhapur, Kondapur, Kothaguda and other areas in Cyberabad. Last year during this time, the groundwater level was at 7.27 metres while this year in Hyderabad it is at 6.94 metres on an average. Likewise, in Ranga Reddy, the level last year was at 11.46 metres and at present it is at 8.62 metres.

However, in the case of Madhapur, Hitec City and several parts of Cyberabad, the groundwater level has gone down from 3.5 metres last year to 4 metres now. Experts attributed this mainly to over-utilisation of groundwater

Concrete worries

● Concretisation of the Cyberabad is also said to be one of the main reasons why groundwater is not getting recharged. Some 10,000 building permissions were given in 10 years.

and also to the failure of the government to encourage construction of rainwater harvesting pits.

Depletion of groundwater levels is more worrying for Cyberabad residents as many gated communities and apartments do not get piped drinking water from the Water Board. Several colonies in Hitec city and Cyberabad areas depend mainly on groundwater for all purposes other than drinking and cooking. The Water Board is yet to lay water distribution lines in many of the colonies in surrounding municipalities including Serilingampally.

N.V. Ratnam Choudary, president of My Home Navadweepa at Hitec City said indiscriminate drilling of bore wells was also one

of the main reasons for groundwater depletion in Cyberabad. "Because of premier land values in Hitec City, high-rise buildings are being constructed with no drinking water connections from the Water Board," he said.

Rohit Shukla, a resident of Madhapur, said that builders constructed cheap rainwater harvesting pits and obtained occupancy certificates from the Greater Hyderabad Municipal Corporation. "The rainwater harvesting pits stop recharging groundwater in two years. Thereafter it is left to the flat owners or apartment associations to reconstruct the pits. GHMC should conduct periodical checks on whether the pits are functioning," he said.

Deputy director of the ground water department, Ramesh Kumar, said the water below the ground level in Serilingampally had gone down from 3.5 metres in December, 2012 to 4 metres as on December 31, 2013. "If the levels start depleting from December, it will be difficult to get groundwater in summer."

Odisha govt goes green, bans plastic national flags

Vishwa Mohan | TNN

New Delhi: Taking the lead in heeding the Centre's advice backed by concerns expressed by environmentalists and a court order, the Odisha government has issued directions to district authorities to ensure that no plastic tri-colour is used during celebration of Republic Day or other important days in the state.

Though other states including Maharashtra and Karnataka had also issued similar directions in the past, such an order could not be implemented due to lack of monitoring mechanism at local level.

Unlike other states, Odisha has asked district civil and police authorities to deputise officers specifically for this job so that the state high court order was followed and the national flag was used, made and distributed as per the national flag code.



NO TO PLASTIC PATRIOTISM

Acting on a writ petition, the HC had in August last year directed the state government to take steps to prevent sale and distribution of the tri-colour made of any other material barring those permitted under the Flag Code of India, 2002.

The code specifies that the national flag should be made of cotton, wool, silk or paper. It also has penal provision under the Prevention of Insults to National Honour (Amendment) Act, 2003 in case of any violation.

The law provides for im-

prisonment for a term up to three years for anyone who "in any public place or in any other place within public view burns, mutilates, defaces, defiles, disfigures, destroys, tramples upon or otherwise shows disrespect or bring into contempt (whether by words, either spoken or written, or by acts) the Indian national flag".

Months before the court order, the Centre too had advised all states and Union Territories to issue directions for not using national flags made of plastic.

Referring to concerns expressed by environmentalists, the Union home ministry had in 2012 issued an advisory insisting the use of only paper in making flags which are waved by common people during important national, cultural and sports events. It also advised that such flags, as far as possible, should be disposed of in private, consistent with the dignity of the flag.

