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Malnutrition identified as root cause of 3.1 million deaths among children

By Mark Tran, *guardian.co.uk*



Children wait with their mothers at a hospital in Mali. Malnutrition is behind 45% all deaths among children under five. Photograph: Issouf Sanogo/AFP/Getty Images

Malnutrition is the underlying cause of death for at least 3.1 million children, accounting for 45% of all deaths among children under the age of five and stunting growth among a further 165 million, according to a set of reports released ahead of a nutrition summit in London.

The shocking figures, published in the *Lancet* on Thursday, emerged as world leaders prepare to meet on Saturday to pledge extra money for nutrition, ahead of the G8 summit of industrialised countries on 17 June.

“The *Lancet* series today shocked us into a new truth: undernutrition is an even deadlier threat to child survival than we ever thought,” said Molly Kinder, director of agriculture and nutrition policy at ONE, the anti-poverty group. “These alarming facts are now irrefutable. Undernutrition is responsible for 600,000 more child deaths each year than was previously realised.”

The latest *Lancet* reports follow the journal’s series in 2008, which

helped put nutrition on the development agenda.

“Countries will not be able to break out of poverty or sustain economic advances when so much of their population is unable to achieve the nutritional security that is needed for a healthy and productive life,” said Professor Robert Black, of Johns Hopkins Bloomberg School of Public Health, who led the *Lancet* research.

“Our findings strengthen the evidence that good nutrition is a fundamental driver of a wide range of development goals, and while the impetus for improving nutrition today is stronger than ever, the costs of inaction are enormous.”

Aid for basic nutrition came to \$418m in 2011, only 0.4% of total official development assistance. Similarly, nutrition has been a low government priority in Africa.

Saturday’s nutrition summit, co-hosted by the UK, Brazil and the Children’s Investment Fund Foundation (CIFF), is expected to see financial pledges from rich governments and declarations of commitments from poor countries.

Aid campaigners, who see the summit as the biggest opportunity in a decade to secure financial and political commitments on nutrition, expect pledges that will take the overall figure for nutrition to between \$600m and \$800m a year. Enough Food For Everyone IF, a coalition of more than 200 NGOs and faith groups, which is holding a rally in Hyde Park on Saturday to coincide with the summit, is calling for \$1bn a year by 2015.

Even if the summit comes up with more money, it will fall far short of the \$9.6bn a year the *Lancet* says is needed to reduce the number of deaths from malnutrition among under-fives by 1 million. The money would be targeted at 34 countries with high malnutrition rates, supporting interventions identified in the 2008 *Lancet* series as cost-effective. These include exclusive breastfeeding and appropriate, healthy foods for infants; providing mothers and children with sufficient vitamins and minerals, including vitamin A and zinc supplements, iodised salt, and other micronutrient powders and fortified foods; and the prevention and treatment of cases of acute, severe malnutrition.

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Airlines agree to curb their greenhouse gas emissions by 2020

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



Airlines have agreed for the first time to global curbs on their greenhouse gas emissions. Photograph: PA

International airlines have agreed for the first time to global curbs on their greenhouse gas emissions – but fell well short of the measures to combat climate change that green campaigners had demanded.

The International Air Transport Association (IATA) on Monday passed a resolution calling on world governments to agree measures to manage carbon dioxide from air travel, which would come into force from 2020.

They said there should be a single global “market-based mechanism” – such as emissions trading – that would enable airlines to account for and offset their emissions.

But they did not agree to a global limit on greenhouse gas emissions from air travel, or set out in detail how governments should implement a market-based mechanism to cover all airlines.

Their move may help to ease an ongoing row over whether airlines from outside the EU should be bound by Europe’s emissions trading rules.

The European commission insisted that they should, and would have to pay for carbon permits covering flights taking off and landing within the EU’s borders.

Under the emissions trading system, companies must produce a permit for every tonne of carbon dioxide they produce, with some permits allocated free and others auctioned. Companies can also top up their permit quota with carbon credits – awarded by the UN to projects that cut emissions in developing countries, such as solar panels or windfarms.

Several governments, including those of the US, China and India, objected to their airlines being included in the EU emissions trading scheme, and began a legal battle.

Last year, the commission said it would relax its rules if the global airline industry showed it was willing to regulate and reduce its emissions in another way.

But green campaigners pointed out that Monday’s IATA resolution could allow airlines simply to buy cheap carbon credits to offset their emissions, rather than make real reductions.

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Critical Agreement Reached Between US, China: Eliminate HFC Climate Forcers

SustainableBusiness.com News

Global emissions of carbon dioxide from energy use rose a record 1.4% in 2012 (31.6 gigatons), according to the International Energy Agency, keeping the world on track for the worst scientific projections, global temperature rise of 9 degrees Fahrenheit.

The energy sector produces more than two-thirds of greenhouse gas emissions.

"This puts us on a difficult and dangerous trajectory," Fatih Birol, IEA chief economist says. "If we don't do anything between now and 2020, it will be very difficult because there will be a lot of carbon already in the atmosphere and the energy infrastructure will be locked in."

US-China Meeting Offers Some Hope

A key piece of the climate change puzzle is inching closer to being achieved since China has agreed to phase out use of climate forcing HFCs, which would eliminate 90 gigatons of the most potent greenhouse gas.

Before the meeting between President Obama and China's President, Xi Jinping last week, the White House said the purpose would be to create a more comfortable relationship between the countries, not to negotiate "deliverables."

But they did agree to work through the Montreal Protocol to phase out the use and production of hydrofluorocarbons (HFCs), which are commonly used in air conditioners, refrigerators, insulating foams, solvents and aerosol products.

As we've written about many times - If HFCs and other climate forcers are eliminated quickly (black carbon, methane, ground-level ozone), **the rate of global warming would be cut IN HALF**, keeping global temperature rise under the dreaded 2°C through the end of the century - and perhaps less than that. And it would slow Arctic ice melt by two-thirds.

As a greenhouse gas, HFCs are 11,700 times more powerful than carbon dioxide.

Until this meeting, China refused to address HFCs, saying it would impede economic growth. In April, China agreed to accept \$385 million to completely eliminate industrial production of HCFCs by 2030.

Leading Democrats had urged Obama to focus on climate change in the meeting, specifically HFCs. They want China to support North America's proposal - which would phase them out under the Montreal Protocol. "This would send a powerful and concrete message about the ability of United States and China to cooperate to address the enormous challenge of climate change," says their letter.

30 countries have yet to sign onto the proposal, but China's about face makes it much more likely that they will agree.

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Farmers fail to feed UK after extreme weather hits wheat crop

By John Vidal, environment editor, for *The Guardian*



Poor weather has devastated the British wheat harvest.
Photograph: David Bagnall/Alamy

The wettest autumn since records began, followed by the coldest spring in 50 years, has devastated British wheat, forcing food manufacturers to import nearly 2.5 m tonnes of the crop.

“Normally we export around 2.5 m tonnes of wheat but this year we expect to have to import 2.5 m tonnes.” said Charlotte Garbutt, a senior analyst at the industry-financed Agriculture and Horticulture Development Board. “The crop that came through the winter has struggled and is patchy and variable. The area of wheat grown this year has been much smaller.”

Analysts expect a harvest of 11m – 12m tonnes, one of the smallest in a generation, after many farmers grubbed up their failing, waterlogged crops and replanted fields with barley. According to a National Farmers Union poll of 76 cereal growers covering 16,000 hectares, nearly 30% less wheat than usual is being grown in Britain this year.

Britain is usually the EU’s third biggest wheat grower but it will be a net importer for the first time in 11 years. “Our poll is a snapshot but it is extremely worrying. If this plays out nationally, we will be below average production for the second year in a row,” said NFU crops chair Andrew Watts. “If the experts are to be believed and extreme weather is to become more frequent, we must look at ways of supporting the industry.”

The diminished wheat harvest will add to growing concerns about the amount of food that British farmers can grow per hectare. According to a new analysis by the development board, UK wheat and oilseed rape yields have barely improved since the 1980s, despite genetic developments and better fertilisers. No one reason is given but severe and fluctuating weather is thought to have played a part.

Other crops have been badly damaged by the past year’s severe weather. Oilseed rape and oats have suffered, and sugar beet, which is grown on 125,000 hectares mainly in eastern England, has been hit by a mystery condition that has stopped seeds germinating and has cut production by 50% in some areas. “The weather has definitely had an impact. The affected crops were sown in the very cold weather,” said Mark Stevens, a scientist with the British Beet Research Organisation.

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Tips:

We all know that most essential resource for living is water and that water is getting scarce day by day. Therefore it is of utmost importance to conserve water. We all should not only conserve this valuable resource but educate the upcoming generation about it. We have to curb our habits of wasting water and inculcate habits that will affect the sustainability of this scarce resource.

- **Replace or repair leaking taps** - A dripping tap may seem harmless, we don’t understand how much water is lost but it’s a big wastage. According to a study, one tap that drips 4 drops per minute wastes 138 gallons of water a year.
- **Upgrade to a low-flush toilet**– Like everywhere technology has affected designs of toilets, earlier toilets used about 15 to 18 litres per flush where as only 6 litres for latest toilets. That means the consumption of water is reduced by 10 litres per flush.
- Catch the cold water that comes out of the tap, or shower while you are waiting for the hot water. Use it to water plants or any other suitable purpose.
- When washing dishes by hand, don’t leave the water running for rinsing. If you have a double-basin, fill one with soapy water and one with rinse water.
- Use small glasses for drinking water. The small containers will help in reducing wastage. Especially in India it will be very useful, where traditionally water is served with some sweet as soon as guest arrives and many times the guest sips little water and the rest is thrown in the drain.
- Whenever you waste water, just think about those millions of people who still struggle to save every drop of water for their survival.
- While washing vegetables and fruits put them in a big tray put in the basin, open the tap and wash them and do not let the water flow down the drain but collect the same and water the plants.
- Instead bathing with bath tub full of water take a 5 minute shower, this will result in savings up to 175 to 225 litres of water.

Bloomberg set to roll out New York composting plan for food waste

By Suzanne Goldenberg, for guardian.co.



Reducing the amount of waste that ends up in landfills reduces greenhouse gas emissions that cause climate change. Photograph: Matt Cardy/Getty Images

The mayor of New York, Michael Bloomberg, is preparing to roll out a new composting plan for the city, aimed at diverting some of the 100,000 tons of food scraps that ends up in landfill every year.

Bloomberg, who is due to leave office early next year, has called food waste the “final recycling frontier”. Now it appears New York is moving towards that line, testing pilot projects in some neighbourhoods in preparation for a city-wide composting plan.

The city has hired a composting plant to handle up to 100,000 tons of food scraps a year – or about 10% of the city’s total food waste, according to the New York Times, which first reported the story.

Last April, about 100 city restaurants joined a voluntary composting plan, the food waste challenge. By next year, 150,000 households will be on board along with 100 high-rise buildings and 600 schools. The entire city could be recycling food scraps by 2015 or 2016.

The composting programme will at first be voluntary. But a city official told the Times that after a few years New Yorkers who do not separate out their food scraps could be liable to fines – just as they would be now if they do not recycle paper, plastic or metal.

The composting plan will make up a big part of New York’s efforts to divert up to 75% of its solid waste from landfills by 2030. Reducing the amount of waste that ends up in landfills also reduces greenhouse gas emissions that cause climate change. Food waste from all sources makes up about a third of the 20,000 tons of trash the city generates every day.

New York spends \$336m a year to send its trash to landfills in Ohio, Pennsylvania and South Carolina. A composting programme would save about \$100m a year, Ron Gonen, the city official responsible for recycling and sustainability, told the paper.

Other cities, such as San Francisco, have composting programmes in place. New York had been seen as a challenge because of its population density.

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Google X working on green energy project

By John Reynolds, for guardian.co.uk

Google’s innovation unit Google X is working on a green energy project which its top executive Astro Teller believes could “have an important part to play in the future of the world energy production”.

The alternative wind turbine project, which Google executives are still fine tuning, is likely to be one of the next projects coming out of the Google X, which Teller described as a “moonshot factory” of “Peter Pans with PhDs all kind of running amok”.

The latest “moonshot” innovation from Google X follows hot on the heels of Google’s Project Loon, its experimentation with solar-panelled balloons to bring Wi-Fi to remote regions of Africa and the Asia Pacific. Google Glass also emanated from Google X.

Google is working with Makani Power, the Californian start-up wind power company it recently acquired, on the project, which uses complicated robotics to generate electricity.

Speaking at the Cannes Lions International Festival of Creativity on Tuesday, Teller said: “We recently announced that we have purchased a company called Makani Power. You get one of these 300 tonnes wind turbines, 300 tonnes of steel. You only get power through tips of blades, just circulating in space. What if the little tips circle in space without the 300 tonnes of steel – wouldn’t that be awesome?”



Google X project suggests putting tips of wind turbine blades attached to a long tether circulating in space. Photograph: Murdo Macleod

“If you had a long tether attached to blades, you can generate power by this specifically designed tether. This technology exists. We believe there is some possibility, because this is so much radically cheaper and easier to deploy than a normal wind turbine that it may have an important part to play in the future of world energy production. That’s the technology story.”

Of the Google X project, generally, Teller said: “I have this incredible collection of Peter Pans with PhDs all kind of running amok, who are very productive in a sort of loosely organised way. But if you hold on too tight and turn it into something organised the magic will leave the building.”

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Can Wind Turbines Withstand E5 Tornadoes?

SustainableBusiness.com News

Did you ever wonder how wind turbines would withstand extreme weather events like tornadoes and hurricanes?

When the widest tornado ever measured on Earth flattened parts of Oklahoma this month that was a good time to find out. It was rated E5 - the most severe possible - and only the eighth of this magnitude since 1950 in the tornado-prone state.

Two smallish wind turbines, which were being used for educational purposes at Canadian Valley Technology Center (CVTC) took a direct hit from the 295 per hour winds.

The 85- and 126-foot turbines were fully functional afterwards and there was no visible damage.



Mihelic in an AWEA blog.

Stories on the Internet about the turbine 'flying off a tower and into the daycare center' or destroying it are unfortunate and baseless," says CVTC.

In short, this incident had nothing to do with an operating wind farm or wind turbine failure, and given that the size and power of the storm were enough to level commercial buildings and toss tractor trailers like toys, it's not surprising that it could move a turbine blade that was lying on the ground, concludes Mihelic.

In fact, wind energy hit a record in Southern California during a severe storm. Although nowhere near tornado level, wind gusts were more than 70 miles per hour. Trees and power lines came down, but the turbines kept turning in the desert.

The same was true during Hurricane Irene, the category 1 hurricane with wind gusts of 86 miles per hour. Wind farms from Maine to Delaware survived without problems. They would have kept on operating had they not been disconnected from the grid before the storm hit.

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Obama to unveil first-ever US climate change strategy

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

Barack Obama is due to map out America's first climate change strategy on Tuesday, cutting greenhouse gas emissions from power plants, shoring up coastlines against flooding and sea level rise, and helping advance an international climate deal, White House officials said.

The much-anticipated speech, due at Georgetown University on Tuesday afternoon, will for the first time set out a course of actions designed to reduce the emissions that cause climate change, as well as protect Americans from its worst consequences. They offer the first clear view of how Obama intends to make good on his sweeping promises to act on climate change in his second term.

Administration officials, briefing reporters ahead of the speech, said Obama would reiterate his commitment to cutting America's greenhouse gas emissions 17% from 2005 levels by the end of the decade. The president would use his executive authority to initiate a



Barack Obama will be using his executive authority for the proposals, meaning they would not need approval from Congress. Photograph: Timur Emek/Getty Images

number of "steady and responsible steps" in order to meet that target.

There was no mention of putting a price on carbon dioxide emissions. White House officials have flatly rejected a "carbon tax", and there was no indication whether Obama would support a version of a carbon tax now pending in the Senate.

Officials also made repeated references to "homegrown energy" and Obama's "all of the above" energy approach, suggesting a continued place for natural gas and fracking in the president's climate strategy.

The most significant element of Tuesday's speech is a commitment from Obama to direct the Environmental Protection Agency to draw up new regulations limiting emissions from power plants – the single biggest source of carbon pollution.

"The president will be issuing a presidential memorandum directing the EPA to start the important work they are going to do, not only on new but existing coal plants as well," an official said. "The point here is that we are beginning the process."

Obama will also propose new energy efficiency standards for buildings and appliances by the end of the decade, as well as an expansion of solar and wind energy projects on public lands, the officials said. The president would also announce \$8bn in loan guarantees for carbon capture projects and other technologies.

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Pakistan can expect worse heatwaves to come, meteorologists warn

By John Vidal and Razeshta Sethna, for *guardian.co.uk* on

Near-record temperatures in Pakistan have claimed hundreds of lives and devastated crops in the third major heatwave in four years. But as temperatures on Friday dipped to under 38C (100F), signalling the end of nearly four weeks of blistering heat, leading meteorologists warned that the country could expect longer, more intense and more frequent events in future.

Qamar-uz-Zaman Chaudhry, a vice-president of the World Meteorological Organisation (WMO) and former director of Pakistan's Met Office, said the recent extreme summer temperatures that are commonly followed by massive floods could largely be attributed to climatic warming. "If we look at the frequency and the trend of the extreme weather events impacting Pakistan then it is easy to find its link with climate change," he said.



The recent extreme summer temperatures which are commonly followed by massive floods could largely be attributed to climatic warming, say experts.

Photograph: Rahat Dar/EPA

Chaudhry, who wrote Pakistan's climate change policy, authored a report in 2013 that showed the number of heatwaves in Pakistan had increased from 1980 to 2009 and that average temperature in the Indus delta was steadily rising.

In 2010, the May temperature in Mohenjo-daro, a semi-ruined city in Sindh province, reached 53.5C (128F), the fourth highest temperature ever recorded in the world and the highest ever in Asia.

Babar Hussain, who runs the Pakistan Weather Portal, said: "In 2013 the maximum was 51C/52C. The heatwave started on 12 May in Sindh province and gripped the entire country by 15 May. It lasted, with only a minor break, until 10 June. In that time, it reached 51/52C in Larkana, [a city of 2 million people in southern Sindh province] while Lahore, Punjab province's capital of about 15 million population, recorded 47C on 23 May, its hottest temperature since 1954."

The effect of the heatwaves on human life has been devastating. Newspapers in Pakistan have reported hundreds of deaths because of the heat since early May, but no official numbers have been released. "With the coming of the monsoon rains this year, we have already begun to see an increase in cases of diarrhoea. This is because of contaminated drinking water," said Isaac Chikwanha, medical co-ordinator for Médecins Sans Frontières in Pakistan. "Heat strokes and dehydration are common among children and adults before the monsoon season when the temperature rises."

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United Airlines Will Fly On Biofuels From Los Angeles Hub

SustainableBusiness.com News

In a historic milestone for aviation, United Airlines signed a purchase agreement to buy 15 million gallons of biofuel for its flights out of its Los Angeles hub (LAX).

Most importantly, the price for the biofuel is competitive with traditional jet fuels.

Fuel is the biggest cost for airlines, consuming about a third of total expenses. Since they burn thousands of gallons on just one trip, they are extremely sensitive to even the smallest price difference.

With the order, Seattle-based AltAir Fuels will be able to retrofit an existing petroleum refinery near Los Angeles to a 30 million gallon capacity advanced biofuel refinery that makes jet fuels. It will re-tool idle equipment using Honeywell's Green Jet process to make biofuels.

The feedstock for the biofuels will be non-edible oils like camelina and agricultural wastes. Camelina doesn't compete with food crops, but a GMO version is under development to capture more carbon and for higher yields:

United Airlines, which has been a strategic partner for Altair since 2009, will buy the fuel over three years.

"We cannot overestimate how important this milestone is for the commercialization of sustainable aviation biofuels, says Tom Todaro, CEO of AltAir.

The beauty of biofuel-based jet fuel is that it is "drop-in" fuel, which means no modifications are needed in airline engines to accommodate the fuel. It provides the same performance as conventional, petroleum-based fuel, yet it cuts greenhouse gas emissions by at least half over its lifecycle.

"This refinery is important for two timely and significant reasons. First, the industry is delivering on the promise of commercial production of advanced biofuels that move beyond additives, like ethanol and biodiesel, to drop-in, replacement low-carbon fuels. Second, this project demonstrates the practical efficiencies these fuels allow by fully integrating into an operating petroleum refinery," notes Bryan Sherbacow, AltAir's President.

United Airlines has also tested biofuels made from algae, jatropha and synthetic fuel made from natural gas.

In November 2011, United operated the first US commercial flight powered by advanced biofuels from Houston to Chicago. Wouldn't you love to have been one of those passengers?

United Airlines is a signatory to the Sustainable Aviation Fuel Users Group, whose members consume about a third of commercial aviation fuel. Members have signed pledges to pursue the advancement of drop-in biofuels that achieve sustainability criteria, work with leading organizations to achieve biofuel certification standards and take actions to enable commercial use of aviation biofuels.

"The potential for biofuel to contribute to our climate change strategy could be quite significant once issues of supply and cost are addressed," says Ed Bastian, President of Delta Air Lines.

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EU's olive oil controversy reveals lack of concern for sustainability

By Guardian sustainable business

Moves to ban olive oil jugs in restaurants have been ridiculed but beyond the bureaucracy lies a serious environmental and sustainability issue. The latest European Commission controversy arose from an attempt to impose Europe-wide regulations on how olive oil is served in restaurants.



The EU's attempt to ban olive oil jugs from restaurants reveals a lack of consideration for sustainability. Photograph: Joop Greypink/Getty

Apart from what this all says about the EU, what does it tell us about "sustainable business"?

The idea of this regulation was that olive oil could no longer be served in restaurants in refillable bottles. Rather it would be served in single use containers that would be discarded after use. The regulation was proposed and pushed by the olive oil producers in the three main producer countries – Spain, Italy and Greece.

The producers introduced two arguments: (i) consumers in restaurants deserve to know which olive oil they are being served and (ii) according to Juan Corbalán, lobbyist for the Spanish olive oil producers, "It's not safe" for bottles to be used again and again.

