

‘Climate change is taking place before our eyes’ – the weather of 2012

By John Vidal, for *Guardian*

When in September the Arctic sea ice that freezes and melts each year shrank to its lowest extent ever recorded and then contracted a further 500,000 sq km, the small world of ice scientists was shocked. This was unprecedented, yet there was nothing unusual about the meteorological conditions in the Arctic in 2012, no vast storms to break up the ice, or heatwave to hasten the retreat. Only widespread warming of the atmosphere could have been responsible for less ice growth during the winter and more ice melt during the summer, the scientists concluded.



Eye of the storm ... a woman in front of her flooded home after heavy rains and strong winds brought about by super-typhoon Bopha. Photograph: Jeffrey Maitem/Getty

It was, said the World Meteorological Organisation (WMO), just one of dozens of major physical events in 2012 that convinced many people that the extremes have become normal.

The most dramatic event was possibly hurricane Sandy, which swept through the Caribbean and up the east coast of the United States, leaving hundreds dead and thousands without power or shelter. But just a few weeks later it was possibly surpassed in strength by super-typhoon Bopha, which roared across Mindanao in the Philippines killing at least 900 people and leaving hundreds of thousands of people displaced.

Typhoons aren't unusual in the Philippines or the US, but both of these were well outside their normal timescale and location.

Officially, said the WMO, the first 10 months of 2012 were the ninth-warmest since records began in the mid-19th century, with early months cooled by a La Niña weather event in the Pacific. In addition, 2012 broke the record for carbon dioxide concentration in the atmosphere.

Governments saw records tumble almost every season. According to Nasa, it's now been 28 years since the globe experienced temperatures cooler than the 1951-1980 average. Globally, 10 of the 11 hottest years have now been in the last 11 years.

The US was on course to experience by far its hottest year on record. Nearly 15,000 new daily heat records were set and Europe had its warmest spring ever recorded.

Heatwaves, droughts, floods and hurricanes battered vulnerable countries. "The danger signs are all around. One-third of the world's population lives in countries with moderate to high water stress; land degradation affects 1.5 billion people. Ice caps are showing unprecedented melting, permafrost is thawing, sea levels are rising. The abnormal is now the new normal," said UN secretary general Ban Ki-moon.

Former US vice-president Al Gore backed this up: "Every night on the news now, practically, is like a nature hike through the Book of Revelation."

"Far-reaching changes [are] taking place on Earth's oceans and biosphere. Climate change is taking place before our eyes and will continue to do so as a result of the concentrations of greenhouse gases in the atmosphere, which have risen constantly and again reached new records," said Michel Jarraud, head of the Geneva-based WMO.

"Natural cooling events such as La Niña do not alter the underlying long-term trend of rising temperatures due to climate change as a result of human activities," he added.

But the climate sceptics hit back, saying hysteria was fuelling fears of nonexistent manmade climate change. "The promoters ... have essentially declared that manmade climate change will cause many bad weather events to happen. And since bad weather events always happen, there is no shortage of 'proof' of their predictions," said Marc Morano of Climate Depot.

"They can always claim every bad weather event as evidence of their correctness. There is no way anyone can falsify the global warming claims now because any weather event that happens 'proves' their case, despite the fact that the current weather is neither historically unprecedented, nor unusual," he added.

Nevertheless, the US government's official drought monitor showed nearly two-thirds of the continental US (65.5%) to be in unprecedented "moderate to exceptional drought" by 25 September. Severe drought conditions hit Russia and Siberia during June and July.

In China, Yunnan and south-western Sichuan provinces experienced severe drought during winter and spring. Northern Brazil witnessed the worst drought in 50 years, and the April–October precipitation total in Australia was 31% below normal.

Many parts of western Africa and the Sahel, including Niger and Chad, suffered serious flooding between July and September because of a very active monsoon. Exceptional floods hit Nigeria and parts of southern China experienced their heaviest rainfall in the last 32 years. Devastating monsoon floods hit Pakistan during September.

Only the number of cyclones worldwide was around normal. But, said the WMO, there was some evidence that they were more intense.

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Climate change will mean more malnourished children, experts warn

By John Vidal, for guardian.co.uk



Extreme events, such as this year's drought in the US, could contribute to food prices more than doubling. Photograph: John Sommers/Reuters

Food prices will more than double and the number of malnourished children spiral if climate change is not checked and developing countries are not helped to adapt their farming, food and water experts warned on Tuesday at the UN climate talks in Doha.

As the UK energy secretary, Ed Davey, and ministers from 194 countries arrived for the high-level segment of the talks, the UN's Committee on World Food Security said the world would need a 75-90% increase in food production to feed the extra 2 billion people expected to be alive in 2050. But climate change could reduce yields worldwide by 5-25% over the same period.

"The poor are especially vulnerable. Climate change will increase the number of malnourished children substantially. Smallholder farmers will be particularly hard hit," said Gerald Nelson, a spokesman for the high-level panel of experts convened by the committee to report on food prospects in the coming 30 years.

Research from Oxfam suggests rice, maize and wheat prices could rise by up to 177% in the next 20 years if climate change is not checked. A combination of extreme events like the drought that affected North America this year and the Russian heatwave in 2008 could raise prices further than two decades of long-term prices, it said.

"Extreme weather means extreme prices. Our failure to slash emissions presents a future of greater food price volatility with severe consequences for the precarious lives of the people in poverty," said Tracy Carty of Oxfam. "If developing countries are left alone to deal with the impacts of climate change, we are going to see millions of people lose their lands and livelihoods. Investing in the resilience of the poorest communities is not just a matter of justice, but a smart investment in a better collective future on this small planet."

"What we are seeing already in northern Kenya and parts of Africa is food prices skyrocketing as farmers' production declines in successive droughts," said Mohamed Adow, climate adviser to Christian Aid. "The number of people is growing, putting extra stress on food production."

Frustration has grown at the Doha conference over the lack of money being offered by rich countries to help farmers adapt to a world likely to see more extreme weather and events that devastate farming. Wealthy nations have broadly emphasised the need for farming to reduce its emissions using new technologies and carbon markets, while developing countries have wanted more emphasis on help for farmers to adapt.

"African negotiators are throwing their hands up in despair, and asking why they should even bother coming to the negotiations. Their cynicism is at its most stark in the agriculture negotiations," said Seyni Nafu, spokesman for the African group in the talks.

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Energy Efficiency Legislation Passes House of Representatives

By SustainableBusiness.com News

In a rare and demonstrable showing of bipartisan cooperation, the House of Representatives passed a package of energy efficiency provisions.

In a 398-2 vote, members passed the American Energy Manufacturing Technical Corrections Act (HR 6582). The Senate passed a somewhat different version last month and now returns to the Senate for final approval.

The bill is fairly weak though and shows how little people expect from Congress these days.

"At a time that Washington is grid-locked, it is notable that the only energy bill with enough bipartisan support to pass is one that targets energy efficiency," says Steven Nadel, Executive Director of the American Council for an Energy-Efficient Economy (ACEEE). "This bill is a modest but bipartisan step forward, one we hope the next Congress can build upon."

The bill makes a number of technical corrections to equipment efficiency standards previously enacted by Congress, helping to make the program function better. In addition, the bill includes provisions to better coordinate industrial research and development activities among government agencies, reduce barriers to deployment of industrial energy efficiency, promote best practices for advanced metering among government agencies, and improve data collection for federal energy and water management efforts.

It builds upon two pieces of legislation that were previously reported out on a strong bipartisan basis by the Senate Energy and Natural Resources Committee. These are the Energy Savings and Industrial Competiveness Act (S. 1000) introduced by Senators Jean Shaheen (D-NH) and Robert Portman (R-OH) and the Implementation of National Consensus Appliance Agreements Act (S. 398) introduced by Energy Committee Chair Senator Jeff Bingaman (D-NM).

Groups are still pushing for a Senate vote on the full Shaheen-Portman bill during the lame duck session. It calls for: a National Model Building Code; establishing training centers to build skills in energy efficiency technologies; an expanded DOE loan guarantee program for efficiency upgrades; zero-interest loans to rural public utilities and electric coops to support low-interest energy efficiency loans for customers; and updated efficiency standards on outdoor lighting and residential appliances such as heating and cooling systems.

Here's a list of what's covered from each of the Senate bills.

From S.1000

- Coordination of research and development of efficiency technologies
- Study to be conducted on barriers to industrial electrical efficiency
- Best practices for advanced metering in the federal government
- Federal energy management and data collection standards

From S.398

- Technical corrections and specific fixes to recently enacted standards under the Department of Energy's 25-year-old appliance efficiency program
- Uniform treatment of conventional and tankless water heaters
- Clarification of periodic review of commercial equipment standards and of DOE's response to petitions regarding standards

Some aspects of the bill are controversial and fall short of what the Alliance to Save Energy (ASE) has been advocating for.

It allows manufacturers more flexibility in how they meet efficiency standards for walk-in coolers, and eases rules for water heaters and over-the-counter refrigerators.

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Corporate executive fears over energy, resources hit new high

By James Murray, *BusinessGreen.com*

More than half of chief executives regard energy and raw material costs as a major threat to their growth prospects, according to a new survey of nearly 800 corporate bosses from around the world.

Preliminary findings from PwC's Annual Global CEO Survey reveal concerns over energy costs and resource scarcity are at a three-year high, with 53 percent of chief executives claiming the issues have overtaken sluggish consumer spending as one of the top threats to future growth, a seven percentage point increase on last year.

The company said concerns over rising energy prices and raw material price shocks were most pronounced in developing economies in Asia and Africa, but high numbers of chief executives in all geographies regard environmental issues as a growing risk.

For example, a quarter of European chief executives identified energy and resource costs as a problem, while a third said increasing natural disaster risks could have a negative impact on their operations.

Significantly, large numbers of businesses are now taking action to address these risks, with 47 percent of CEOs claiming they will increase their focus on reducing their environmental footprint next year.



"With a much more challenging environment for growth, businesses can ill afford price shocks in energy and resource costs for business, so it's no surprise they are rising up the list of threats to their future growth prospects," said Richard Gledhill, partner at PwC's sustainability and climate change division.

Photo of bank of gas meters provided by Bobkeenan Photography via Shutterstock

Long-term costs on upward trend

He added that despite the global economic slowdown and the gas boom in the U.S., the long-term trend for energy prices remained upwards due to "demand from emerging markets, regulatory pressures and the scale of energy investment that's required."

He also warned that similar upward pressures were facing a host of important raw materials. "Demand from emerging markets has kept the pressure on commodity prices, and extreme weather or natural disasters have exacerbated price uncertainty and security of supply risks, particularly in agricultural commodities," he said. "It all adds up to ratchet up CEOs' concerns."

PwC warned that with last week's Doha Climate Summit failing to deliver significant progress, it looks increasingly unlikely businesses will be able to rely on governments to address rising environmental risks. As a result, corporate leaders will have to undertake their own efforts to enhance operational resilience.

"The Doha summit was a small step towards a long-term agreement on climate change. But disputes and disagreement at this stage show how far we have to go to get agreement in 2015," said Gledhill. "For business, the long-term direction can't come soon enough, if they are to make the kind of investments needed to get us on a low-carbon track, not to mention adapting to a new normal of high uncertainty, subdued growth and volatile commodity prices.

"It's worth repeating that if regulatory certainty doesn't come soon, businesses' ability to plan and act, particularly around energy, supply chain and risk, could be anything but 'normal'."

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DOE Investments Boost Innovations in Offshore Wind, AWEA Offers Phase-Out of PTC

By *SustainableBusiness.com News*

The Department of Energy (DOE) announced it will invest in seven offshore wind projects in Maine, New Jersey, Ohio, Oregon, Texas and Virginia.

In the initial phase, each project will receive up to \$4 million to complete the engineering, design and permitting phase. DOE will select up to three of these projects for follow-on phases that focus on siting, construction and installation and aim to achieve commercial operation by 2017. These projects will receive up to \$47 million each over four years, subject to Congressional appropriations.

The funds will support more efficient, cost-competitive offshore wind technologies. They will also help clear hurdles to installing utility-scale turbines in US waters, connecting to the power grid and navigating new siting and permitting processes.

Local communities are showing increased interest in offshore wind, with town halls on the subject in Maryland and New Jersey today. Environmental groups also reached an agreement with offshore wind developers on protections for the endangered North Atlantic Right Whale.

One of the projects is off the coast of Maine, where the first test of a floating wind turbine takes place next year. The goal is for 170 floating turbines installed by 2030, producing 5 gigawatts of wind energy.

The turbine automatically adjusts and turns the angle of its blades based on wind speed and direction, either to most efficiently capture wind or to avoid its full force.

It's much cheaper to allow wind turbines to float than to drill them into the seabed, and they can be towed back to land if they need to be repaired. That should make wind electricity competitive

Another project is in the Great Lakes, where 5-9 turbines are planned for Lake Erie, seven miles off the coast of Cleveland. Last year, DOE signed an agreement with governors of Illinois, Michigan, Minnesota, New York, and Pennsylvania to streamline offshore wind development there.

More information on these projects is [here](#).

Last year, land-based wind power represented 32% of all new electric capacity additions in the US, accounting for \$14 billion in new investment, notes DOE. Nearly 70% of the equipment installed at those US wind farms - including wind turbines and components like towers, blades, gears and generators - is now from domestic manufacturers, doubling from 35% in 2005.

PTC Still Isn't Renewed

The Production Tax Credit (PTC), which is set to expire at the end of this year, has been a major driver of this tremendous expansion and DOE is calling on Congress to extend it.

Today, the American Wind Energy Association (AWEA) offered Congress a way to phase out the wind PTC if they would just go ahead and renew it by year end.

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Ban Ki-moon: rich countries are to be blamed for global warming

UN secretary general says the developed world should take the lead at Doha talks and bear responsibility for climate change

Associated Press, guardian.co.uk



UN secretary general Ban Ki-moon talks during the opening ceremony of the climate talks in Doha on 4 December. Photograph: Karim Jaafar/AFP/Getty Images

the concerns of China and other developing countries, which say rich nations have a historical responsibility for global warming because their factories released carbon emissions into the atmosphere long before the climate effects were known.

"The climate change phenomenon has been caused by the industrialisation of the developed world," Ban said. "It's only fair and reasonable that the developed world should bear most of the responsibility."

Many rich nations including the US and European Union say the firewall between developed and developing countries that has guided the two-decade-old climate process in the past no longer reflects the world today and isn't helpful in dealing with the problem.

Most of the emissions now come from the developing world, and China has overtaken the US to become the world's top carbon polluter.

Lord Nicholas Stern, author of the landmark Stern review of the economics of climate change, told the Guardian this week that poorer countries including China and India must step up to their responsibilities. "It's a brutal arithmetic – the changing structure of the world's economy has been dramatic. That is something developing countries will have to face up to." He added that the historic emissions of developing countries will overtake those of developed countries within a few years.

How to divide the burden of emissions cuts is at the core of discussions to create a new global climate treaty that would apply to all nations. The only binding pact so far, the Kyoto protocol, only covers the emissions of industrialised countries.

Last year, governments decided that the new treaty should be adopted in 2015 and enter force five years later. The Doha meeting is supposed to produce a work plan to ensure that the treaty is ready by 2015.

"This deadline must be met. There is no time to waste, no time to lose for us," Ban said.

"Climate change is happening much, much faster than one would understand," he added. "The science has plainly made it clear: it is the human beings' behavior which caused climate change, therefore the solution must come from us."

Ban came to the negotiations in Doha in an attempt to "accelerate the process" of shifting the world to a clean-energy pathway, and helping the most vulnerable countries adapt to inevitable warming.

Governments represented at the talks in Qatar are also discussing a second commitment period for the Kyoto protocol, whose first commitment period ends this year, as a stopgap measure until the new deal takes effect.

Rich countries are to blame for climate change and should take the lead in forging a global climate pact by 2015, a deadline that "must be met," the head of the United Nations said Wednesday.

On the sidelines of international climate talks in Qatar, UN secretary general Ban Ki-moon said it was "only fair and reasonable that the developed world should bear most of the responsibility" in fighting the gradual warming of the planet.

Ban's comments echoed

Tips:

Lot is being talked about sustainability, but translating it into action and making it habit is most desired. It is high time not to shred our responsibility saying everybody is doing nothing, so what can I do alone. Every individual should do his or her bit and it will make remarkable impact. Here are some useful suggestions which brought into practice will certainly contribute towards sustainability.

1. Do not postpone maintenance problems of your vehicle pertaining to fuel economy like replacing worn out spark plugs, tuning of carburetor, replacing clogged air filters etc.
2. Modify driving habits. Do not over speed or accelerate rapidly. Always apply brakes smoothly except in emergencies.
3. Turn storage hot water system thermostats down to 60°C and ensure that the water heater's insulation is proper.
4. If installing new water heater opt for solar hot water and solar PV systems to harness energy from the sun.
5. In place of incandescent lamps use LED-based or Compact Fluorescent Light (CFL).
6. Use warm clothing rather than excessive heating in winter to maintain comfort.
7. Whenever you plan to paint your home, office or shop, go for paints free VOC as volatile organic compounds may cause health hazards in the long run.
8. Now days at most of traffic signals the balance time for change of light is displayed so if there is much time avoid idling, switch off your car/ bike.
9. Do not print documents which can be read electronically like Indian Railways now accepts the message sent on the mobile of passengers by IRCTC in case of e-tickets.
10. If you have installed an Reverse Osmosis (RO) system for purifying water lot of waste water runs down the drain. This wastage of water is very significant, it must be collected/ stored and used for irrigating kitchen garden or for any other suitable purpose.

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CO2 emissions rises mean dangerous climate change now almost certain

Research by Global Carbon Project says emissions growth placing world on path to warm between 4 and 6C

Reuters, guardian.co.uk,



The CO2 emissions study focuses on emissions from burning fossil fuels and cement production. Photograph: Charlie Riedel/AP

Carbon dioxide emissions from industry rose an estimated 2.6% this year, according to a study of global carbon emissions.

The research by the Global Carbon Project, an annual report card on mankind's CO2 pollution, also says emissions grew 3.1% in 2011, placing the world on a near-certain path towards dangerous climate change, such as more heat waves, droughts and storms.

The finding will give renewed urgency to the nearly 200 countries attending international climate talks in Doha, Qatar, which run until 7 December and aim to galvanize ambition in fighting climate change by limiting warming to below 2C, a goal nations agreed in 2010. Temperatures have already risen by 0.8C since pre-industrial times.

"I am worried that the risks of dangerous climate change are too high on our current emissions trajectory. We need a radical plan," said co-author Corinne Le Quéré, director of the Tyndall Centre for Climate Change Research in Britain and professor at the University of East Anglia.