*The Times of India, Delhi
dated January 20, 2014*

Decision on tourism in NCR's



*The Economic Times, Delhi
dated January 21, 2014*

Aggressive Bids for Solar Projects

Bids for 2,170 mw received against proposed 750 mw

SHREYA JAI
NEW DELHI

Companies have bid for 2,170 mw of solar power capacity, three times the proposed of 750mw, offering to supply electricity from the renewable source at ₹5.50 per unit under the second phase of the ambitious Jawaharlal Nehru National Solar Mission, which is back on track after a delay.

Out of the bids received, projects amounting to 700 mw would be based on domestic

development. "SECI received 68 bids comprising of 122 projects for a total capacity of 2,170mw. This includes 36 projects under 'domestic content requirement (DCR)' category for 700 mw and 86 projects under open category for 1,470 mw", said a senior official of SECI.

Announced in March 2013, the second phase of the solar mission was marred with delays owing to a financial crunch and tiff between domestic and foreign manufacturers of solar photo-voltaic cells and modules.

The current phase of the mission was bifurcated into two parts on equipment sourcing from domestic and foreign suppliers of solar equipment. The

CLEAN ENERGY

■ UK firm Deciwatt designed the light

The 'gravity' of light

DC CORRESPONDENT
KOZHIKODE, JAN. 21

The age of solar lamps may soon be over. In their place, gravity lamps are coming and their commercial production will begin in Kerala soon.

Gravity light is designed by a UK firm, Deciwatt. Thiruvananthapuram-based 'Innovation eXperience', a social innovation venture, is the research and development partner of the firm in India.



The gravity lamp uses a bag filled with rocks or sand, attached to a cord, which slowly descends to power an LED light using a dynamo. This process powers the light

● The gravity lamp uses a bag filled with rocks or sand, attached to a cord, which slowly descends to power an LED light using a dynamo. This process powers the light for up to 30 minutes depending on the weight

for up to 30 minutes depending on the weight. "We want this project to be carried out by the engineering students to produce better models at low cost. The full-fledged

gravity lights would definitely be a boon for 300 million Indian families deprived of power connection," said Innovation eXperience technical director Shyam Kumar S.

The project has a trial run in the tribal hamlets of Thiruvannamalai, Tamil Nadu.

"Deciwatt is also in touch with United Nations Development Programme (UNDP) to launch this project on a larger scale in India," Mr. Kumar added.

*The Times of India, Delhi
dated January 22, 2014*

Govt plan to assess impact on climate

Vishwa Mohan | TNN

New Delhi: Amid all-round criticism from environmentalists for ignoring sensitive green issues under new environment minister M Veerappa Moily the government has approved a pending Rs 290 crore scheme to build capacity at both central and state levels to assess impact of climate change in vulnerable areas and associated risks.

Besides, it also cleared a proposal to set up an institute on climate change studies in the name of former Prime Minister Rajiv Gandhi.

"Both these proposals were cleared by the Union Cabinet on Monday," said Moily, seeking to give an impression that his ministry was equally concerned of green cause and climate change.

Moily told TOI that the fi-

nance ministry had agreed to release funds for the scheme which is to be implemented beginning next fiscal.

As far as setting up the Rajiv Gandhi Institute for Climate Change Studies and Actions is concerned, the minister said a committee of secretaries (CoS) would soon take a call on structure of the institute and the timeline for its completion.

The CoS will comprise of secretaries in the ministries of environment and forest, finance, renewable energy, agriculture, water resources and earth science.

The Rajiv Gandhi Institute — which is to be set up here as an autonomous body — will have four key functional areas related to environmental-scientific assessments and modeling; economic and legal analysis; monitoring and policy mak-

ing; training, capacity building and advocacy and database, documentation and inventory management.

The capacity building scheme — which got the Cabinet's nod on Monday — is designed to undertake and augment various activities including Coordination of National Action Plan on Climate Change (NAPCC) and State Action Plan on Climate Change.

The NAPCC, comprising eight government-backed missions, was launched by the Centre in 2008. It includes government's priority area to work in the field of solar energy, enhanced energy efficiency, sustainable habitat, conserving water, sustaining the Himalayan ecosystem, a "Green India" mission, sustainable agriculture and strategic knowledge platform for Climate Change.