Both arguments are highly questionable. However, what has received less attention has been the environmental cost and sustainability impact of having olive oil individually packaged in disposable containers. First of all, the proportion of olive oil going to waste would increase dramatically. Secondly there would be a spectacular increase in the amount of packaging material. The European Commission has prided itself on its environmental credentials so it is unclear why it would conceive regulations such as these that have a significant environmental cost for consumer benefits which are, at best, minor or questionable.

From the producers' perspective, such a regulation has clear benefits. Increased wastage of olive oil clearly increases producers' sales potential. Margins are also likely to be higher on individually packaged oil containers than on the sort of bulk containers that many restaurants currently use.

And herein lies the rub and the major challenge for building a sustainable business. As long as increased consumption – and increased waste – continue to be profitable routes for most businesses, all other attempts at sustainability will amount to little more than window dressing.

There are many models that one can think of where businesses could make money in ways other than relying on continuous consumption or waste. However, they require a fundamental re-think and re-engineering of whole business models. Few executive teams seem to have either the appetite or the courage to embark on such a radical re-think. Until that happens we will continue to get companies and industries pushing for regulation that increases waste and unsustainable practices while trying to dress them up in questionable arguments.

The EU olive oil plan has been shelved, for now. Sadly, it will likely re-appear on some quiet Friday afternoon. Businesses that push these sorts of wasteful ways of growing their business can have no credibility as sustainable businesses no matter how much "eco" and "organic" labels they add to their products and packaging.

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Historic Day in China: Cap-and-Trade Begins

SustainableBusiness.com News

On Tuesday, China made history with the launch of its first pilot cap-and-trade program in the city of Shenzhen.

It didn't start with a bang, but that's to be expected.

Although the program requires 635 companies to participate, which are responsible for about 40% of Shenzhen's emissions, the number that did was embarrassingly small - there were just 8 transactions.

China's biggest oil company, PetroChina, and Hanergy Holding Group each bought 10,000 carbon permits from utility Shenzhen Energy Group, which had extra allowances. Shenzhen City Bao'an Water Services and five undisclosed individuals also bought permits, reports *Bloomberg*.

Since so few participating, the price for carbon permits was also very low at about \$4.90 per metric ton. That's even less than the rock bottom prices at Europe's exchange by about 20%.

"The meager volume and pre-approved price level of today's trades is likely to characterize the initial stages of all of China's seven pilots," says Richard Chatterton of New Energy Finance.

When critics referenced Europe's longstanding difficulties with its program, Xie Zhenhua, who is in charge of China's climate policies said, "This will not deter China. Addressing longstanding inefficiencies and environmental issues are now a 'domestic requirement' and don't depend on other nations, or even on the state of the economy." How Shenzhen's program will function is still being worked out, and that's the point of the program. How they will entice all the companies to participate without hurting their bottom line is a dilemma right now.

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Climate change is happening but we can meet the challenge

By Sarah van Gelder, for guardian.co.uk

"The level of carbon dioxide in the atmosphere just hit 400ppm," I told Alex, my 23-year-old son, as we were catching up on news.

"So that's it, huh?" he asked.

I couldn't think what to say. Alex had just returned from college, a new graduate, ready to start his life as an adult. Like many members of his age group, Alex knows that 350ppm is the threshold for safe levels of carbon in the atmosphere. Pass that level and, climate scientists tell us, things get dicey: soils dry out, damaging food production. There is more frequent and more intense flooding, coastlines get inundated, species go extinct. Farming, which relies on predictable weather patterns, is disrupted, and dry land farming areas turn to desert. Forests die from new infestations and drought, and become more prone to monster fires.



Demonstrators in San Francisco rally against the Keystone XL oil pipeline. Photograph: Stephen Lam/Reuters

Young people like Alex are coming of age in a world that's changing much faster than was predicted just a few years ago. Already, scenes of wildfires, floods, drought, and storms border on apocalyptic. And so far, temperatures have risen less than one degree centigrade.

So what does a young person do when confronted with a global climate crisis? What does anyone do?

Based on a roundtable discussion with young leaders and informal conversations with others of all ages, I've come to believe that these three steps are essential:

First, let this reality sink in. This is not the future we thought we would have. Young people, especially, have the right to be disappointed, angry, and fearful. It will take courage to face this new normal, especially when so many others remain disconnected from what's happening. By being mindful of your own emotions, you can experience fear or grief without being overwhelmed by those feelings. And by remaining alert to the way the climate crisis may show up in your life, you can be better prepared and more resilient.

There's controversy among some environmental leaders about whether to downplay the dangers for fear of frightening people or fostering nihilism. But if we are counting on the unique human genius for creative solutions, we need to be honest about the task at hand, and the consequences of inaction.

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Electric Cars Bring Back Good Ole Days: \$1 for a Gallon of Gas

SustainableBusiness.com News

Remember the days when a gallon of gas cost \$1 or less?

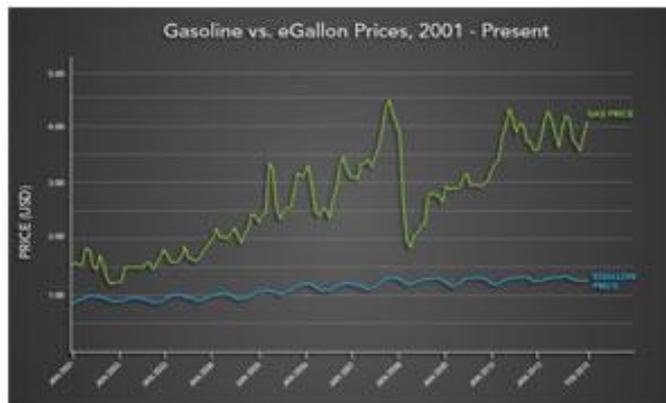
While those days are gone for cars that run on petroleum, people that drive electric cars are enjoying the good 'ole days. The national average for an eGallon is \$1.14 - the amount of electricity that equals a gallon of gas in terms of driving range. That's three times less than it costs to keep a gas-driving car going.

On the Department of Energy's new eGallon website, you can quickly compare what it costs to charge an electric car vs. driving on gasoline.

"Consumers can see gasoline prices posted at the corner gas station, but are left in the dark on the cost of fueling an electric vehicle. The eGallon will bring greater transparency to vehicle operating costs, and help drivers figure out how much they might save on fuel by choosing an electric vehicle. It also shows the low and steady price of fueling with electricity," says Energy Secretary Ernest Moniz. "Not only can electric vehicles save drivers on fuel and reduce our dependence on oil, they also represent an opportunity for America to lead in a growing, global manufacturing industry."

If you check the eGallon price for your state and compare it to the price of gasoline, you'll notice that over time, eGallon prices are far more stable and predictable than gasoline prices. That's because eGallon prices depend on electricity rates, which are historically much more stable than gasoline prices. Gas prices vary based on the global demand for oil, which is volatile and often influenced by unpredictable international events.

The green line represents gas prices over the past decade; the blue line shows eGallon prices:



Still, all the "average" prices in the world leave out one big variable - how you personally drive a car and under what kinds of conditions.

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How nanotechnology could make car catalysts more sustainable

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



Car exhaust catalysts have helped reduce emissions, but the catalysts themselves are far from sustainable. Photograph: Alexandra Beier/REUTERS

Last month, the Supreme Court ruled that the UK government had failed in its legal duty to protect people from the harmful effects of air pollution. Apart from incurring European fines, this could mean British cities will have to restrict cars and limit the entry of heavy goods vehicles to reduce air pollution.

Car manufacturers have been developing alternative, less polluting engine designs over the past few years. But although electric cars are improving all the time, the combustion engine remains the dominant technology – albeit in more efficient and less polluting versions than its predecessors.

Emissions have been reduced in part by fitting three-way catalysts. These were introduced as a result of the US Federal Clean Air Act – a response to increasingly poor air quality in Los Angeles. In the UK, they were first fit on petrol-fuelled vehicles when four-star fuel, which contained now-banned tetraethyl lead, stopped being sold. Since 2005, more than 90% of all new petrol-fuelled cars sold worldwide have been fitted with them.

But although three-way catalysts efficiently reduce carbon monoxide, non-methane hydrocarbons (NMHC) and NOx emissions, they are not entirely sustainable products. They contain significant amounts of platinum group metals (PGMs) – platinum, palladium and rhodium – which mostly come from mines in Russia and South Africa; rare earth metals (REMs), most of which are mined in China, and can be hard to get hold of due to Chinese export bans; and zirconium oxide.

And despite the EU's End of Life Vehicles directive, which was introduced in 2000 to reduce waste from scrapping passenger cars or light commercial vehicles by increasing material and component re-use, recycling and recovery – recycling rates of the metals in these catalysts are low, less than 35%.

So it seems timely that as part of the Technology Strategy Board's (TSB) New Design for the Circular Economy (NDCE) project, called the Great Recovery, one of the SME participants, NewCatCo, based just outside Henley-on-Thames, is looking to improve the sustainability of three-way catalysts.

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Hotels Come Together on Carbon Footprint

SustainableBusiness.com News

These days, many corporations choose hotels for their events based partially on what their carbon footprint will be.

When they send RFPs to hotel companies, they include questions on carbon emissions. In addition to helping them choose venues,



corporations also use that information as part of measuring their own carbon footprint.

But until now it has been a challenge to compare hotels because they all measure their carbon footprint differently. Therefore, 23 global hotel companies put their competition aside to develop a standard way to measure this - the Hotel Carbon Measurement Initiative.

With technical expertise from KPMG, a working group of the International Tourism Partnership, the World Travel & Tourism Council and the 23 hospitality companies developed the methodology. In addition to measuring carbon emissions the same way, they also developed a common language to report on them.

Over 15,000 hotels around the world have adopted the methodology so far. It is robust enough to meet global carbon reporting standards and practical enough for any hotel to implement, from huge casinos to small bed and breakfasts.

Testing by some 50 hotels shows it takes about two hours to complete from easily available data like energy bills and suppliers. After being entered into a spreadsheet, the hotel can analyze its carbon footprint for guestrooms and meeting spaces during a specified year, per night and per guest.

"The Hotel Carbon Measurement Initiative is a fantastic example of the world's largest hotels putting their competitive differences to one side to work together in the interests of the industry overall. I hope more hotels will sign-up to use what is rapidly becoming a new industry standard," says David Scowsill, World Travel & Tourism Council CEO.

80% of Fortune 500 companies now participate in the Carbon Disclosure Project, which commits them to driving down greenhouse gas emissions and water use. In 2008, just 72 Fortune 500 companies reported business travel emissions, but that number has since risen to 203, says George Favaloro, managing director of PwC.

"Companies want to do business with companies that have the same mentality. It is your biggest and most sophisticated customers who care about this," he said.

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Google's Next Idea: Balloons in the Stratosphere Bring Internet Everywhere

SustainableBusiness.com News

These days when you see something strange flying overhead, you might wonder if it's a drone.

But in this case, it's a "loon," and it belongs to Google, who thinks the world needs the Internet absolutely everywhere. And you probably won't see it flying because it will be in the stratosphere, where it can avoid airplanes and bad weather.

How do you bring Internet access to remote areas of the world where coverage doesn't exist?

Google thinks it has the answer with Project Loon and says:

"Two-thirds of the world's population does not yet have Internet access. Project Loon is a network of balloons traveling on the edge of space, designed to connect people in rural and remote areas, help fill coverage gaps, and bring people back online after disasters."

Balloons would literally float in the stratosphere, twice as high as airplanes and even the weather. Carried by wind and powered by solar and GPS, they can be steered up or down in altitude toward winds that are moving in the direction Google wants them to go. With a simple Internet antenna attached to a building, people will be able to connect to the balloon network.



Winds 20 kilometers above the Earth's surface are generally steady and slow-moving at 5-20 miles per hour, they say. Software algorithms will determine where balloons need to go and coax them into a layer of wind that's moving in that direction. "By moving with the wind, the balloons can be arranged to form one large communications network." A signal

will bounce from balloon to balloon, then to the global Internet back on Earth.

The balloon is carefully designed to deal with challenging conditions in the stratosphere, like air pressure that's 1% of that at sea level, temperatures of -50°C, and a thinner atmosphere that doesn't offer much protection from the sun's rays.

A box of electronics is carried by the balloon which contains GPS, sensors, electronics and instruments that monitor the weather. 100 watts of solar power the electronics and keep an on-board battery charged for four hours of use at night.

On June 14, Google's first balloon launched from New Zealand and since then 30 balloons have been released. These test flight will be used to refine the technology.



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Light bulb moment: redesigning LEDs for recyclability

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

Light bulbs are among those everyday household and workplace products that seem so inconsequential yet are vital



A new project seeks to redesign LED bulbs, which contain rare metals, to make them easier to recycle. Photograph: Mark Lennihan/AP

for commerce and leisure. They are easy to replace and relatively cheap to buy.

Over the past few years, they have undergone a radical redesign. We have moved from the simple, yet inefficient incandescent light bulbs (as of August last year, these have been banned from sale in the EU) to low energy bulbs and, increasingly, to more expensive but more efficient and longer-lasting, light-emitting diode (LED) bulbs.

The challenge regarding the latter is how to recycle the component parts once they come to end of their operational life, namely reclaiming the "critical materials" – rare raw materials – used within the bulbs, such as gallium and indium.

"Light bulbs fall into that category of electrical product that are small enough for people to throw them away rather than recycle them," says Rich Gilbert, co-founder of the Agency of Design (AoD).

"It feels like an inappropriate amount of effort to take them to your local refuse site or electronics drop-off points. That's not true of products such as washing machines, fridges or TVs, so we want to create a closed loop system that's smart enough to take account of people's behaviour."

The AoD recently received £25,000 from TSB to produce a feasibility study looking at how the LED light bulb (and future lighting technologies) could be redesigned to reduce dependency on critical materials and make it easier to recycle and reuse.

"We want to move away from the existing collective model of electronics recycling, which isn't very effective because so many products miss the system. Also, because there are so many different products those that do get collected can produce poor quality material outputs," says Gilbert.

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Mayor Bloomberg's Prescient Climate Plan for NYC Released

SustainableBusiness.com News

Yesterday, NYC Mayor Bloomberg presented a creative, thoughtful plan to protect the city from the inevitable impacts of climate change, setting a precedent for other cities to follow.

The \$20 billion plan, "A Stronger, More Resilient New York," includes a wide range of projects, from restoring dunes and wetlands to vegetating streets and rooftops to absorb water, and building levees, flood walls and other defenses. Bulkheads of stone would hold shorelines in place and protect against rising sea levels throughout the 520 miles of the city's waterfront.

It modifies the building code and allocates funds to flood-proof homes and other buildings like hospitals, upgrades to power and telecommunications infrastructure and sets standards for phone and Internet providers to get systems back online after major storms.

"Instead of colliding with ocean-facing homes, waves rushing toward our city will hit breakwaters and wetlands that will help sap their strength and break their momentum," says Bloomberg.

Some of his recommendations would literally reshape parts of the city, such as Lower Manhattan's waterfront and a potential new "Seaport City" on the East Side.

The plan avoids the really expensive, difficult stuff, like moving people out of coastal communities and building major projects like sea barriers with gates and levees.



Rather, it focuses on lower tech responses, many of which focus on returning nature to its role of protecting the land and combining uses of protective structures so they are also function as elevated parks and boardwalks, for example Staten Island, among the hardest hit areas, would get protection that doubles as a new boardwalk:

"This is urgent work, and it must begin now," says Bloomberg. "As bad as Sandy was, future storms could be even worse. In fact, because of rising temperatures and sea levels, even a storm that's not as large as Sandy could - down the road - be even more destructive... We have to look ahead and anticipate any and all future threats, not only from hurricanes but also from droughts, heavy downpours and heat waves - which may be longer, and more intense, in the years to come."

The plan is based on the recommendations of the New York City Panel on Climate Change, the task force that created PlaNYC in 2008 (the city's ambitious sustainability plan) and which he reconvened after Hurricane Sandy. During the past six months, they conducted a crash process that included input from state and federal agencies, community organizations and citizens.

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Sustainable urban design: lessons to be taken from slums

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



Police stand on the roof of a house at the start of the 'pacification' of the Rocinha slum in Rio de Janeiro in September 2012.
Photograph: Ricardo Moraes/Reuters

Alfredo Brillembourg is enthusing about Zurich's blue recycling bags. "They are an incredible thing," he says, his accent revealing his Venezuelan roots. The architect and former Columbia University professor, talks at a breathless pace, most sentences ending in exclamation marks. "Zurich is an incredible city for recycling! Not only that but they figured out how to finance the whole thing, everyone is obliged to throw their garbage out in one type of bag, the Zuri-bag. That bag is more expensive than a normal plastic bag, you get fined if you don't use it so the price of the bag includes the cost of collection and an incentive to reduce waste."

However, we're not here to talk about Zurich, the latest home for his urban design practice Urban Think Tank, jointly run with co-director **Hubert Klumpner**. Rather, our conversation regards slums. The informal settlements of the global south, off the map and off the grid, which could not be further removed from the Swiss financial capital. But the Zuri-bag offers an interesting contrast - recycling is something that slum inhabitants do naturally, without expensive schemes. And Brillembourg is one of a number of urbanists who believe we can learn a lot from slums.

After training in New York, Brillembourg returned to Caracas in the early 1990s and saw his city with fresh eyes. "I realised that the formal city couldn't survive without the informal city ... in the slums I discovered a whole new social geography ... I began rethinking my whole profession, unlearning what I had learned, and then re-focused on adaptation and reuse and using scarcity as a resource."

It became his life work to not only improve the conditions within slums, but to highlight the aspects that function better than the formal city around it. "Number one: slums are more resilient," he explains. "Why? Because they work in approximation, they work organically, they grow and adapt together. Number two: they produce less trash than the regular city. They use fewer resources. We are selling a westernised lifestyle to the world ... developer projects that have nothing to do with any reality."

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North Circular air pollution worst in London, emissions figures show

By John Vidal, for *The Guardian*

The North Circular, which carries more than 60,000 vehicles a day, has the worst traffic fumes of any road in London, according to official emissions figures released under freedom of information legislation.

Exhaust emissions data held by Transport for London show that a stretch of the road near Walthamstow ranked highest for four of the five most dangerous air pollutants, including benzene, nitrogen oxides (NOx) and fine particles of unburned carbon called PM10s and PM2.5s.



The exhaust emissions data covers 12 pollutants and 41,712 roads or stretches of road. Photograph: Alexander Ruesche/EPA

Four of the capital's five worst roads for air pollution pass through some of the poorest areas of east London, including the A13 in Tower Hamlets and the Dartford crossing (A282) near Thurrock.

Oxford Street and Piccadilly in central London ranked in the worst 15 roads, due to the large number of buses and taxis. In west London and the wealthy stockbroker belt the air is cleaner, with roads in Weybridge, East Molesey and Esher the cleanest of the 41,713 recorded last year.

Air pollution from traffic is linked to strokes, heart and respiratory diseases as well as some cancers and asthma. About 4,300 premature deaths a year are attributable to air pollution, according to studies for the London mayor, Boris Johnson.

Pollution watchdog groups accused the government of trying to conceal the seriousness of traffic pollution. According to the data, which does not include pollution from brakes and tyres, Marylebone Road in the city centre ranked 1,074th for NOx levels and 1,126th for particulate pollution, yet was consistently said by government to be the worst in the capital.

Jenny Jones, a Green party London Assembly member, said: "[The government] has been fooling the EC by understating how bad pollution is on many roads. Oxford Street and some local shopping areas appear to be more polluted than Marylebone Road, but the government seems reluctant to measure air pollution where it could be having the biggest impact on people's health."

The mayor's office said: "Strenuous efforts are being made to improve air quality in the capital. The mayor has tightened regulations on vehicles in the low emission zone, one of many changes that have resulted in emissions of dangerous particulates (PM10) falling by 15% and of oxides of nitrogen by 20%."

The data raises new questions for Johnson's plans for two new east London river crossings, because the figures show that any new bridges or tunnels built would increase the health risks in areas already among the most polluted in the capital.

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Matt Ridley's misguided climate change policy

By Dana Nuccitelli, for *guardian.co.uk*

In an opinion article for the London Times this past Monday, writer Matt Ridley discussed his interpretation of a new paper which suggests that the Earth's climate sensitivity may be a bit lower than current best estimates. Climate sensitivity refers to the average amount of warming that will occur at the Earth's surface in response to an increased greenhouse effect.

This new paper, led by Alexander Otto at the University of Oxford, suggested that the Earth's surface may warm a bit more slowly than climate models generally indicate. I roughly estimate that about 80% of the warming over the past century would be due to human carbon dioxide emissions, if the results of this study are correct. The good news is that Ridley has accepted the consensus amongst 97% of climate experts that humans are



Failing to slow climate change runs the risk of dangerous climate consequences. Photograph: Vinay Dithajohn/EPA

causing global warming and has moved on to examine the consequences.

One of the paper's authors, Myles Allen noted in *The Guardian* that the results of the study would make little difference with respect to long-term climate change.

"...our new findings mean that the changes we had previously expected between now and 2050 might take until 2065 to materialise instead."

If these results are correct, it would give us perhaps an additional decade or two to get our acts together and dramatically reduce our greenhouse gas emissions. From this news, Matt Ridley concludes that our climate policy is "hopelessly misguided." Those two words may indeed be applied to our climate policy, but Ridley has got it backwards. Or policy is misguided because we're not doing nearly enough to solve the problem.

He suggests, based on outdated references from Bjorn Lomborg, that the economic impacts of climate change are nothing to worry about. Cambridge economist Chris Hope tested this claim by running the climate sensitivity estimates from the new Otto paper in his economic assessment model, PAGE09. The model previously estimated the climate damage from greenhouse gas emissions at an average cost of approximately \$100 per tonne of carbon dioxide. The revised estimate resulted in an average cost of \$80 per tonne. Given that humans emit over 30 billion tonnes of carbon dioxide per year, that amounts to an annual increase in committed climate change damage of \$2.4 trillion, or over 3% of the global gross domestic product, quite contrary to Ridley's rosy perspective.

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Methane leaks could negate climate benefits of US natural gas boom: report

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

Methane leaks could undo the climate change benefits of America's natural gas boom, a new report said on Tuesday.

The report, produced by the Centre for Climate and Energy Solutions (C2ES), said America's shift from coal to gas had produced important climate gains.