Total emissions for 2012 are estimated to be 35.6 billion tonnes, researchers said in the study, published in the journal *Nature Climate Change*.

Current emissions growth is placing the world on a path to warm between 4C and 6C, says the study, with global emissions jumping 58% between 1990 and this year. The study focuses on emissions from burning fossil fuels and cement production.

A few big developing nations are fuelling the emissions growth, the study says, even though the global financial crisis spawned long-term green stimulus plans by China, India, the United States and others to attempt to curtail CO2 output.

China's carbon emissions grew 9.9% in 2011 after rising 10.4% in 2010 and now comprise 28% of all CO2 pollution compared with 16% for the United States.

India's emissions grew 7.5% last year versus 9.4% growth in 2010, while emissions in the United States and the European Union fell 1.8% and 2.8% respectively in 2011.

"Unless large and concerted global mitigation efforts are initiated soon, the goal of remaining below 2C will soon become unachievable," say the authors.

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My beef with beef

By Marc Gunther

Should environmentalists just say no to eating meat?

That was the headline over my latest story for the YaleEnvironment360 website. The story looked at the Global Roundtable for Sustainable Beef, a collaboration between environmental groups and industry to improve the way beef is produced. The roundtable was put together by Jason Clay, a top executive at the WWF, and includes such companies as McDonald's, Cargill and Walmart. The roundtable will try to measure the environmental footprint of beef production methods, and spread best practices. If people are going to keep eating beef -- and they are -- the roundtable's work should be valuable. While I'd feel better about the effort if it were not predominantly financed by industry, Clay and his colleagues are well-intentioned, in my view.

Having said that, I can't help but wonder why environmental groups aren't more vocal about asking their supporters to eat less beef -- and especially to avoid beef from factory farms (or, if you prefer, Concentrated Animal Feeding Operations, or CAFOs).

As I wrote in the YaleE360 story, beef

...has twice the greenhouse gas emissions of pork, nearly four times more than chicken, and more than 13 times as much as vegetable proteins such as beans, lentils and tofu, according to the Environmental Working Group. Eating less meat is the most important thing an individual can do to curb climate change, some scientists say. If Americans were to reduce their meat consumption by a mere 20 percent, it would be as if we all switched from a standard sedan -- a Camry, say -- to the ultra-efficient Prius, according to Gidon Eshel, a research professor at the Bard Center for Environmental Policy, and Pamela A. M



professor of geophysics at the University of Chicago.

And yet:

... green groups that readily fight coal plants or suburban sprawl have for the most part shown little desire to do battle with meat. The Meatless Monday campaign was started not by environmentalists but by the school of public health at Johns Hopkins. The Mayo Clinic has more to say about meat than The Nature Conservancy, although TNC's chief executive, Mark Tercek, is a vegetarian. Another vegetarian, Danielle Nierenberg, who directs the Nourishing the Planet program at the Worldwatch Institute, explains: "Most environmental groups don't want to tell people what to eat or what not to eat. It's a personal issue that's tied to your culture, to your history, to what your mom fed you when you were five years old."

Danielle is correct -- no one likes to be nagged about eating, or not eating, their dinner -- but I think there's more to it than that. The big environmental NGOs are generally reluctant to tackle the issue of overconsumption. Americans, as a group, drive big cars, live in big houses, buy too much stuff and throw too much of it away. None of this makes us, as a group, much happier, research indicates. But environmental groups don't talk about this as much as they should, perhaps because they don't want to alienate their well-to-do donors.

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Ash dieback infection sites have doubled within a month, figures show

By **Damian Carrington**, for *guardian.co.uk*

The number of sites infected by the deadly fungus that causes ash dieback has more than doubled to 291 in a month, according to government figures released on Thursday.

The environment secretary, Owen Paterson, set out plans on Thursday aimed at controlling *Chalara fraxinea*, including keeping the ban on the import or movement of ash trees in place.



An ash tree infected with *Chalara fraxinea* near Framlingham, south-east England. Photograph: Darren Staples/Reuters

His department is also considering appointing a “tree tsar” – a chief plant health officer equivalent to the chief veterinary officer who leads the response to animal disease threats such as foot and mouth and bluetongue. But the measures were criticised by the National Trust as “limited and weak”, too focused on minimising costs and “surrendering the British landscape to this disease”.

“The plan I have set out today shows our determination to slow the spread and minimise the impact of *Chalara*,” said Paterson, who said in November it would be impossible to eradicate the fungus. “It will also give us time to find those trees with genetic resistance to the disease and to restructure our woodlands to make them more resilient.”

The fungus was first identified in the UK in February 2012 in a tree imported from the Netherlands to a nursery in Buckinghamshire. It has now been found at 136 sites linked to imported plants and a further 155 sites in the wider environment, which government scientists think were infected by wind-blown spores from continental Europe. The disease has devastated ash trees in many countries including Denmark where 90% have been infected.

The UK’s control plan is based on four measures – “reduce, develop, encourage and adapt”, said Prof Ian Boyd, chief scientist at the Department for Environment, Food and Rural Affairs (Defra). He said the aim was to reduce the spread of *Chalara*, develop new control measures and resistant varieties, encourage the public and industry to help out and adapt the nation’s forests to the inevitable changes. More than 13% of the country’s broad-leaved woods are dominated by ash trees.

However, Paterson said the current policy of tracing and destroying young infected trees – which has seen more than 100,000 trees removed – was “unlikely to be sustainable in the longer term and there may be benefits from a more targeted approach.” Boyd said control measures had to be

“proportional” to ensure trade could continue and deliver “economic uplift” but said what a more targeted approach might be was yet to be determined.

“The limited actions and weak commitments set out in the plan will not be enough to control the spread of the disease – it’s far too little, too late,” said Simon Pryor, director of the natural environment at the National Trust. “We are alarmed to see the government is even wavering about continuing its programme of tracing, testing and destroying infected young ash trees. It is also disappointing to see the government is proposing almost no action in areas of the country already infected.”

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Obama Offers \$6 Billion Investment for Clean Energy Infrastructure in Asia-Pacific

By *SustainableBusiness.com News*

President Obama is offering a \$6 billion investment in clean energy infrastructure in the Asia-Pacific region under the US-Asia Pacific Comprehensive Partnership for a Sustainable Energy Future.

The Partnership is being formed to drive investment in the region, and also to provide a ready export market for US companies and their technologies.

There are four regional priorities:

1. Renewables and cleaner energy
2. Markets and Interconnectivity
3. The emerging role of natural gas
4. Sustainable development

They plan to engage the private sector as well as partner with countries in the region to determine specific projects in the four priority areas.

“With an estimated \$9 trillion needed in investment in electricity alone through 2035 to meet growing demand in the region, there is enormous potential for U.S. industry to play an important role in the region’s energy future.”

The US will provide up to \$6 billion to support the Partnership:

- The Export-Import Bank of the United States will launch a program to make up to \$5 billion in export credit financing available to countries in the region over the next four years to increase access to American technology, services and equipment for the implementation of energy infrastructure projects;
- OPIC will provide up to \$1 billion in financing for sustainable power and energy infrastructure projects.
- U.S. Trade and Development Agency (USTDA) will support programs in partner countries in power generation, power distribution modernization, assistance with upgrading grid efficiencies to accommodate renewable power, and unconventional gas development.
- The U.S. State Department will oversee a \$1 million energy capacity-building fund to support partnership activities via project preparation and technical assistance.

A couple of months ago, Asia-Pacific Economic Cooperation (APEC) - which consists of 21 countries - agreed to reduce import duties for green technologies that grow their economies. 54 technology categories are included, such as solar, wind, biomass and other renewable generation technologies, wastewater treatment, recycling and environmental monitoring systems.

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Can flex-fuel cars put US on the road to low oil prices?

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



Eyal Aronoff believes the key to reducing oil prices lies in reprogramming the engine's of cars already on the road. Photograph: Robert Landau/Corbis

Eyal Aronoff identifies himself on his business card as an "oil addiction therapist". He's got an unconventional detox method, claiming he can get Americans off oil by making it cheaper to fill up their cars.

The software entrepreneur is a co-founder of the Fuel Freedom Foundation, a new organization trying to make the case for cutting America's oil consumption – both foreign and domestic.

He argues – along with backers including James Woolsey, director of the CIA under Bill Clinton – that if America cuts its use of oil in half over the next 10 years, prices on the global market would drop below \$50 a barrel because of reduced demand. Americans would pay about \$2 a gallon to fuel up – or about half as much as they pay now.

The foundation proposes to reduce America's use of oil by widespread adoption of other liquid fuels, allowing motorists to fill up their cars interchangeably with petrol, ethanol, natural gas or methanol, at prices well below those prevailing today. The foundation also rejects the idea of subsidizing cleaner fuels.

The idea, which applies only to transport not electricity generation, basically turns conventional environmental thinking on its head.

And it will be interesting to see how much traction Aronoff and fellow tech millionaire and co-founder Yossie Hollander get for their free-market environmental solutions.

With Barack Obama announcing he is on the look-out for new, bipartisan approaches to climate change, Aronoff visited Washington DC last month with Woolsey to try to find support in the White House and Congress for rethinking the ban on using methanol in cars.

Aronoff argues that current environmental politics are self-defeating. The failure to find an immediate and competitively price replacement for liquid fuels was limiting support for environmental powers.

Outside of a handful of big cities, public transport does not exist in America. People rely on their cars to get to work, and if the price of petrol goes up they suffer.

It also allows the oil lobby to try and cast all environmental regulations as expensive job killers. "The American Petroleum Institute and the oil lobby, they keep blaming environmental regulations for high prices. As the price rises the base of the environmental movement becomes readier to buy the story that the price is rising because of environmental regulations," he said.

Instead, Aronoff argues that driving down the price of oil would make it less viable to mine non-conventional oils from the Alberta tar sands or in the deep-water drill sites in the Gulf of Mexico, and the pristine waters of the Arctic.

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Innovate or die: learning from new sustainable business models

By **Dax Lovegrove**

Large firms must embrace the new sharing and circular economies – or else they risk being left behind

The circular economy enables companies to unlock value from the conversion of waste into resources, while the sharing economy does so from idle goods and spaces. Photograph: Julie Fletcher/Getty

"I can't understand why people are frightened of new ideas. I'm frightened of the old ones" – these words, from composer John Cage, ring especially true to me when considering the gulf between businesses that are glued to outmoded approaches, and others that are breaking in new, innovative models.

It's a topic WWF have delved into in our latest Green Game Changers report. The report outlines some of the exciting ways that larger firms can change their business models and so secure their survival. It also looks at the dangers of lagging behind.

The sharing economy

One major opportunity – and risk should it be missed – is the 'sharing economy'. It unlocks the value of idle goods and spaces and brings additional income to 'rentpreneurs', who lease out anything from power drills to rooms. In just four years, the social networking operation Airbnb has overtaken many large hotel groups that have been around for decades, and already has a greater share of room rentals.



The circular economy enables companies to unlock value from the conversion of waste into resources, while the sharing economy does so from idle goods and spaces. Photograph: Julie Fletcher/Getty

B&Q and Hertz have cottoned on to this – they're testing out new leasing schemes and short-term rental services. Matthew Sexton, director of corporate social responsibility at B&Q, says "people are less keen on owning things now", while Jordan Reber, vice president of global operations for Hertz on Demand, describes a greater "culture of collaboration across the organisation" in support of disruptive innovation. Both understand the external drivers of change and the internal organisational shifts that need to be in play to keep their businesses buoyant in a fast changing landscape.

The circular economy

Then there's the 'circular economy'. This requires new approaches to enable the conversion of waste into resources. It's something they're embracing at Caterpillar through its Cat Reman parts business. The company charges customers a deposit, which encourages returns and the ongoing remanufacturing of wind turbine components and other equipment from machinery that's otherwise reached the end of its useful life.

Richard Snodgrass of Cat Reman notes that the company is working with governments, dealers and end customers so that remanufactured goods are valued rather than seen as used and undesirable.

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Doha climate change deal clears way for 'damage aid' to poor nations

By **Fiona Harvey**, for *The Observer*



Delegates attend the last day of the UN climate talks in Doha, where poor nations secured a pledge of 'damage aid'. Photograph: Karim Jaafar/AFP/Getty Images

Poor countries have won historic recognition of the plight they face from the ravages of climate change, wringing a pledge from rich nations that they will receive funds to repair the "loss and damage" incurred.

This is the first time developing countries have received such assurances, and the first time the phrase "loss and damage from climate change" has been enshrined in an international legal document.

Developing countries had been fighting hard for the concession at the fortnight-long UN climate change talks among 195 nations in Qatar, which finished after a marathon 36-hour final session.

Ronald Jumeau, negotiating for the Seychelles, scolded the US negotiator: "If we had had more ambition [on emissions cuts from rich countries], we would not have to ask for so much [money] for adaptation. If there had been more money for adaptation [to climate change], we would not be looking for money for loss and damage. What's next? Loss of our islands?"

Ruth Davis, political adviser at Greenpeace, said: "This is a highly significant move – it will be the first time the size of the bill for failing to take on climate change will be part of the UN discussions. Countries need to understand the risks they are taking in not addressing climate change urgently."

Ed Davey, the UK energy and climate secretary, said: "It's about helping the most vulnerable countries, and looking at how they can be more resilient."

But the pledges stopped well short of any admission of legal liability or the need to pay compensation on the part of the rich world.

The US had strongly opposed the initial "loss and damage" proposals, which would have set up a new international institution to collect and disperse funds to vulnerable countries. US negotiators also made certain that neither the word "compensation", nor any other term connoting legal liability, was used, to avoid opening the floodgates to litigation – instead, the money will be judged as aid.

Key questions remain unanswered, including whether funds devoted to "loss and damage" will come from existing humanitarian aid and disaster relief budgets. The US is one of the world's biggest donor of humanitarian aid and disaster relief, from both public and private sources. It will be difficult to disentangle damage inflicted by climate change from other natural disasters.

Another question is how the funds will be disbursed. Developing countries wanted a new institution, like a bank, but the US is set against that, preferring to use existing international institutions. These issues will have to be sorted out at next year's climate conference, in Warsaw, where they will be bitterly contested.

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HFCs Lurking in Your Air Conditioning System?

By *SustainableBusiness.com News*

If you have an older central air conditioning system, it could be leaking HFCs without your knowledge.

One of the most important accomplishments of the Montreal Protocol, where the world came together to successfully address the growing ozone hole, is the phase-out of super-greenhouse gases known as hydrofluorocarbons (HFCs), which are used in refrigeration, air conditioning, and insulating foams.

Phasing out HFCs is also hugely important for slowing down climate change - they are among what's known as "climate forcers."

By 2015, the US agreed to cut production and imports of HCFC-22 to 10% of levels from 10 years ago.

And the Environmental Protection Agency (EPA) has been following through. It enacted strict bans on HCFC production and since 2010, has banned sales of new air conditioning systems that use HFCs. EPA also encourages the gas to be recycled from old machines to prevent release into the atmosphere. That recycled gas is supposed to be used to fix older units.

But getting full compliance isn't so easy. Some 140 million older central air conditioners across the US still use that coolant.

Decades-old habits among air-conditioning repair and services conspire to keep it use, as illustrated in a *New York Times* article.

The story recounts the experience of Connecticut homeowner Mark Spector, whose aging central air-conditioning system stopped working over the summer.

Instead of finding and repairing the leak, the service technician pumped in more coolant - which leaked out by the next day, flaunting EPA's rules. Then the repairman offered to replace the condenser unit, but with one that still uses HCFC-22.

"The US has aggressively pressed poor countries to pick up the pace [to phase out the coolants]. But the US has yet to put its own house in order," says the *New York Times*.

"Leaks abound in working equipment. Coolant seeps out of discarded equipment in landfills. Regulatory loopholes allow manufacturers to sell parts that rely on HCFC-22, so systems using the old gas can be refurbished rather than replaced. There is almost no reclamation of the gas from old machines for recycling. The E.P.A. is behind schedule in imposing rules to ratchet down domestic production, and smuggling is rarely detected. Even where there are regulations - for example, repair technicians are legally bound to collect old gas rather than vent it - there is little enforcement."

This anecdote is apparently a common one. Older condenser units are still on the market, but without the coolant gas. After it's installed, technicians add the gas. Homeowners would rather repair an old system rather than replace it because it's about three times cheaper.

"It's probably legal since you could claim it's just servicing, but it's ethically disturbing and not fair to companies who've spent a lot to develop new products," Dr. Andersen, director of research at the Institute for Governance and Sustainable Development, told the *New York Times*.

The situation shows how difficult it is to make changes across an economy. Most homeowners aren't aware of the rules, much less which coolant their air conditioning system uses.

Clearly the EPA needs to eliminate loopholes that extend the use of these harmful gases.

Concentrations of HCFC-22 in the atmosphere are more than double that of 20 years ago, partly due to leaks in faulty or old equipment, and also because service personnel dispose of coolants in the cheapest way. They cut a line and simply let the gas leak out (into the atmosphere) rather than siphoning it off.

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Ikea to go 'forest positive', but serious challenges lie ahead

By **Annie Kelly**, for *guardian.co.uk*



Ikea has come under fire from Swedish activists Protect the Forest for its sustainable forestry claims. Photograph: Linda Nyland for the Guardian

Spending a Saturday afternoon struggling with an Ikea flatpack coffee table has become a rite of passage for millions of homeowners across the world. Launched in 1943, the Swedish business has grown to become the world's biggest furniture company. In the last financial year, 655 million people flocked

to its stores, of which it currently owns 298 in 26 countries.

Not content with becoming one of our most ubiquitous brands, the company has announced its intention to become one of the world's most sustainable businesses as well.

A few months ago the company announced an ambitious new strategy, People and Planet Positive; effectively a global sustainability roadmap, it sets out how the company will conduct its future business using a wide range of targets concerning renewable energy, recycling, waste management and "green" product sourcing.

Ikea isn't starting from ground zero – for years the company has been working through sustainable business models – yet this new strategy represents a huge scaling up of its ethical business practices. Its work around sustainable forestry is at the heart of the initiative.

All about wood

Ikea is deeply indebted to wood. This year it used 13.56 million cubic metres of solid wood and wood-based board materials, not including paper and packaging, meaning Ikea alone uses almost 1% of all wood used commercially around the world.

Already the company says that all wood used in its products is sourced from suppliers complying with its own Iway code of conduct. Now, the company says it is going step further. It will become "forest positive" by 2020, meaning that, despite its continuing high demand for timber, it intends its business to have an overall positive effect on the world's forests. Integral to this approach is the commitment that it will be growing at least as many trees as it uses to make products by 2020.