*The Economic Times, Delhi
dated January 23, 2014*

Sun Shines on MP Power Projects

With renewable energy projects worth ₹30,000 cr being implemented, MP has become Gujarat's rival in this sector

SHREYA JAI
NEW DELHI

Renewable energy projects worth ₹30,000 crore are being implemented in Madhya Pradesh, which have quietly reached out to companies and attracted GE, Reliance Power, Spanish wind major Gamesa and others, giving tough competition to Gujarat in the sector. The buzz of activity has catapulted the state to the top slot of renewable energy in the

idea was to set a plan in place and first see the results on the ground rather publicise just a policy on paper," said S R Mohanty, secretary, new and renewable energy department, Madhya Pradesh.

The state has made things easy for investors. To set up a wind project, the developer has to just submit a resource assessment report of any site in the state. It applies for solar, bio and hydel as well, where if the selected site is government's land, the developer gets

Powering Ahead

Status of Madhya Pradesh's Renewable Energy Projects

	Apr '13	Jan '14	Jun '14 (expected)
Wind	315	473	623
Solar	2	305	800
Hydel	86	86	86
Bio	35	103	103
Total	438	965	1611

Under implementation

Projects	Capacity (MW)
Solar	118 1449
Wind	81 2776
Hydel	60 275
Bio	16 165

for renewable power producers. "In the last one year, maximum addition in renewable based power capacity has happened in MP. More than the policy, it's the strict execution and political stability that has helped invite investments in the state," he said.

"Gujarat had an ambitious feed-in tariff policy while MP has a bigger focus on projects not getting feed-in tariff. For such projects, the efficiency rate in MP is higher with a government support in

*The Times of India, Delhi
dated January 23, 2014*

Made-in-China pollution wafts across Pacific to US

Smog Tied To Demand For Cheap Chinese Goods: Study

Beijing: Pollution from China travels in large quantities across the Pacific Ocean to the US, a new study has found, making environmental and health problems unexpected side effects of US demand for cheap China-manufactured goods.

On some days, acid rain-inducing sulphate from burning of fossil fuels in China can account for as much as a quarter of sulphate pollution in the western United States, a team of Chinese and American researchers said in the report published by the US National Academy of Sciences, a non-profit society of scholars.

Cities like Los Angeles received at least an extra day of smog a year from nitrogen oxide and carbon monoxide from China's export-driven factories, it said. "We've outsourced our manufacturing and much of our pollution, but some of it is blowing back across the Pacific to haunt us," co-author Steve Davis, a scientist at University of California Irvine, said.

Between 17% and 36% of various air pollutants in China in 2006 were related to the production of goods for export, according to the report, and a fifth of that specifically tied to US-China trade. One third of China's greenhouse gases is now from export-based industries, according to Worldwatch Institute, a US-based environmental research group.

China's neighbours, such as Japan and South Korea, have regularly suffered noxious clouds from



TOXIC COVER: Los Angeles received at least an extra day of smog a year from nitrogen oxide and carbon monoxide from China's export-driven factories, the study says. On Wednesday, Beijing passed a new regulation to enforce tighter emission norms

China in the last couple of decades as environmental regulations have been sacrificed for economic and industrial growth. However, the new report showed that many pollutants, including black carbon, which contributes to climate change and is linked to cancer, emphysema and heart and lung diseases, travelled huge distances on global winds known as "westerlies".

Trans-boundary pollution has for several years been an issue in international climate change negotiations, where China has argued that developed nations should take responsibility for a share of China's greenhouse gas emissions, because they originate from production of

goods demanded by the West. The report said its findings showed that trade issues must play a role in global talks to cut pollution.

"International cooperation to reduce transboundary transport of air pollution must confront the question of who is responsible for emissions in one country during production of goods to support consumption in another," it said.