There is also a growing body of evidence that the release of methane gas from well sites and pipelines is far higher than previously thought. Photograph: Daniel Acker/Getty Images

Carbon dioxide emissions fell last year to their lowest point since 1994, according to the Department of Energy. Energy-related carbon dioxide emissions were 12% below 2005 levels.

But the report said those reductions were not enough, on their own, to

escape the most catastrophic consequences of climate change.

They were also being offset by a sharp rise in methane, the most powerful greenhouse gas on a human timescale, that was being released into the atmosphere at well sites, compressor stations and along pipelines.

Methane is up to 105 times more potent than carbon dioxide as a greenhouse gas on a 20-year timescale.

"We have to deal with the methane emissions – whether they are large, which I think is unlikely, or whether they are small," said Eileen Claussen, president of C2ES, a Washington DC thinktank.

"Natural gas is a big benefit right now, and you can see it in our emissions. But it doesn't mean that left to our own natural devices it would be a great thing in 2050 because it wouldn't be – unless you did some form of carbon capture."

Claussen was also concerned that cheap natural gas would crowd out wind and solar energy.

America's gas boom has posed one of the most divisive in-house issues for environmental groups. The availability of cheap natural gas has retired a number of old, and highly polluting coal-fired powered plants. Natural gas emits half as much carbon dioxide as coal when used to make electricity.

Some 29% of America's electricity came from natural gas last year – compared to just 14% a decade ago, the report said. But it comes at a high cost to the local environment, because of the risks to air and water quality posed by hydraulic fracturing.

There is also a growing body of evidence that the release of methane gas from well sites and pipelines is far higher than previously thought.

Methane is a far more powerful gas than carbon dioxide, even though it does not persist in the atmosphere for a shorter period.

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Sustainable business has never been more important for corporate America

By Marc Gunther, for *guardian.co.uk*

400. 1,127. 354.

Those three numbers made news this spring. They point to the frustrations – and failures – of those of us inside and outside of corporate America who would like business to become more sustainable.

400: Atmospheric concentrations of CO2 passed the symbolic



The sustainable business agenda has never been more relevant for corporate America. We must cheer on the leaders, jeer at the laggards and ask business to step up to the challenges. Photograph: TIMOTHY A. CLARY/AFP/Getty Images

threshold of 400 parts per million. Big companies talk a good game on climate change, but global emissions keep rising. Climate remains the defining issue of our time; if business can't find a way to bring down its emissions, and ours, we're all in trouble.

1,127: The death toll in the collapse of the garment factory outside Dhaka, Bangladesh, making it the deadliest disaster in the industry's history. Years of extensive and expensive supply-chain monitoring by the biggest US clothing brands, including Nike, Gap and Walmart, however well-intentioned, have brought only modest improvements to labour standards in the world's poorest countries.

354: Last year, chief executives of the companies that make up the S&P500 Index received, on average \$12.3m in total compensation, according to the AFL-CIO. By contrast, rank-and-file workers averaged \$34,645. That means CEOs made 354 times more than their employees. This exacerbates inequality, undermines trust in business, and leads ordinary people across the political spectrum to believe that the system is tilted in favour of the rich and powerful, and against them. You know what? They're right.

And yet.

The sustainable business agenda has never been more relevant. And the opportunities for companies that take an expansive view of their role in the world have never been greater.

Smart companies recognise that these big issues – climate change, global poverty and income inequality in the US – cannot be left to governments or NGOs to solve. The US government is not merely grid-locked; it has shown itself to be incapable of effectively tackling tough, long-term problems. That needs to change, and soon.

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World's poorest will feel brunt of climate change, warns World Bank

By Fiona Harvey, for guardian.co.uk

Millions of people around the world are likely to be pushed back into poverty because climate change is undermining economic development in poor countries, the World Bank has warned.

Droughts, floods, heatwaves, sea level rises and fiercer storms are likely to accompany increasing global warming and will cause severe hardship in areas that are already poor or were emerging from poverty, the bank said in a report.

Food shortages will be among the first consequences within just two decades, along with damage to cities from fiercer storms and migration as people try to escape the effects.

In sub-Saharan Africa, increasing droughts and excessive heat are likely to mean that within about 20 years the staple crop maize will no longer thrive in about 40% of current farmland. In other parts of the region rising

temperatures will kill or degrade swaths of the savanna used to graze livestock, according to the report, Turn down the heat: climate extremes, regional impacts and the case for resilience.

In south-east Asia, events such as the devastating floods in Pakistan in 2010,



Pakistan says the 2010 floods has affected about 20 million people, many of whom lost homes or livelihoods. Photograph: Warrick Page/Getty Images for UN

which affected 20 million people, could become commonplace, while changes to the monsoon could bring severe hardship to Indian farmers.

Warming of at least 2C (36F) – regarded by scientists as the limit of safety beyond which changes to the climate are likely to become catastrophic and irreversible – is all but inevitable on current levels, and the efforts of governments are limited to trying to prevent temperature rises passing over this threshold. But many parts of the world are already experiencing severe challenges as a result of climate change, according to the World Bank, and this will intensify as temperatures rise.

Jim Yong Kim, the bank's president, warned that climate change should not be seen as a future problem that could be put off: "The scientists tell us that if the world warms by 2C – warming which may be reached in 20 to 30 years – that will cause widespread food shortages, unprecedented heatwaves, and more intense cyclones.

"In the near-term, climate change – which is already unfolding – could batter the slums even more and greatly harm the lives and hopes of individuals and families who have had little hand in raising the Earth's temperature."

The development bank is stepping up its funding for countries to adapt to the effects of climate change, and is calling for rich countries to make greater efforts at cutting greenhouse gas emissions.

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Trash to cash: Norway leads the way in turning waste into energy

By Helen Russell, for guardian.co.uk

For a country blessed with bountiful oil supplies, it may appear incongruous. But Norway is importing as much rubbish as it can get its hands on, in an effort to generate more energy by burning waste in vast incinerators.

The Eurotrash business may sound like an unpromising enterprise, but it's one that is increasingly profitable. The UK paid to send 45,000 tonnes of household waste from Bristol



A power plant near Bergen. The market in importing waste to burn in Norwegian incinerators is growing.

Photograph: Travel Ink/Getty Images/Gallo Images

and Leeds to Norway between October 2012 and April this year. "Waste has become a commodity," says Pål Spillum, head of waste recovery at the Climate and Pollution Agency in Norway. "There is a big European market for this, so much so that the Norwegians are accepting rubbish from other countries to feed the incinerator."

He refuses to divulge the sums involved, saying only that the market is growing. Spillum is "considering requests" to burn waste from other UK towns. "As a rule we generate about 50% of our income from the fee we receive to take the waste and about 50% from the sale of the energy we create," he says.

Norway is not alone. Waste to energy has become a preferred method of rubbish disposal in the EU, and there are now 420 plants in Europe equipped to provide heat and electricity to more than 20 million people. Germany ranks top in terms of importing rubbish, ahead of Sweden, Belgium and the Netherlands. But it's Norway that boasts the largest share of waste to energy in district heat production, according to Danish government-funded State of Green.

Oslo's waste incinerator was built with extra capacity to cater for future growth. "With more and more countries in Europe moving away from using landfill, we assume that there will be growth in waste to energy," says Christoffer Back Vestli, communications adviser for the Oslo municipality. "At the moment, the city of Oslo can take 410,000 tonnes of waste a year and we import 45,000 tonnes from the UK. Europe as a whole currently dumps 150m tonnes of waste in landfills every year, so there is clearly great potential in using waste for energy."

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Why Greenland's darkening ice has become a hot topic in climate science

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

Last July, a record melting occurred on the Greenland ice sheet. Even in



Climate scientist Jason Box during an expedition in Greenland in July 2008. Photograph: Byrd Polar Research Center

some of the highest and coldest areas, field parties observed rainfall with air temperatures several degrees above the freezing point. A month before, it was as though Greenland expert Jason Box had a crystal ball;

he predicted this complete surface melting in a scientific publication. Box's research then got broader public visibility after climate activist and writer Bill McKibben covered it in *Rolling Stone* magazine.

The basic premise of Box's study was that observations reveal a progressive darkening of Greenland ice. Darkening causes the white snow surface to absorb more sunlight which in turn increases melting. Given that this process is likely to continue, the impact on Greenland melt, and subsequent sea level rise, will be profound.

There are several mechanisms that are known to darken arctic ice, including desert dust, pollen, soot from natural forest fires, and human biomass burning for land clearing and domestic use. Industrial, shipping, and aircraft pollution also play a role. Some of these effects are increasing. As climate change accelerates, more areas are being burned by wildfires each year. Box wondered how much increasing wildfires with resulting soot landing on the northern ice might amplify what scientists call a "positive feedback" – a self-reinforcing cycle – increasing Greenland melting. The cycle starts with initial warming, leading to more fires, more soot, and in turn more warming and more melt. The feedback is important, particularly in polar regions where observed warming is twice the rate of more southerly locations around the globe. Box calculates this effect has doubled Greenland surface melting since year 2000.

The topic has become hot among ice experts as new observations of ice melt continue to outstrip projections from just a few years ago. Arctic sea ice, another key measure of global heating, is now 60 years ahead of worst-case projections from the last report by the Intergovernmental Panel on Climate Change in 2007. Arctic snow cover on land has also been declining more rapidly than projected, even faster than sea ice. While mass loss of the enormous Greenland ice sheet is difficult to measure, satellite data indicate it has doubled in the last decade. If this acceleration continues, sea level rise could be even higher this century than the 1 or 2 meters that mainstream scientists now project – possibly much higher. Despite a recent study that projected Greenland outflow glaciers to slow, surface melting has increased faster than ice flow. The albedo feedback is a critical piece of physics that enables surface melting to continue dominating the loss.

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Transformational Boost Comes From China On Climate Change

SustainableBusiness.com News

In what the UK's *Independent* calls a "transformational boost," China is preparing to set an absolute, can't-go-above cap on greenhouse gas emissions.

Not immediately, but by 2016.

And although the government hasn't divulged what that cap will be, the fact that they are moving in that direction - even as the US has not - is quite significant.

The main barrier to achieving an international climate change treaty has been the battle between the US and China over "who goes first." The US wouldn't make a commitment unless China did and China believed that was unfair because it's a "developing country" and should be allowed to grow just as the US did for so many decades.

If China sets a cap it will do what the US should have done years ago - show leadership on the most critical issue of our time.

A couple of years ago, China superseded the US as the world's biggest greenhouse gas emitter. It now produces 25% of all emissions, while the US accounts for 17.6%.

"This is very exciting news," Lord Stern, chair of the Grantham Research Institute on Climate Change at the London School of Economics, told *The Independent*. His 2006 report is regarded among the most influential documents on climate change.

"Such an important move should encourage all countries, and particularly the other large emitters such as the United States, to take stronger action on climate change. And it improves the prospects for a strong international treaty being agreed at the United Nations climate change summit in 2015," he says.

"This is a big shift in China's position and should unblock the standoff between the US and China in the global climate change negotiations. Without an agreement between these two major players it is hard to see how an agreement can be reached in 2015," Doug Parr, chief scientist for Greenpeace, told *The Independent*.

Last year, new Chinese leadership began talking about creating an 'ecological civilization,' meaning they recognize the problems they are creating by sacrificing people's health and the environment for economic growth.

China's powerful National Development and Reform Commission agency, which is responsible for planning social and economic development, proposed the cap. The agency also says it expects greenhouse emissions in China to peak in 2025, five years earlier than its previous estimate, reports *The Independent*.

So far, China has only agreed to reduce the carbon intensity of its economy - 45% by 2020 (from 2005 levels). It has initiated cap-and-trade pilot programs in preparation for a national roll-out in 2015 and is implementing a carbon tax. It also plans to raise solar capacity to 35 GW by that year (five times US levels in 2012).

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Number of planes to double in next two decades, Boeing forecasts

By Gwyn Topham, for *The Guardian*



Boeing says blended winglets – where the wingtip sweeps upwards, reducing drag – have saved more than 3bn gallons of fuel. Photograph: David McNew/Getty Images

Boeing forecast there would be demand for more than 35,000 new planes worth \$4.8tn (£3.1tn) over the next 20 years, with airlines keen to replace fuel-hungry older models to cope with high oil prices.

By 2032 the global fleet will top 40,000, it said, as passenger and cargo traffic grow by 5% a year.

Randy Tinseth, Boeing's vice president of marketing, said the pressure on airlines from high fuel costs meant efficiency and cheap operational costs were the biggest factor in sales: "The contribution of fuel to the cost of flying planes has doubled. As a result, we see customers looking foremost at efficiency – in fuel, but also in maintenance and labour, the second highest cost contributors."

He said one new design feature, blended winglets – where the wingtip sweeps upwards, reducing drag – had already saved more than 3bn gallons of fuel.

Noting that passenger journeys were expected to pass 3bn this year, Tinseth said: "Air travel has become an integral part of the social and economic fabric of the world. "The centre of aviation will move from the US to Asia, and Asia Pacific will be by far the largest market place."

He said economic growth was easily the biggest factor in aircraft sales, but that new technology and lower fares would also stoke demand.

Boeing said single-aisle planes would make up more than 60% of anticipated demand – high enough, he said, for a third manufacturer to edge into the Boeing-Airbus duopoly.

It predicted much higher demand for small and medium-sized wide-bodied planes, carrying typically 200-400 passengers – its 777s or 787s, or the Airbus A330 or A350 – than for very large planes. Tinseth said sales of its great rival Airbus's A380 were far below predictions.

Airbus forecast almost 80% more large wide-bodied planes – 780 to 1,300 – would be sold by 2031 in its own outlook last September. A spokesman said that while sales of Boeing's large plane, the 747, were drying up, it expected demand for the A380 to be sustained especially on high-volume routes such as across the Atlantic.

Tinseth, meanwhile, said he believed the Boeing 787 or Dreamliner's troubles would soon be forgotten: "I believe once we have continued successful operation, I don't think people will hesitate to get back on."

The number of commercial aircraft in the world will double in the next two decades, with the Asia-Pacific region becoming the focal point of global aviation, according to Boeing.

The aircraft manufacturer

UK recycling industry has potential to create 10,000 new jobs, report finds

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

Pursuing recycling and more efficient resource use could lead to a UK industry with net exports of more than £20bn and 10,000 new jobs in the recycling sector by 2020, according to a new report.

Businesses outside the sector could also reduce their costs by £50bn a year on savings in raw materials and energy, says the report, *Going for Growth*, published on Tuesday by the Environmental Services Association (ESA) and the government-funded Waste and Resources Action Programme (Wrap).

If activities such as the research and development of new design techniques, that would minimise the need for recycling, and better ways to reuse materials are included, the opportunity could be for 50,000 new jobs and a £3bn boost to the UK's annual GDP.



From now to 2020, 395m tonnes of recyclable material will pass through the UK's waste management sector. Photograph: Robin Utrecht/AFP/Getty Images

The findings reflect the potential opened up by a "circular economy" – one in which used material is not regarded as waste but as a resource, to be reused first, as that is the most efficient option, then recycled as necessary. As raw material prices rise owing to increasing global competition for resources, the UK could reduce its reliance on key raw materials – including rare earths, used in windfarms and electronics – by as much as one-fifth by 2020.

An example of a product designed for easier reuse and recycling is the Google Nexus device. It can be easily disassembled for repair or to recover the valuable metal used in its construction, because it is screwed together, unlike the iPad, which is glued together.

ESA calculates that from now to 2020, 395m tonnes of recyclable material will pass through the UK's waste management sector. But on current rates, only about 255m tonnes will be recycled. If the remaining 140m tonnes was recycled, that could mean a £1.4bn boost to the economy.

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Mexico Unveils National Climate Change Strategy

SustainableBusiness.com News



Mexico's President Enrique Peña Nieto has unveiled a National Climate Change Strategy that he says will lead to "green growth" in the country.

The plan is focused on "eight axes of action" along with increasing

research, promoting environmental issues and international cooperation.

Also, the government is taking a big step forward on pricing - subsidies for electricity and water will gradually be removed so that prices reflect their real costs, including the environmental damage involved in their provision, Peña said.

And although vulnerable groups will receive support, the price for energy will be set based on life cycle analysis that includes greenhouse gas emissions.

Mexico ranks #11 in terms of greenhouse gas emissions.

The eight axes are:

- **FIRST.** Reduce vulnerability to climate change of Mexicans living at risk and strengthen their resilience.
- **SECOND.** Reduce the vulnerability of production systems and strategic infrastructure against weather contingencies.
- **THIRD.** Foster adaptability of ecosystems to the effects of global warming.
- **FOURTH.** Accelerate energy transition towards clean energy sources.
- **FIFTH.** Reduce power consumption intensity through efficiency and rationality schemes.
- **SIX.** Transition to sustainable city models, with intelligent mobility systems, integrated waste management and buildings with a low carbon footprint.
- **SEVEN.** Encourage better agricultural and forestry practices, with schemes for Reducing Emissions from Deforestation and Degradation (REDD Plus).
- **EIGHT.** Reduce "short life" pollutant emissions, such as black carbon and methane, to improve the health and welfare of Mexicans.

He also announced short term measures to support "Green Growth," such as regulations that cut carbon emissions in new cars and creating an Environmental Quality Commission for Metropolitan Areas.

Environmental damage is costing Mexico an astounding 7% of GDP, while barely .6% of GDP currently is generated from green technologies, the government says.

This new strategy builds on the previous President's National Climate Change Legislation, enacted last year. Among other important provisions, it sets a national goal of cutting emissions 50% below 2000 levels by 2050 and targets 35% of electricity from renewable energy by 2024. It set the stage for national carbon trading and includes goals for states to reverse the trend of deforestation.

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NASA's Sustainability Base Opens, LEED-Platinum

SustainableBusiness.com News

NASA's "Sustainability Base" is open for business, setting the bar for green federal buildings by exceeding LEED-Platinum and making use of the same closed loop processes used in space travel.

Designed by pre-eminent green architect Bill McDonough, known for cradle-to-cradle solutions, the new building is designed to showcase NASA's culture of innovation by adapting many of its technologies to building performance.

In addition to being a great place to work, the building is a test bed for how NASA's technologies can be applied to



improve building performance in general.

The 50,000 square-foot, 2-story building is at NASA's Ames Research Center in Moffett Field, California. "It is unlike any building ever created," they say. Using NASA innovations originally engineered for space travel and exploration, the lunar-shaped Sustainability Base is simultaneously a working office space, a showcase for NASA technology and an evolving exemplar for the future of buildings."

Oriented to take advantage of the sun's arc and prevailing winds from San Francisco Bay, the building is highly intelligent - it optimizes performance automatically in real time in response to changes in sunlight, temperature, wind, and occupancy.

That intelligence comes from the use of NASA technologies, originally developed for its Aviation Safety Program. The building has many zones with sensors that send real-time data to a central controller about the building's environment. The software then "considers" an optimal strategy given multiple performance goals and constraints.

It takes all these factors into account: weather forecasts, predicted heat load from the sun, estimates of body and laptop temperatures and even occupants' calendars to predict density numbers at meetings. With this information, the central controller predicts internal temperatures, and adjusts the heating and cooling systems for maximum comfort.

Designed to be "native to place," it has outdoor workspaces, views of nature, natural shading and daylighting and fresh air. The interior is made from non-toxic, recycled materials, such as reclaimed white oak flooring that comes from an old wind tunnel nearby.

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We haven't hit the global warming pause button

By Dana Nuccitelli, for *guardian.co.uk*

When you hear the term “global warming”, do you think of the warming of air temperatures at the Earth’s surface, or the warming of the planet as a whole?



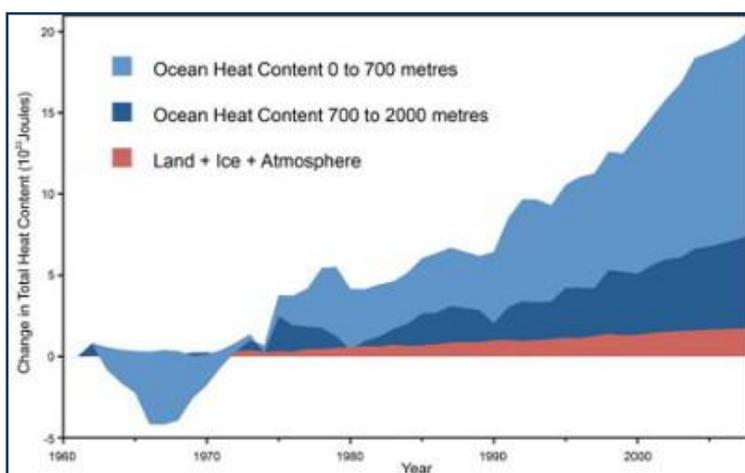
90 percent of global warming heats the oceans.

Photograph: Alamy

Only about 2 percent of the planet’s overall warming heats the atmosphere, so if we focus only on surface air temperatures, we miss 98 percent of the overall warming of the globe. About 90 percent of the warming of the planet is absorbed in heating the oceans. However, until the past few years, our measurements of ocean temperatures (especially of the deep oceans) were somewhat lacking. Our measurements of surface air temperatures were much more accurate, and so when people spoke of “global warming,” they tended to focus on air temperatures.

In the 1980s and 1990s when air temperatures were warming in step with the overall warming of the planet, that was fine. However, over the past decade, the warming of surface air temperatures has slowed. At the same time, the overall warming of the planet has continued, and if anything it has accelerated. This has been difficult to reconcile for those who previously focused on surface air temperatures – what do we say about “global warming” now?

The result is a spate of articles from the New York Times, Washington



Global heat accumulation et al. (2012)

Post, The New Republic, and Der Spiegel, all of which get most of the facts right (including noting the warming of the oceans), but that all begin from the premise that “global warming” has slowed. It would be more accurate to say that global surface air warming has slowed, but the overall warming of the Earth’s climate has sped up.

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The good, the bad and the ugly in the long-awaited UN development report

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

So, the wait is over. After five meetings, possibly 5,000 pages of submissions, and more than 500,000 people consulted, the high-level panel appointed by UN secretary general Ban Ki-moon to advise on a vision for development after the millennium development goals (MDGs) expire in 2015 has produced its report (pdf).