Crucially, it says it also intends to become one of, if not the biggest, user of certified wood and recycled wood products in the world. It will quadruple the use of wood from certified sources, translating into around 10 million cubic metres of wood by 2020. This constitutes roughly half of all the wood used by Ikea across all its operations.

Serious challenges ahead

Yet making this vision a reality will pose serious challenges. The company is hinging its forests positive strategy almost entirely on its relationship with one global certification scheme, the Forest Stewardship Council (FSC).

In 2012 Ikea increased the volume of solid wood from forests certified by the FSC from 16.2% to 22.6% and supported 13 WWF projects that aim to improve forest management through FSC certification.

However the company actually failed to meet its 2012 targets of 35% of all solid wood to be sourced from "preferred sources". Ikea says this was because of a significant shortage of FSC-certified wood on the global markets.

"Only 7% of the world's forest areas are currently certified to FSC standards which clearly presents a supply problem, but we are working with our

partners and our suppliers to tackle this," says Steve Howard, Ikea's chief sustainability officer.

He believes that by throwing their considerable weight behind the FSC, the company will be able to help the growth of FSC-certified wood supply, promote better forest management and contribute to ending deforestation.

"I agree very strongly with the value of certification and the value of setting global standards through multi-agency work," says Howard. "As a business we don't want to be judge and jury over our own supply chain. In a busy world with extreme pressure on resources we need get behind these processes and get standards in place everywhere."

A flawed process

Ikea has received public endorsements by groups such as WWF for its scaling up of its commitments to sustainable forestry practices. However, it has also been receiving less welcome attention from other environmental groups who are claiming that Ikea is willfully deceiving its customers and hiding behind a "flawed" certification system.

One of the most vocal is Swedish NGO Protect the Forest, which along with Greenpeace Russia, the Karelia Regional Nature Conservancy (SPOK) and Friends of the Earth, is making damaging allegations that the company is cutting down thousands of hectares of ancient old-growth forest in the Karelia region of north-west Russia.

Ikea currently holds concessions in parts of Karelia that are judged as high-conservation value areas with old forest rich in biodiversity.

The company's claims that it is operating a responsible forestry management programme in Karelia are denied by Protect the Forest, who have launched a campaign to stop Ikea's operations in this part of north-western Russia.

"They say they are not using wood products from high conservation areas and using forest management that is sustainable, but if you look at the reality in the forests in Karelia this is simply not true," says Viktor Säfve, chairman of Protect the Forest. "This all comes down to a question of credibility and we believe that they are cheating their customers by claiming that the wood they use is sustainably sourced. The wood they are cutting down in Russia is from a high conservation area and we have the evidence to prove it. They are hiding behind flawed and criticised FSC accreditation."

Protect the Forest is part of a movement of environmental groups who are highly critical of the FSC accreditation scheme.

"The FSC label is promising sustainable forestry and wood that does not come from high conservation areas and in many cases this is simply not true," says Säfve. "There are too many examples of flawed FSC accreditation. It is not enough for Ikea to say it is only cutting down trees that have been accredited through locally-agreed FSC standards when the system itself is inadequate."

The best chance?

Last week Ikea held meetings with groups opposed to their activities in Karelia, including Protect the Forest. It denies all of Protect the Forest's claims, but the spat highlights the continuing sensitivities and complexities that still exist within debates around sustainable forestry programmes.

"In Karelia we believe very strongly that our presence has vastly contributed to these forests being better protected," says Howard.

He says around 17% of Ikea's lease area in Karelia is excluded from logging to protect biodiversity and water courses, including areas that Ikea has voluntarily protected above and beyond legal requirements. The company is working with multiple stakeholders in the area and is operating within locally-agreed standards.

"We believe in the FSC forestry standards. Of course they are not perfect, but it is easy to stand outside the system and criticise it," says Howard.

"And yes, of course in a perfect world no trees would ever be cut down but that simply isn't realistic. Accreditation gives us the best chance of developing a workable sustainable forestry system that can be scaled up as global demand for wood continues. It is by far our best bet."

[<Source>](#)

Next in line for certification: The world's cities

By **Sustainable Business News**



There are certifications for green buildings and green neighborhoods under LEED, and a new certification for built landscapes, but until now there's been no way to certify a city's efforts toward sustainability.

The "City Protocol," planned for launch early next year, already has 30 cities and universities across the world signed on. It will be managed by a newly formed organization, the City Protocol Society.

Its purpose is to form a trusted network of cities that can help each other move forward using "curated guidance so they do not have to navigate this journey alone," says the website. The community will be able to leverage the knowledge gained from city transformations worldwide.

Partner Cisco Systems' Smart+Connected Communities platform will form the basis for collaboration, and from it cities can develop common approaches and solutions to quickly advance sustainability agendas.

The City Protocol certification will recognize best practices in urban transportation, energy efficiency, water management and green buildings.

Here's an example of the indicators of a Smart City, developed by Boyd Cohen, LEED AP and climate strategist:

Creating a common language

"City Protocol is a new, distinctive and substantial program that will enable better understanding and collaboration among the different stakeholders (cities, academia, institutions, companies and society) that are involved in the development of more sustainable, efficient, cohesive and innovative smart cities. It will deliver benefits both within and between cities, by addressing cities in an integrated, systematic way," said the founders.

"It will be developed on an open, transparent, principled and collaborative basis," they said, "to deliver truly shared, trusted and universally useful outcomes. Using a process modeled on the way the Internet Protocol is managed to enable its continual evolution and development, the results will be thought out, debated and developed openly and internationally, using the best thinking and expertise within the City Protocol community."

Let's say cities want to develop an advanced multi-modal transportation system that integrates parking, traffic and public transportation information. By pooling resources, several cities would be able to run pilot tests of various components of a solution simultaneously, accelerating the development process and spreading out financial risk.

Many of the 33 cities that have signed on already have far-reaching sustainability programs in place, such as Barcelona, New York, Paris, Rome, San Francisco, Seoul and Taipei.

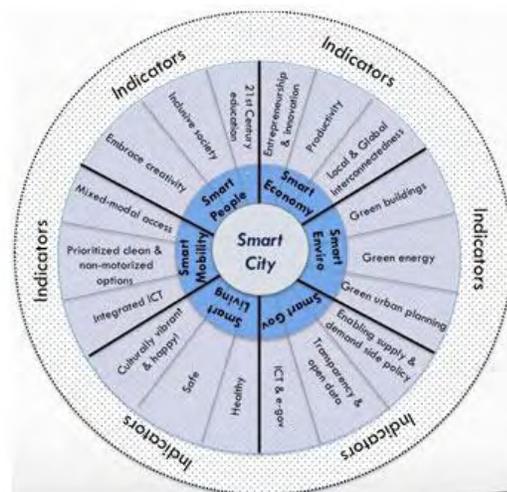


Image of a smart city provided by Georgejmclittle via Shutterstock.

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Renewable Energy Can Reliably Supply US Grid by 2030

By *SustainableBusiness.com News*

A study from the University of Delaware counters the usual argument that renewable energy is too expensive and unreliable to fully power the US electric grid.

According to researchers, by 2030, renewable energy can supply electricity 99.9% of the time at costs comparable to today's prices.

The key is the combination of renewable energy sources and energy storage, "which we did by an exhaustive search - and to calculate costs correctly," says Willett Kempton, professor at University of Delaware's College of Earth, Ocean, and Environment.

Using a computer model of the PJM Interconnection, which covers the grid in 13 states from New Jersey to Illinois - 20% of the US grid - researchers analyzed 28 billion combinations of renewable energy sources and storage mechanisms. They were tested for four years of historical hourly weather data and electricity demands.

Rather than trying to match electricity generation with demand, researchers focused on how to best minimize costs. It's cheaper to produce more electricity than what's needed during periods of average demand than to store excess power to be used during periods of high demand.

That's because storing energy adds a lot of cost to the system. For every additional hour of energy stored, bigger batteries or hydrogen tanks are required.

"For example, using hydrogen for storage, we can run an electric system that today would meet a need of 72 GW, 99.9% of the time, using 17 GW of solar, 68 GW of offshore wind, and 115 GW of inland wind," says researcher Cory Budischak at Delaware Technical Community College.

200 large wind turbines or 250,000 rooftop solar systems produce 1 GW of electricity.

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Internal attitudes to climate change matter more, study suggests

Research into explicit and implicit attitudes towards climate change suggests targeting hidden thoughts a better way to change people's behaviour

By Adam Corner, *Guardian Professional*



Researchers used iconic positive and negative images such as a stranded polar bear to test implicit and explicit attitudes to climate change.

Photograph: AlaskaStock/Corbis

Here's an old chestnut: why, if people's attitudes towards the environment are (in general) positive, and if levels of concern about climate change are consistently high, don't these attitudes translate into meaningful behavioural changes?

Answers to this question typically cite financial and motivational barriers that create an attitude/behaviour gap, or the lack of infrastructure, for example, public transport, required for people's low-carbon intentions to become a reality.

However, a new study released this month suggests a different answer – the views that people express in opinion polls may not actually be the best guide to what they really think about climate change and sustainability.

Using the Implicit Association Test (IAT), developed in the 1990s and now widely used in social psychology, Geoffrey Beattie and Laura McGuire at Manchester University asked whether people's "explicit" attitudes (the responses people give in surveys and opinion polls) or their "implicit" attitudes (which can only be revealed by people's reaction times on a specially designed task) best predicted the amount of attention they paid to iconic images of climate change.

The basic premise of the IAT is that if two concepts are strongly associated in someone's mind, then they will be able to quickly and correctly categorise them in a computer task (whereas concepts that are less strongly associated will take longer to process).

Beattie's previous research found that people's explicit and implicit attitudes towards climate change and low-carbon products do not always match, suggesting that some people may not be as green as they say they are. But in their new study, Beattie and McGuire took this argument one step further.

Participants were asked to rate how much they agreed with statements such as: "I prefer a product with a low carbon footprint". But they also completed an IAT where they had to assign a series of positive or negative terms to the target category of "low carbon footprint". The researchers then showed them a series of images, some of which were iconic negative images of climate change (for example, a stranded polar bear), some of which were positive images of nature (for example, a field of sunflowers), and some of which were everyday household objects. Intermingled across a series of slides, participants could choose which images to look at.

The results were striking: only implicit attitudes predicted how long people looked at iconic images of climate change. It did not matter if people had

expressed a positive explicit attitude towards low-carbon products. Only people with strongly positive implicit attitudes (ie the people with quick reaction times between positive terms and the low carbon footprint category) chose to linger on the climate change images.

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Why ongoing commissioning can lead to better-performing buildings

By Philip Desrochers

In today's economy, the term "cost reduction" is in every manager's daily discussions. Companies need to significantly reduce waste to stay competitive and continue growth in this challenging economic climate. This context brings multiple challenges and headaches for leaders when it's time to take decisions and move forward.

The building management industry is no different to this reality. Facility managers and building operators struggle to make informed decisions. A big part of their dilemma resides in the building itself. Essential but expensive, energy costs are one of today's biggest challenges for facility management professionals. They continuously need to develop strategies to cut down wasted energy sources to reduce their baseline operating costs and meet state regulations. Having to deal with various types of data -- from energy to occupants' requests to maintenance and operations -- these managers are trying to do more with limited resources.



This usually results in expensive investments in "greener" equipment for the buildings which are expected to save energy during a short-term period. Improved lighting products, efficient chillers and greener HVAC systems can have an immediate impact on efficiency. Although these large capital investments can bring savings to the building's monthly energy bills, they require multiple resources and do not always bring long term results as they are intended. Why? Because adding technology to the building system does not automatically result in efficient operations.

Ongoing Commissioning

In order to achieve objectives and identify smart solutions, facility managers must implement better technologies along with a new management culture built on best practices. Ongoing commissioning is an innovative approach to managing buildings. It always improves their energy consumption and shifts their operations to today's performance standards.

Ongoing commissioning is a four-step implementation process followed with a step-by-step continuous improvement cycle. Implementing this system within operations is the most important step in creating a smart building. And to achieve a level of excellence, all processes, including the Building Automation System (BAS), must also be analyzed, improved and monitored.

Photo of businessman looking at building provided via gui jun peng/Shutterstock

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Doha's most progressive country on climate change? Wales

By John Vidal, for guardian.co.uk



A wind turbine in south Wales. Photograph: Alamy

Welsh assembly member John Griffiths stands out from the hordes of other environment ministers scurrying around the UN climate talks in Doha. Along with Edna Molewa of South Africa, he can claim to represent a country that has enshrined sustainable development in its constitution.

But Griffiths can go further than any of the 194 countries at the talks. Unless there is a political upset, he says, Wales will become the first country in the world to make it legally binding for all public bodies, from health trusts to libraries and schools, to take account of the environment and social issues when they make a decision.

The sustainable development bill should be delivered in just under a year, says Griffiths, who is in Doha to meet other regional governments like Catalonia, Brittany and Quebec, as well as UN agencies.

"It would be a legal first," he says. "A country may be small but it can be smart and far-sighted."

Wales, he says, walks the walk, and has a good story to tell the world. Not only has it set itself a target to reduce emissions by 3% a year, meaning a 40% reduction by 2020, it is also leading the UK in renewable energy. It also has ambitious plans to retrofit homes and improve energy efficiency in social housing. The embarrassing fact that Welsh greenhouse emissions increased by 8% between 2009 and 2010 compared with just 2% in England is officially put down to the very cold winter and the economic recovery.

Griffiths wants more onshore and offshore wind but recognizes the vehement opposition that turbines and pylons have met in mid-Wales and elsewhere. The answer, he says, is to find ways to make companies benefit communities.

"We are in discussions with companies to get more community benefit, and to provide more jobs. We need to paint a positive picture around renewables in Wales. There's a lot of benefit for us if we get it right."

Wales is brimming with renewable energy companies and he sees the future not just in wind but marine and even solar energy. "We expect to see great development of the potential. But there's not much coal left now. It's pretty marginal."

The culture shock of being in Qatar is enormous, he says. The two small countries have roughly the same populations but there any similarity stops. The gulf state gets less than 3in of rain a year, roughly what St Asaph got in a few hours this week. Equally, the Emir of Qatar is believed to receive more money in a day from Qatar's gasfields than the £300m Griffiths gets to spend on climate change measures in Wales over the next 10 years.

But Qatar has strong links to Wales. Gas from the gulf state mostly lands in Britain at Milford Haven, and then goes by pipeline to Gloucestershire. The £13bn project was fought by protesters on both environmental and safety grounds.

Griffiths links climate change with the recent floods in Wales. "We in Britain had the wettest summer for 100 years. Now we are told we will have more extremes [like this] with climate change. It was very much in line with climate change. Floods like that and the one at Talybont bring climate change home to people. It will have a severe impact."

He wants Wales to take its position as a small, outward-looking, progressive state. This week he has seen the Lesotho minister of the environment and has agreed to help develop the small southern African country's climate change strategy.

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Renewable Energy Beats Natural Gas: Supplies 46% of All New US Electricity Capacity

By *SustainableBusiness.com News*

Almost half of all new electrical generating capacity added in the US this year is renewable energy - 46.22%.

Although we constantly hear about the boom in natural gas, renewables actually beat it in terms of new electrical capacity coming online. Natural gas accounts for 37.8% of new capacity and coal, 15.1%.

Even better for renewables, new capacity added this year beats 2011 by 47.7%, according to FERC's "Energy Infrastructure Update."

Renewables now supply 14.93% of US electricity when hydro is included, more than nuclear (9.27%) and oil (4.32%) combined. When hydro is excluded, renewables account for 5.2% of US electricity supplies, according to the US Energy Information Administration, up 13.3% from 2011.

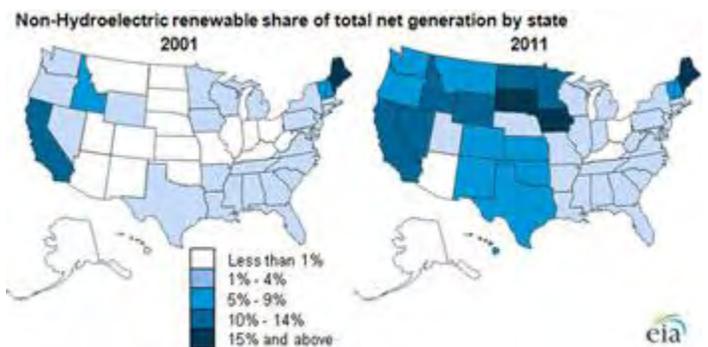
That's enough energy to power about 16 million American homes!

Almost two-thirds (63.44%) of non-hydro renewable electricity is wind generated, followed by biomass (26.70%), geothermal (7.78%), and solar (2.08%).

Solar increased 133.3% and wind grew 17.7%.

This map shows the results of Renewable Portfolio Standards (RPS) that are now law in 30 states and Washington DC. Federal production tax credits (PTC) and grants also contributed to the increases.

Both could be in jeopardy. ALEC is prioritizing eliminating RPS and the PTC has yet to be renewed.



First 10 Months of 2012

This year, the majority of new capacity still comes from wind - 6969 MW in 92 projects (5,403 MW), but it's followed by solar, with 167 projects (1,032 MW), 79 biomass projects (409 MW), 7 geothermal projects (123 MW), and 9 water power projects (12 MW) that are now online.

"These additions understate actual solar capacity gains. Unlike other energy sources, significant levels of solar capacity exist in smaller, non-utility-scale applications - e.g., rooftop solar photovoltaics," says EIA.

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At the edge of the carbon cliff

By **Stephen Leahy**, for *guardian.co.uk*

UXBRIDGE, Canada, Dec 17 2012 (IPS) – The most important number in history is now the annual measure of carbon emissions. That number reveals humanity's steady billion-tonne by billion-tonne march to the edge of the carbon cliff, beyond which scientists warn lies a fateful fall to catastrophic climate change.



The study is the first to comprehensively quantify the costs and risks of emissions surpassing critical thresholds by 2020. Photograph: Bei Feng/EPA

With the global total of climate-disrupting emissions likely to come in at around 52 gigatonnes (billion metric tonnes) this year, we're already at the edge, according to new research.

To have a good chance of staying below two degrees C of warming, global emissions should be between 41 and 47 gigatonnes (Gt) by 2020, said Joeri Rogelj, a climate scientist at Switzerland's Institute for Atmospheric and Climate Science in Zurich.

"Only when we see the annual global emissions total decline will we know we're making the shift to climate protection," Rogelj told IPS.