Air quality is of increasing concern to China's stability-obsessed leaders, anxious to douse potential unrest as a more affluent urban population turns against a growth-at-all-costs economic model that has poisoned much of the country's air, water and soil. **REUTERS**

*The Times of India, Delhi
dated January 23, 2014*

₹13,000cr for green mission next week?

VishwaMohan | TNN

New Delhi: Facing flak for allegedly rushing through nods for many projects ignoring environmental concerns, the Centre may next week clear Rs 13,000 crore for its much-awaited 'Green India Mission', which aims to increase carbon sinks across the country through large-scale forestation.

"The final draft of the Green India Mission and the proposal to secure funds for it are ready. It will be sent to the Cabinet possibly by next week," environment and forests minister M Veerappa Moily said. Moily told TOI that the finance ministry

has given its nod for the required funds.

The Centre aims to raise forest cover by 10 million hectares in the next 10 years at a cost of Rs 46,000 crore. It has two components – quality improvement of the existing forest cover and creating new forest cover – which are to be implemented through various measures, including decentralization of forest governance. Sources said the ministry of environment and forests has mooted convergence of GIM projects with schemes like the Mahatma Gandhi National Rural Employment Guarantee.

For the full report, log on to www.timesofindia.com

*The Times of India, Delhi
dated January 24, 2014*

'Need to speed up green nod to boost investment'

TIMES NEWS NETWORK

New Delhi: RBI governor Raghuram Rajan on Thursday stressed the need to make better and less cumbersome regulations to help investors get around the thicket of permissions, including environmental clearances that often hold up projects for years.

"Spending five to six years waiting for environmental permissions does not make sense... we need to speed up the processes," said Rajan while delivering the 8th R N Kao Memorial lecture here on Thursday. He articulated the need for the stakeholders to put their heads together and think up a better way to ensure that protection of environment goes hand-in-hand with the in-



Raghuram Rajan

vestor protection. "We need to respect environmental rules. But that does not mean we delay projects. Let us make regulations better; not less not more, but which is relatively easy to enforce," he insisted. He said this was a task that needed a lot of work and hoped the next government would do the needful.

Recalling how fast-paced development and land-grabbing in recent times had led NGOs, democratic forces and the CAG to step in, Rajan insisted that the government needed to develop structures that would ensure growth while preserving the environment and respecting traditional rights over forests.

For the full report, log on to www.timesofindia.com

*The Times of India, Delhi
dated January 24, 2014*

Govt plans ₹5k cr green energy push To Pump In ₹2,500Cr, Remaining Funds Via Rights Issue, IPO Of Ireda Shares

Sanjay Dutta | TNN

New Delhi: With traditional power sector hamstrung by fuel shortage and climate change getting top billing at World Economic Forum summit in Davos, the government has lined up a Rs 5,000-crore, or \$800 million, push to promote green energy capacity. The Ministry of New and Renewable Energy proposes to raise the authorized share capital of Ireda (Indian Renewable Energy Development Agency) from Rs 1,000 crore at present to Rs 6,000 crore through this infusion.

The proposal envisages the government pumping in Rs 2,500 crore, while the remaining funds are to be raised through rights issue

and initial public offering of Ireda shares. The government funding would be concurrent to the IPO and rights issue. The ministry's move gains a wider significance in the backdrop of global business leaders and policymakers at the ongoing WEF summit, asking for a shift to cleaner energy sources as the best way to contain global warming and re-energize the global economy.

Agency report on Thursday quoted UN climate chief Christiana Figueres as saying, the world economy is at risk unless a binding deal is agreed in Paris next year to reduce heat-trapping carbon emissions from fossil fuels. Ireda was set up in 1987 as a 100% government funding

REPORT CARD

30,000 MW | Ministry of New and Renewable Energy's green energy capacity for 2012-17

₹10,672 crore | Loans sanctioned by IREDA against target of Rs 8,145 crore in 11th Plan

₹14,000 crore | IREDA's target for mobilising funds in 2012-17

1,783 MW | IREDA-funded renewable energy projects commissioned between 2007 and 2012



4,800 MW | IREDA target for funding projects in 2012-17

agency for renewable energy sources such as solar, wind and small hydro power projects. Its authorized share capital was last raised by Rs 600 crore to Rs 1000 crore in

2006-07. Against this authorized capital, the agency has a paid-up share capital of over Rs 744 crore.