The good news: it’s clear, intellectually coherent, and moves on the debate about poverty and development without losing what’s good in the existing agenda. It offers a clear storyline and an indicative set of goals to provide an example of how this might all translate into a post-2015 agenda. What it



Looking ahead ... Justine Greening, Susilo Bambang Yudhoyono, Ban Ki-moon, and Florence Chenoweth in New York. Photograph: Stan Honda/AFP/Getty Images

doesn't do is spell out the big changes needed to get us there.

This is the first indication of where consensus might be found on some of the most politically difficult issues and provides some clues for where the post-2015 agenda might go next. So what's in and what's out?

In: ending poverty

The report is a big leap of ambition from the MDGs. It includes, but goes well beyond, the core MDG business of health, education and poverty, and encompasses infrastructure, property rights, governance, violence and personal safety, an end to discrimination, and gender equality. It suggests aiming for zero targets – such as no people living in poverty – combined with nationally defined rates of progress towards that end.

This is a step up that's well supported by various consultations – the My World survey, where governance is ranked third in importance, or the lessons from the Participate project. Most importantly, it echoes what poor people have been saying for years. There is, of course, the ever-present risk of a Christmas tree wishlist, but the panel have done a good job of combining clear goals with more complexity at the target level.

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Indian floods leave tens of thousands stranded in Uttarakhand state

By Maseeh Rahman, for *guardian.co.uk*

Tens of thousands of people, including pilgrims, tourists and local villagers, remained stranded on Thursday and an unknown number have been killed after torrential rains in the eastern Himalayas breached a glacier, flooded mountain rivers and triggered scores of landslides.

The horrific natural disaster, described by some as a "Himalayan tsunami", was triggered by excessively heavy rainfall of more than 220mm (8.6in) on Sunday in a region home to the headwaters of the river Ganges.

As army helicopters ferried survivors down to the plains for a second day on Thursday, the official death toll passed 150, but unofficial estimates put the number of dead in the thousands.



A pilgrim is helped by a villager along a path damaged by a landslide in the Himalayan state of Uttarakhand.

Photograph: Danish Siddiqui/Reuters

Floods and landslides are an annual occurrence in Uttarakhand state – where the disaster struck – but the loss of life is much larger than in previous years as the monsoon arrived in India a month early, well before more than 60,000 Hindu and Sikh pilgrims who had trekked to the Himalayan holy sites of Kedarnath and Hemkund had returned home.

According to the Hindu religious calendar, Tuesday marked the day on which the Ganges descended to earth and when the rush of pilgrims is at its peak at the ancient Shiva temple in Kedarnath, a steep nine mile (14km) trek from the nearest bus stop.

Just three miles further north across the Kedar Dome mountain peak lies the Charbari glacier. The rains appear to have breached this glacier, sending a huge torrent of ice, rock, mud and water across the mountain, engulfing Kedarnath town.

It is unclear how many pilgrims and priests died at Kedarnath, but the account of one survivor, Kalyan Singh Jadaun, a middle-aged shopkeeper from Rajasthan, suggests a heavy loss of life.

Jadaun and his wife had just emerged from a guest house at 6.30am on Monday to join a stream of pilgrims heading toward the temple when the debris began rushing in.

"We were walking the 50 metres to the temple when we saw a huge chunk of ice and rock breaking not far away, and heard commotion and shouting," he told the Indian Express.

"Local priests were telling people to run to high ground as the glacier broke up and a huge stream came rushing down the mountain. We ran back to our house. There was a mad scramble to climb the stairs to the third floor as everyone tried to reach as high as they could."

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Tata Solar Sees Over \$1 Billion Opportunity in India

SustainableBusiness.com News

Tata Power Solar Systems, a division of India's biggest company Tata Group, sees installing solar systems in India as a \$1.3 billion opportunity.

That's because it will cost more for commercial and industrial customers to get their electricity from the grid by 2016 than from their own solar systems.

"We're seeing a huge uptake as we get closer and closer to grid parity," CEO Ajay Goel told *Bloomberg*. "Corporate customers are coming to us to install solar on their rooftops or



land on the side of their factories because it can provide energy cheaper than from the grid."

Formerly a joint venture with oil company BP, the company has been manufacturing solar panels, but it needs to move beyond that because of the world glut caused by Chinese manufacturers.

So far, Tata has developed and installed solar systems for Indian divisions of Dell and IBM, among others. The payback period can be just a year if a company can depreciate the systems on taxes and four years if it can't. And the economics look even better if the cost of diesel is included to cope with daily blackouts, says Goel. Using diesel generators costs double that of solar.

Even Coal India - the world's largest coal mining company - says it will install solar across its operations to save on energy bills!

Solar is cheaper than grid-based electricity now in about 10% of India's states for hotels, shopping malls and other commercial enterprises that pay the highest rates (electricity rates differ depending on the type of business and its location). Rates have risen 15% since 2010, while solar electricity dropped 39%, according to Bloomberg New Energy Finance.

By 2016, solar will be cheaper than grid-based electricity in 60% of states and by 80% if government subsidies are included in the calculation, Goel told *Bloomberg*.

In 2009, India set a target of building 20 gigawatts (GW) of solar capacity by 2020, under its National Solar Mission, or 10% of electricity. For renewable energy, the target is 80 GW by 2020.

Last year, Tata Power, India's largest utility said it's giving up on new coal plants and focusing on renewable energy instead.

Ratan Tata, Chairman Emeritus of Tata Group is one of the leaders involved in launching The B Team, which wants to transform businesses into a "force for good," instead of focusing solely on profits.

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India's watered-down food bill won't really benefit its hungry millions

By Jayati Ghosh, for guardian.co.uk

No one can deny that food security – or rather the lack of it – is a crucial issue in India. Despite more than a decade of stellar GDP growth and rising per capita incomes, food consumption remains very low and highly unequal.

The government has not done a demographic health survey for years, but the most recent one (of 2005-06, pdf) showed appalling indicators: 46% of children under three were underweight; 33% of women and 28% of men had a body mass index below normal; 79% of children aged six months to 35 months had anaemia, as did 56% of married women aged 15-49 and 24% of married men; 58% of pregnant women had anaemia. Things were much worse in rural India, especially in Madhya Pradesh, Bihar and Jharkhand states, where the indicators were worse than for most sub-Saharan African countries.

Matters are likely to have got worse: these poor nutrition outcomes refer to the period before food prices rose significantly in India. Since 2006, food inflation has been much faster than general inflation, and the prices of basic foods have doubled or even tripled.



A farmer carries water to irrigate cucumber plants in Allahabad, India, March 2013. The government is failing to deliver on its hunger promises.
Photograph: Rajesh Kumar Singh/AP

This has been reflected in consumption, as the official survey data suggests an alarming picture of declining trends. Monthly per capita consumption of food grains has been declining since the early 1990s. In rural areas, the declines were as much as 15%. Average consumption of cereals fell from 13.4kg per month in 1993-94 to 11.35kg in 2009-10. The consumption of pulses (still the major source of protein) fell from 760g per month to 650g over the same period. In urban India, the declines in grain consumption were less steep but still notable: from 10.6kg to 9.7kg for monthly cereal consumption and from 960g to 870g per month for pulses.

It is not just per capita consumption of traditional grains like millet that have declined, but even "preferred" cereals like rice and wheat. Consumption of sugar also declined, although that of milk and oils increased slightly.

As a result, per capita calorie consumption has been falling, and the decline accelerated even in the high-growth 2000s. About 63% of India's population gets inadequate nutritional intake just in terms of calories, and there are large deficiencies of protein intake.

No wonder that the Congress party, the leading constituent of the United Progressive Alliance government, promised to ensure food security to all households as a major part of its election plank in the 2009 general elections, which was one of the reasons for its success.

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India's energy needs: an unmapped business opportunity

The UN has declared 2014 to 2024 as the decade of sustainable energy for all, and India has a chance to prove itself a leader

By Harish Hande, Guardian Professional

Basic energy lays the foundation for economic growth and quality of life. Mundane things like switching a light on or cooking without



Across India, thousands of homes are receiving their first light through small companies and aid programs that are bypassing the central electricity grid to deliver solar panels to the rural poor.
Photograph: Rafiq Maqbool/AP

worrying about harmful fumes are taken for granted by many but not by more than two billion people in the developing world. Energy poverty, as we define it, can be either the 1.6 billion people without electricity or the three billion using dirty fuels for cooking.

In India, more than half the population still has either unreliable or no access to electricity. Kerosene, known as a poor man's fuel, is still the only fuel source for many in terms of lighting or cooking. With little access to other solutions the poor are further encouraged to use kerosene through government subsidises.

Energy disparities on top of other existing divisions are widening the gap between the haves and the have-nots. This will slowly lead to social unsustainability, which will be more expensive than the financial goals being pursued as the sole means to development.

However, all is not lost. Sustainable energy can be delivered through an enterprise approach leading to a very holistic model that is socially, financially and environmentally viable.

The key is to look for localised solutions, different to those that have succeeded for the developed countries in the past. There must be a paradigm shift in thinking from the present models suited to societies with expendable incomes to business models that leverage non-expendable incomes with the aim of making the poor asset creators rather than plain consumers.

Take, for example, the Siddis of Karnataka. They are descendants from east Africa, brought to India as slaves by the Portuguese in the 18th and 19th centuries. Their average monthly income is around \$30, out of which \$3-4 is spent on kerosene and candles.

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ICSRD 2013 - International Conference on Sustainable Rural Development 2013

25th to 26th August 2013
Purwokerto, Central Java,
Indonesia

The International Conference on Sustainable Rural Development (ICSRD 2013) will be held on August 25-26, 2013 in Purwokerto, Central Java, Indonesia. The conference is being organized by Jenderal Soedirman University and DGHE Republic of Indonesia at Queen Garden Hotel, Purwokerto, Central Java, INDONESIA.

The International Conference on Sustainable Rural Development (ICSRD-2013) aims to bring together academics and professionals to share their ideas and recent findings on all aspects of sustainable rural development. The conference will discuss relevant research topics in order to provide a broad vision on sustainable development of agricultural sector as a vital part of the rural economy, with emphasis on food security, environmental conservation, resources and economics management, and alternate renewable energy sources. The conference participants are expected to bring back new ideas to enhance the sustainable rural development in their local areas, in their countries.

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Sustainable Enterprises of the Future September 2013

September 26-27, 2013
Pennsylvania,
USA

The Sustainable Enterprises of the Future is organizing its 5th annual conference on September 26-27, 2013 in Moon Township, Pennsylvania. The conference will bring scholars and practitioners interested in Sustainable Enterprises' role in the creation (destruction) of social profit (S□) together. The conference objective is to provide an international forum for the dissemination and exchange of scientific information in theoretical, generic and applied areas of: management, economics, marketing, accounting, finance, communication, industrial engineering.

The conference shall cover various important topics including Environmental Policy, Alternative Energy, Sustainabilities based on social enterprises, Entrepreneurship in sustainable enterprises, Biodiversity Issues, Business Governance and Corporate Social Responsibility, Energy and Waste Practices and Structure of Sustainable Organizations.

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Second International Conference on

Ecosystem conservation and sustainable development

3rd to 5th October 2013

Thiruvananthapuram, Kerala, India

ECOCASD 2013 is being organized jointly by the Department of Aquatic Biology and Fisheries, University of Kerala and Directorate of Environment & Climate Change, Govt. of Kerala, in association with Ambo University, Ethiopia and many other organizations. The focal theme of the conference is Climate Change, Sustainability of Aquatic Ecosystems and Food Security.

The deliberations in the Conference, besides contributing to the state of knowledge on the theme areas, would facilitate framing recommendations for the planners and policy makers to mainstream the principles of sustainable development for ecosystem conservation and for framing effective action plans to face climate change.

This Conference features motivating plenary lectures and key-note addresses by the distinguished academicians, public lectures by renowned environmentalists and paper/poster presentations by researchers.

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The 2nd Annual Pacific Rim Energy & Sustainability Conference

August 27 – 29, 2013

Hiroshima, Japan

The 2013 Pacific Rim Energy & Sustainability Conference will be held in Hiroshima, Japan: the City of Peace. The three-day conference will provide an interdisciplinary platform for academics, researchers, policymakers, entrepreneurs, students, and professionals. Under the theme of Integrating the Disciplines, the objectives of PRESCO 2013 are to exchange ideas, present research, debate issues facing sustainable energy as it intersects with the social, environmental, and economic aspects of the global sustainability paradigm. The focus of the conference is on the areas of Sustainable Energy, Sustainable Consumption, Resiliency and Policy needs.

There are imminent speakers like Dr. George W Crabtree, Dr. Paul Shrivastava, Dr. Yuji Ohya and Dr. Yasuaki Kohama, who are expected to give their deliberations in the conference

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The Times of India, Delhi dated May 27, 2013

Deadline gone, but sewage still flows into Neela Hauz

Pijal Bhattacharjee



FAR FROM RESTORED: DJB, which had to restore the water body by Feb, blamed the corporation

Neha Lalchandani | TNN

New Delhi: The court deadline for restoration of Neela Hauz expired on February 28 but civic agencies have not been able to stop the flow of sewage into the water body. In the last meeting, Delhi Jal Board (DJB) complained that a newly constructed municipal drain was flowing into its storm water drain, and the untreated sewage was entering the water body.

"The municipal corporation has been directed to divert this sewage to DJB's sewage treatment plant (STP) in Vasant Kunj. Till then water quality in the hauz cannot be improved. They have been told to finish the work as soon as possible,"

said a source.

Earlier, untreated sewage flowing into the water body was diverted by DJB to its Vasant Kunj STP. Sewage from the neighbouring Kishanagarh village meeting DJB's storm water drain was also diverted to the STP.

"We have stopped a large amount of waste from entering the water body. Now the municipal corporation has to manage its waste and DDA has to carry out greening work," said sources.

S D Singh, CEO of Delhi's parks and gardens society said DDA has been asked to develop Neela Hauz as an ecological zone. "We have discussed creation of a special bio-zone under which the hauz will be surrounded first

by species of water plants, followed by bank-specific greenery; dense forest and then a tree cover along the road. Pit digging for plantation will start in June and DDA has been asked to submit a detailed plan in the next six months," he said.

Residents of nearby areas who have been campaigning to save the water body say that so far DDA has managed to construct a wall around the water body and a parking lot for visitors.

"There was an S-bend that was meant to be demolished to merge the Neela Hauz with the neighbouring Sanjay Van but that has not happened. The water body is also not deep enough. We will meet the LG again," said a resident.

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

Heatwave more intense in NCR due to pollution

SUMMER SIZZLER

	Noida		Indirapuram		Palam		Safdarjung	
	Max	Min	Max	Min	Max	Min	Max	Min
23 May (Thu)	44.4	32.7	44.3	32.9	46.3	30.1	44.9	31.4
22 May (Wed)	44.1	31.3	43.8	29.6	46.7	29.6	45.1	30.3
21 May (Tue)	44	28.1	44.3	28.7	46.2	28.4	44.5	28
20 May (Mon)	NA	30.7	43.5	30.4	46.1	28.8	44.6	29.3
19 May (Sun)	42.9	26.9	42.3	27.9	45.2	28.6	43.2	25.9



Ayaskant Das | TNN

Noida: While Delhi continues to sizzle under the intense heatwave that has gripped the NCR region, Ghaziabad and Noida have been bearing the brunt of soaring temperatures. Data collected from Noida and Indirapuram shows that the air in these areas cools less after sundown compared to Delhi.

Meteorological experts say the difference between the daily maximum and minimum temperatures over the last few days has been lower in these two areas compared to Delhi and this is the reason why they are warmer.

According to the Indian Meteorological Department (IMD), the low difference between maximum and minimum temperatures has com-

pounded the effect of the prevailing heatwave conditions and caused discomfort to residents in Noida and Ghaziabad. Temperatures have been 4 degrees above normal in these areas for the past few days. "Temperatures of different localities are dependent on highly dynamic parameters. Excess pollutants in the air above Noida and Ghaziabad could be partly responsible for the low rate of cooling in these areas," said O P Singh, DDG (Meteorology), IMD.

Heat conditions are not felt very intensely if the minimum temperature falls significantly.

Data of temperatures recorded by the IMD for five days show that Palam and Safdarjung areas in Delhi recorded higher maximum

temperatures compared to Noida and Indirapuram. Minimum temperatures in Delhi were also lower over the same period when compared to these two cities.

Officials at the National Centre for Medium Range Weather Forecasting (NCMRWF) in Noida said that irrespective of whether the season was summer or winter, the weather tends to be uncomfortable and difficult to bear if the difference between maximum and minimum levels is not significant. "The same atmospheric condition seems to prevail throughout 24 hours if the difference is not high. A sustained feeling of the same hot or cold condition seems to persist without any respite," said a senior NCMRWF official.

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

PWD contractor stopped from choking trees

Neha Lalchandani | TNN

New Delhi: The public works department (PWD) is on a pavement tiling spree in Sheikh Sarai-I and has conscientiously left the mandatory space around trees. However, residents who looked closely found that the contractor had cemented right up to the tree base and covered it with sand to make it look like space had been left around the base. While the PWD official on site said work should be allowed to go on and they will remove tiles from the area subsequently, the forest department and Delhi Police had to step in to stop the work.

The incident was reported on May 25 when some residents and activist Aditya N Prasad inspected the freshly tiled footpath. "Initially it seemed like PWD had finally taken the high court and national green tribunal orders on cement-



The contractor cemented the tree base and covered it with sand

ing around trees seriously and had left the mandatory space around the tree base. When we looked closer, we saw that the contractor had cemented up to the base and covered a portion with sand. He also told us that leaving space

around trees was not mentioned in his contract with PWD," said Prasad, who is fighting a case in NGT against government agencies over tree tiling and cementing.

PWD officials, who were asked by residents to desist from tiling the pavement inside the colony on May 24, claimed the agency had undertaken a massive de-tiling exercise across the city and would eventually remove concrete in this case too. They, however, did not stop the work.

"The area junior engineer was informed verbally on May 24 that the current work was in direct contravention of the central guidelines dated July 21, 2000 for greening of urban areas and landscaping in Delhi, high court orders and directions dated March 13, 2002 of the Delhi chief minister. The next day, large scale damage to trees was discovered where the top soil has been re-

moved and four inch thick concrete was poured around the tree base," said Prasad. He said he will file a contempt petition against PWD in NGT on Monday.

A senior forest department official said as soon as he received a complaint, an officer was sent to inspect the site and found several violations. "The police was also there and together they managed to convince the contractor to stop work. A preliminary report has been filed and the forest department will investigate this issue thoroughly, especially to see if the error lies on the contractor's part or with PWD," said the official.

Sources said a large scale destruction of greens has already taken place on one side of the road. "Already approximately 30-40 trees have been damaged and more than 200 would be damaged further if PWD is allowed to carry on with the work," said a resident.

The Times of India, Delhi dated May 29, 2013

Air quality worst at Civil Lines

Area Recorded Highest Levels Of Ozone During Heatwave

Neha Lalchandani | TNN

New Delhi: The government might have hurried with the air pollution monitoring action plan had it known that its officials were breathing possibly the most polluted air in the city. The Civil Lines area has recorded the worst air quality levels in Delhi. The machine that monitors it is located next to Metcalfe House at Vikas Sadan-II which houses several government offices. During heatwave till Sunday, the area was recording extremely high levels of ozone, a byproduct of a reaction between sunlight and oxides of nitrogen.

Between May 22 and May 27, the eight hourly levels of ozone ranged from 107 to 219.66 mg/cu m at Civil Lines. The standard for eight hours is 100 mg/cu m. The levels recorded have exceeded the standard level. The peak record was 1.8 to 2.2 times higher than the standard. The peaks for most days even exceeded the 24 hour average level of 180 mg/cu m

The levels at the IGI Airport were 1.04 to 1.9 times higher than the standard. It is the second area where more than standard levels of ozone were recorded in the same period.

"Ozone is not directly emitted by any source. High levels of volatile organic compounds and oxides of nitrogen in the air react in

HEALTH PERIL

Ozone levels across Delhi between 6pm on Monday and 5.30pm on Tuesday (standard: 180 mg/cu m)

Area	Low	High
Civil Lines	90.97	361.99
IGI Airport	81.96	198.14
Punjabi Bagh	-	170.8
RK Puram	-	121.3
Mandir Marg	-	120

What is ozone:

Ozone is not directly emitted by any source. High levels of volatile organic compounds and oxides of nitrogen in the air react in the presence of sunlight and hot weather and form ozone. Its levels escalate every summer

Impact of ozone: The gas can have an immediate impact on health. It affects respiratory system, reduces lung function, aggravates asthma, inflames and damages cell lining of lungs, aggravates chronic lung diseases and can cause permanent lung damage. People who live in areas where ozone levels are frequently high experience continuous lung damage. Children and exercising adults are particularly vulnerable



sure. The area does act like a sink due to its location which can be one reason why pollution levels are higher here. The area is also surrounded by roads with heavy traffic. Its proximity to the Yamuna may also have had a role to play in increasing the impact of the pollutants. Of the six monitoring stations in Delhi, this one is located closest to the river. However, to get a clearer picture, IIT Kanpur has been roped in to study the phenomenon and submit a report in the next few months," said sources.

"Delhi Pollution Control Committee may identify the unique features of these locations but the fact remains that the Civil Lines monitoring station is located at the Old Secretariat where the legislators work and also not so far away from the LG's office. Clearly the power elite of Delhi are at risk," said Roychowdhury.

Meanwhile, seven months after Delhi witnessed one of its worst smog days which prompted the government to prepare a bill on air pollution, it is still to be presented in the cabinet. Senior officials said that a huge host of agencies are involved in the work prescribed under the proposed bill and getting everyone on board took some time. "However, it is in its final stages now and will be taken to the Cabinet shortly," said a senior official.

the presence of sunlight and hot weather and form ozone. If the weather is conducive, and the air is heavy with ample amounts of NOx and VOCs, harmful ozone is formed. Since sunlight is necessary for its formation, ozone escalates every summer," explained Anumita Roychowdhury, associate director at Centre for Science and Environment.

One would think that Civil Lines' proximity to the Ridge might have saved it from a pollution onslaught but the area actually acts like a sink. All through the year the levels of most pollu-

tants including Benzene, and particulate matter are much higher than anywhere else in the city. "Peripheral areas can have increased ozone levels because winds carry ozone and pollutants along. Also, large amounts of NOx can be either emitted or transported to those areas that already have high VOCs," said Roychowdhury.