Making the shift to a future climate with less than 2C of warming is doable and not that expensive if total emissions peak in the next few years and fall into the 41-47 Gt "sweet spot" by 2020, Rogelj and colleagues show in their detailed analysis published Sunday in the journal *Nature Climate Change*.

The study is the first to comprehensively quantify the costs and risks of emissions surpassing critical thresholds by 2020.

This shift means 65 percent of existing coal power plants will have to be shut down in the next decade or two.

"There are enormous benefits if global emissions decline before 2020. Failure to do so will mean we will need to use more nuclear, massive amounts of bioenergy, large-scale carbon capture and storage," he said.

The costs and social implications from deploying all this will be "huge", he said.

"Delay is by far the riskier option," Rogelj said, noting that failure to act now means those additional risks, costs and social disruption will land on the heads of the next generation.

"We're deciding that the next generation will have to pay significantly higher costs because we're not doing anything now."

These climate-disrupting emissions are primarily carbon dioxide (CO₂) from burning fossil fuels and deforestation. The global total also includes other greenhouse gases that are warming the planet such as methane, nitrous oxide, and a few other chemicals.

In 1990, global emissions were 38.2 Gt, and in recent years, they have been growing at a rate of three percent per year. This growth is despite commitments by industrialised countries to reduce their emissions.

In 2009, all industrialised countries, including the United States, made emission reduction pledges under the Copenhagen Accord. However, even if countries reach their Copenhagen targets, global emissions will be about 55 Gt in 2020, the study estimates.

Staying below two degrees C is still feasible, but it will be far more expensive and difficult, imposing an additional cost burden amounting to trillions of dollars over 2020 to 2050.

Earlier this month, during the annual U.N. climate conference in Doha, governments declined to increase their emission cut targets. Citing economic difficulties, countries like the U.S. and those in the European Union looked to a new global climate treaty that would not make additional emission reductions until 2020.

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Hacking away at the sustainable meat industry

By **Heather Clancy**



What role can technology play in helping food companies and grocery stores procure more pork chops, steaks and ribs produced by ranchers and farmers adhering to sustainable and organic business practices?

That was the central question posed by the first ever "Meat Hackathon" (MeatHack) held Dec. 7-9 in New York City.

Hackathons are events where individuals self-organize into teams to collaborate on potential solutions to specific challenges within a specific, short period of time. The MeatHack teams were focused on these themes:

- Improving food labeling so it's easier for consumers to identify organic, antibiotic-free and grass-fed meat;
- Addressing the operational efficiency of meat processors, so it's easier for them to distribute products; and
- Helping small family farms compete more effectively in an industry rife with consolidation and dominated by massive organizations.

The hackathon's winning entry -- an Internet-enabled meat scale and label printer called CARV that can help cut the amount of time it takes for organic meat producers to obtain approvals from the U.S. Department of Agriculture and Food Safety Inspection Service (FSIS) -- received \$2,500 to help bring its idea to fruition.

"The pitch had a business model component to it that we thought was very feasible," said Shai Goldman, venture partner with 500 Startups, and one of five finalist judges. "It seemed like it was solving a real problem."

Solutions to ease market entry

The event organized by Food+Tech Connect is actually the third in a series of food-themed challenges encouraging entrepreneurs, farmers, distributors and other food industry stakeholders to find solutions that make it easier for local and organic food suppliers to get their wares onto consumers' plates.

The other sponsors were GRACE Communications Foundation, an organization focused on building public awareness of the interconnections between food, water and energy systems; and Applegate, the organic meat purveyor.

Image of slaughterhouse cows courtesy of pixelpeter via Shutterstock.

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Gross national happiness in Bhutan: the big idea from a tiny state that could change the world

By Annie Kelly, for *The Observer*

A series of hand-painted signs dot the side of the winding mountain road that runs between the airport and the Bhutanese capital,

Thimphu. Instead of commands to cut speed or check mirrors, they offer the traveller a series of life-affirming mantras. "Life is a journey! Complete it!" says one, while another urges drivers to, "Let nature be your guide". Another, standing on the edge of a perilous curve, simply says: "Inconvenience regretted."

It's a suitably uplifting welcome to visitors to this remote kingdom, a place of ancient monasteries, fluttering prayer flags and staggering natural beauty. Less than 40 years ago, Bhutan opened its borders for the first time. Since then, it has gained an almost mythical status as a real-life Shangri-La, largely for its determined and methodical pursuit of the most elusive of concepts – national happiness.

Since 1971, the country has rejected GDP as the only way to measure progress. In its place, it has championed a new approach to development, which measures prosperity through formal principles of gross national happiness (GNH) and the spiritual, physical, social and environmental health of its citizens and natural environment.

For the past three decades, this belief that wellbeing should take preference over material growth has remained a global oddity. Now, in a world beset by collapsing financial systems, gross inequity and wide-scale environmental destruction, this tiny Buddhist state's approach is attracting a lot of interest.

As world leaders prepare to meet in Doha on Monday for the second week of the UN climate change conference, Bhutan's stark warning that the rest of the world is on an environmental and economical suicide path is starting to gain traction. Last year the UN adopted Bhutan's call for a holistic approach to development, a move endorsed by 68 countries. A UN panel is now considering ways that Bhutan's GNH model can be replicated across the globe.

As representatives in Doha struggle to find ways of reaching a consensus on global emissions, Bhutan is also being held up as an example of a developing country that has put environmental conservation and sustainability at the heart of its political agenda. In the last 20 years Bhutan has doubled life expectancy, enrolled almost 100% of its children in primary school and overhauled its infrastructure.

At the same time, placing the natural world at the heart of public policy has led to environmental protection being enshrined in the constitution. The country has pledged to remain carbon neutral and to ensure that at least 60% of its landmass will remain under forest cover in perpetuity. It has banned export logging and has even instigated a monthly pedestrian day that bans all private vehicles from its roads.

"It's easy to mine the land and fish the seas and get rich," says Thakur Singh Powdyel, Bhutan's minister of education, who has become one of the most eloquent spokespeople for GNH. "Yet we believe you cannot have a prosperous nation in the long run that does not conserve its natural environment or take care of the wellbeing of its people, which is being borne out by what is happening to the outside world."

Powdyel believes the world has misinterpreted Bhutan's quest. "People always ask how can you possibly have a nation of happy people? But this is missing the point," he says. "GNH is an aspiration, a set of guiding principles through which we are navigating our path towards a sustainable and equitable society. We believe the world needs to do the same before it is too late."

Bhutan's principles have been set in policy through the gross national happiness index, based on equitable social development, cultural preservation, conservation of the environment and promotion of good governance.

At a primary school in Thimphu, the headteacher, Choki Dukpa, watches her students make their way to class. She says that she has seen huge changes

to the children's emotional wellbeing since GNH principles were integrated into the education system four years ago. She admits that at first she had no idea what the government's policy to change all education facilities into "green schools" meant.

"It sounded good but I wasn't sure how it would work," she says. But after Unicef funded a "green schools" teacher training programme, things improved. "The idea of being green does not just mean the environment, it is a philosophy for life," says Dukpa.

Alongside maths and science, children are taught basic agricultural techniques and environmental protection. A new national waste management programme ensures that every piece of material used at the school is recycled.

The infusion of GNH into education has also meant daily meditation sessions and soothing traditional music replacing the clang of the school bell.



The principles of Bhutan's gross national happiness system are spelled out for pupils at a secondary school in Paro, a largely agricultural region. Photograph: Jean-Baptiste Lopez

"An education doesn't just mean getting good grades, it means preparing them to be good people," says Dukpa. "This next generation is going to face a very scary world as their environment changes and social pressures increase. We need to prepare them for this."

Despite its focus on national wellbeing, Bhutan faces huge challenges. It remains one of the poorest nations on the planet. A quarter of its 800,000 people survive on less than \$1.25 a day, and 70% live without electricity. It is struggling with a rise in violent crime, a growing gang culture and the pressures of rises in both population and global food prices.

It also faces an increasingly uncertain future. Bhutan's representatives at the Doha climate talks are warning that its gross national happiness model could crumble in the face of increasing environmental and social pressures and climatic change.

"The aim of staying below a global two-degree temperature increase being discussed here this week is not sufficient for us. We are a small nation, we have big challenges and we are trying our best, but we can't save our environment on our own," says Thinley Namgyel, who heads Bhutan's climate change division. "Bhutan is a mountainous country, highly vulnerable to extreme weather conditions. We have a population that is highly dependent on the agricultural sector. We are banking on hydropower as the engine that will finance our development."

In Paro, an agricultural region one hour out of the capital, Dawa Tshering explains how the weather is already causing him problems. The 53-year-old farmer grew up in Paro, surrounded by mountains and streams, but has found it increasingly difficult to work his two acres of rice paddy.

"The weather has changed a lot: there is no snow in winter, the rains come at the wrong times and our plants get ruined. There are violent storms," he says. Around 70% of Bhutan's people are smallholder farmers like Tshering.

"The temperature has got hotter so there are more insects in the fruit and grain. I don't understand it, but if it continues we're going to have many problems in growing food and feeding ourselves."

Bhutan is taking action to try to protect itself. Ground-breaking work is being done to try to reduce the flooding potential in its remote glacial lakes. Yet it cannot do it alone. Last week in Doha, campaigners pushed for more support to countries such as Bhutan that are acutely vulnerable to climate change.

"While the world is now starting to look to Bhutan as an alternative model of sustainable economics, all of its efforts could be undone if the world doesn't take action in Doha," says Stephen Pattison from Unicef UK.

"Small and developing countries like Bhutan must get more support, and the UK and other governments must start actually taking action, like pledging their share of money to the green climate fund and get it up and running as soon as possible."

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Lord Stern: developing countries must make deeper emissions cuts

Climate economist says developing countries must face the 'brutal arithmetic' of their responsibility for emissions

By **Fiona Harvey**, *The Guardian*,



Lord Nicholas Stern's landmark review of the economics of climate change showed conclusively that it would be cheaper to act now on emissions than pay the costs later. Photograph: AP

Developing countries must take on the lion's share of cuts in greenhouse gas emissions, because of the "brutal arithmetic" of climate change, one of the world's leading authorities on global warming economics has said.

Lord Nicholas Stern, former World Bank chief economist and author of the landmark Stern review of the economics of climate change, told the Guardian that poorer countries including China and India must step up to their responsibilities. "It's a brutal arithmetic – the changing structure of the world's economy has been dramatic. That is something developing countries will have to face up to," he said.

His new research shows that even if developed countries cut their emissions to zero, that would not be enough to halt runaway climate change – because emissions from rapidly industrialising economies are now so high. Greenhouse gases from emerging economies – such as China, South Korea and India, that have industrialised rapidly in the past two decades – now make up the bulk of the world's carbon emissions.

"I am not pointing the finger at the developing world, just looking at what is necessary. I am not accusing or proposing, just calculating what is needed [to meet scientific estimates of the emissions cuts needed to avoid dangerous levels of climate change]," he said.

But he said that if they adopt new technology, developing countries could continue to grow. "It would be completely unacceptable to say you cannot grow, you cannot lift people out of poverty. But there are ways of doing that," he said.

This is controversial, because developing countries have long insisted that countries that industrialised sooner, such as the US and Europe, should make the greatest carbon cuts. They argue that such countries have been responsible for greater emissions over a longer period, and have higher emissions per person than poor countries, and so should bear the brunt of the cuts needed as well as paying tens of billions a year for poorer countries to cut their carbon and adjust to the effect of climate change. These arguments have defined the UN climate change talks, now taking place in Qatar, for the 20 years of their existence.

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'Sustainability mind' needed for change at corporate, government level

In our series on hopes for sustainable business in 2013, Adrian Henriques dreams of a world where sustainability becomes real

By **Adrian Henriques**, *Guardian Professional*,

What hope can we hold for 2013? I think the most profound change we can hope for is that the recent growth in awareness of sustainability becomes real, rooted and universal. Grounds for such hope can be found not only in the UK but, perhaps paradoxically, also in the environmental damage that is troubling more and more people in China.

Change at all levels depends on a new sustainability culture – "sustainability mind" or "planet mind" – becoming commonplace.

Second on my wish list for 2013 would be the adoption of some seriously challenging environmental targets at the state level. Currently in the UK the target for 2020 is for 50% of waste to be recycled or reused. Why can't zero-waste be adopted as a national target? What about an energy-positive buildings target? And we must go beyond carbon, however much it remains the first priority.

Third on my list is an acronym-free future for companies. How energising it would be to have some real meat, rather than mere word salad to digest. What would it take to move beyond the fashion statements of CSR, CSV and to have businesses focus straightforwardly on social and environmental goals and impacts? The irony being that it would no doubt do their bottom lines a lot of good.



It's possible that green investment in the UK will return as the "face-saver" for a "failed austerity programme". Photograph: Suzanne Plunkett/REUTERS

But I am also a realist and entertain expectations as well as hopes – the difference between expectation and hope being about 20 years.

On the whole I expect a continuing muddled decline into further unsustainability in 2013, based on a rapt attention to short-term interests. In the UK, this will come on top of the current economic quagmire.

But perhaps there is also a silver lining to this cloud of economic depression. In the UK, it is possible that green investment may return as the face-saver for a failed austerity programme. And we are also likely to get revised, and slightly improved, disclosure requirements as a result of the review of the Companies Act.

Internationally, I expect some real progress on recognition of the crime of ecocide. This may come from parts of the UN system as well as from concerned governments across the world. But on climate change, I think 2013 will begin a period of real uncertainty, with few political leaders across the world having any kind of sustainability vision.

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Sandy likely to bring renewed focus on carbon markets

By Deborah Benn



There is a renewed focus on carbon markets following a series of reports that highlight the economic and social environment implications of climate change, particularly post-Hurricane Sandy, *Investment Week's* Climate Change Conference was told last week.

Dr. Tauni Lanier, managing director of EcoCapital and adviser to Meteor Asset Management in the U.K., referred in particular to research by the International Energy Agency and climate change experts such as Bill McKibben of 350.org, who calculate that 80 percent of the proven fossil fuel reserves need to stay in the ground for us to have a 50-50 chance of keeping global temperature rise below two degrees Celsius, the point at which scientists say climate destabilization occurs.

Further studies by Price Waterhouse Coopers show that, since 2000, the rate of decarbonization of the global economy has averaged 0.8 percent annually. This is a fraction of the 5.1 percent reduction required to keep global warming at the two degree level.

A price on carbon is one way of tackling the problem, and Dr. Lanier pointed out that there continues to be confidence in the legitimacy of the carbon markets, although this tends to be at a regional rather than international level. The Bank of Japan is currently looking at establishing a market, as are South Korea, South Africa and Brazil, as well as regions in the United States.

Additional signals on climate change progress include the growing call for accountability of a company's use of natural resources, according to Dr Lanier. She cited the example of Puma, which last year became the first company in the world to put a value on the environmental impact caused by greenhouse gas emissions (GHGs) and water consumption along its entire supply chain used to produce its sports shoes and clothes.

Photo of Hurricane Sandy at a New Jersey Pier provided by Master Sgt. Mark C. Olsen/U.S. Air Force/New Jersey National Guard via Wikimedia Commons.

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How architects can control a building's intelligence

By Jim Sinopoli

In the case of new construction and most building renovations, the architect is the main interface for the building owner. It's the architect that develops the owner's facility program and assembles a design team -- both of which are critical to the overall success of the project.

With such a prominent role, the architect heavily influences just how smart the building will be. Surely architects understand that the control, monitoring and automation systems are an essential aspect to a smart building. Those systems are the dynamic components or facet of the building. They are the nervous systems that allow for adjustments in a building's environment -- as

well as its optimal operational performance related to life safety, comfort, security, energy and a healthy atmosphere.

However, architects also understand that it's not just control systems that comprise a smart building. The "fixed" attributes of the building such as the initial siting, the structure, the envelope, windows and interior layout also play a major part in how smart the building is and how the building will operate.

The best building control systems cannot compensate for the worst building structure and layout. In the same way, the best structure cannot compensate for the worst building control systems. Both are critical in creating a smart and well-designed building. What follows are some of the functions and responsibilities of the architect and how they play a role in designing, constructing and operating a smart building.

Facility Programming



The development of a facility program will be led by the architect in collaboration with specialized facility programmers, engineers, consultants, facility managers, contractors and manufacturers. It's a creative, iterative process which teases out the owner's objectives, values and preferences, and identifies the needs and considerations related to aesthetics, economics, regulatory issues, energy, sustainability and functionality. The result is the owner's unique facility plan that is the foundation and underpinning of the design and construction. (See the classic book *Problem Seeking*, an architectural programming primer, for more information).

It is this early programming activity where the discussion of automation, advanced technology, smart buildings, building operations and facility management must take place. Without laying out these matters, it will not become an integral part of the building program and traditional or legacy approaches will oftentimes result. Even if the idea of a smart building becomes an afterthought, something possibly identified later in the design process, its consideration may be disruptive -- and its potential diminished because of existing design decisions.

Image of brain and head outline provided by agsandre/Shutterstock

Most important role of an architect

There are features of the facility program that will be mandated by government regulations. There will also be attributes of a facility program that will be influenced by third-parties, the most obvious being the U.S. Green Building Council LEED certification program. Assuming an owner is seeking certification, it provides some benchmarks and guidance for the design, construction and operation of buildings that are likely to be part of the facility program. Similar to LEED is the Smart Buildings Institute (SBI) certification which focuses on advanced technology, system and data integration and building operations, which provides a framework and detailed properties for a smart building.

Given all this information, perhaps an architect's most important role in a smart building is simply putting advanced technology and smart building operations on the agenda, explaining the technology and economics to the owner and incorporating the main tenets of this approach in the facility program.

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Amid extreme weather, infrastructure needs sustainability

By Alison Moodie



Hurricane Sandy, the super storm that ravaged parts of the East Coast in September, has brought to light the dismal state of bridges, roads and buildings in the United States. As scientists predict these severe weather patterns are set to occur more frequently, the need for sustainable infrastructure has become a matter of urgency, crucial to economic growth and

quality of life around the world.

But erecting structures that can withstand hard knocks for years to come takes money, and lots of it. According to the Organization for Economic Co-operation and Development (OECD), \$53 trillion will be needed in infrastructure development around the world over the next few decades.

Experts agree that what's needed is a more holistic approach towards project implementation and funding. Planners need to look beyond the economic benefits of a project and consider too the social and environmental benefits it might bring.

Sustainable infrastructure means finding what's "viable, bearable and equitable" for community members and cities, said Lisa Rephlo, the principal of energy conservation and management of MWH Global, during a recent GreenBiz webcast about new tools to assess sustainable infrastructure.