The ministry has proposed the funding to be done

within a month of Cabinet approving the proposal. The Cabinet is expected to take up the proposal shortly. The ministry has set a target of adding 30,000 mw of green capacity by 2017. A higher authorized capital for Ireda, it has argued, would help the agency to leverage the enhanced equity to raise money at home and abroad to meet its funding target.

Ireda is aiming to provide loans for about 4,800 mw renewable energy projects in the 2012-17 Plan period. The agency would have to mobilize financing resources of Rs 14,000 crore. During the 11th Plan period, it had raised Rs 3,680 crore from banks as well as through bonds and international line of credit.

The Times of India, Delhi dated January 25, 2014

IN SYNC WITH NATURE

Walking through Sanjay Van, one would see a dense forest full of a variety of trees, abundant wildlife, water bodies and the name 'Air Vice Marshall Vinod Rawat' printed on blocks – the man behind the restoration of Sanjay Van in Vasant Kunj

Avantika Tyagi

Air Vice Marshall Vinod Rawat has started a drive to promote tree plantation in this forest and make people aware of their importance. The constant felling down of trees in the area was one reason why a man took up this initiative. The DDA had taken over this forest back in the late 1970s to conserve and develop the Mehrauli south central ridge into a green belt adjacent to the Qutub Minar.

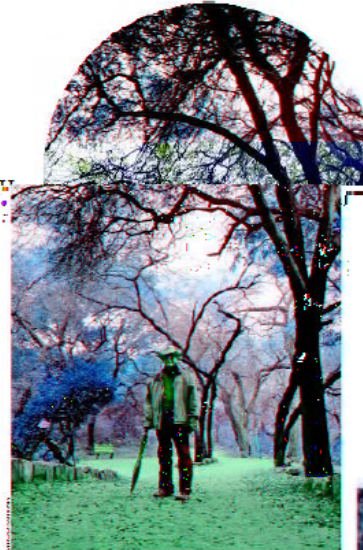
extension of the ancient avahi range with historic importance. In 1978, Rawat, then the DDA took over the task, the officials were

has launched a campaign to revive the area's varied native species that vanished many years ago and needs to be reintroduced. Rawat is trying to create a 500 acre Aravali city forest and nearly 200 acres of a medicinal plantation in this vast scrubland near Qutub Minar. This is a vast area of 783 acres, a DDA reserve forest which he wants to promote and popularise. A botany student himself, he has a way of humanising nature.

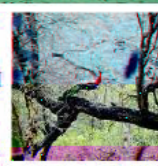
Around one lakh saplings of other species have been planted by DDA under the guidance of Rawat, who took up the task at the instance of Lieutenant Governor Tejendra

has also made it a point to control the spread of Vilayati 11 Kesar. He shares, "We also decided to make simple inexpensive water harvesting structures for recharging underground water – a trigger for rapid restoration of natural biodiversity. It will arrest erosion of soil and in a few years create a large water body under this protected forest."

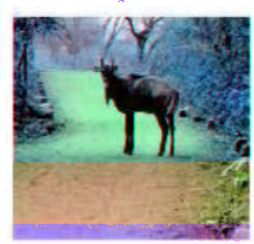
His other objectives are to connect people, especially school children, to this forest to create awareness towards environment and to replicate this restoration model to other ridges of Delhi. This is why Rawat and other WVN



HIS EMPHASIS WAS TO CONSERVE AND SPREAD ARAVALI VEGETATION AND REINTRODUCE NATIVE TREES



restoration of Sanjay Van, but is also involved with some other projects. "I have recently organised tree plantation, mainly bamboo in village Saket in Doon valley, Uttarakhand. The village is on the river side and prone to soil



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