Environment department officials too have been unable to come up with a satisfactory explanation for high pollution levels in Civil Lines. "We can think of some reasons but are not too

*The Times of India,
Delhi dated May 29,
2013*

'Green' Civil Lines has foulest air

Neha Lalchandani | TNN

New Delhi: The seat of Delhi government's power, the Vidhan Sabha, ironically, has the foulest air in the city. Despite being next to the ridge — Delhi's biggest green lungs — the Civil Lines area inexplicably records the worst air quality levels. During the intense heat wave that lasted till Sunday, the area was recording very high levels of ozone, a byproduct of a reaction between sunlight and oxides of nitrogen.

Environment department officials have been unable to fully explain the high pollution levels in Civil Lines. IIT Kanpur has now been roped in to study the phenomenon and submit a report in the next few months. **P3**

The Economic Times, Delhi dated May 29, 2013

National Green Tribunal Orders Status Quo on Tree Felling at Posco Site

MEERA MOHANTY
NEW DELHI

The National Green Tribunal has ordered a status quo on tree and vine felling on the site of Posco's steel plant in Odisha until a decision is taken on its lapsed environmental clearance.

This is yet another blow to the South Korean steelmaker's much delayed steel project. In recent months, the state government had intensified its efforts to hand over 2,700 acres for a smaller 8 million tonne plant. The State Industrial Development Corporation has acquired more than 2,000 acres, of this 1704 acres is now in the possession of Posco India.

The Posco project has been caught in a net of problems over its chosen site, largely 'regarded forest land' that villagers claimed they were dependent on for generations. It first received an environmental clearance for five years in 2007. Later, a committee looking into forest rights backed the villagers' claims advising the ministry of environment and forest (MoEF) to withdraw its clearance. The ministry in 2010 sent another team which was divided in its opinion. In 2011, the then environment minister Jairam Ramesh allowed the project with additional conditions and with a safeguard from the state that the forest rights laws would be implemented.

Last March, the NGT, acting on a plea filed by activist Prafulla Samantray, had thrown out the 2011 conditional clearance and had asked for a review. Yet another panel, Roy Paul Committee, constituted by the MoEF, has submitted its report. The Expert Appraisal Committee

is yet to decide on this committee's observations as well as on the revalidation of now lapsed 2007 clearance.

When contacted, Posco India spokesperson said that he is yet to see the order.

Environment lawyer Ritwik Datta, who argued Samatray's case, said that they had also argued for a status quo, until a final stage II forest clearance was granted to the project.

Samantray's NGO Lok Shakti Abhiyan reported another small victory in Norway recently. The NGO along with three others, in October 2012, had complained to the Organisation for Economic Co-operation and Development of a breach of its guidelines by parent company Posco, and its investors, the Dutch pension Fund ABP and its administrator, and the Norwegian Bank Investment Management (NBIM) that manages the world's largest sovereign wealth fund, or Norway's Government Pension Fund Global. In a statement issued on May 27, OECD's Norwegian National Contact Point (NNCP) has reprimanded NBIM for not cooperating. It further advised NBIM to ask Posco to set up an appropriate grievance mechanism for any human rights violations that may have occurred. "If the complaints are well-founded, NBIM should use its influence, alone or together with other minority shareholders, to persuade Posco to strengthen its engagement with all stakeholders and to address their concerns" says the NNCP statement.

Norwegian agency advises Posco investor NBIM to ask company to set up grievance mechanism for any rights violations

The Times of India, Delhi dated May 29, 2013

Indian students in race to make jet of future

Chennai Team Among Top 5 In Global Contest To Find Greener Ways For Aviation Industry

Kouateya Sinha | TNN

London: Three Indian aerospace-engineering students' ambitious plan to help create an aircraft of the future has taken them to the finals of a global competition floated by aircraft manufacturer Airbus and Unesco.

The team from SRM University, Chennai — consisting of Balakrishnan Salaraju Murali, Michael Thomas and Anita Mohil — is among the five teams that have made it to the finals of the 'Fly Your Ideas' contest that saw 6,000 students from 618 teams and 82

countries vie for the €30,000 top prize. The other four teams are from Australia, Brazil, Italy and Malaysia.

Ideas floated by students included planes powered by body heat, luggage floating on a bed of air and an aircraft running on liquid methane.

The Indian team's top-line idea is called "Engine air cooling system for noise reduction". Murali, Thomas and Mohil have found a way to reduce propulsion noise by modifying the shape of the jet exhaust using intelligent materials (shape memory alloys). These alloys are powered



Over 6,000 students from 618 teams and 82 countries took part in the event which has a top prize of €30,000. The other four winning teams are from Brazil, Australia, Italy and Malaysia. Ideas floated by the students included planes powered by body heat, luggage floating on a bed of air and an aircraft running on liquid methane

by harvested electricity generated by advanced thermoelectric materials using

engine heat source. On June 12 the students will present their ideas to a jury

of Airbus and industry experts at Airbus's headquarters in Toulouse, France.

The winners will be announced at a ceremony at Unesco's headquarters in Paris two days later. The competition challenged aerospace engineers from across the globe to develop new ideas for a greener aviation industry covering one of six themes: energy efficiency, affordable growth, traffic growth, passenger experience or community friendliness.

"The entries were assessed by experienced Airbus engineers who were extremely

impressed by the quality of work and innovation," said Charles Champion, Airbus's executive vice-president, engineering, and 'Fly Your Ideas' patron.

"These talented students from around the world represent the future of our industry and I am looking forward to welcoming them to Toulouse for the final round."

Throughout the competition, Airbus mentors have worked with the teams to provide guidance and support with their projects in addition to a member of staff from their university.

*The Times of India,
Delhi dated May 29,
2013*

PWD accused of felling 90 trees for road project

Neha Lalchandani | TNN

New Delhi: The forest department has incriminated the public works department in the case of illegal felling of at least 90 trees along Andheria Mod-Mahipalpur Road. A joint inspection report filed by the department in National Green Tribunal on Tuesday stated that another 145 trees have been damaged in the road widening activity and even though PWD has started work on the project, it has no plans of compensatory afforestation.

As reported by TOI earlier, the forest department had a list of 48 trees that had been felled illegally by the PWD. Later, seven trees that had been left supported only by a small mound of earth also fell and were added to that list. Senior forest officials said during the inspection, they found remnants of another 35 trees which were illegally felled. "Of these, at least 20 were found dumped a little away from the site on DDA land near B-1 Vasant Kunj. The remaining trees have fallen in course of time due to weakened roots and soil removal,"



NO COMPENSATORY AFFORESTATION PLANNED

said a source.

Sources said it is possible that more than 90 trees have been felled but they lacked evidence to prove it.

Under the provisions of Delhi Preservation of Trees Act, 1994, PWD has to plant 900 trees against the 90 trees felled and plantation has to be done on site. Forest officials have also said there is no finality on the number of trees to be planted under compensatory afforestation since there is no consensus on the number of trees that have been felled.

The report also says PWD

has numbered 1,724 trees, excluding the 90 that have already been felled, that are coming within the alignment of the proposed road in the first phase of expansion. "Based on this section details and other information available, PWD officials have indicated that 766 trees need to be cut. Of the 1,724 trees, 145 have been damaged due to road widening activities," the report says.

On the issue of transplanting the trees, the forest report says most trees do not respond well to transplanting.

The Times of India, Delhi dated May 31, 2013

Waste-to-energy plant poisoning air: Study

Neha Lalchandani | TNN

New Delhi: The Central Pollution Control Board's report on the Sukhdev Vihar waste-to-energy plant has revealed that levels of toxic substances dioxins and furans are 30 to 40 times higher than the levels prescribed by Delhi Pollution Control Committee (DPCC).

The level set by DPCC, which sources claim is ad-hoc, was prescribed when they issued consent to operate to the plant. "India has no standards for dioxins and furans. DPCC set a standard of 0.1 mg/cu m specifically for the plant. The plant is vio-

lating norms and releasing high levels of dioxins and furans," said a source.

In an inspection on March 31, the committee found that dioxins and furans in stack one were 12.431 and in stack two were 2.756 mg/cu m. Particulate matter in stack two against a standard of 150 mg/cu m was 1414.86 while oxides of nitrogen were 896.11 against a standard of 450 mg/cu m.

A five-member bench has asked CPCB to place on record in the next hearing if there are any standards and if so what, for municipal solid waste incineration. It has also asked a joint committee of CPCB,

DPCC and the environment and forests ministry to determine a temperature at which plastic can be segregated and burnt to ensure that "no obnoxious gas emission takes place".

CPCB has submitted a list of recommendations which entail making structural changes to the plant and use of technology that will reduce pollution levels. The committee has been asked to discuss the suggestions made in CPCB's report submitted incourt.

The committee will also have to examine how soon the project proponent can install a waste segregation plant.

The Economic Times, Mumbai dated June 01, 2013

GREEN BEAUTY Islands to run on cheap and clean electricity from coconut trees

Coconuts to Light Up Lakshadweep

DEB JOY SENGUPTA
KOLKATA

In what is likely a global first, inhabitants of 11 Lakshadweep islands have decided to stop using diesel and turn to coconuts for meeting their frugal power needs.

An alternative energy expert has shown the residents how to generate sufficient electricity from coconut leaves, stem, husk and shells. With millions of coconut trees on the islands, supply will never be an issue and it will also help cut down on pollution in the archipelago.

About 200-440 km off the south western coast of India, Lakshadweep — a Sanskrit name that means one hundred thousand islands — consists of 36 islands in all, 25 of which are uninhabited. The main source of power for the inhabitants of these fragile ecological coral islands for long has been diesel generators.

"Diesel is costly and electricity produced from these generators costs around ₹28 per unit against conventional power cost of about ₹3-4 per unit. The power department of Lakshadweep offers 90% subsidy — about ₹25 on every unit of power sold — and spends ₹80 crore each year, which is a drain on the government," SP Gon Cho-



Power of alternative energy

udhury, advisor to the Lakshadweep's power department, told ET.

Choudhury, a nationally renowned solar power expert, was invited by the Lakshadweep authorities to suggest ways to set up solar power generation systems on the islands for minimising pollution. "After studying the landscape of the cluster of islands, its habitat and the ecological system, despite being a solar expert, I suggested setting up small biomass power generation systems on each island that will use coconut leaves, husk and the shells."

Assured, Cheap Fuel Supply ▶▶ 9

Assured, Cheap Fuel Supply

Wind power has also been ruled out due to land constraints," Choudhury said.

He claims power from coconut is a global first. These trees being an intrinsic part of the island and available in such abundance, fuel for the power plants is assured and comes almost free of cost. "Energy content in the fuel is very high and it will bring down cost of generation from Rs 28 per unit to Rs 11 per unit," he said.

Ravi Chandar, executive engineer at the Lakshadweep power department, says: "It will reduce emissions by 80-90% in comparison to diesel generators and outgo on account of subsidy will reduce from Rs 80 crore per year to a meagre Rs 8 crore every year."

The plan is to set up biomass units with a total installed capacity of about 10 mw that will meet the power demand of the population. "Investment for the project has been pegged at ₹90 crore. It will be set up on a build, operate and transfer basis. The company that builds the units will run it for 10 years after which it will be transferred to the government," said Chandar. A detailed project report has been prepared and passed by the Lakshadweep authorities, which will start inviting expressions of interest next month, he said.

The Times of India, Delhi dated June 01, 2013

A Waste Of Resources

Why the food security Bill will not boost foodgrain consumption for the poor

Arvind Panagariya



So much has already been written on the food security Bill that there would seem to be no justification for another column on it. Yet, a recent look at some consumption data has convinced me otherwise.

How the food security Bill impacts people's lives ultimately depends on the effect it will have on the consumption basket of the beneficiaries. If you believe in serious analysis over flagwaving, assessing this effect turns out to require careful detective work.

The Bill proposes to give 810 million citizens 5 kg of cereals (rice, wheat, bajara or other grain) per person per month at the subsidised price of Rs 3 per kg or less. Commentators have already reminded that this will have minimal or no effect in Chhattisgarh and Tamil Nadu since these states already provide households more grain at even lower prices. Surprisingly, there are good reasons to believe that the same is also likely to turn out true in other states.

To see why consider first the urban households. Based on the large-scale expenditure survey of 2004-05, the poorest 30% of the urban households nationwide consume 10 kg of cereals per person per month. The quantity rises to 10.1 kg for the middle 40% households and drops to 9.6 kg for the top 30%.

We can reasonably assume

that the top 30% urban households are not income constrained and therefore not opting for what the proponents of the Bill call "low" consumption quantity for reasons of deprivation. Indeed, the argument substantially extends to the bottom and middle groups as well once we recognise that over the past two decades, even their consumption of cereals has been declining despite rising purchasing power. Given this pattern of change over time and little variation in cereal consumption across different income groups currently, the proposition that the Bill will boost cereal consumption of the bottom 810 million citizens is a very long leap of faith.

What is far more likely, indeed

6 The poorest 30% urban households consume a respectable 10 kg of cereals per person per month compared with 10.1 kg and 9.6 kg for the middle and top groups. But for milk, their consumption is just 2.3 kg compared with 4.8 kg and 8.3 kg for the middle and top groups

near certain, is that the households will substitute kg-for-kg subsidised grain from the public distribution system (PDS) for their open-market purchases. That is to say they will simply cut their purchases of grains in the open market by 5 kg. Assuming



Milking the taxpayer: Cash transfers carry more benefits than PDS

the difference between the market and PDS price is Rs 15 per kg of cereal, this will release Rs 75 per person per month in expenditure in each beneficiary household. It is as if the government transferred Rs 75 per person per month in cash to each beneficiary household.

The million-dollar question then is: On what will the households spend these extra Rs 75 per person per month? If the opponents of direct cash transfers were consistent, they would rhetorically answer: liquor. But they will be wrong. To rise above rhetoric and search for what is likely to be a more accurate answer, we must once again look at the consumption patterns of different income classes.

It turns out that after cereals, the next major item in the consumption basket is milk. The bot-

tom 30% of the urban households consume just 2.3 kg of milk per person per month compared with 4.8 kg and 8.3 kg for the middle and top groups, respectively. It is in milk consumption that deprivation is hitting the poorer households the hardest. So the extra Rs 75 will dominantly fuel the demand for milk and if our government continues to be hostage to the milk lobby and refuse to allow duty-free milk imports, given low domestic supply response in the short run, you can count on another bout of spiralling milk prices.

How different is the consumption pattern in rural areas? Not much. In 2004-05, the bottom 30% of the households consumed 11.1 kg of cereal compared with the 12.3 kg and 11.9 kg consumed by the middle and top groups, respectively. So perhaps there is a

small margin - 2 kg per person per month - for higher consumption by the bottom group. Beyond this, the data suggest that the rural households too will predominantly spend the cash released by subsidised grain on milk. Milk consumption in rural areas averages 1.2 kg, 3.4 kg and 7.2 kg per person per month among the bottom, middle and top income groups.

This analysis has convinced me that if PDS had not been subject to massive leakages and inefficiencies, the food security Bill would work just like cash transfers. Unfortunately, this is a very big if since giving Rs 75 per person per month to 810 million individuals would cost only Rs 729 billion per year compared with the grossly underestimated official cost of the Bill at Rs 1,245 billion. Cash transfers would also reach the beneficiaries with greater certainty and empower them rather than leak out along the massive PDS chain and empower the shopkeepers.

If our best medical experts are convinced that citizens will benefit from increased cereal consumption, giving them subsidised grain will not do the trick. Instead, the government needs a massive campaign to inform and persuade the people of these benefits. A recent paper by economist Nisha Malhotra shows that lack of knowledge on nutrition and not just access to food plays a vital role in keeping children malnourished. The same also applies to adult malnutrition.

The writer is professor of Indian political economy at Columbia University.

Polluted air kills thousands in city: Study

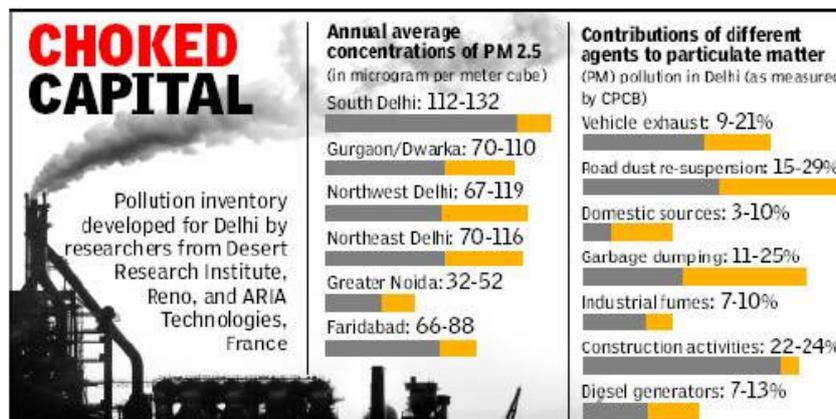
Between 7,350 And 16,200 Premature Deaths Every Year; 6 Million Asthma Attacks

Jayashree Nandini | IITM

New Delhi: The capital's polluted air is loosely blamed for the spurt in respiratory ailments, but now a research team has estimated the number of premature deaths caused by these effluents. A recent study by scientists from IIT Delhi and Desert Research Institute (DRI), Reno in US, analyses past data to ascribe 7,350 to 16,200 premature deaths each year to air pollution, along with 6 million asthma attacks.

The study, "Health impacts of particulate pollution in a mega-city-Delhi", published earlier this year in the Environmental Development journal of Elsevier, uses particulate matter—PM 10 and PM 2.5—data from 2010 to simulate the health impacts in Delhi. On studying PM levels in Delhi from 2001 onwards, Sarath Guttikunda from DRI and Rahul Goel from IIT found that the annual PM levels had risen more than 2.5 times on average.

In 2010, for instance, PM 10 av-



eraged around 260mg (micrograms) per metre cube, which is four times more than the national safety level and 13 times higher than the WHO safety limit. They observed that the trend worsened during winter with concentrations at least double the annual av-

erage. They blamed that on the increased emissions from heating and unfavourable climate for dispersion.

Such high pollution levels are bound to impact health. "We wanted to understand and quantify how PM2.5 and other pollutants

like sulphates and nitrates affect us," says Sarath. They used a simulating model called the Simplified Atmospheric Transport Modelling System (ATMS) to estimate ambient PM concentrations. The health impacts were calculated by overlaying a gridded

population data with the PM 2.5 concentrations.

The study also indicated the level of PM 2.5 emissions by each sector. It calls heavy and light duty trucks, most of them running on diesel, the main source of vehicle exhaust emissions. The road and construction dust, however, might be contributing to coarser emissions responsible for PM 10 levels. Interestingly, a high percentage of pollution in northwest and northeast Delhi as well as parts of Greater Noida can be traced to the nearby brick kilns.

Sarath and Rahul have also offered some ideas for pollution management in Delhi. "For vehicle exhaust emissions, the largest margin of benefit is in the maintenance of vehicles and roads," says the study. Last-mile connectivity through public transport, reduction in garbage burning emissions, implementation of Bureau of Energy Efficiency's power efficiency schemes for industries, are some of the other measures.

The Times of India, Delhi dated June 03, 2013

As city sizzled, ozone reached alarming level

Health, Vegetation And Ecosystem Affected

Neha Lalchandani | TNN

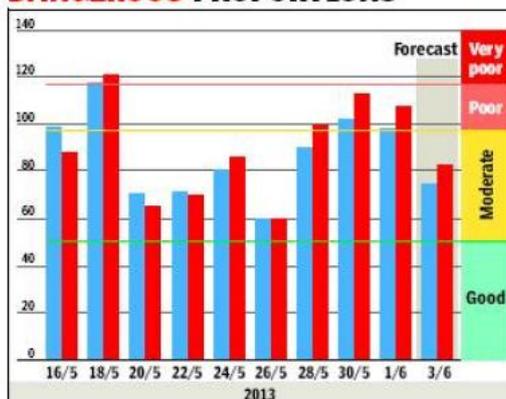
New Delhi: The prolonged heatwave in Delhi since May 18 not only saw extremely high temperatures ranging between 44 and 46 degrees but also led to the development of a dangerous pollutant that has become an annual feature in the capital lately. In the last week of May, levels of ozone saw a massive increase with a similar rise in levels of particulate matter making it worse.

Institute of Indian Tropical Meteorology's monitoring in the city revealed that the levels of both the particles crossed the national standards and were in the 'moderate to poor' category under the national ambient air quality standards.

"The ozone levels were found to be the highest on May 31 at 122 parts per billion. The one hour average went up to 150 ppb around 2pm on that day, a time when ozone usually peaks for the day," said Dr Gufran Beig, programme director, SAFAR, IITM Pune. Ozone is formed when sunlight acts upon oxides of nitrogen and volatile organic compounds. This is why levels rise during summer.

"Our models have indicated a fall in ozone levels in the city from Saturday. Monday will also see a fall though levels will continue to remain

DANGEROUS PROPORTIONS



around 80 ppb in the moderate category. This will make it dangerous for old people and children," added Beig.

Dr Beig said Delhi is witnessing an increase in volatile organic compounds (VOC) like benzene, toluene and xylene. "The combination of pollutants like NOx and ozone with high temperature of 44 degrees Celsius and above is a deadly combination. Sunlight speeds up ozone production. Hydrocarbons are not only emitted by human activities like transport related combustion, fuel evaporation, solvent use and chemical manufacturing but

also from natural sources like terrestrial vegetation and soil. Ground with vegetation is usually moist but in this heat, it had dried up leading to natural emission of VOCs. So, ozone is high in relatively greener areas like New Rajendra Nagar and Buddha Garden," said IITM officials.

Dr Sunil Peshin, deputy director general of meteorology at IMD said exposure to high levels of ozone affects not only health but also damages vegetation and ecosystems. "Ground level ozone can reduce lung function and inflame the linings of the lungs," said Peshin.

The Economic Times, Delhi dated June 04, 2013

'Eco growth behind air pollution'

New Delhi: India's economic development has led to the worsening of air quality in major Indian cities, according to the results of a survey by The Energy and Resources Institute (Teri) in Bangalore, Chennai, Delhi, Hyderabad, Kolkata and Mumbai.