"We're considering all the project's benefits across the portfolio in a total benefit return," said Rephlo, who uses this integrated approach with her clients. By looking at the social, environmental and economic benefits, your total benefits are "higher than just looking at the economics approach," she said.

This holistic approach enables planners to better communicate how the project will translate to the community on a number of different levels, as well as help address specific stakeholder concerns. The ability to demonstrate an array of benefits also opens up more funding channels, said Rephlo, allowing planners to take advantage of outside funding from sustainability groups and other investors.

Funding: Entry of Impact Capital

Gone are the days when planners could rely on government funds to back their infrastructure project, said John Williams, chairman and CEO of Impact Infrastructure, during the webcast.

"The trend seems to be accelerating away from dependence on government," Williams said.

Photo of bridge with airplane overhead provided by fuyu liu /Shutterstock

Gap between funding demand and available resources

There is a gap between demand for funding and what is currently available, which has led to fierce competition among applicants hoping to secure funding at the federal, state or local level.

But other funding streams are opening up, said Williams, namely what he calls "impact capital," which includes pension, socially responsible, or governance funds. These funds control nearly \$24 trillion in capital worldwide, said Williams, yet less than 1 percent of that money is invested in alignment with the missions of the organizations that are the source of that capital. In the past, and especially during the recession, the investors of these funds have been more interested in their return on investment than anything else. But that's now changing, said Williams, and investors are now "working very hard to find their way back into public buildings," said Williams.

Project designers and engineers are also starting to play a bigger role in securing funding, said Williams. These players are involved in the project right from the start, from early planning through design through construction. They also possess information that is invaluable in communicating to stakeholders how they will benefit from the project.

"Those same professionals are sitting on the information needed to create a business case for the project from beginning to end," Williams said.

To convince stakeholders to invest in a project, a planner needs to present a detailed business case that clearly shows the value and risk of a project. But evaluating a project can cost money, upwards of \$100,000 when using a customized consulting arrangement. Williams suggests the use of an automated business case evaluator, a cheaper option that would also analyze each alternative under consideration, so project sponsors are able to select those with the greatest value for money. These automated tools will emerge very soon in areas such as water, waste, goods and services, and public mobility, said Williams.

An infrastructure rating system

To assess the environmental benefits of a building or bridge or other structure, the use of a ratings system comes in handy. But with over 800 on the market worldwide, deciding which one to use can be a challenge. Rephlo suggests the Envision Sustainable Infrastructure Rating System, which can be used across a wide range of infrastructure, including water, energy, and waste.

The system, a joint collaboration between Harvard University and the Institute for Sustainable Infrastructure, has 60 sustainability criteria divided into five categories: quality of life, leadership, resource allocation, natural world, and climate and risk. The system, which was launched in April, is also capable of running a business case or risk analysis, which sets it apart from all the other systems out there.

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Apple hosts largest private fuel cell installation in U.S.

By Sustainable Business News



Apple is doubling the number of fuel cells it will use to power its \$1 billion data center in North Carolina, making it the largest non-utility fuel cell installation in the U.S.

The company is having 50 fuel cells installed for a total of 10 megawatts (MW) of capacity.

Apple's announcement eclipses eBay's, which will power its

flagship data center 100 percent by fuel cells, and 30 fuel cells will do that.

Both companies are using Bloom Energy fuel cells that get their energy from biogas piped in from nearby landfills.

The massive North Carolina data center is also making extensive use of solar PV at 25 MW. With the two technologies combined, about 60 percent of the energy will come from its own renewable sources, and Apple will purchase the rest from sources that are 100 percent powered by clean energy.

Apple says all three of its U.S. data centers will run solely on renewables, including ones planned in Prineville, Ore. and Newark, Calif. Its goal is to achieve net zero energy for corporate facilities worldwide -- its facilities in Cork, Ireland, Munich, Germany, Austin, Tex. and Sacramento, Calif. run 100 percent on renewable energy, the company says.

Still, Apple remains the subject of criticism, getting a mediocre ranking from Climate Counts on its lack of attention to measuring and disclosing emissions, and has long been at the bottom of its peers in the How Dirty is Your Data? analysis by Greenpeace.

Image of green apple provided by Tatyana Vychezhzhana via Shutterstock.

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Verdict on PUMA's innovative accounting system for sustainability

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

We live in the age of the nerd. Once a depreciated species, tech-savvy



Much of the success of the EP&L is down to PUMA's charismatic past-chairman Jochen Zeitz (right).

brainboxes like Mark Zuckerberg now rule the roost. Sustainability has always had its undercurrent of workishness too. Anyone that has ploughed through the Global Reporting Initiative or ISO26000 can testify to that.

Sustainability geeks have themselves a new poster-child these days in the shape of PUMA. Last year, the German sports apparel and footwear brand burst onto the scene with an innovative accounting system. Pitched as the "first ever" Environmental Profit & Loss (E P&L) account, PUMA said it had cracked the challenge of putting a financial value on its use of 'natural capital'. The result? A cool €145 million. PUMA followed up this initial report with a second study back in October in which it provided a similar Euro-and-cents figure for the environmental impacts of specific product lines. The sustainability wonks drooled.

But is the methodology accurate? To its credit, PUMA's parent company, PPR, convened a group of independent experts to check. Their conclusions, published today, make intriguing reading. There's an up-front admission that PUMA's approach, which was developed in conjunction with accounting experts PwC and TruCost and PPR, marks a "first step". That said, the unanimous verdict was that PUMA "clearly applied credible valuation approaches".

As a business management tool, the E P&L came out with flying colours. The expert panel judged the methodology as a valuable asset for strategic decision making, as well as for providing insights into potential business risks linked to the use of natural capital. In PUMA's case, for instance, it has enabled the company to evaluate the water intensity of its raw materials and map these against regions where availability of water is an issue or where it could be in the future. Transparency emerges as another major business benefit. "By reporting the results of an E P&L businesses can be transparent about the extent of their environmental impact thus providing a basis for more meaningful, evidence-based engagement with stakeholders", the report states.

But what about the numbers themselves? Just how robust are they? This is where the real nitty-gritty of the report lies. Data availability is the biggest issue. The E P&L differs from so-called 'Scope 1' reports in that it seeks to quantify not only PUMA's direct environmental impacts, but those of its suppliers too. Primary information is often non-existent or disaggregated. Many statistics, for instance, are only available at a national level rather than being location-specific. This means the methodology relies heavily on the use of estimation techniques, such as environmentally extended input-output modeling. These are good, but not great. More data from suppliers would be one big improvement. Failing that, the report recommends factoring in data from secondary sources, such as Life Cycle Assessment databases.

In terms of scope, the verdict of the expert panel on the list of impact areas included in the E P&L was broadly positive. The only recommended addition is the inclusion of water pollution. Many of the other recommendations focus on technical improvements around valuation. There is advice on how to avoid the risk of double accounting, how to offset bias relating to welfare-based evaluation techniques, how to account for inflation, how to structure a baseline scenario, and the like. All stuff that will keep the wonks happy and, more importantly, make the methodology more robust.

Two important challenges await if PUMA's promotion of natural capital accounting is going to be more than a flash in the pan. The first centres on

standardisation. "The E P&L as an approach is unlikely to be used by more companies unless a more accessible methodology is developed", the report's authors warn. In this sense, their recommendations are a good place to start.

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How to get ahead in... sustainable living

By **Debbie Andalo**, for *guardian.co.uk*

Advising tenants on how to reduce their carbon footprint and cut their energy costs is becoming part of the core skills expected of frontline housing officers. Accordingly, the Chartered Institute of Housing (CIH) has just launched a unique qualification to help tenants follow a more sustainable lifestyle.

At the same time, social landlords are also taking steps to help keep their tenants out of fuel poverty. Richard Hargreaves, energy and sustainable



A new GCSE-equivalent qualification trains tenants and housing officers in the basics of energy efficient household management. Photograph: Construction Photograph: Alamy

efficiency project manager at Salix Homes, recently named sustainable landlord of the year, says: "I think giving advice about energy efficiency is becoming a core requirement when you consider the welfare reforms and the cost of energy increasing – the financial pressures on our customers have increased. It's become core but it's also about our social responsibility."

This month, Wakefield and District Housing (WDH) in West Yorkshire, which manages 31,000 homes with 60,000 tenants, became the first landlord to enrol tenants on the CIH qualification in sustainable living. It expects to put at least 10 tenants through the qualification; most come from the new 91-home Park Dale development in Castleford, which WDH describes as the largest zero-carbon housing development in the UK.

The CIH level 2 award, equivalent to a GCSE, teaches tenants how to use their homes in a more energy-efficient way. Units include sustainable living, how to reduce, reuse and recycle household waste and how to conserve water in the home. CIH education officer Dave Bramley says the award was developed following a request for accredited training from WDH, after it had completed the the Park Dale development.

But the qualification is designed for any resident or tenant, regardless of what kind of housing they live in. Bramley explains: "We are now looking at either developing another qualification or adding an additional module to the current course, to cover personal financial management because it ties in with increasing energy costs."

WDH says the qualification, which is also available to non-WDC tenants, is important because it helps not just reduce tenants' carbon footprint but to sustain tenancies. "It's not just about learning about the technology. Tenants learn about how to make money through recycling, and how for example, a car boot sale is both a form of recycling and a way of getting income," a spokesman says. "We are committed to sustaining tenancies and improving lives. This is a unique qualification that will help to support those objectives."

At Salix Homes in Salford, 60 housing officers – about a third of the frontline workforce – have been trained in offering basic energy advice and 20 now have the skills needed to perform home energy audits. The landlord has trained 25 residents in how to offer fuel debt advice in the hope that they will be able to spread the message to their neighbours informally and prevent more people falling into fuel poverty.

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Time to turn capitalism ‘inside out’

By Terry Slavin, for *The Guardian*



Without radical change the world could be on a 'collision course with nature'. Photograph: Frans Lemmens/Getty Images

When John Elkington helped set up a consulting company called SustainAbility in 1987, few people had heard of the word, let alone knew how to spell it.

It was the year that the UN introduced the concept of sustainable

development, defining it as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”. Elkington sharpened the term for business with his concept of the triple bottom line: measuring profit and loss not only in economic terms, but in the parallel ledgers of social and environmental impact.

“If we are to create a global economy that works for the 9 billion people forecast by mid-century, then for the sake of the global climate and for the survival of many other species we have to turn today’s capitalism inside out and upside down,” Elkington wrote earlier this year.

The question of how to accelerate such a radical transformation was the subject of a roundtable discussion at the Guardian. The debate was sponsored by the carpet tile manufacturer Interface, which has been dedicated to sustainable business since its founder, Ray Anderson, set the company on “Mission Zero”: a goal of having zero negative impact on the environment by 2020.

Radical change

Today, sustainability is such common currency in the business world that 93% of chief executives around the globe view it as “critical to the future success of their companies”, according to a survey of 766 CEOs by the UN Global Compact and consultancy Accenture.

The 2010 survey, the largest ever conducted, found that 81% of companies had already incorporated sustainability into their strategy and operations – up from 50% only three years previously.

The roundtable heard that a growing number of companies around the globe are striving to radically change their business models. For example, Patagonia, the outdoor apparel company famous for putting sustainability ahead of profit, last year took out a full-page advert in the *New York Times* with the tagline “Don’t buy this jacket, unless you really need it.” It pointed out that manufacturing its most popular jacket generated 24 times its weight in CO2 despite being made of 60% recycled material.

In the UK, Ian Cheshire, CEO of Kingfisher, which owns the DIY giant B&Q, won the Guardian Sustainable Business leader of the year award after launching the company’s “net positive” sustainability strategy.

Cheshire is one of a small but growing number of CEOs who want to change the business model from one that sells “things”, with all the attendant resources and waste, to one that sells what consumers actually need: a service. So instead of just selling power drills, B&Q is looking at selling the use of it through leasing or fractional ownership.

But several people around the Guardian table warned against vesting too much hope in a small band of iconic leaders to lead the way, particularly at a time when a new era of cheap energy heralded by shale gas, a natural gas formed from being trapped within shale formations, is causing corporate casualties to mount in the clean energy sector.

Sally Uren, deputy CEO of green thinktank Forum for the Future, said despite the high level of publicity Cheshire’s “net positive” initiative has received, investors had not once asked him about his sustainability plans.

It was noted, however, that the B&Q model has already created transformative change. Car sharing schemes, such as Zipcar where members can have instant access to a vehicle, have been so successful that US car rental giant Hertz plans to convert its entire 375,000 fleet with the instant-access technology from next year. Dax Lovegrove, head of business and industry at WWF, pointed out that every shared car takes 14 off the road.

There was also a growing concern that much of what passes for sustainability is a green gloss painted over business as usual, and the fact that so many companies claim to have seen the green light has engendered a dangerous complacency.

So, despite some positive early signs, Elkington and others believe a huge leap is required: nothing less than a rewriting of the capitalist rule book, it was suggested, so that the profit imperative does not send the other ledgers of people and planet deep into the red.

Last year the World Business Council for Sustainable Development (WBCSD) warned that business as usual on a planet where the population is soaring and natural resources are dwindling will set us on a collision course with nature. Its Vision 2050 report called for urgent and concerted global action by business to avert disaster, suggesting we will need to consume 2.3 times more than the planet’s resources by 2050.

There is also widespread acceptance that the ability to bring about change on the scale required is too big a challenge for any single chief executive or company. And it was suggested that that puts the ball back into the court of regulators.

Ramon Arratia, European sustainability director at Interface, said the European commission, by imposing limits on CO2 emissions from new cars, had shown how “top-down, old-school regulation” can allow innovative new technologies, such as regenerative brakes, to move from the fringes to influence a market.

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Smith Electric Opens Third Factory: In Chicago

By *SustainableBusiness.com News*

Smith Electric Vehicles will soon open its third US factory, this time in Chicago, because of the city’s innovative program that encourages fleets to adopt electric vehicles.

“Soon hundreds of Chicagoans will be able to put their skills to use providing businesses worldwide with high-quality, zero-emission, American-made vehicles,” says Mayor Emanuel. “Smith Electric Vehicles is an innovative company in a forward-looking, essential industry that is a central part of Chicago’s economic future.”

Chicago’s \$15 million incentive program rewards fleets on an increasing scale for replacing their most diesel-consuming vehicles with electric ones.

Funded with resources from the federal Congestion Mitigation Air Quality program, companies get vouchers to reduce the cost of converting vehicles to electric. The state also has rebates for electric vehicles and for setting up charging stations.

So far, Chicago has 202 EV charging stations - the densest network of any city.

Going forward, the city is considering setting aside preferential loading zones for electric trucks and lower registration fees.

“Mass urban deployment of commercial electric vehicles is an important next step in catalyzing mainstream adoption,” says Bryan Hansel, CEO of Smith Electric. “Chicago’s location, commitment to adoption in municipal fleets, concentration of commercial vehicles, talented workforce and importance to the global business community make it a perfect choice to grow our company and this industry. The leadership being shown with the mayor’s CDOT voucher program is a prime example of how Chicago is creating the template for a new energy city.”

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Levi's, GAP not keeping supply chains sustainable, reports show

By Sustainable Business News



A new report from Greenpeace on how clothing manufacturing facilities are filling wastewater systems in China with harmful chemicals is the latest effort to highlight the clothing industry's poor environmental track record.

"Of all the factories we have been to over the past few years, we have never before seen such large-scale pollution," says Yifang Li, senior toxics campaigner at Greenpeace East Asia. "The samples of wastewater taken on site have proven to be some of the most toxic testing results we have seen."

The pollution is coming from textile manufacturing plants in China that are part of the supply chain for Levi's, GAP and Calvin Klein, among many others in the clothing industry.

Greenpeace International's investigation reveals dumping of industrial wastewater with a wide range of hazardous substances in two of China's most important textile manufacturing zones.

Its report titled Toxic Threads: Putting Pollution on Parade details how facilities are exploiting complex wastewater systems to hide scrutiny of their manufacturing processes.

Water samples from the two largest communal wastewater treatment plants show that processed effluent contains toxic and cancer-causing chemicals -- at least some of which are persistent and bio-accumulative. People that live there are so concerned about their health that they rely on the local government to deliver drinking water, according to the report.

"Many international brands, such as Levi's, source their products from facilities within such industrial zones, yet identifying whether individual suppliers are responsible for releasing hazardous substances in their effluent is almost impossible," says Li. "This provides a convenient smokescreen for unacceptable environmental practices at individual facilities, including the use and discharge of hazardous chemicals by the global textile industry."

Hazardous chemicals remain on conventional textiles even after being sold at the retail level. Chemical residues enter water systems when textiles are washed.

"Along with setting short-term timelines to eliminate the worst hazardous chemicals, brands must require their suppliers to publicly disclose releases of these chemicals," says Martin Hojsik, Greenpeace International Detox Campaign Coordinator. "Both are key steps to achieve zero discharge of hazardous chemicals by 2020 and Greenpeace will continue to expose brands that do not take responsibility for every stage of their supply chain."

Photo of textile factory provided by Lucian Coman via Shutterstock

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Obama tightens air pollution limits

EPA to cut release of soot from power plants and diesel engines, following link to higher rates of heart attacks and lung diseases

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

The Obama administration has set new limits on a deadly form of air pollution – and risked a backlash from industry early in a second term – by tightening restrictions on soot from smoke stacks and diesel engines.

The new rules from the Environmental Protection Agency (EPA) will reduce the amount of soot released from power plants, diesel engines, refineries, and other industries.

The microscopic particles are linked to early death and higher rates of heart attacks, strokes and lung diseases, such as asthma.

The EPA administration in announcing the new standards on Friday promised sweeping public health benefits. "Families from around the country will benefit from the simple fact of being able to breathe cleaner air," said Jackson, adding that her two sons suffered from asthma.

The rules, finalised in response to a court-ordered deadline, were strenuously opposed by industry groups and by some members of Congress, setting up the stage for heightened confrontation during Obama's second term.

The administration is expected to roll out other pollution controls, which were put on hold in an election year.

The main oil lobby group, the American Petroleum Institute, said in a statement: "There is no compelling scientific evidence for the policy decision to develop more stringent standards. The existing standards are working and will continue improving air quality."



Los Angeles in California, which has some of the worst air quality in the US. Photograph: Frederic J Brown/AFP/Getty Images

James Inhofe, the Oklahoma Republican who is the Senate's biggest doubter of climate change, said the new rules were the first wave of "an onslaught of post-election rulemakings that will place considerable burdens on our struggling economy and eventually push us over the 'regulatory cliff'".

Clean air advocates praised the decision as long overdue. The air quality standards were raised only after environmental group Earth Justice sued the EPA to enforce standards recommended by its own scientific advisers.

The American Lung Association, which had supported the suit, said in a statement that the new standard would save lives.

"We know clearly that particle pollution is harmful at levels well below those previously deemed to be safe," the statement said. "By setting a more protective standard, the EPA is stating that we as a nation must protect the health of the public by cleaning up even more of this lethal pollutant."

The new standards will limit annual average soot emissions to 12 micrograms per cubic metre of air by the end of the decade. The level, significantly more stringent than the standard of 15 micrograms set in 1997, was in the middle of a range of 11 to 13 micrograms recommended by EPA scientists.

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Malaysia seizes 1,500 elephant tusks headed for China

By Adam Vaughan, for guardian.co.uk

Malaysian authorities have seized an enormous haul of 1,500 elephant tusks worth RM60m (£12m), weighing as much as all the illegally traded ivory seized globally last year and marking the country's largest ever haul.



Malaysian customs officers display elephant tusks that were recently seized in Port Klang, outside Kuala Lumpur, Malaysia. Photograph: AP

The shipment was estimated at between 20 and 24 tonnes, and discovered in two shipping containers by the customs department on Monday at busy container terminal Port Klang, near Kuala Lumpur. It was en route from Togo in west Africa to China, and had been transferred from one ship to another in Spain.

"The two containers were found to be filled with sawn timber. Inside the wood there were secret compartments that were filled with elephant tusks," said state customs director Azis Yaacob. It is the fourth such seizure in Malaysia this year.

It follows large seizures of ivory globally this year, such as 0.9 tonnes in New York in July, 1.5 tonnes in Colombo, Sri Lanka, in May, and two in Hong Kong this autumn – one of which broke records – totaling 5.1 tonnes. 2011 itself was a record year globally for ivory seizures, totaling 24 tonnes.

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Doha climate talks signal to business that progress is still too slow

UN climate talks in Doha saved the Kyoto Protocol – but that isn't enough, says KPMG's Yvo de Boer

By Yvo de Boer, Guardian Professional,

If there is one word that sums up the achievements of the recent UN climate talks in Doha, it is "modest". It is little wonder that we are seeing that word time and again in media coverage of the event.

Let's start with the good news: the most important outcome is the continuation of the Kyoto protocol, the legally-binding global agreement under which some countries had agreed to reduce their carbon emissions.

That agreement was due to expire at the end of 2012, placing a question mark over the future of carbon trading and market-based mechanisms such as the clean development mechanism.

Delegates in Doha managed to agree a second period for the protocol until 2020 – albeit with a smaller group of



A gas well burns north of Doha. The city's climate change talks signal that progress towards a global agreement is slow. Photograph: Karim Sahib/AFP/Getty Images

countries involved, including the EU and Australia, but not Canada, Russia or Japan. The countries still signed up for the protocol account for only 15% of global emissions, which is disappointing.

But, on the bright side, a continuation of Kyoto provides ongoing policy direction to businesses based in those countries. It also leaves the infrastructure for carbon trading and market-based mechanisms in place. This

is important because I believe the world is inching towards a global carbon market. Australia's trading system is due to link with the EU's in 2015 and there is talk of further links to come potentially involving China, South Korea and others.

By saving Kyoto, negotiators have avoided putting a massive crater in the road to a global carbon market.

The fact that the Kyoto protocol will now run until 2020 means it is due to complete at the same time as a new global deal on emissions reduction – agreed in Durban last year – is due to take effect.

We still have no real idea of what form that deal will take. The wording is fuzzy. It could be a "protocol", "another legal instrument" or "an agreed outcome with legal force". Doha did nothing to improve clarity around this but it did at least set out a timetable for working towards the new deal, which is supposed to be agreed by the end of 2015.

Business outcomes from Doha

The signals to business are that we are still heading, slowly, towards some sort of global agreement on climate action. Importantly, this will involve all countries, including the high-emitting emerging economies such as China and India that were not part of the Kyoto protocol.

The snail's pace of the global political process on climate change frustrates many, but I predict it will accelerate sharply in the next three years.

There will be increasing worldwide focus on the fact that the global aim of limiting average temperature rises to 2C now seems almost impossible. Organisations such as the World Bank and the International Energy Agency are making it quite clear that we are on course for temperature rises of 4C or more by the end of the century.

While Doha did not deliver any increased commitments from major emitters, it did recognise the need for greater ambition. There will now be a review of the long-term temperature goal, intended as a "reality check". The review is due to complete by 2015, so its findings can feed in to the final decisions on the new global deal.

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Why scaling up sustainable urban growth is critical for the planet

By Raj Saprú

In 2010, we quietly crossed a global threshold: The majority of the world went from living in rural areas to living in cities. As with foreign direct investment flows and the rise of atmospheric carbon-dioxide concentrations, this shift is a reminder that we live among imperceptible but significant megatrends.

By 2050, it is estimated that 70 percent of all people will live in cities, and the infrastructure needs to accommodate them and sustain this growth are massive, requiring a delicate balance of social, environmental, and economic considerations. As we have seen, urbanization can take multiple paths -- sometimes resulting in cities that thrive, and other times creating cities with multiple tiers of poverty and disparity.



These trends make the case for sustainable urban growth appealing: We need to invest in sustainable infrastructure now because the lead times are long, the capital expenses high, and the systems that enable a lower per capita social and environmental footprint today will have exponential savings tomorrow. While the logic is sound, the growth of sustainable infrastructure has not kept pace with the need.

Over the past few weeks, I've had a chance to speak with several individuals in the private sector who are at the forefront of infrastructure development and who have shared their views on the challenges that business faces and what needs to change to make sustainable urban growth attainable.

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Pollution from car emissions killing millions in China and India

Study published by Lancet says surge in car use in south and east Asia killed 2.1m people prematurely in 2010

By John Vidal, guardian.co.uk,



The India Gate monument in New Delhi, enveloped by a blanket of smog.
Photograph: Manish Swarup/AP

An explosion of car use has made fast-growing Asian cities the epicentre of global air pollution and become, along with obesity, the world's fastest growing cause of death according to a major study of global diseases.

In 2010, more than 2.1m people in Asia died prematurely from air pollution, mostly from the minute particles of diesel soot and gasses emitted from cars and lorries. Other causes of air pollution include construction and industry. Of these deaths, says the study published in *The Lancet*, 1.2 million were in east Asia and China, and 712,000 in south Asia, including India.

Worldwide, a record 3.2m people a year died from air pollution in 2010, compared with 800,000 in 2000. It now ranks for the first time in the world's top 10 list of killer diseases, says the Global Burden of Disease (GBD) study.

The unexpected figure has shocked scientists and public health groups. David Pettit, director of the southern California air programme with the Natural Resources Defence Council (NRDC), said: "That's a terribly high number – and much more people than previously thought. Earlier studies were limited to data that was available at the time on coarse particles in urban areas only."

Anumita Roychowdhury, head of air pollution at the Centre for Science and Environment (CSE), a New Delhi-based environmental group, said: "There is hard evidence now to act urgently to reduce the public health risks to all, particularly children, elderly and the poor. No-one can escape toxic air."

The full effects of air pollution on health in Asian cities may not be seen for years, she said. "Toxic effects like cancer surface after a long latency period. Therefore, exposure to air pollution will have to be reduced today to reduce the burden of disease," she said.

According to the report, by a consortium of universities working in conjunction with the UN, 65% of all air pollution deaths are now in Asia, which lost 52m years of healthy life from fine particle air pollution in 2010. Air pollution also contributes to higher rates of cognitive decline, strokes and heart attacks.

If the figures for outdoor air pollution are combined with those of indoor air pollution, caused largely by people cooking indoors with wood, dirty air would now rank as the second highest killer in the world, behind only blood pressure.

Household air pollution from burning solid fuels such as coal or wood for cooking fell noticeably, but not having clean cooking and heating fuels remains the leading risk in south Asia.

Fine particle air pollution in India is far above the legal limits of 100 microgramme per cubic metre. This can rise to nearly 1,000 microgrammes during festivals like Diwali.

Improvements in car and fuel technology have been made since 2000 but these are nullified by the sheer increase in car numbers. Nearly 18m are

expected to be sold this year alone. In Delhi, there are now around 200 cars per 1,000 people compared with 70-100 per 1,000 population in Hong Kong and Singapore.

Rajendra Pachauri, head of the Intergovernmental Panel on Climate Change and director-general of the Energy and Resources Institute in New Delhi, this week suggested the need to "demand restraint measures" in Delhi, to put a check on the growing number of cars so that there was a check on pollution.

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Beans mean high profits for guar farmers of Rajasthan

By Rupert Neate, for *The Guardian*

There's no fracking in Rajasthan, but hydraulic fracturing (to give it its proper name) has drastically changed the landscape of one of the poorest places on earth.

India's biggest state is the world's number one producer of guar beans, a little known seed which is used to make ice cream and gives tomato ketchup its gloopiness, but which turns out to be integral to successful fracking.

Since fracking took off at the end of 2010 the price of guar, a bean of the Galactomannan family that can be used to thicken water in the drilling process, increased 15-fold to \$25 (£15) a kilo this summer.

The massive price spike has proved a boon to Rajasthan's mostly hand-to-mouth guar farmers and convinced thousands of others to turn their land over to guar, which in Hindi means "cow's food" reflecting that until recently the vast majority was munched by bovines.

"It's a bit like sugar beet," says Malcolm Graham-Wood, an energy analyst at VSA Capital in London. "It was only really fed to animals, then someone found that you could put it into an oil well in Texas and it has rocketed [in price]."

"You wouldn't expect to find it in fracking, and wouldn't expect it to be so important that half of US shale gas operations are going up [in cost] on the back of the shortage. But it is."

The oil industry was attracted to guar for its thickening properties that have long appealed to ice cream, yoghurt and toothpaste manufacturers.

Dennis Seisun, editor of the *Quarterly Review of Food Hydrocolloids*, substances that form a gel when added to water, explains that guar is used to thicken water to allow ceramic beads to be suspended in the liquid and injected into the ground at high pressure, which breaks up rocks allowing oil and gas to seep out.



Guar farming in India - the bean was mostly used as cattle feed until its use in fracking became apparent. Photograph: Amit Dave/Reuters

"Now when they drill a hole they go sideways for a mile or two, and frack not once or twice but 10-15 times – that's what's led to the skyrocketing price," he says.

The US oil industry is expected to have bought 300,000 tonnes of Indian guar gum [which is made from grinding down the guar beans] this year – 75% of the country's total output. Demand was so strong over the summer that panic buying set in and prices were doubling week-by-week.

The price rise was so steep that giant US oilfield services company Halliburton was forced to issue a profit warning, cautioning investors that the rising cost of

guar would hurt its profits because it had risen to represent 30% of its costs. Rival Baker Hughes also warned shareholders that the price was "horrific" and some wells were even forced to shutdown because they could not access enough guar.

The companies are so concerned about the volatile price, which has yo-yoed between \$8-25 a kilo this year and currently stands at about \$10 at auction, that they are moving resources into developing synthetic alternatives.

Last month Halliburton's president of strategy and corporate development, Timothy Probert, moved to reassure analysts that the company had its alternative PermStim ready to go if guar prices reached the level they hit in the summer.

The high guar price is also affecting the food we eat because manufacturers have been priced out by oil groups. This year food companies are expected to account for just 20% of India's guar exports – a drop from near 100% less than five years ago.

"The food industry is beginning to realize just how good a deal they had for so long," Seisun says. "When prices were as low as \$1 a kilo they were complaining when it went up by a few cents. Now it can double in a week."

Instead of guar gum, also known as E412, your toothpaste and tomato ketchup will be pumped full of other additives. Top of the list is Xanthan gum, E415, a microbial polysaccharide derived from the bacterial coat of *Xanthomonas campestris*, a plant bacteria. It is already a firm fixture in salad dressings and gluten-free baking. Other options include, Carboxymethyl cellulose (CMC), E466, a wood pulp already used in ice creams and K-Y Jelly, or the pods of Peru's *Caesalpinia spinosa* Kuntze tree (E417).

The least appealing-named alternative is locust bean gum, E410, which is already used as a food sweetener and chocolate substitute. "Forget what it sounds like, that's one of the more user friendly ones – it comes from the carob tree," Seisun says. "You eat all these things everyday – you've got no idea what they are, have you? Don't worry you're not going to die."

While the oil and food industries are losing out. Guar's sudden popularity has benefited hundreds of thousands of India's poorest people, many of whom have used their guar windfall to travel abroad for the first time or buy gold. "They had been growing it mostly just as animal feed, it really was the lowest yield of low yield crops," Graham-Wood says. "[Now] they must think it's Christmas every week."

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Co-operatives not multinational supermarkets best for farmers in India

By **Priya Virmani**, for *guardian.co.uk*

For Tesco, Walmart and other international supermarkets it is time to open the bubbly. The Indian parliament has voted to allow 51% foreign direct investment (FDI) – investment into business in a country by a company in another country – in multi-brand retail. This lays the red carpet for foreign supermarkets to partake more fully in India's \$450bn (£280bn) retail sector.

In September, the cabinet of the coalition government sanctioned the policy despite opposition from both their allies and the opposition Bharatiya Janata party. Indian supermarket chains too are in support. An injection of cash and knowhow, from a foreign source, to enable a turnaround in their mixed fortunes is welcome. Had the policy been one of 100% FDI their response would have been altogether different because then the experience, expertise and clout of the foreign multi-brand retailers would have priced them out of the equation.

But what will it mean for Indian farmers? Numbering 650 million, farmers comprise a significant part of India's 1.2 billion population. Advocates of FDI claim it is in the best interests of farmers, who will get more for their produce because middlemen will be eliminated; they will sell more as better cold storage facilities will ensure less wastage; and they will have the stability of buyers that are mammoth retail chains rather than smaller counterparts.

Yet if the intervention of big supermarket chains lifts farmers, why do American and European farmers need to be heavily subsidised? Predatory pricing – the precedent set by the biggest supermarkets – threatens smaller retailers as monopolistic practices take place. India lacks the stringent anti-cartel laws that



Shoppers browse the Walmart store in Manawala, 2012. Allowing foreign supermarkets into India's retail sector has been contentious. Photograph: Narinder Nanu/AFP/Getty Images

supermarkets, but the fear is this could be revoked by chains with power to lobby for its removal.

Without more FDI, how could India resurrect its stagnating economy? I suggest an alternative model that eschews giant entities and instead focuses on empowering at the ground level. Amul is a co-operative of milk farmers, which helped transform the country from being milk-scarce to the biggest producer of milk in the world. Why has the Amul model not been replicated? Why has it not set a precedent for other essential commodities like grains and pulses?

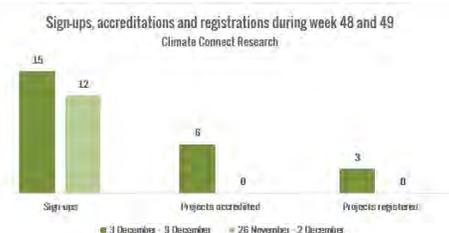
More FDI brings with it the promise of improving India's growth figures. But these indicate the overall temperature of an economy and not the temperature of its disparate parts. When the temperature of India's bottom of the pyramid, at around 800 million people, is at an opposite end of the spectrum to that of the other much more opulent India then growth in itself cannot be considered an indication of the health of the majority.

The UN human development index and the GINI index must also be taken into consideration; here we find India has a long, long way to go. A more self-sustaining and self-reliant co-operative model is better suited to ensure the betterment of India's majority. More FDI is not the best panacea on the shelf.

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REC Analysis: 3 new projects with 41,629 non-solar RECs generation potential registered

Climate Connect News, 12 December 2012, New Delhi: There has been a



25% increase for the week ending on 9th December, 2012, in the number of renewable energy project developers who have signed up under the REC scheme, raising this number to 1753 from 1738. During the

previous week, 12 project developers had signed under this scheme.

In total 6 new projects were granted accreditation in the week of 03 December to 09 December, 2012. Projects with a combined generation capacity of 12.13 MW are located in Madhya Pradesh and Tamil Nadu. No new project was accredited in the previous week. Total number of projects accredited reached 701 with a total generation capacity of 3599.18 MW.

Last week 3 new projects with a combined generation capacity of 7.65 MW were registered by the National Load Dispatch Centre. These projects are located in Tamil Nadu with a capacity to generate 41,629 non-solar RECs per year. During the previous week, no new project was registered. At the end of the last week, the registered capacity cumulated to 3,334.29 MW from 638 projects

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2nd International Conference on Clean and Green Energy

(ICCGE 2013)

Dubai, UAE

January 19 – 20, 2013

Conference titled International Conference on Clean and Green Energy (ICCGE 2013) is being organized at Flora Grand Hotel, Deira, Dubai, U.A.E. The conference is expected to present new advances and reasearch results in the fields of theoretical, experimental, and applied Clean and Green Energy. The conference will bring together leading researchers, engineers and scientists in the domain of interest from around the world. Topics of interest include International Clean Energy Race, Climate & Clean Energy Bill in Congress, PACE Funding, Distributed Solar Energy, Renewable Energy Standards, Wind Power, Clean Coal Technology, Renewable energy technologies, Green energy systems, Clean energy investments and Green Energy Options.

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The **Sustainable Foods Summit** is a series of international summits that focuses on the leading issues the food industry faces concerning sustainability and eco-labels, such as Organic, Fair Trade, Rainforest Alliance, UTZ Certified, etc.

The next edition of this executive summit will take place in San Francisco on 22-23rd January 2013. Like its predecessors, the summit will bring together key stake-holders in the food industry that include food manufacturers, ingredient & raw material suppliers, retailers & distributors, industry organizations & certification agencies, researchers & academics, investors, etc. The summit will take place in San Francisco at The Ritz-Carlton, San Francisco. It will bring together leading organizations involved in sustainability and eco-labels in the food industry. The North American edition of this executive summit comprises four dedicated sessions over a 2-day period i.e. Sustainability Initiatives, Tackling Food Waste, Marketing Best-Practices and New Technologies

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Ninth International Conference on Environmental, Cultural, Economic and Social Sustainability

Hiroshima, Japan

23rd to 25th January, 2013

The 9th International Conference on Environmental, Cultural, Economic and Social Sustainability is taking place at International Conference Center Hiroshima in Hiroshima, Japan. The conference has four main themes viz. **Environmental Sustainability, Sustainability in Economic, Social and Cultural Context, Sustainability Policy and Practice and Sustainability Education**. It is expected to be an excellent platform for meeting point for natural and social scientists, researchers and practitioners, professionals and community representatives. The event is being organized by Common Ground Publishing, USA

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National Seminar on '*Climate Change And Sustainable Development: Issues and Challenges*

January 23-24, 2013

A two day National seminar is being organized by Department of Economics, The Maharaja Sayajirao University of Baroda, Vadodara 390002 (Gujarat) INDIA on January 23 and 24, 2013 in the campus. The key focus areas are: Agriculture and Food security, Water, Energy, Trade, Infrastructure, Urban Planning and Transport system, Gender issues and Employment.