The transport sector was ranked the highest followed by factories in and around the city as the second highest contributor towards air pollution in Chennai, Delhi, Kolkata, and Mumbai.

While respondents from Bangalore rated factories as the highest contributor of air pollution followed by transport, those in Hyderabad rated construction activities as the worst offender followed by the transport sector.

The survey was conducted with a sample size of 4,039 respondents. Six themes were selected for the study — overall environment, air quality, water quality, forest/green cover, climate change, and waste and waste management.

Drinking water quality and availability had improved in all cities barring Hyderabad, where the respondents felt it had worsened, the survey found.

The Times of India, Delhi dated June 04, 2013

GREEN BODY SEES RED OVER DELHI'S LACK OF AWARENESS

80% think city's environment got worse in last 5 yrs: Survey

PEOPLE'S SURVEY

Here's how people in Delhi NCR responded to the Teri survey

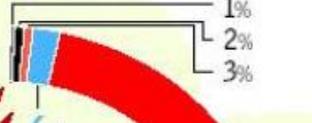
Waste & waste management (garbage collection, disposal)



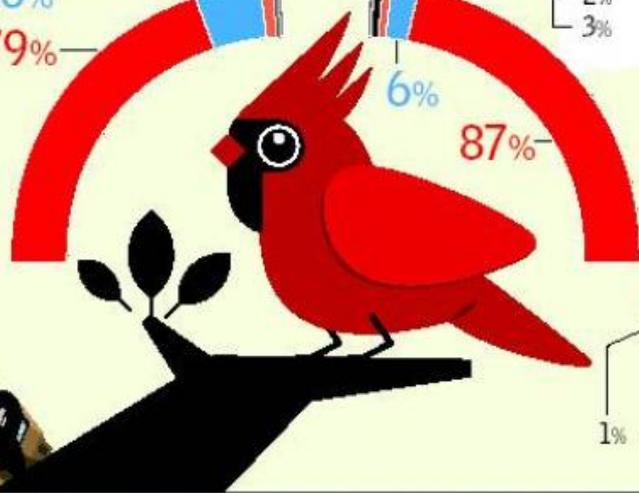
Tree cover/green cover and plant species in your area



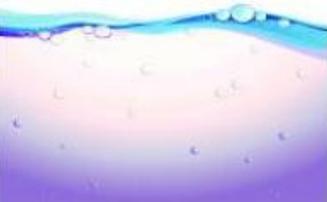
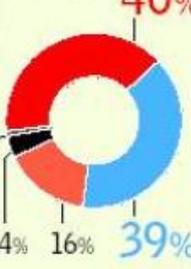
No. of birds & animal species in your area



- Worse
- Better
- No Change
- Don't know
- No direct experience



Air quality (clean air, smog, particles & smell)



Surface water quality & availability



Groundwater availability



Drinking water quality & availability



TIMES NEWS NETWORK

New Delhi: An environment survey carried out across six metropolitan cities by The Energy and Resources Institute has found that while 80% of the respondents in Delhi believe that the overall environment in the city has deteriorated in the past five years, the capital also sets the record for being the most ill-informed across the metros about government policies on environment.

Teri interviewed 1,114 respondents in Delhi NCR for the survey, of which 44% were females and 56% were males. While it is widely believed that the city's air quality has worsened over the past few years, only 40% of the respondents support the claim while 39% believe that air quality has actually improved. The water utility too will take heart from the fact that 41% of the respon-

dents said that drinking water availability and quality has improved in the past five years.

The survey has revealed that 45% of the Delhi respondents believe that the transport sector is most responsible for air pollution, followed by industries and garbage burning. The 46% respondents who said they did not use public transport cited reasons like inconvenience, lack of good frequency

and safety issues for using private transport.

Of the 94% of respondents who said that water is being wasted in Delhi, 58% said that the wastage was due to excessive consumption while 49% said that it was being lost in leakages during distribution. Delhi's failure to segregate waste at source is also not surprising with 49% of the respondents having expressed their

unwillingness to segregate waste at home.

The city also believes more strongly than other metros that environment and development can go hand in hand and that it isn't difficult to improve the current state of affairs. To improve the green cover, 33% say that the government should declare certain green areas 'protected'. Another 31% say that waste land should be reclaimed to make a green cover.

Dr R K Pachauri, director general, Teri said: "Our purpose is to see that issues related to environment and development get embedded in the consciousness of the people, and of course, if we carry out an assessment of people's attitude and how they view these issues then clearly we are also creating awareness on the major changes that are required to ensure we move on the path of sustainable development."

5-star hotels to comply with green norms

New Delhi: The Delhi environment department and Delhi Pollution Control Committee have signed a memorandum of understanding (MoU) with 32 five-star hotels in the city for compliance of green hotel guidelines.

Senior government officials said that the MoU was in addition to already existing green laws which are mandatory for the hotels to follow in order to renew their consent to operate. The steps to be taken by the hotels include setting up of sewage treatment plant, re-utilization of treated waste water to achieve zero discharge, installation of solar water heating system etc. Most of these measures need to be implemented by September 30 or latest by March 31, 2014.

The Times of India, Delhi dated June 05, 2013

New plan may not take off in poll year

Neha Lalchandani | TNN

New Delhi: The first phase of Delhi's climate change agenda came to an end in 2012 and the government is now set to bring out its new edition. Within two months, an extension of the existing plan, based on guidelines issued by the ministry of environment and forests, will be released. It will look at both short and long-term agendas for reducing Delhi's carbon footprint.

"The new guidelines are based on the climate profile of each state and will be an adaptation of the national action plan on climate change. For Delhi, it includes several chapters in addition to what has already been taken up in the 2009-2012 report. A lot of work identified in the first plan is still in progress and has been included in the new agenda," said environment secretary Sanjiv Kumar.

A major criticism of the first plan was the lack of legally binding actions for each government agency. With Delhi going to polls this year,

sources say suggestions in the new plan may also not see the light of day for a while. "We need to take certain hard decisions that may not go down well with the political brass in view of the elections. The new plan has incorporated several suggestions like congestion tax on vehicles, regulation of private vehicles, preferential duty etc.," said sources.

Thankfully, the new agenda talks of action plans ranging from five years to 30 years. If certain works do not get taken up immediately there is hope that they will be addressed sooner or later. Rakesh Mehta, former chief secretary of Delhi said: "The new plan needs a focused approach and innovative decision-making. It should also have a participatory approach to involve civil society."

The point is reiterated by Dr RKPachauri, director general of TERL. "Public participation in such a plan is an imperative and possibly the government's Bhagidari scheme should be used to reach out to the people," he said.

Anindya Chattopadhyay



A boy takes a dip in a part of the Yamuna that's polluted

The Economic Times, Delhi dated June 06, 2013

No Development Without Environment: Natarajan

OUR BUREAU NEW DELHI

Development cannot take place at the cost of ecology, environment minister Jayanthi Natarajan has said, making it clear that environmental approval for projects will be given only after a fair and transparent assessment.

"We, at the ministry, have to be very sure that the concerns with which we look at projects should be totally objective, fair, accountable, transparent and absolutely clear to the people who are asking for those clearances, so that nobody can say that environment is standing in their way," Natarajan, who is often blamed for holding up green clearances, said at a function to mark World Environment Day in the capital on Wednesday.

The minister made an impassioned plea to move away from the predominant

discourse focused on "environment versus development". "There is an unnecessary and irrelevant debate going on about development versus environment. There is no versus. There is no development



without environment and country cannot develop until it grows sustainably." Focusing on the 2013 theme for World Environment Day—Think.Eat.Save

—Reduce your footprint— Natarajan said, "The issue of food wastage touches on problems of food storage to the resources lost and the need to protect depleting resources like water to food security. There is an urgent need to become more aware of environmental im-

act on the food choices we make. If food is wasted, it means all resources and inputs used in the production of all those foods are also lost."

According to the United Nations' food agency (FAO), 1.3 billion tonnes of food is wasted annually at a time when one in every seven persons goes to bed hungry and more than 20,000 children under the age of five die daily from hunger. As much as a third of all the food grown on the planet is lost between the fields and consumers, and with it all the resources, like water, used to grow the food.

"We all know that natural resources are running out... what will we do when we have finished all our resources like coal (and) oil, among others. We cannot replace natural resources with anything," she said.

The minister also raised the issue of disparities in access to natural resources.

The Times of India, Delhi dated June 05, 2013

Up in smoke: Carbon credit trade past its sell-by date?

Nitin Sethi | TNN

Carbon prices in international markets are at their lowest in a decade. Projects, especially in India and China, two major suppliers of carbon credits, are writing off expected revenues. Carbon trade, touted as the emission trading scheme that'd cheaply reduce emissions bringing green technologies within the financial reach of poorer countries, is at a near-collapse.

Worse, the logic of carbon-credit trading — that it's a cheap way emission reduction — is under scrutiny. Many claim it has resulted in private

players gaining funds, doing little.

This was how the carbon credit plan was to work. Poor countries would run projects on cleaner technologies. The extra costs for cleaner technologies would be offset by 'selling' the 'avoided' future CO₂ emissions. For each tonne of CO₂ emission avoided, project developers would get a certificate they could sell to industries in developed countries. They'd buy the certificates to meet targets.

But today, carbon credits are trading at an all-time low as carbon price in the EU — main buyer of credits — has hit rock bottom. The EU political class has refused to back a measure

WHAT IS A CARBON CREDIT?

A permit that allows a country or organization a certain amount of carbon emissions. In the trading, one credit gives the owner the right to emit one tonne of CO₂. For developed nations then, it's a way to reduce one's carbon footprint by funding projects aimed at reducing greenhouse gases globally.

that could pull prices up. Chandra Bhushan, deputy DG of CSE says: "EU has set such low targets for the next phase of emission reduction between 2012 and 2020 that their industry can achieve these targets on their own. They won't need to buy too many credits. The prices are going to remain low." The EU has decided its industry

can buy credits only from least developed countries (LDCs).

African nations and other LDCs have complained that businesses with better capacities in the emerging economies (especially China and India) have cornered most of the carbon market. TERI's Prodipto Ghosh says the world must fix a floor price for

carbon through a stabilisation fund. But Bhushan believes this would allow private businesses to earn using public resources with little real emission reduction. In essence, "carbon trade should only fund the costly transition to clean technologies, not the cheapest and easiest changeovers," he says.

The churn has set in with countries readying to overhaul the climate-control regime under the UN convention by 2015.

There's talk of new market-drive schemes to cut emissions. It will take two years more to find out if the new schemes also end up cutting carbon more than emissions.

Greens frame inclusive agenda for city's growth

TIMES NEWS NETWORK

New Delhi: At one level the city government is preparing a comprehensive plan to combat climate change and at another, civic society is taking matters in its own hands, calling the government's measures so far to be unsystematic with a misplaced sense of priority. Environmentalists and activists have come together to develop a vision document on Delhi's environment till 2025.

The first meeting concluded that for wholesome development, Delhi needs to look at social justice. Dr Amita Baviskar, associate professor of Sociology at the Institute of Economic Growth strongly advocated for it.

Making a strong case against 'bourgeois environmentalism', she said, "We are living in a city which mimics segregation earlier seen during South Africa's apartheid phase. Thousands of people were relocated from the Yamuna banks in an effort to clean the embankment but the city is neither cleaner nor greener. The working class is paying a price after being moved to resettlement colonies with no basic amenities and travelling three hours to get to their workplace. The government has a misplaced sense of priority for which it has consensus from the middle class. They want a world class city like Singapore but not its environmental or



STILL THE SAME: People were relocated from the Yamuna banks to clean the embankment but the city is neither cleaner nor greener

social infrastructure."

The point about incorporating the lower rung and working classes was also made in the context of transport infrastructure. The city has added more than 10,000 km of roads and 60 flyovers in the last 10 years. However, no space has been dedicated to either walking or cycling, especially when 35% of Delhiites own bicycles.

Rajendra Ravi, director, Institute for Democracy and Sustainability said, "When the BRT was made, those opposing it claimed that value of the time of a person driving a car was more than that of a poor person and so cars should be prioritized over buses. This is absolutely unconstitutional and the government should focus on shifting from personal to public transport." Suhas

Borker, founder member, Green Circle of Delhi said, "To get out of the 'ad hocism mode' led by city politicians in our approach to environmental issues, we have to bring about a mindset change with equity, sustainability, transparency and strong civil society participation. Without political will we cannot handle them.

The need for macro level planning in the matter of land use was considered essential. Dr Mahesh N Buch, chairman of the National Centre for Human Settlements and Environment and Manoj Misra, convener of the Yamuna Jiye Abhiyaan said in the absence of proper planning, the city has been expanding in an unsystematic manner. The Yamuna bed has been violated in the desire to concretise more area.

The Times of India, Delhi dated June 07, 2013

The Deccan Chronicle, Hyderabad dated June 8, 2013

Households can sell extra power

Renewable energy body finalises 1KW roof-top solar panel scheme

AMRITA DIDYALA | DC HYDERABAD, JUNE 7

WHAT IS ENERGY POOL?

- Energy from APGenco generating stations, private power plants, Central generating Stations, energy from power exchange, from other states as well as other renewable sources of energy contribute to the energy pool of the state.
- Currently, the state has a power demand hovering around 250 million units per day. This can go up to 310 MU per day during peak summer season.
- Individual households contributing to the energy pool would mean lesser burden of purchasing costly power on the discoms and, therefore, lesser power tariff in future.



The New and Renewable Energy Development Corporation of Andhra Pradesh has finalised the 1 kilo watt roof-top solar panel scheme, which will allow even small individual households to sell the excess electricity generated, thus contributing to the energy pool and making some profit.

APTranSCO has been mandated to provide its transmission lines for grid connectivity to each house, installing the roof-top solar panels under the subsidy scheme provided by the ministry of renewable

energy. APTranSCO and the respective discoms, under whose jurisdiction a household falls, will provide grid connectivity under the scheme and any

excess power generated during the daytime, will be drawn into the grid.

The net meter installed by the discoms will read and record all details of the energy generated, used

and drawn into the grid.

A 1kw solar panel costs between ₹80,000 and ₹90,000, half the amount being covered by the subsidy while the remaining half being an investment

by the owner.

"APTranSCO will be providing its transmission lines for grid connectivity to the households, using roof-top solar panels and installing net-meters. Whenever extra solar power is generated above the household requirement will be recorded by the net meter. If the generation is 300 units a month and the consumption is only 200 units by a small family, the owner will be paid at the rate of ₹3.50 per unit for the 100 units that APTranSCO draws into the grid," said M. Kamalakara Babu, managing director, New and Renewable Energy Development Corporation of AP.

The Times of India, Delhi dated June 10, 2013

Noida for green zones along rivers

Ayaskant Das | TNN

Prem Bhasht

Noida: The Noida Authority has decided to appoint a technical consultant by the end of this month to begin its ambitious Riverfront Development Project. Through this project, the Authority will develop green corridors along the riverbanks of Yamuna and Hindon by massive plantation drives and building recreation zones, among other things. Green corridors will also be developed at the three entry points of Greater Noida adjoining the riverbanks.

The green buffers developed along the riverfronts will help prevent building of illegal colonies floodplains, be-



These zones will help prevent building of illegal colonies on floodplains

sides improving the environment. The Noida and Greater Noida authorities have allocated Rs 100 crore for the project.

The Authority plans to spread the Riverfront Development Project in Noida across a

total area of over 600 acres. Officials said land for the project will be transferred to Noida Authority from the UP Irrigation Department in phases. In the first phase, around 200 acres would be handed over.

Noida Authority will finalize the technical consultant on June 26. The consultant will have to undertake a detailed survey of the area for developing the green corridors, besides preparing the basic design of the project.

The consultant will also undertake inspection of the project during the construction phase. The project design will be prepared after studying similar projects that have been successfully executed in European nations. The green corridors are also mooted to recharge depleting groundwater tables.

The project had been approved in the last board meeting of the Authority in May.

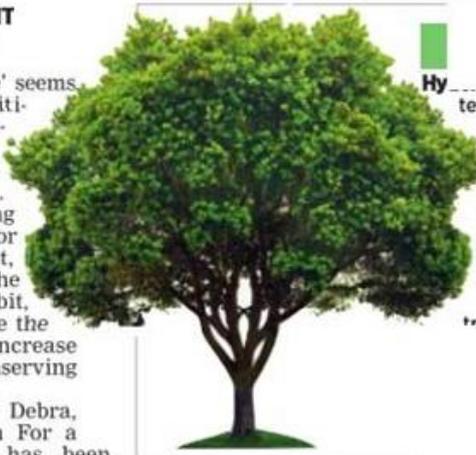
The Deccan Chronicle, Hyderabad dated June 11, 2013

Each one, plant one: New motto

DC CORRESPONDENT
HYDERABAD, JUNE 10:

'Each one, plant one' seems to be the motto of citizens who feel responsible towards protecting the environment around them. Rather than relying on the corporation or the government, locals are taking the initiative to do their bit, both to help improve the green cover and increase awareness about conserving nature.

Omin Manekshaw Debra, secretary of Forum For a Better Hyderabad has been actively working on rock formation and ecology, urban parks and forests. He said "Whenever GHMC sanctions a tree plantation project, it remains on paper. They spend crores on digging to lay underground cables, but fail to realise its impact on the trees in the area. Trees are uprooted if they come in the



way of electric poles."

A member of the Tree Protection Committee, Mr Debra said, "First the corporation allocates sites to plant trees which are later cut to make way for road widening. What is the point of such decisions?"

Srinivas, a retired District Forest Officer said, "At present,

the green cover including the cantonment area, accounts for 27 percent, which should have been around 33 per cent. Any decrease in this will lead to an increasingly hot summers."

Dr Veerabhadra Rao, horticulturist from Centre for Cellular and Molecular Biology said, "Rainwater harvesting should

be made mandatory. People must plant trees either in their homes or in the colonies."

Thakur Rajkumar Singh, founder member of Human Rights and Consumer Protection Cell and convener of SOUL says, "Any interference with nature will lead to disturbance in the ecosystem. We must act soon."

The Deccan Chronicle, Hyderabad dated June 11, 2013

Hyderabad ranked the third greenest city in the country; Almost one-third of green cover is lost to encroachment

No red signal to green depletion

KRUTHI GONWAR | DC
HYDERABAD, JUNE 10

It is estimated that the city has lost one-third of its green cover owing to encroachments, road widening and diverting forest lands for commercial purposes. But the Greater Hyderabad Municipal Corporation has no accurate data on the current state of the city's green cover or the rate at which it is being lost. N. Chandramohan Reddy, additional commissioner, Urban Biodiversity, agreed as much

"Right now, we do not have the data as to how many acres of green cover we have. For that we are soon planning to record the data using the IKONOS satellite imaging technology," he said.

The Greater Hyderabad area has 49 major parks, 521 colony parks, 288 tree parks and 159 traffic islands, which accounts for 695 acres altogether.

A publication *Glimpses of Biodiversity of Greater Hyderabad*, published by the GHMC along with the department of Zoology, Osmania University, Biodiversity Research and Conservation Society, Hyderabad and Zoo Outreach Organisation, Coimbatore, released in October 2012 states: "The rate of urbanisation witnessed by Hyderabad has negatively impacted the vegetation and lakes within the core urban area. Due to lateral expansion in the area under the municipal administration, a lot of forest area will now come under the Greater Hyderabad limits."

According to the Annual Report 2012 of the AP Forest Department, the recorded forest area of Hyderabad division is 730.75 sq km, of which reserved forests constitute 379.96 sq km, protected forests constitute 244.70 sq km and Unclassed forests constitute



A file photo of workers chopping down trees for road widening.

The rate of urbanisation witnessed by Hyderabad has had a negative impact on the vegetation and lakes within the core urban area

106.09 sq km.

The report also states that the comparison of the current forest cover (2012) with that of a previous assessment year (2011) shows a negative change of 184.30. And of this total area, about 32.19 of forest area is lost on account of encroachments between November 2011 and November 2012.

Shyam Prasad, additional chief conservator of forests, social forestry, AP Forest department said, "The total forest area in the state is 22 per cent, while 33 per cent is the tree area. Our only aim is to try and retain this and also find vacant lands in the city that are suitable for plantation. We need to protect the reserve forest area as well, as it serves as a major link to the biodiversity."

The Times of India, Delhi dated June 11, 2013

India losing 135 ha forest daily: RTI

Rohith B R | TNN

Bangalore: India's forest cover is depleting much faster than you could have ever thought of, thanks to development projects for which large tracts of forest land are handed over to public and private agencies.

An RTI plea filed by a group of environmentalists with the ministry of environment and forests has revealed startling data: the area of forest land diverted across the country on an average stands at 135 hectares (around 333 acres) per day. Such diversions are done for various projects including coal mines, thermal power plants and industrial and river valley projects.

Members of the Environment Impact Assessment Resources and Response Centre (eRc), instrumental in compil-

GREEN SHOCKER

The forest area recommended for public and private projects in the country by the ministry of environment and forests in the past few months



ing the data, said that the figure in reality is much higher as their analysis pertains only to projects which have sought more than 40 hectares of land.

Ritwik Dutta, an advocate with Legal Initiative for Forest and Environment (LIFE) and closely associated with

eRc, said Karnataka is one of the states that has been diverting forest land.

"Madhya Pradesh, Maharashtra, Chhattisgarh, Arunachal Pradesh and Jharkhand are some of the other states which are into large-scale diversions. We are com-

piling state-specific data on the extent of land being diverted," he added.

Ritwik said more awareness is needed among the people to challenge such projects, and that they should appeal before the National Green Tribunal (NGT) against such diversions.

Neeraj Vagholikar of Kalpavriksh, an environmental action group, said despite the country losing existing forest cover, the figures released by the Centre every year show an increase in green cover.

"The trick here is that the forest department manages to add compensatory afforestation programmes to the total forest cover. However, in reality, such forest cover is virtually non-existent; nobody is sure whether such programmes will be implemented in future," he said.

The Times of India, Delhi dated June 12, 2013

60,000 sq km of Western Ghats to be green zone

Nitin Sethi | TNN

New Delhi: The Union environment ministry is expected to approve the K Kasturirangan panel report on the Western Ghats and declare around 60,000 sq km of the southern hills — spanning across six states — as a no-go area for mining, thermal power plants and heavily polluting industries.

Sources in the ministry said the process has begun to finalize the decision after receiving comments from public and state governments on the panel report.