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AGRION, a global business network for energy, cleantech, and corporate sustainability, has planned to hold “one day of dynamic and strategic seminars and discussions on energy & Sustainability in Brussels on January 30th, 2013. AGRION Meets the EU is going to be a global event with international keynote speakers, partners and visitors. It will be one day of dynamic and strategic seminars and discussions, running simultaneously on three stages, covering all aspects of energy and corporate sustainability. Nearly 400 visitors made up of the key industry players, major brand representatives, investors and developers that make up the energy and corporate sustainability ecosystem.

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Towards sustainable safe drinking water supply in developing countries: The challenges of geogenic contaminants and mitigation measures

Addis Ababa, Ethiopia

5-7 February 2013

The International conference titled “**Towards sustainable safe drinking water supply in developing countries: The challenges of geogenic contaminants and mitigation measures**” is convened by Addis Ababa University and Eawag - Swiss Federal Institute of Aquatic Science and Technology. The event is taking place on 5th to 7th February, 2013. Co-convenors of this conference are World Health Organization, Chemical Society of Ethiopia and World Vision.

The objective of this conference is to bring scientists and engineers together with implementing agencies to discuss and explore sustainable solutions for the mitigation of geogenic contaminants in drinking water. The main conference themes: Health Challenges, Arsenic mitigation options, Fluoride mitigation options, Behaviour Change and Drivers for Implementation: Policy and Business.

[<Brochure>](#)

The International Conference on Energy Resources & Technologies for Sustainable Development

Howrah, WB (INDIA)

7-9 February 2013

The 2nd International Conference on Energy Resources & Technologies for Sustainable Development is set to take place in Howrah, India to meet twin challenge of arresting climate change on one hand and maintaining the economic development on the other is what scientists and policy makers are faced with today. The conference is scheduled to be held between 7th and 9th February, 2013, aimed at creating an effective forum for exchanges of innovative ideas and research works in the areas of Energy, Environment and Sustainable Development. Department of Mechanical Engineering, Bengal Engineering and Science University, Howrah is organizing the conference under the Technical Education Quality Improvement Programme (TEQIP-II) NPIU, MHRD, Government of India

Internationally renowned **Dr Rajendra Kumar Pachauri, Chairman, IPCC** and **Director General, The Energy and Resources Institute (TERI)**, India will be the Chief Guest at inaugural session of the conference.

The theme of the conference is *Utilization of energy resources through alternative energy technologies for cleaner environment and sustainable development.*

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The International Conference on Climate Change and Local Wisdom: Living in Harmony within Our Built Environment

14 - 15 February, 2013

Makassar, Sulawesi Selatan, Indonesia

The Conference is scheduled to take place on February 14th – 16th, 2013, at the Training Center Auditorium of The Alauddin Islamic State University – Makassar. With the growing challenges for man to create an ever more healthy and high quality space for living, and the many modern failures that has contributed to a growing concern to the environment, therefore it is required to look back to past history and local context of the built environment to find the balance between development and conservation, and between design and nature.

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The Economic Times, Delhi dated December 01, 2012

IT'S ABOUT COMMITMENT

Carbon Credit Market May Collapse Soon

Unwillingness of industrial nations to accept binding emission targets hurts market

URMI A GOSWAMI DOHA

The reluctance of industrialised countries to accept binding emission targets will dry up demand for carbon credits and reduce their prices further, experts said at the climate talks in Doha, where 200 countries are trying to negotiate an agreement on climate issues.

Russia, Japan, New Zealand have made it clear that they will not accept a legally binding target in the existing climate treaty Kyoto Protocol's second phase. Low demand for carbon credits in the wake of economic slowdown has led to a slump in carbon prices. At the same, there is an excess of supply with businesses in countries like India holding on to a large number of carbon credits. While many countries are unwilling to accept binding emission targets, others are setting low targets, signaling a rough ride ahead for companies using the clean development mechanism (CDM). The CDM allows industrialised countries with legally binding targets to offset part of their emissions by transferring clean technology to developing nations and reduce emissions there instead of their own country. This reduces the cost of meeting targets.

At the climate talks, Venezuela stressed that the CDM is linked to emission reduction targets and should not be seen as "just another business opportunity." Several countries have expressed concern about the drop in prices. With a real crisis looming for the carbon markets, India has suggested setting up a stabilization fund, which would help shore up carbon prices. Current prices are at a record low of 70 cents per unit, down from the peak of € 17. However, India and China, the two countries that have benefited most from the CDM, face pressure from EU, which has decided not to entertain CDM projects registered by these countries after January 1, 2013 for carbon credits.

The EU has said it only consider projects registered by the least developing countries. Till date Africa accounted for only 2% of CDM projects, most of it cornered by South Africa. Most CDM projects were cornered by India and China because they had the industries in the first place. Higher ambition would force the EU to once again consider projects from the two advanced developing countries in order to meet their emission reduction target. India and China could opt for the voluntary markets but these are as yet not very developed and are fragmented. China and Japan have restricted it to domestic industries, while Australia is yet to take a call.

The Times of India, Delhi dated December 01, 2012

Qatar plan threatens to kill climate talks

Nitin Sethi | TNN

Doha: Host Qatar plans to start a ministerial-level closed door meeting at the ongoing UN climate negotiations but outside the formal schedule, which could potentially short circuit and make redundant the negotiator-level talks that started on November 26.

The move has got several developing countries, who have been informed of the plan, agitated.

While a pre-schedule meeting of the 190 plus ministers is slated for December 5, sources in the developing countries told TOI that the host plans to hold a meeting of ministers even before the date. This has evoked distrust and bad blood among

gathered nations that have been characteristic of UN climate talks.

The normal process at such two-week-long annual UN negotiations starts with officials and negotiators from the gathered countries trying to hammer out as much consensus as they can and leave the remaining political decisions to the ministers to draw a conclusion.

The final decisions of UN meetings are adopted only when there is a complete consensus among all gathered countries.

But, sources told TOI that Qatar wants to scrap the work done so far and get a set of key ministers to draft new negotiating texts.

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

The Times of India, Delhi dated December 02, 2012

Doha talks hit Gambia roadblock

Nitin Sethi | TNN

Doha: The negotiations on how to deal with agriculture in climate change had to be suspended after a proposal by Gambia, on behalf of the Least Developed Countries (LDCs), was suddenly put on the table breaking the unity within the developing countries under the G77+China

groups like the LDCs or AOSIS and others take their respective positions. Gambia's proposal, as one negotiator said, came as a bolt from the blue.

The sudden tabling of the proposal in radical opposition to the G77 stand, which India too supports, came despite the fact that the LDCs and Gambia, as part of the Africa Group or AOSIS, had earlier agreed to the concept. Gambia and other LDCs had also agreed that any reduction of emissions from the agricultural sector, which is bound to put the burden on poorer and predominantly farm economies should be explicitly done under the principles of common but differentiated responsibilities (CBDR).

But Gambia's representative shocked the developing countries with a proposal to put mitigation from agriculture at an even keel with the need to adapt farming practices and demanded that the principle of CBDR not be cited.

It is a tradition that if the smaller groups, which form part of the umbrella G77+China club, do not agree on a particular element of the negotiations then they state it upfront within the G77 forum. In that case, the G77 does not present a unified view on the issue in the formal UN talks and lets the smaller

For India and many other developing countries mitigation of short-lived methane — a greenhouse gas that lives only for a brief while in the atmosphere before disintegrating.



Activists hold a rally in Doha on Saturday demanding urgent action to check climate change

ing — from the agricultural sector is absolutely non-negotiable. They see it as an attempt by the developed countries to delay their own obligation to reduce carbon dioxide emissions from fossil fuel burning.

Developing countries demanded clarity if the position was that of the Gambian delegate or of the entire LDC group member countries. The arguments got embittered as India, Egypt and many other developing countries took on the Gambian negotiator, who they suspected as driving the developed world agenda.

*The Times of India, Delhi dated
December 02, 2012*

Plastic ban: Malls, hotels warned against violation

Neha Lalchandani | TNN

New Delhi: More than a week after the ban on plastic bags was notified in the city, teams from Delhi Pollution Control Committee and the environment department visited almost all shopping malls and five star hotels and cautioned people against using plastic bags.

Senior officials said 23 teams set out on Saturday morning and visited 44 shopping malls and 19 five star hotels. "The teams covered 468 shops in the malls and another 46 in the hotels. Out of these, 124 shops in malls and 28 places in hotels were violating the ban in one form or the other. Other than plastic bags, non-woven bags were also being used. Some even claimed that they were using biodegradable

Names of shops where inspection was carried out have been noted so that action can be taken against them for violations in future

bags. They have been cautioned against use of any such product and informed that absolutely no form of plastic bags are to be used henceforth," said Sandeep Mishra, member secretary, DPCC.

Officials said that names of all shops where

the inspection was carried out have been noted so that in future if the same shops are found to be violating the rules, immediate action will be taken against them.

"The department covered practically all malls and five star hotels on Saturday. By next week, we will move down to other kinds of shops. There are several other agencies which have the power to issue challans. Once the majority of shops are covered, the second wave of inspection will see action being taken against violators. We are more focused on first creating awareness and only then will we start with the prosecution," said an official.

The plastic bag ban came into force in Delhi on November 23 and violations can be prosecuted under section 15 of the Environment Protection Act. This will invite a penalty ranging from Rs 10,000 to a maximum of Rs 1 lakh.

*The Economic Times, Delhi dated
December 03,
2012*

*The Times of India, Delhi dated
December 03, 2012*

Emission cut targets may not be raised in Doha summit

Nitin Sethi | TNN

India opposes reduction in agricultural emissions

Doha: A week after they began and before the ministers of more than 190 countries arrive in the Qatar capital on Monday, the UN climate negotiations are set to lock the countries into a low ambition deal with little to offer on emission cuts or money for the next eight years. Worse, the chess board of negotiations has been set to also create a low-ambition global compact for the post-2020 world.

Both the US and EU refused to increase their emission targets any further. The US gave no reason but was rather blunt that its voluntary target of 17% reduction in greenhouse gas emissions below 2005 levels (which translates in to 0-4% reduction by the standard 1990 benchmark) was all the world would see for the next eight years.

Then EU, which has always

poised itself as the greenest of the lot, and built alliances with small island countries and least developed states, also announced it would not budge from its 20% reduction limit under the Kyoto Protocol, even though its already achieved 18% of it. As a result, it offered to reduce a further 2% under the global regime by 2020 when it's been reducing emissions at the

rate of 2.5% ever year on average, much to the chagrin of its own allies with whom it had sold its high ambition image till recently. The well marketed Australian offer to join the Kyoto Protocol starting 2013 was a dampener as it offered the 5% target it was supposed to be offering almost two decades ago.

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

Nitin Sethi

Hotspot for a Green The Next Promising Revolution: Cities

GUY GUGLIOTTA

NYTNS

Heat, carbon-dioxide and air pollution are already having significant effects on trees, plants and crops, and forest plant scientists, the debate over climate change ended long before the arrival of extreme weather like Hurricane Sandy.

Now, some of those scientists have moved beyond political questions to explore how rising levels of heat and emissions might provide at least some benefits for the planet.

"There is a lot of emphasis on the mitigation of global warming, and we need that," said Lewis H Ziska, a plant physiologist at the Department of Agriculture, who is one of the scientists studying how plants react to elevated levels of greenhouse gases and other pollutants. "We need to think about the tools we have, and how we can use them to make climate change work," he says. Among the tools are cities, which have conditions that can mimic what life may be like in the temperate zone of a heated planet.

"The city is our baseline for what might happen in future decades, and with all the negative effects global warming may have, there may be a bit of a silver lining," said Stephanie Searle, a plant physiologist who led a Columbia University research project on tree growth.

The effects of higher, mostly urban emissions are what prompted Dr Ziska to reappraise global warming as a potential benefit to humanity. In an essay last summer in the journal *Proceedings of the Royal Society B*, Dr Ziska and a group of colleagues from across the world argued that an expected increase in world pop-

ulation to 9 billion people from 7 billion by 2050 necessitated a "green revolution" to enhance yields of basic grains. Carbon-dioxide, the group suggested, could be the answer. Since 1960, world atmospheric carbon-dioxide concentrations have risen by 24% to 392 parts per million and could reach 1,000 parts per million by the end of this century.

While plants need carbon-dioxide and generally perform better with higher concentrations of it, "not every species responds," Dr Ziska said. This may be especially true of domesticated species,

which have little genetic diversity.

In New York, the Columbia researchers studied for eight years the growth of red oak seedlings at four locations, including an "urban" site near the northeastern edge of Central Park at 105th Street and a "remote" site in the Catskills.

Dr Griffin, who supervised the project in conjunction with the Black Rock Forest Consortium of upstate New York, chose red oaks because they are a native New York species. He said he wanted his students to see if they could figure out whether city oaks grew differently from

country oaks, and, if so, why.

Cities produce high levels of atmospheric carbon dioxide, nitrogen oxides and ozone, all of which influence plant performance.

The heat island effect arises because buildings, pavement and asphalt are better at absorbing and retaining solar energy than the fields and forests of the countryside. During the hot months, the city's stored energy radiates back into the atmosphere after dark, keeping nighttime urban temperatures markedly higher than rural temperatures.

The Economic Times, Delhi dated December 04, 2012

Fossil Fuel Subsidies of Rich Nations 5 Times Climate Aid

BLOOMBERG LONDON

Rich countries spend five times more on fossil-fuel subsidies than on aid to help developing nations cut their emissions and protect against the effects of climate change, the Oil Change International campaign group said.

In 2011, 22 industrialised nations paid \$58.7 billion in subsidies to the oil, coal and gas industries and to consumers of the fuels, compared with climate-aid flows of \$11.2 billion, according to calculations by the Washington-based group.

The data underlines the steps developed nations may be able to take to cut their emissions. Eliminating the subsidies would reduce incentives to pollute and help rich nations meet their pledge to provide \$100 billion a year in climate aid by 2020, said Stephen Kretzmann, the founder of Oil Change International.

"Measures that encourage inefficient use of energy, such as fossil fuel subsidies, must be



eliminated," Maria van der Hoeven, executive director of the International Energy Agency, said in a statement released by her office in Paris on Monday. "Carbon emissions must be dramatically reduced, and the energy sector must play a key role in this." The subsidies enable consumers to fuel cars and heat their homes more cheaply. The International Energy Agency estimates they totaled \$523 billion last year, mainly from support paid out in developing countries. Production subsidies make it cheaper for oil and gas companies to extract the fuels.

Leaders of the Group of 20 nations agreed at a meeting in Pittsburgh in 2009 to phase out fossil-fuel subsidies in the "medium term".

"You can't say you're serious

about fighting climate change until you stop funding the problem," Kretzmann said in an interview in Doha, where envoys at United Nations climate talks are entering a second week of talks. "It should be possible to phase out producer subsidies and use part of that money for climate finance to help cushion the blow of removing consumption subsidies in developing countries." Aid is a keystone of climate agreements, and developing nations from Barbados to China have complained in Doha about the lack of transparency surrounding \$30 billion of so-called fast-start finance that industrialised nations pledged to pay for the three-year period ending in 2012.

They're also calling for a "roadmap" setting out how the \$100 billion goal will be met.

Obama Shifts to Climate as Fiscal Cliff Talks Rage



New policy likely to help cut greenhouse gases in US by 17%

BLOOMBERG WASHINGTON

As leaders in Washington obsess about the fiscal cliff, President Barack Obama is putting in place the building blocks for a climate treaty requiring the first fossil-fuel emissions cuts from both the US and China.

State Department envoy Todd Stern is in Doha this week working to clear the path for an international agreement by 2015. While Obama failed to deliver on his promise to start a cap-and-trade programme in his first term, he's working on policies that may help cut greenhouse gases 17%

in 2020 in the US, the world's biggest polluter.

Obama has moved forward with greenhouse-gas rules for vehicles and new power plants, appliance standards and investment in low-emitting energy sources. He's also called for 90% of US electricity to come from clean energy sources, including nuclear and natural gas, by 2035.

"The president is laying the foundations for real action on climate change," Jake Schmidt, who follows international climate policy for the Washington-based Natural Resources Defense Council, said in an interview in Doha. "Whether or not he decides to jump feet first into the international arena, we'll see."

Envoys from more than 190 nations are entering their second week of talks on Monday at the UN conference.

The Times of India, Delhi dated December 05, 2012

Green dole trips Doha talks

US, EU Refuse To Discuss How \$100Bn Aid Will Be Provided

Nitin Sethi | TNN



UN secretary-general Ban Ki-moon speaks at the the Doha climate talks on Tuesday

Doha: An overnight diplomatic slugfest ended in a logjam as the US and EU refused to even discuss how they shall provide the promised \$100 billion to poor countries to adapt to climate change and address emission reductions.

The row erupted as reports came in of the developed world having resorted to creative accounting to prove it had delivered on its promise of \$30 billion to poor countries between 2010 and 2012. The EU and the US claimed institutions had been created to provide finance and there was not much else to be done with in the UN negotiations on this count.

A host of developing countries attacked their stance. The Philippines, China, India, Brazil and others warned there was no clarity on how these countries would deliver on their promise after reports showed they had fudged on the fast-start finance in the first place. The attempt to stall talks on finance began with the US claiming it could not engage in discussions because its finance

experts had left for the day. Except their key finance negotiator was right there in the room. Soon, the US began talks but only to demand that a timeline for delivery of the promised funds not be discussed and the rich countries be allowed to figure it out.

The EU claimed it was too complicated to have a simple formula to upscale fund flow from 2013 to reach the \$100 bil-

Qatar asks select mins to take over talks

The Qatari hosts, as predicted, have asked select ministers to take over the negotiations and bypass the negotiating process. South Africa and Sweden have been approached by Qatar to lead negotiations on the issue of financing climate change action with other ministers. Norway and Brazil have been asked to begin negotiating on the operationalisation of the second commitment period of Kyoto Protocol which is to begin by 2013. **Nitin Sethi**

lion figure. To keep up the pressure on the EU, which has refused to raise its emission cut target under the Kyoto Protocol, Brazil proposed that the targets developed countries put now under the protocol be reviewed in six months and increased if needed. Sources said the EU did not react strongly to the proposal.