The Planning Commission— headed by K Kasturirangan — had been set up by the central government after an earlier report of a team of ecologists, headed by NAC member Madhav Gadgil, had suggested that almost 75% of the ghats be put under various levels of restrictions. The suggestion was opposed by states and other interest groups.

The Gadgil committee had also suggested a blanket



A panel report, expected to be approved by the environment ministry, suggests that 90% of natural forests in the Western Ghats be conserved

ban on mining and pitched for the powerful Western Ghats Authority to be the final arbiter of development activities in the region.

The Kasturirangan panel had scaled down the area that was recommended for protection under the eco-sensitive zone provisions of the Environment Protection Act. It suggested that 90% of the natural forests in the Western Ghats complex — adding up to 60,000 sq km and constituting 37% of the entire hilly belt — be conserved under the Ecologically Sensitive Area (ESA) provisions of the Environment Protec-

tion Act, 1976.

Disagreeing with the Gadgil report, it also recommended against setting up of a centralized authority that would override all existing decision-making mechanisms under the green laws and the federal structure.

Even when the environment ministry does accept the Kasturirangan panel report, the process of declaring eco-sensitive zones in the Ghats is bound to take long as it requires extensive regional and on-the-ground diligence.

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

The Times of India, Delhi dated June 13, 2013

Bangla couple ride across the world for 'greener Earth'

Ikshita Tewari | TNN

New Delhi: They are afraid their homeland may disappear one day. Rising sea levels are pushing communities in Sunderbans to the edge and Mohammad Shahade Firdous and Fatema Sultana from Bangladesh are in Delhi to campaign for action against climate change. The couple braved heat and rain to bike all the way from Dhaka via Bhutan to the Indian capital.

Their 'Ride for Greener Earth' began on April 29. It is being funded by Pathfinder Adventure Club in Dhaka and they have already travelled 3,830 km.

Not many know about the plight of islands like Sunderbans and Maldives. The duo stopped in Jalpaiguri, Asansol and Kolkata, Varanasi, Allahabad and Kanpur where they interacted with people to raise awareness. Amritsar and Jaipur will be their next stops. Sri Lanka, Nepal, Myanmar, China, Pakistan and Maldives are on their itinerary.

Firdous and Fatema are



Anindya Chattopadhyay

GREEN COUPLE: Firdous and Fatema have travelled 3,830km

passionate about conservation and believe their unique journey may compel citizens to think about the environment. Firdous is a veteran of a bicycle expedition he undertook with two friends in 1998 across Bangladesh.

"When we were in Bhutan last month, we found that people there are very concerned about the environment. Being a small kingdom, its carbon footprint is also tiny," he said. "We came to New Delhi in

2004. Even here, urbanization has wreaked havoc. The average temperature has risen since that time. Not a very good sign."

Fatema looked a bit exhausted after her long ride. She said her home island needed the prayers and goodwill of the south Asian people to survive. "Further increase in global temperatures will raise sea levels. We urge the international community to take action and help us out."

The Deccan Chronicle, Hyderabad dated June 14, 2013

Over 200 rainwater harvesting pits in independent buildings, public places

Colony with no dry borewells

M. ROUSHAN ALI | DC
HYDERABAD, JUNE 13

Just two years ago, most bore wells had dried up in Gul Mohar colony near Hitec City and local residents rued their decision to purchase plots in a layout that was developed over rocky terrain. Today, they are all smiles because almost all borewells in the colony inhabited by over 1,000 families, are overflowing with groundwater. The complete turnaround in the scenario was made possible by the collective decision of colony residents to construct rainwater harvesting pits in every house.

"As on date, we have 200 rainwater harvesting pits (RWH) in independent buildings and another dozen constructed by the Greater Hyderabad Municipal Corporation (GHMC) at public places within the colony. There are 500 houses and 1,000 plus families. Our target is to cover all buildings with rainwater harvesting pits and then construct many more on the roadsides and parks in the colony. It was not an easy



Residents of Gul Mohar Colony claim that the borewells in their areas have not been drying up after they built rainwater harvesting pits.

task to convince people to invest ₹5,000 for each RWH pit, but this summer, not a single borewell dried up. Now, families thank us for conducting a series of meetings with them to convince them to go for RWH pits," said Gul Mohar colony president Shaik Khasim.

M. Satyam, an employee of Hyderabad Central University and resident of the colony said, "My RWH pit was the first to be inaugurated in the colony. Before the pit was constructed, we could not pump bore water through the motor for more than half an hour because it used to go dry. After the rainwater harvesting pit was dug, we can run the motor for over an hour and the pressure of water has also increased. We passed this summer without any water problem." Other residents echoed the sentiment.

There are 87 houses and 30 rain water harvesting pits in the colony.

"Our colony welfare association has a secretary to exclusively look after water issues and another office-bearer in

charge of the environment. It is high time people realised the importance of keeping the air, water and environment clean and green," said Lakshmi Vihar colony president Srikant.

GHMC zonal commissioner (West) Aleem Basha said that colony residents had invested money on rainwater harvesting pits and were now reaping the benefits in terms of having copious groundwater.

Though there was no scheme from the GHMC two years back, now the top civic body offers to refund 50 per cent of the cost incurred by residents of the colony towards setting up RWH pits in individual houses and 70 per cent cost reimbursement for RWH pits constructed at public places in the colony.

"We will also provide technical support for the construction and maintenance of pits," he said.

He added that they have planned to construct 5,000 and more RWH pits in the next two months in and around the West Zone limits.

The Economic Times, Delhi dated June 17, 2013

Green Ministry Lays Out Norms for Clearance & Monitoring of Forests ^{me}

OUR BUREAU
NEW DELHI

Industry's demand for a predictable and more structured forest clearance system could soon be a reality. An environment ministry committee has recommended improvements to the forest clearance and monitoring of clearance conditions takes place.

The committee has described "monitoring" as the "weakest link" in the "entire forest clearance process". It has provided the structure for a "transparent, effective and unbiased" system to facilitate expeditious follow up in the event that clearance conditions have not been met. The proposed monitoring system includes self-monitoring by project proponents and the forest administration. The system also relies on third-party monitoring by the accredited institutions and experts, as well as the use of remote sensing satellite for real time data.

Besides, buttressing the monitoring mechanism, the committee has recommended changes across the board, right from the manner of inspection of forest land under consideration for diversion, verification of reports.

To improve inspection of forests being considered for diversion, the committee has, in line with the Supreme Court order, suggested setting up site inspection standing committees. These will look into cases where there are doubts about project developers' claim that no forest land is being used. While there exist a detailed system scrutinising applications for forest land, there is no system of verification. The committee has suggested using real-time satel-

Site Inspection

THE COMMITTEE HAS described 'monitoring' as the 'weakest link' in the 'entire forest clearance process'

TO IMPROVE INSPECTION of forests being considered for diversion, the committee has suggested setting up site inspection standing committees



lite imagery for this purpose.

The committee's most far-reaching suggestions are in the area of monitoring.

The proposed system requires that project developers using more than 100 hectares of forest land to prepare status reports of compliance of clearance conditions, which will have to be reviewed by the company's executive head and published both in the company's annual report and its website. The latter will allow for affected individuals, stakeholders and the public to review the company's claim. In its report on the website, the company would have to provide the measures it has taken or is taking to rectify non-compliance or partial compliance of conditions.

The company will have to submit annual compliance reports by January 31 for the preceding calendar year to the nodal officer under the Forest Conservation Act, the deputy conservator of forests, the conservator of forests, the principal chief conservator of forests, the state government

and the regional office of the environment forests.

The state government will report to the ministry companies that have failed to undertake the self-verification exercise. The report should also provide the punitive actions it has taken or is taking against companies that have not met all the conditions set out while granting the forest clearance. The ministry will take necessary action based on these reports.

Alongside this system of self-verification, the committee has laid out a system, which requires the forest administration to monitor compliance. Responsibilities with timelines have been set out for the deputy conservator of forests, the conservator of forests and nodal officers to monitor adherence to clearance conditions of mining activities, hydel and industrial projects during construction and post construction stage. Depending on the level of the monitoring official and the project, these would be annual, biennial, triennial, or even once in five years.

Building in another level of checks, the committee has suggested monitoring by the central government through its regional offices, third parties (accredited institutions and experts) and real time satellite data.

It has also set out a system of addressing major violations affecting flora, fauna and the environment and for minor violations. Major violations would result in suspension of clearance, while the matter is being addressed. In its compliance system, the committee has borrowed from the system in place for violations of environmental norms and conditions.

The committee has not addressed the issue of manpower. While monitoring of implementation of clearance conditions has been a cause of concern, the absence of manpower has been a contributory factor. The proposed system ropes in the project developer in the monitoring process. Not buttressing the existing administrative structure will upset the balance and effective render the proposed system useless. The ministry's proposal to set new regional offices to improve functioning is yet to be cleared.

An important factor affecting forest clearances has not been worked into the system — this relates to the rights of the forest dwelling population. Adherence to the Forest Rights Act is crucial for a project to be granted permission to divert forest land. While the implementation of the Forest Rights Act is the mandate of the tribal affairs ministry and the departments in the states, the committee has not clarified how the fulfilment of this requirement will be verified while deciding on forest diversion proposals.

The Deccan Chronicle, Hyderabad dated June 18, 2013

GREEN REPORT

Coal should stay in ground to save climate

Sydney, June 17: Most fossil fuels must remain in the ground because burning them will unleash changes that will "challenge the existence of our society", a new Australian government agency report warned Monday.

The Climate Commission study found that the burning of fossil fuels such as coal, a key Australian export, represented the most significant contributor to climate change.

"Burning all fossil fuel reserves would lead to unprecedented changes in climate so severe that they will challenge the existence



of our society as we know it today," said the report, *The Critical Decade*.

"It is clear that most fossil fuels must be left in the ground and cannot be

burned." Most nations, including Australia, have agreed that the risks of the climate changing beyond two degrees Celsius are unacceptably high. But to

ensure the climate is stabilised, the world must "virtually decarbonise", the report said.

"In order to achieve that goal of stabilising the climate at two degrees or less, we simply have to leave about 80 percent of the world's fossil fuel reserves in the ground," report co-author Lesley Hughes told state broadcaster ABC.

"We cannot afford to burn them and still have a stable and safe climate." The report noted a recent resurgence in the discovery and exploitation of new reserves of fossil fuels in Australia and elsewhere,

including new coal fields as well as coal-seam gas and shale oil.

Australia's coal reserves alone represent about 51 billion tonnes of potential carbon dioxide emissions, or around one-twelfth of the 600 billion tonnes which, if emitted, are thought would push temperatures above the two degrees Celsius threshold, it said.

The independent Climate Commission, established by the government in 2011 to provide authoritative information on climate change, had called for an immediate slowdown in carbon emissions. — AFP

The Economic Times, Delhi dated June 18, 2013

Airtel to Use Green Energy to Power its Africa Towers

DEEPA GUPTA
MUMBAI

Bharti Airtel plans to use environmentally-friendly energy sources to power its telecom towers in Africa as part of an effort to reduce the operational costs of running the network. The company plans about 1,300-1,400 towers to be powered by solar energy and some more harnessing wind energy, reducing their consumption of diesel by 11 million litres of fuel just this financial year, said a company spokesman.

An industry expert, who asked not to be named said there is pilferage of around 3-6% of diesel at towers in Africa, that may be curbed with alternate solutions.

Indus Towers chief executive, B S Shantharaju said, the capital cost of setting up a solar power unit is Rs 9-11 Lacs per tower (for a load of 5 KW /tower). "Indus Towers, a joint venture between Bharti Airtel, Vodafone India and Idea Cellular, is the country's largest telecom tower company.

However, Mahesh Choudhary, founder and chief executive Microqual, a company that builds towers, said the cost could be as high as Rs 50 lacs. Operationally, it involves saving of about a quarter of the fuel cost. Solar power is functional at around 1,000 towers, said the Bharti spokesman. The Indian telecom operator acquired businesses in 15 African countries for over \$10 billion in 2010 from Kuwait-based Zain Telecom. The business over the last three years has not panned out as Bharti had planned.

Bharti was hoping to superimpose the Indian business model in Africa, but the market did not show as much price elasticity as the Indian market when Bharti cut rates. The company has since been channeling all efforts to meet financial targets there, which keep getting deferred, say industry analysts. Recently, Bharti moved the Africa unit to separate its telecom towers from the telecom operations, to create a company in which infrastructure can be shared, as it does in India. The company is revamping power to its towers in Africa, of which 9% still remain off central power grids.

The Times of India, Delhi dated June 19, 2013

Green min ignores states' opposition, OKs GM trials

Nitin Sethi | TNN

New Delhi: The environment ministry's genetic engineering appraisal committee (GEAC) has cleared field trials for genetically modified rice, wheat, maize and the castor oil plant for the kharif season.

The clearances — some of them extensions of existing clearances that stood to lapse with state governments opposing field trials and others for relocating trial sites — come while the Biotechnology Regulatory Authority of India Bill is pending before the standing committee of Parliament and the Supreme Court is yet to pass a verdict in a case challenging the existing regulatory mechanism for GM crops in the country.

Clearances for another 53



TURNING A DEAF EAR?

field trials are pending with the statutory GEAC now.

Bayer Bioscience has got an open-ended clearance to test GM rice in all four regions of the country. The clearance will allow it to carry out the tests wherever it can convince the state governments. A final nod from state governments is mandatory for field trials. Bio-

tech companies have been complaining about some states' unwillingness. Such blanket nods will now help companies move to convenient states. Mayhco and BASF India Limited have also got the nod to carry out trial on GM rice.

The Hyderabad-based Directorate of Oilseeds Research's GM castor oil plan field tests have been re-approved. It had the permission earlier, too, which had lapsed owing to a lack of approval from the Andhra Pradesh government.

Monsanto has been given clearance to field test its GM maize at alternate sites in several states after it found opposition from the states it had earlier got the clearance from the Union government.

The Deccan Chronicle, Hyderabad dated June 20, 2013

15% green space must for industries

DC CORRESPONDENT
HYDERABAD, JUNE 19

The Industries Department is working out the mandatory green code for all industries and factories in the state. As per this code, it will be essential for all industries to provide a compulsory 15 per cent of their area for vegetation. They will also be required to go in for green energy sources like solar and wind power.

The new mandate is being worked out so that the industries, which are known to be the worst offenders in the high-polluting sector, do their bit for energy conservation and environmental causes.

Such a mandate has been in place only for the IT industries in the state. While this is now being extended to high rises and commercial buildings as well, the industries are being brought into the 'green' net for the first time. "The industries department is working out modalities to bring in the 'Green Factory Building Code' for all factories to provide a green cover in at least 15 per cent of the total site area. It will allow natural daylight and fresh air into the factory building and avoid the wastage of electricity, apart from using energy efficient

Energy saving

Usage of energy efficient tools like star rated equipment and adopting energy conservation norms to save energy to the maximum extent, will be mandated for the buildings.

systems," said an official from the department.

Currently, the Energy Conservation Building Code framed by the State Energy Conservation Mission is applicable to all non-residential buildings, with more than 1,000 sq meters of plot area or 2,000 sq meters of built up area, whichever is higher. Large buildings, multi complexes, malls and skyscrapers would need to comply with the ECB code and the SECM will seek the views of architects, engineers and builders on this. The objective is to make the ECB code mandatory in areas of lighting, heating, pumping, recycling of water and rain-water harvesting in all large buildings with a load of more than 100 kilowatts. Usage of energy efficient tools like star rated equipment and adopting energy conservation norms to save energy to the maximum extent, will be mandated for all such big buildings.

World Bank releases report, paints grim picture of future Global warming to dry up rivers, inundate cities

New Delhi, June 19: India's summer monsoon will become highly unpredictable if the world's average temperature rises by 2°C in the next two-three decades, a scientific report commissioned by the World Bank says.

The report released in the national capital on Wednesday focuses on the likely impacts of warming between 2°C and 4°C on agricultural production, water resources, coastal ecosystems and cities across South Asia, sub-Saharan Africa and South East Asia.

The report titled *Turn Down the Heat: Climate Extremes, Regional Impacts and Case for Resilience* warns that by the 2040s, India will see a significant reduction in crop yields because of extreme heat. "An extreme wet monsoon that currently has a chance of occurring only once in 100 years is projected to occur every 10 years by the end of the century," the report says.

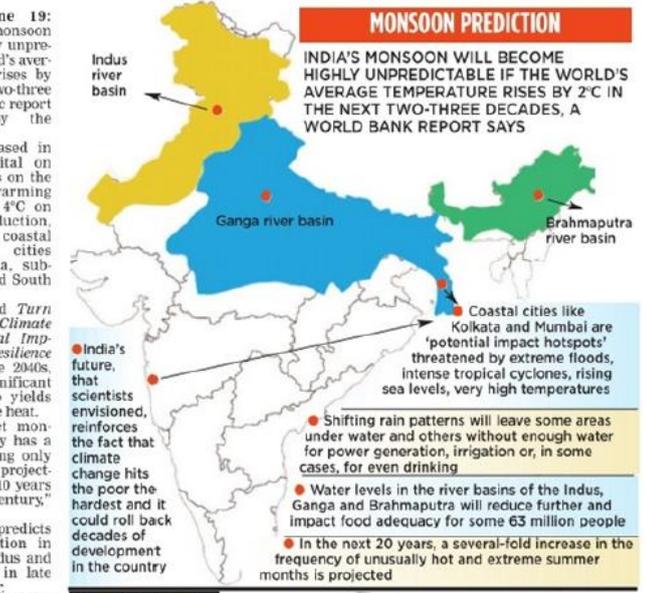
The report also predicts substantial reduction in the flow of the Indus and the Brahmaputra in late spring and summer. It is estimated that by the 2050s, with a temperature increase of 2°C-2.5°C, water for agricultural production in the river basins of the Indus, Ganges and Brahmaputra will reduce further and may impact food adequacy for 63 million people.

The report, prepared for the World Bank by the Potsdam Institute for Climate Impact Research and Climate Analytics and peer reviewed by 25 scientists worldwide, says the consequences for South Asia are even worse if global temperatures increased by an average of 4°C by 2090.

In this scenario, seen as likely unless action is taken now to limit carbon emissions, South Asia would suffer more extreme droughts and floods, rising sea levels, melting glaciers, and declines in food production.

Many of the worst climate impacts could still be avoided by holding warming below 2°C, but the window for action is narrowing rapidly, the report says.

"In order to minimise the impacts of a changing climate, we need to ensure that our cities become climate resilient, that we develop climate-smart agriculture practices, and find innovative ways to improve both energy efficiency and the performance of renewable energies," Onno Ruhl, World Bank country director in India, says in the report.



SOLUTION

Urgent action is needed to build resilience through climate-smart agriculture, flood defences, drought and heat resistant crops, improved ground water management, better coastal infrastructure, and human health, the World Bank report says.



- Rising ocean temperatures and saltwater intrusion into rivers could ruin local fisheries in countries such as Vietnam.
- In Africa, areas relied on for corn and other crops may become too arid to farm, and grazing lands could wither.
- A warmer North Atlantic is increasing the chances of wet summers over the UK and hot, dry summers around the Mediterranean — a situation that is likely to persist for as long as the North Atlantic remains in a warm phase.

The Deccan Chronicle, Hyderabad dated June 20, 2013

Too much heat over global warming

After the Intergovernmental Panel on Climate Change's Assessment Report 4 (AR4), published in 2007, there were several sensational reports published by several international groups, including World Bank, Oxfam, CGIAR, etc. They based their arguments on the AR4 predictions on global warming and the consequent impacts on agriculture and weather — rainfall, cyclonic activity, sea level rise, glacial retreat, etc.

However, some of these were exposed at Copenhagen Summit in December 2009. After this, IPCC withdrew its conclusions on Himalayan glaciers and Al Gore withdrew his conclusion on Greenland ice-melt. Recently, IPCC presented its summary of AR5 draft wherein it expressed that natural variations in climate will play a vital role in the next two decades. Also, it summarised that global warming has not shown any significant influence on hurricanes, global precipitation, and extreme weather.

However, several agencies are trying to sensationalise with expected impacts under different temperature scenarios, like 2°C, 4°C etc. The fact is that the



Dr S. Jeevananda

Andhra Pradesh receives rainfall in two monsoons. So far, there is no change either in monsoon onset pattern or monsoon rainfall pattern

observed global temperature showed a linear increase by 1°C by 2100 from 1880. On this superposed a 60-year cycle varying between -0.3°C to +0.3°C (natural variation). So far the increase is around 0.5°C, and between 1997 and 2011, global temperature showed a flat pattern — no change — though carbon dioxide increased linearly reaching 400 ppm.

Let me give an example of Hyderabad temperature variation (in °C) from 1931-1960 normal book: May average 38.7°C - December average 27.8°C = 10.9°C; May extreme average 42.4°C - May average 38.7°C = 3.7°C; December extreme average 30.6°C - December average 27.8°C = 2.8°C. That shows our agriculture system works under such a wide temperature variations. In

tropical countries moisture is the limiting factor for crop production and extra-tropical countries temperature is the limiting factor.

The climate change consists of natural variations like systematic variations [cyclic variations] and irregular variations [extremes] and man induced variations, such as ecological changes associated with land use and land cover changes and global warming associated with greenhouse gases plus several other factors, including urban heat-island effects. Our forefathers developed farming systems that are suitable to systematic variations for different soils and associated temperature regimes — during dry years & black soils temperatures will be higher. These are modified by ecological

changes locally. In the case of southwest monsoon rainfall, at all-India level, followed a 60-year cycle. Our observed data showed since 1871 two 60-year cycles were completed and we are in the third cycle since 1987. In this the first 30 years form good monsoon in majority of the years. This will end by 2016 and follow the drought prone 30 year period from 2017 on many years — during this period temperatures on many years may be higher than normal due to dry weather — in 2009 it was higher by 0.9°C.

In the case of Andhra Pradesh this is different as it receives rainfall in two monsoons. So far there is no change either in monsoon onset pattern or monsoon rainfall pattern. Global warming has not affected the monsoon pattern so far and also we don't expect this even by 2100 as there is no reliable information to accept World Bank's hypothetical predictions based on model simulations.

When we talk of coastal cities, so far there is no global warming related to sea level rise or glacial retreat in Himalayan zones? The fact is we are destroying our coastal zones to meet some people's greed and as a result coast lines are breathing severely. In

the case of Sundarban Mangrove belt, the silting affected this zones submergence. Same is the case with Bangladesh coast line. Last few days Himalayan disasters are associated with man-made factors only.

In India, the water crisis is more associated with pollution and extraction of groundwater without recharging and large part of the water entering the ocean. In the case of food, we are producing in excess and wasting — loss & waste — 40 to 50% of produced food. It is 30% globally. Since 1984-85 our technology on crop production reached a plateau as our research priorities shifted to serve vested interests. Our progressive farmers showed remarkable growth in production under organic traits. So, India must look at such a technology and better water management that gives sustainable production under climate change, more particularly natural variations. The reports brought out by organizations such as World Bank serve only vested interests and not the Indian interests.

— Dr S. Jeevananda Reddy, former chief technical advisor; WMO/UN and expert, FAO/UN

Average Global Temperature Set to Increase by 4 Degrees

URMIA GOSWAMI
NEW DELHI

Global average temperature is set to rise by as much 4 degrees if urgent steps are not taken to address climate change. Bringing with it heat waves, untimely and unpredictable quantities of rain and other forms of extreme weather, which would wreck more havoc than the extra 40 mm rainfall just did.

Science puts the acceptable global temperature rise at 2 degrees above pre-industrial levels to limit the harmful impact of climate change.

Analysts like Marion Vieg, Bill Hare, Nick Hohne of Ecofys suggest that given the current levels of carbon emission, implementing all the measures that would limit emissions would still mean a "40% chance of warming exceeding 4 degrees centigrade by 2100 and a 10% chance of it exceeding 5 degrees centigrade in the same period." The best case is a warming of 3.8 degrees. All of it is way above the 2 degrees guardrail that science has identified, and which all governments have accepted as a goal as part of the UN-sponsored climate change negotiations.

The International Energy Agency is of the view that measures can be adopted to ensure that the goal of limiting the earth's temperature rise to 2 degrees can be met. In a report,

the IEA states that global energy-related carbon emissions increased by 1.4% to reach a historic high of 31.6 gigatonnes in 2012. Of the total emissions, the non-OECD countries accounted for 60% of the emissions, up from 45% in 2000. In 2012, India's emissions grew by some 45 Mt of carbon dioxide, or 2.5%, this was mainly on account of coal.

However, the rise in emissions was much lower than the previous year due to lower GDI growth and issues related to domestic coal production. Given the co-relation between GDI and emission rates, the IEA recognises that India's emissions are related to the stage in economic development.

The Economic Times, Delhi dated June 20, 2013

The Times of India, Delhi dated June 20, 2013

Deforestation, Encroaching On River Beds: How The Hills Took A Beating

CAG warned 3 yrs ago about damage to hills

Pradeep Thakur | TNN

New Delhi: The devastation in the Garhwal Himalayas was pretty much on predicted lines and man-made. An environmental assessment of the Bhagirathi and Alaknanda rivers three years ago by the Comptroller and Auditor General (CAG) had warned of severe hazards both for natural ecology and stabilization of hill slopes along the riverbed, erosion of which has resulted in hundreds of casualties in the flash floods.

The report — part of a performance audit on hydropower development in Uttarakhand through private participation — had alerted both the Centre and the state government that mushrooming hydel power projects on the two rivers were causing damage to the hills besides increasing possibility of flash floods that could lead to huge loss of lives.

The report said 42 hydropower projects were in operation and 203 were under various stages of construction and sanction, almost one power project every 5-7 km of the rivers. The report had warned how deforestation due to these projects was damaging the hills. Reforestation was found to be highly deficient: 38% of

projects hardly had any plantation. The audit said out of eight projects studied, three had zero achievement with regard to afforestation. In Shrinagar, an under construction power project was suppose to plant 1,15,700



THE THIN DREAD LINE: Soldiers rescue stranded villagers in Uttarakhand

trees whereas it planted none. Even projects which reported plantation had no record of their survival rates.

Scrutiny of these projects revealed that no specific measures were planned to cope with flood risk even as project developers had information that such possibilities existed as "mountains provide large amounts of water from melting snow and glaciers" and that the "bursting of glacial lakes could cause flash floods.

'Unchecked infra projects made it worse'

Jayashree Nandi | TNN

New Delhi: Not just nature's fury, rampant unplanned infrastructural development is also to be blamed for the devastation caused by the recent

ings coupled with deforestation could have worsened the impact of the flash floods.

"We do not have credible environmental-impact assessment of infrastructure projects on these highly ecologically sensitive areas," says Himanshu Thakkar of SANDRP. "Neither is there any credible mechanism to assure compliance with environmental regulations. These are places where there is a heavy tourist influx. The collapse of buildings like a set of playing cards shows these were encroachments on the riverbed and floodplains."

Thakkar says there have been seven similar flood-related disasters in Rudraprayag in the last 34 years. "The administration should have learnt," he says. "This is not the first time such a disaster has hit us. Both Uttarkashi and the Chamoli-Rudraprayag-Kedarnath area faced monsoon disasters last year, killing several people. There are a few hundred hydropower projects, for instance, in the various tributaries of the Ganga here. These may all be legal projects approved by the environment and forests ministry but have a serious bearing on the flow of the river."

floods in Uttarakhand. Environmentalists feel the damage to life and property there and also in Himachal Pradesh may be the result of indiscriminate encroachments on riverbeds and unchecked infrastructure projects.

The South Asia Network on Dams, Rivers and People (SANDRP) says too many hydropower projects, underground tunnels, roads, encroachments of riverbeds by build-

The Economic Times, Delhi dated June 20, 2013

Climate Change Could Impact Food Output: World Bank Report

URMIA GOSWAMI
NEW DELHI

The government's attempts to push through the Food Security Bill may earn it political brownie points, but failure to counter and stem climate change is likely to blunt the impact of the legislation.

Existing projections on the impact of higher temperature on agricultural production vary. However, there is empirical evidence that higher temperatures, and the resulting higher levels of carbon dioxide in the atmosphere are expected to lower protein levels of crops such as wheat and rice.

A World Bank report stresses that the impact of climate change on food production could be severe, especially given that the benefits of carbon dioxide fertilisation, which is an increase in rate of plant growth due to increasing carbon dioxide concentration in the atmosphere, are still uncertain. The lower nutritional value of food grain would have "strong repercussions on food security and are likely to negatively influence economic growth and poverty reduction in the impacted regions", the report, titled "Turn Down the Heat: Climate Extremes, Regional Impacts and the Case for Resilience", has said.

While agricultural productivity of some regions of the country may improve with higher temperature, studies show that the nutritional value of crops decreases, bringing down the nutritional value of the food grain being offered to the households under the proposed law.

Projections on the impact of higher temperatures on account of climate change on agricultural produce vary depending on the temperature rise and location. Some areas, particularly arid re-

gions, could experience improved production on account of higher carbon dioxide levels in the atmosphere. However, even as the quantity of the production increases the nutritional value decreases.

According to studies, while higher temperatures would affect water availability, chances of droughts and flooding, and other elements that affect food production, these cannot be countered by the benefits of increased carbon dioxide, which are still uncertain.

The World Bank report has drawn on extensive studies linking the impact of climate change on nutri-

The report has drawn on extensive studies linking the impact of climate change on nutritional value of the food production, particularly grains

tional value of the food production, particularly grains. Studies by D Taub, B Miller and H Allen reveal that while the grain mass increases on account of higher atmospheric carbon dioxide (as a result of global warming), the protein concentration of the grains decreases, particularly in

wheat, barley, rice and potatoes.

Rice and wheat are key components of the food grain on offer under the food security legislation. More recent studies by Pleijel and Uddling on the impact on wheat production confirm this finding. The study found that increased carbon dioxide levels in the atmosphere result in decreasing the nutritional value of wheat harvests.

The report finds that crop production systems will be under increasing pressure to meet growing global demand in the future. Already the 0.8°C warming has shown to have significant impact on crop yield.

The Times of India, Delhi dated June 21, 2013

Indonesian haze chokes Singapore, Malaysia

Singapore: Smoke from forest fires in Indonesia has choked Singapore, prompting authorities here to take precautionary measures following the worsening pollution level in the city-state.

The haze, blown from fires in Sumatra Island, hit Singapore and Peninsular Malaysia over the weekend and lifted air-pollution indexes. The Civil Aviation Authority of Singapore (CAAS) said its air-traffic controllers have increased the separation between flight takeoffs and landings as an added precautionary measure following the worsening haze situation in the city-state, Channel News Asia reported on Thursday.

CAAS explained that the Runway Visual Range (RVR) reading has dropped to levels lower than 1,500 metres due to the haze. RVR is a measurement of the horizontal visibility along the runway or the range over which the pilot of an aircraft can see along the



For steps to download and use free Alive app, see P 21

runway, CAAS said a high air Pollutant Standards Index (PSI) may cause the RVR value to fall and therefore may impact flight operations.

On Wednesday night Singapore registered PSI of 321. The air becomes "very unhealthy" if PSI past 200 mark and "hazardous" past 300.

The air quality in Muar city in southern Peninsular Malaysia was hazardous with the air pollutant index (API) reading hitting 337.

In 1997, the RVR was lowest at 800 metres during the worst haze environment but flight operations were maintained then.

Minister of environment and water resources Vivian Balakrishnan said the haze was set to persist over the next few days, and whether a stop-work order would be issued would depend on the severity of the haze conditions. He said that this was the worst haze hitting Singapore.

Soon, wood will make battery green

Washington: Scientists have found that a sliver of wood coated with tin could make a tiny, long-lasting, efficient and environmentally friendly battery.

But don't try it at home yet — the components in the battery tested by scientists at the University of Maryland are a thousand times thinner than a piece of paper.

Using sodium instead of lithium, as many rechargeable batteries do, makes the battery environmentally benign. Sodium doesn't store energy as efficiently as lithi-

um, so you won't see this battery in your cellphone — instead, its low cost and common materials would make it ideal to store huge amounts of energy at once, such as solar energy at a power plant, researchers said. Existing batteries are often created on stiff bases, which are too brittle to withstand the swelling and shrinking.

Liangbing Hu, Teng Li and their team found that wood fibres are supple enough to let their sodium-ion battery last more than 400 charging cycles. AGENCIES

The Times of India, Delhi dated June 22, 2013

'U'khand rains may be due to climate change'

Rajeev Deshpande | TNN

New Delhi: The catastrophic rainfall in Uttarakhand was most likely due to climate change, as it is in pattern with increasing incidents of extreme weather events causing phenomenal damage as was seen in the hill state, earth sciences secretary Shailesh Nayak said.

Nayak told TOI on Friday that although "direct evidence" was lacking, the cloudburst that triggered flash floods in Uttarakhand read like a weather phenomenon brought about by warming. "Extreme weather is becoming common. The June 17 rains might be read in the context of climate change," he said.

Nayak is the first senior figure in government with scientific credentials to suggest climate change as the possible reason for the torrential rains even though a debate has been raging over the past week with some pointing to global warming while others saying more evidence was needed.

Admitting forecasters and analysts failed to predict the intensity of the downpour - some experts would suggest climate change can be a red herring - Nayak said India was still developing expertise needed to understand extreme weather while improving observational data.

Relief, rescue our priority: Tewari

The Centre is in no hurry to declare the Uttarakhand floods a 'national calamity', with I&B minister Manish Tewari insisting that rescue and relief, for now, are the priorities of the government. "The need of the hour is not to debate whether the disaster can be classified as 'man-made' or a 'national calamity' but to ensure that every stranded person is rescued," he said on Friday. TNN

The rise in incidence of weather events like high intensity rainfall, whether a result of climate change or just a confluence of atmospheric conditions, is posing new challenges to forecasters as well as for the management of water resources.

Nayak pointed to an emerging pattern. "We are seeing a decrease in low and moderate events and although we are still scanning the evidence, climate change cannot be ruled out," he said.

Any effort to improve forecast of weather events like the one that ravaged Uttarakhand's valleys need advanced computational capabilities.

India is making progress here and high-powered facilities will be operational soon.

The Deccan Chronicle, Hyderabad dated June 23, 2013

UK-MADE ELECTRIC CAR TOUCHES 185 MPH



CAR MAKER Nissan has launched the world's fastest electric car that can reach 185mph - twice the speed of electric cars currently available in the market. Nissan's Zero Emission On Demand Racing Car (ZEOD RC) is fitted with modified versions of the electric technology used in the British car maker's LEAF model. The ZEOD RC will make its race debut at 2014 Le Mans 24 Hour event in France. The car will compete under the Automobile Club de l'Ouest's "Garage 56" entry - an additional spot on the grid for vehicles that showcase innovative technology. - Mail Online

The Times of India, Delhi dated June 24, 2013

'Earth's temp rise rate equals heat from 4 atom bombs/sec'

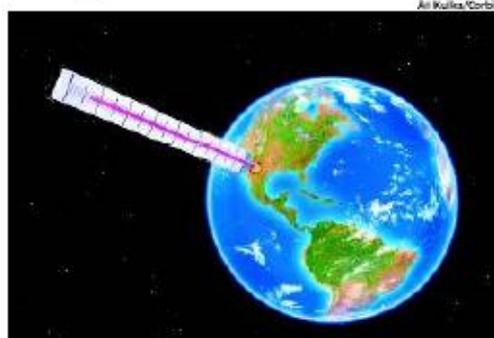
Emission Of CO₂ Higher Than Ever Before, Warn Scientists

Melbourne: Earth has been building up temperatures at a rate equal to the heat generated by four Hiroshima nuclear bombs every second, a climate scientist has warned.

According to John Cook, Climate Communication Fellow from the Global Change Institute at the University of Queensland, humans are now emitting more carbon dioxide into the atmosphere than any other time in history of humankind.

"All these heat-trapping greenhouse gases in our atmosphere mean our planet has been building up heat at the rate of about four Hiroshima bombs every second - consider that going continuously for several decades," said Cook.

In a speech on extreme weather in Sydney on Saturday Cook said about 90% of



NEW HIGHS: 120 climate records were broken in Australia this January, including the hottest month and the hottest day

global warming was going into the oceans, which act like a natural thermometer along with changes in land, ice, and animal species.

He warned that distributions of trees are shifting to-

wards cooler areas of Earth such as the poles or mountains, and animal species are responding to global warming by mating earlier in the year.

"This is not because ani-

mals are getting rancid, it is because the seasons themselves are shifting," Cook said.

Cook said studies have tried to put a number on how much of global warming is caused by humans, "and the rough answer is, a lot of it".

He said for the last 21 years, 97% of scientists have been in agreement that human activity is behind warm-er temperatures.

Hurricane Katrina and superstorm Sandy are just two examples of how extreme weather will intensify, it was reported in Australia's Climate Action Summit. At least 120 climate records were broken in Australia this January including the hottest month and the hottest day. New colours had to be added to temperature maps to mark highs of over 50 and 54 degrees Celsius. www.abc.net.au

Low Valuations Bring Power Back in Wind Energy; Sector Sees ₹1,500-cr Investment

First quarter of 2013 has already seen transaction value cross \$188 million

BISWARUP GOOPTU & SHREYA JAI
NEW DELHI

More investors are backing wind energy projects as low valuations make the sector attractive for risk capital deals. This year, over ₹1,500 crore has been invested so far and the momentum is expected to continue with deep-pocketed players, such as Goldman Sachs, increasing their exposure in the sector. Earlier this month, a private equity fund run by the Wall Street investment bank invested ₹760 crore in wind energy firm ReNew Power Pvt Ltd.

"Wind assets are now available at a very good price. The entry-level valuations are quite cheap, and investors can look to recover money within four to five years," said Arvind Modi, vice-president at Gujarat Venture Finance Ltd. In January, his fund put in ₹40 crore in a special purpose vehicle of UK-based SITAC Group. The investment was made out of the Golden Gujarat Growth Fund, a ₹1,000 crore fund launched in 2011.

ReNew Power, promoted by cleantech entrepreneur Sumant Sinha, received a first investment of \$200 million (about ₹1,185 crore) from Goldman Sachs in 2011.

Over the past six months, a number of leading risk capital firms, including Goldman Sachs and IDFC, and development finance institutions, such as the Asian Development Bank, have entered into pure equity or equity and debt-linked transactions with wind energy producers.

It's In The Air

Top Deals

- Goldman Sachs invested \$135 million (₹800 crore) in ReNew Wind Power in June 2013
- Asian Development Bank invested \$30 million (₹178 crore) in NSL Renewable Power in May 2013
- An investor consortium that included Proparco, DEG and South Korean PE firm Asia Clean Energy invested \$60 million (₹355 crore) in NSL Renewable Power in April 2013
- Leap Green Energy, backed by JP Morgan Asset, bought DLF's wind power assets for \$44 million (₹260 crore)
- Gujarat Venture Finance invested ₹40 crore (1st tranche) in a SPV of UK-based SITAC Group in January 2013

Why?

- Low entry valuations
- Policy framework in place
- Stronger exit road-map through IPO or strategic sales
- Cheaper than solar power

UPNESH

Valuations have come down sharply over the past 12 months and investors are buying stakes in highly leveraged projects, and replacing external commercial borrowings with equity.

"A 1 MW project, which earlier cost between ₹7 crore and ₹8 crore, cannot be purchased at half that, which should also help greatly in deciding when to go public," Modi said.

"The good thing now is that large infrastructure funds—Morgan Stanley and Goldman Sachs—consider (wind) as an infrastructure play," said Ashish Sethia, India country manager of Bloomberg NEF. "The quantum of money in each transaction could be much higher than 10 transactions in the past." In 2012, private capital investments in wind energy companies operating in India were \$274.7 million (₹1,628 crore). The first quarter of 2013 has already seen transaction value cross \$188 million (₹1,114 crore), according to data collated by Bloomberg New Energy Finance (BNEF).

The country's highly fragmented wind energy sector is being seen as a surer bet than solar power, to meet its massive energy requirements. During 2012-13, wind energy capacity addition was 1,698 MW against solar which added just 754 MW.

"Investment costs in solar projects are at least 30% to 40% higher than wind, and there are issues relating to land acquisition," said Modi.

ReNew Power's Sinha, who was earlier the chief operating officer of Suzlon Energy, said if the policy environment is conducive, the wind power sector could add around 2,000-3,000 MW in the current fiscal.

The investments come in face of a number of policy flip-flops, which has seen the government introduce, and then withdraw, incentives designed to boost production as well as investments in the space. From 2003 to 2012, the government introduced accelerated depreciation, which allowed for 80% of the project cost to be paid back

if a project was commissioned before September 30 of that financial year, or 40% of the cost if it was commissioned before March 31.

However, for the fiscal ended March 2012, both accelerated depreciation and generation-based incentives, which had been in place for barely one year, were withdrawn.

"We are long-term investors... There is however a need to clarify certain issues such as implementation of generation-based incentives," said Sanjiv Aggarwal, partner-energy at Actis Capital, one of the world's largest private capital investors in renewable projects.

While Finance Minister P Chidambaram has announced the re-introduction of generation-based incentives in his Budget, the tariff terms and duration are yet to be clarified.

"Unfortunately, there is considerable policy friction in the wind market, and ground-level execution problems. Investors need to be pragmatic in their roll-out plans," ReNew Power's Sinha said.

The Economic Times, Delhi dated June 24, 2013

The Deccan Chronicle, Hyderabad dated June 25, 2013



The Economic Times, Delhi dated June 25, 2013

India, US to Set up New Group on Climate

To be coordinated by Kerry and Indian External Affairs Minister Salman Khurshid

OUR BUREAU
NEW DELHI

India and the United States have agreed to set up a new working group on climate change. US Secretary of State John Kerry said at a briefing in New Delhi that the working group would "intensify efforts to find ways that we can bilaterally join together to address the urgency of climate change".

The proposed working group will be co-ordinated by Kerry and India's External Affairs Minister Salman Khurshid. Kerry said India and the US were collaborating on development efforts and "believe we can do so more on climate change".

The external affairs ministry taking a lead on climate change discussions with a key player in international negotiations could well be indicative of New Delhi's effort to integrate its position on climate change with its larger foreign policy goals. Typically, the environment ministry has taken lead in international dealings on climate change.

The US, a key player in the international negotiations, has not signed on to global agreements like the Kyoto Protocol to limit carbon emissions to counter climate change. It was instrumental in the fashioning of the agreement at Durban to work on a new global climate change regime, which would include all countries.

"The US maintains that all countries



US Secretary of State John Kerry with External Affairs Minister Salman Khurshid

should be equally dealt with in the post-2020 climate change regime. New Delhi for its part has insisted that post 2020 regime must adhere to the principle of common but differentiated responsibility, which creates a firewall between developed and developing countries. The US has maintained that each country's responsibility to cut emissions must be based on its "capabilities". A better understanding of each country's position, and working out a possible middle path would help

in fashioning a climate change regime that addresses the needs of developing countries.

Over the past few years, India has had to craft a position that seeks to balance its growing partnerships with the G-8 and its historical ties with the developing countries, particularly the least developed countries.

The external affairs is taking the lead on the climate change dialogue with the US could well be part of a larger effort to maintain this balance.

Sci-TECH

Less pollution means more hurricanes, say scientists

EFFORTS TO REDUCE air pollution could lead to more hurricanes, climate scientists have warned. A new study has found that anthropogenic aerosols — tiny airborne particles emitted by transport, industry and households — helped keep a lid on the number of tropical storms in the North Atlantic for most of the 20th century. However, the frequency of storms increased after moves to fight pollution led to sharp declines in aerosol levels from 1990. The researchers say their findings corroborate 2012 research which linked



aerosols with hurricanes. "Continued mitigation of aerosols may lead to further increases in tropical storm frequency," the report stated. The study, conducted by the UK national weather service, found that pollutants, spread

through the atmosphere as aerosols, have the effect of brightening clouds, causing more of the sun's energy to be reflected back into space. The knock-on effect of this process, on ocean temperatures and circulation patterns, makes it harder to create hurricanes. When the aerosols are removed this brake on storm-generating conditions is released. "External factors, particularly anthropogenic aerosols, could be the dominant cause of historical tropical storm variability." — Nature Geoscience

Edited by: Prof. Sushil Kumar
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