For the full report, log on to timesofindia.com

The Times of India, Delhi dated
December 05, 2012

Pilot to pitch for tax relief on CSR spend

Says Govt Won't Make Contribution Mandatory

Pankaj Doval | INN

New Delhi: The corporate affairs ministry on Tuesday said it would pitch for tax exemptions for companies that spend 2% of their net profit on CSR activities as proposed in the new Companies Bill, even as it refused to make the spending mandatory.

Corporate affairs minister Sachin Pilot, who met industry captains over the issue, said the government has no intention of being a "watchdog" over the implementation of the measure but rather make it voluntary and participatory for Indic Inc. "We do not want an inspector raj, but rather have a system which is self regulating and self compliant," Pilot said.

The Companies Bill is pending in Parliament and stipulates a CSR spend for every company having net worth of Rs 500 crore or more, or turnover of Rs 1,000 crore or more or a net profit of Rs 5 crore or more during a financial year. It asks for a spend of "at least 2%" of the average net profit of the three immediately preceding financial years. "We have taken this suggestion that was made in the deliberations. I will discuss this with the finance ministry to evolve some sort of a middle ground," he said, though refusing to share further details. But while the 2% spend is voluntary, Pilot said a company qualifying for it will have to explain if it fails to do so. "If they do not spend 2%, they will have to report about it. If they fail to do so, then they will have to face action under Section 134 as enshrined in the Bill." Section 134 says that any company that contravenes the CSR spend provision, and also fails to explain the reason for the same in its reporting, shall be punishable with a fine not less

than Rs 25,000 but which may extend to Rs 25 lakh. Also, every officer of the company in default shall be punishable with imprisonment for a term which may extend to three years or with a fine not less than Rs 25,000 but extendable up to Rs 25 lakh, or with both. As many as 11,000-13,000 companies could be eligible for the CSR spend, Pilot said, adding that the ministry's website will have a template detailing the manner of reporting. Pilot said he would try to see that the bill is taken up in the ongoing Winter session.

SOPS ON WAY?

► The new Companies Bill asks for a spend of "at least 2%" of the average net profit of the three immediately preceding financial years

"We do not want an 'inspector raj', but rather have a system which is self regulating and self compliant"

SACHIN PILOT
CORPORATE AFFAIRS
MINISTER



The Companies Bill, that seeks to replace the existing Companies Act of 1956, was tabled in Parliament last year and proposes a leaner and contemporary company law. Apart from recommending a 2% annual spend on CSR activities, the Bill proposes higher corporate disclosures to prevent corporate frauds. Also it seeks to empower shareholders by proposing the concept of class-action suits.

The Parliamentary Standing Committee on the Bill, headed by BJP leader Yashwant Singh, had recommended that the 2% spend on CSR should be ensured, rather than making it a voluntary exercise.

The Economic Times, Delhi dated December 06, 2012

Solar, Conventional Power May Cost Same by 2017

Strong Solar Energy

STATUS OF PROJECTS UNDER PHASE I OF JNNSM

■ ALLOTTED CAPACITY (MW) ■ COMMISSIONED AS ON SEP 05, 2012 (MW)

BATCH I, SPV 140 130 MIGRATION, SPV 54 48 MIGRATION, SOLAR THERMAL 30 2.5

BATCH I, SOLAR THERMAL 470 350 BATCH II, SPV*

*Both are scheduled to be commissioned by Mar '13

RPSSGP 98 87.8

Total (MW) 1142 268.3

TARGET CAPACITY MATRIX FOR PHASE-II

ITEM DESCRIPTION	2013-14	2014-15	SUM TOTAL
Rooftop & Small solar photovoltaic	100	100	200
Bundling (Only PV)	800	-	800
Vgf			
PV	750	770	1520
Thermal	-	1080	1080
TOTAL	1650	870	2520
THERMAL	-	1080	1080

2015-17 not declared yet

"We hope to see solar tariff rate coming down to ₹6/unit in the second phase"
TARUN KAPOOR, Joint Secretary at the Ministry

SHREYA JAI
NEW DELHI

By 2017, the cost of generating solar power in India could be as low as the cost of buying conventional electricity if the National Solar Mission sticks to its target.

A draft policy document on the second phase of Jawaharlal Nehru National Solar Mission, prepared by the ministry of new and renewable energy, hopes that the country will achieve grid parity five years ahead of the original target of 2022.

"We hope to see solar tariff rate coming down to ₹6/unit in the second phase," Tarun Kapoor, joint secretary at the ministry, said.

With conventional energy getting more and more expensive and solar power becoming cheaper, the popularity of the latter is expected to improve significantly. In phase I of the solar mission, the lowest tariff received during project bidding was ₹7.42/unit.

The steep fall in tariff witnessed under the first phase of the solar mission has made way for possible grid parity in the second phase of the National Solar Mission that starts June next.

The government plans a combination of various schemes including viability gap funding and international funds to power developers in the second phase. "Bidders would bid for viability gap funding requirement in Rs/MW and the bidder with minimum VGF requirement would be selected," said a draft policy document on the second phase of Jawaharlal

pared by the ministry of new and renewable energy.

In the second phase of the mission, the government plans to provide viability gap funding (VGF) for 750 MW of solar photovoltaic projects in 2013-14 and 770 MW in 2014-15. Solar thermal projects worth 1080 MW will also be funded through VGF.

Viability gap funding will be supported through finance from National Clean Energy Fund and international funds under the United Nations Framework Convention on Climate Change (UNFCCC), according to the draft document.

The government also plans to do away with power bundling in the second phase due to limited availability of conventional power from unallocated central quota.

In phase one, solar power developers sold power to NTPC Vidyut Vyapar Nigam, which bundled it with conventional power and sold at an average rate decided by CERC to the distribution companies. "It is unlikely that after allocation of 1000 MW during Phase I, sufficient unallocated power would be available to support the entire capacity of under Phase II of the mission," the draft document said.

Large-scale solar projects are one of the thrust areas under the second phase of the solar mission. The mission targets to bring cumulative solar capacity to 10 gigawatt by 2017, the draft document said.

The second phase would also target deployment of 1,000 MW of rooftop projects both at off-grid and grid connected levels.

The Times of India, Delhi dated December 07, 2012

Plastic bag ban: HC asks if govt conducted study

TIMES NEWS NETWORK

New Delhi: The Delhi high court on Thursday asked the Delhi government if any study was conducted before banning manufacture and use of plastic bags.

A bench of Chief Justice D Murugesan and Justice Rajiv Sahai Endlaw asked the government counsel to apprise it by December 11, the next date of hearing, on what basis it imposed a total ban on manufacture of plastic bags. "Unless you say the plastic manufacturing industry is hazardous, how can you ban the manufacturing of plastic bags? What is the study you have done before imposing the ban?" the court asked.

The bench also asked, "Can you impose a total ban? What would be the effect on manufacturing industry if you ban it?... Unless licences of these manufacturers are cancelled, how can they be banned to manufacture plastic carry bags?"

To this, the government counsel told the court that if the manufacturers do not have a market, they cannot manufacture plastic bags and their li-

cence has been cancelled.

The court asked why only carry bags were banned as plastic plates, bottles and spoons are still allowed. The bench was hearing a plea filed by All India Plastic Industries Association challenging the Delhi government notification of October 23 that imposed a blanket ban on plastic bags from November 23. Challenging the government notification, Delhi's manufacturers sought the court's direction to the government allowing them to manufacture plastic bags for sale in areas outside Delhi where they are not banned.

Arvind Nigam, appearing for plastic manufacturers, said the state government has exceeded its jurisdiction while issuing the notification on plastic bag ban as only the central government is empowered to do so.

"The government, in a fanatic pursuit to endorse its predetermined agenda of completely closing down the plastic bags industry, in an arbitrary and unreasonable manner brushed aside the objections of the petitioners," the counsel argued before court.

Deccan Chronicle, Hyderabad dated December 07, 2012

Power from waste scheme fails to take off

M. ROUSHAN ALI | DC HYDERABAD, DEC. 6

The much-hyped eco-friendly, waste-to-energy plants that had struck a deal with the Greater Hyderabad Municipal Corporation to generate electricity out of garbage collected from the city are not producing a single unit of power.

Selco, RDF, Sri Venkateshwara and Ramky are the four firms that were expected to generate nearly 80 mega watts (MW) of power. Though Selco did produce electricity a few years ago, it has stopped

doing so now. The remaining three firms are yet to generate power through garbage.

The Public Accounts Committee that met recently has directed the GHMC to take back the 10 acres of land allotted to Selco. Consequently, the civic body has set the process in motion to restore possession of the land. It is also likely to cancel the deal with Selco.

Inquiries by this correspondent revealed that though Selco started producing power from 2004-05, it stopped later for renovation and upgradation of its

waste-to-energy plant.

The then Municipal Corporation of Hyderabad had allotted 10 acres of land to Selco at Gandhinagar on a lease.

Later, RDF and Sri Venkateshwara Projects respectively entered into an agreement with the municipal corporation for supply of garbage to produce power. However, both these firms are yet to start production since the last five years.

Finally, Ramky Enviro Engineers won the integrated solid waste management project as part of which it has to collect,

transport and dispose of scientifically the garbage generated in the city. The overall project also includes setting up of two waste-to-energy plants, which Ramky is yet to set up.

When contacted, GHMC additional commissioner L. Vardan Kumar confirmed that none of the firms was producing power now. "It may take some more months for RDF to generate power from garbage. Sri Venkateshwara and Ramky are likely to take more time to initiate the process of power generation from waste," he said.



GARBAGE TROUBLE: Students of Sri Chaitanya School at Street No. 3, Tarnaka, stage a protest demanding the removal of garbage bins placed next to the school compound wall. The bins emit a foul smell. The school had made several representations to GHMC regarding shifting the garbage bin but to no avail, said the staff. — GANDHI

The Economic Times, Delhi dated December 07, 2012

Paris is for Early Birds Under New Lighting Plan

Govt says move to save energy, cut costs and show sobriety. But merchants worry it will dim the city's attractiveness to visitors

CAROL MATLACK & HELENE FOUQUET

The City of Light is getting darker. After banning overnight illumination of museums, churches, and even the Eiffel Tower, the French government now wants Parisian shops and public buildings to turn off their lights from 1 am to 7 am. The proposal by environment and energy minister Delphine Batho could take effect by next July.

Batho says the move is intended to save energy, cut costs and show "sobriety." Paris merchants, though, worry it will dim the city's attractiveness to visitors. Compared with other European capitals such as London and Berlin, "We're becoming a museum, falling asleep after sunset," says Claude Bouille, head of the City Centre Merchants Association.

France is the world's most-visited country, with 81.4 million foreign tourists in 2011, including 8.5 million

who spent at least one night in a Paris hotel, according to government figures. Tourist brochures rhapsodize about late-night strolls on its bridges and picturesque winding streets. On the Champs-Elysees and shopping streets such as Avenue Montaigne and Boulevard Haussmann, many retailers keep their window displays illuminated overnight, even though most close before 9 pm. "Lights from public buildings are part of public lighting, and it brings security," Bouille says.

The lights-out campaign started under former President Nicolas Sarkozy and is part of a broader European plan to improve energy efficiency 20% by 2020. The Eiffel Tower now goes dark at 1 am, and since last July, businesses have had to turn off all neon lights from 1 am to 6 am.

Socialist President Francois Hollande's government says it wants to go further. "One of our main objec-



The Eiffel Tower now goes dark at 1 am, and since last July, businesses have had to turn off all neon lights from 1 am to 6 am

tives is to change the culture," environment minister Batho said in a November 29 interview on BFM Television and RMC Radio. "We need to end the cycle of producing more because we are consuming more." The

proposed ban on all-night lighting would apply to cities and towns nationwide.

An environmental group that helped draft the plan says the energy saved each night will equal the output of a 1,300-megawatt nuclear reactor during an equivalent period. "There is no intention to put us all into darkness or frighten Japanese tourists," says Alain Fleury, a leader of the Association to Protect the Sky and the Night Environment. "We can find a balanced way to consume and not always push for more."

Locals and tourists alike seem to take the idea in stride. "It's perfectly normal. We need to save energy," says Parisian Caroline Rottier, who had taken her two children to look at Christmas window displays at the Printemps department store.

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The Times of India, Delhi dated December 08, 2012

The Economic Times, Delhi dated December 08, 2012

India poised to regain its lost ground in Doha talks

Nitin Sethi | TNN

Doha: India stood on the verge of reclaiming the ground it had lost since 2009 as the principle of equity and common but differentiated responsibilities (CBDR) came back with a bang on the climate agenda. But, with the talks getting extended by at least a day — beyond the scheduled closure on Friday — it remained too early to assess if the gathered 194 countries would commit enough to keep the world safe from dangerous levels of climate change.

A series of back-to-back official meetings took place through Friday, with country

blocks holding their closed-door meetings to thrash out finer as well as contentious issues, bilaterals between key players as improved draft versions of what the ministers may sign in the end kept emerging.

India's own red-lines found respect as each improved text reflected the country's non-negotiable concerns. The principles of equity and CBDR, which had either been diluted or accorded a questionable character since India signed the Copenhagen Accord in 2009, got a credible and embedded space in all the climate talks for a future regime. By the time of filing

the news report, however, the negotiating text still remained open to trade-offs between country blocks till the last moment before they get adopted by a consensus as the decision of the UN Framework Convention on Climate Change (UNFCCC).

The roadmap through which the developed countries would deliver the promised \$100 billion by 2020 remained wide open. And, the rich countries continued to block any inscribed commitment on formal UN platforms on how they would ramp up the funds from now until 2020.

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

Five EU Nations Pledge Availability of Funds

DOHA TALKS Glimmer of hope for a breakthrough

URMI GOSWAMI

DOHA

A glimmer of hope for a breakthrough at Doha, where nearly 200 countries are negotiating a global response to climate change, were raised when five European countries stepped up to announce availability of funds to the tune of nearly \$7.86 billion for 2013 and nearly the same amount for the next year.

None of this is yet to make it to an official document, a step that is necessary to ensure that the countries can be held accountable to their pledges.

"We highly welcome the pledges that were made by some of the countries, but we think it has to be done within a framework," said Pa Ousman Jarju of Gambia, chair of the group of least developed countries.

Despite these concerns, the announcement is important,

"it gives a clarity and that will strengthen the climate regime," explained Brazilian negotiator Andre Odenbreit.

"On finance, we do have some progress. I was briefed that six countries made commitments, and that they will mobilize resources in the mid term. The volume and scale of their contribution will no less than their current levels," said Xie Zhenhua, head of China's delegation to the conference and the Vice Chairman of China's National Development and Reform Commission. China is part of the BASIC grouping of countries. Support from the advanced developed countries is key towards crafting a successful outcome at Doha.

The Brazilian diplomat said that the developing countries were looking at the full period, of 2013 to 2020. "This period requires more clarity in the financial support." The devel-

oping countries have been pushing for a commitment on climate finance to the tune of \$60 billion for the period between 2013-15.

Clearly the pledged amount is no where near this amount or what is required. "I am not saying that this is enough, but thank god someone is doing something. Others can also do it. At least we are inching forward," Pa Ousman Jarju said.

The ministers of Maldives and Switzerland have been tasked by Qatar, which holds the presidency of the current round of negotiations, to help arrive at consensus on the issue of finance.

"We welcome their pledges as a constructive move. These countries have agreed to make the pledges even though they are having a difficult economic time, then why are the other developed countries not making a similar pledge?" asked Xie Zhenhua.

The Economic Times, Delhi dated December 08, 2012

Key Role for India in Climate Tech Transfer

URMI GOSWAMI

DOHA

India has acquired a key role in technology transfer for combating climate change after the country took a lead role in an agreement for a mechanism on transferring of expertise to developing countries.

Technology Information, Forecasting and Assessment Council (TIFAC), an autonomous organization under the Department of Science & Technology, has been selected as one of the nine institutions comprising the Climate Technology Centre and Network, which forms the core of the technology mechanism.

The mechanism, agreed 20 years after it was first proposed, brings some cheer to the UN-sponsored climate negotiations at Doha, where talks have been blocked by sharp differences between developing and industrialized countries.

India has had a lead role in helping formulate

and forge this deal on the technology transfer and development mechanism. The technology transfer and development mechanism has been envisaged as a global partnership between the developed and developing worlds in the effort to deal with climate change.

Technology is a key pillar of an agreement on climate change and is central to any balanced outcome. It is crucial as developing countries, particularly the more vulnerable and less developed, do not have the financial or technical wherewithal to develop technologies that are necessary to deal with the adverse impacts of climate change.

The mechanism was expected to have been in place last year. However, there were differences over the composition of the advisory board of the climate technology centre and network, the relationship between the financial and technology mechanism, and the relationship between the technology executive centre and climate technology centres.

The Times of India, Delhi dated December 09, 2012

Global warning, sperm count dropping

The reproductive health of the average male is in sharp decline, the world's largest study of the quality and concentration of sperm has found.

Between 1989 and 2005, average sperm counts fell by a third in the study of 26,000 men, increasing their risk of infertility. The amount of healthy sperm was also reduced, by a similar proportion. The findings confirm research over the past 20 years that has shown sperm counts declining in many countries across the world. Reasons ranging from tight underwear to toxins in the environment have been advanced to explain the fall, but still no definitive cause has been found.

The decline occurred progressively throughout the 17-year period, suggesting that it could

be continuing.

The latest research was conducted in France but British experts say it has global implications. The scientists said the results constituted a "serious public health warning" and that the link with the environment "particularly needs to be determined".

The worldwide fall in sperm counts has been accompanied by a rise in testicular cancer—rates have doubled in the last 30 years—and in other male sexual disorders such as undescended testes, which are indicative of a "worrying pattern", scientists say.

There is an urgent need to establish the causes so measures can be taken to prevent further damage, they add.

Richard Sharpe, professor of reproductive health at the University of Edinburgh and an international expert on toxins in the



© Latin Stock Collection/Corbis

considered representative of the general male population.

The results, reported in the journal Human Reproduction, showed the concentration of sperm per millilitre of semen declined progressively by 1.9 per cent a year throughout the 17 years—from 73.6 million sperm per millilitre in 1989 to 49.9 million/ml in 2005. The proportion of normally formed sperm also decreased by 33.4 per cent over the same period.

Although the average sperm count of the men was well above

The most likely causes of the worldwide fall in sperm counts are a high-fat diet and environmental chemical exposures

ENGINE OVERHAUL

- ▶ **Wear loose underwear** — to make healthy sperm the testicles need to be below body temperature.
- ▶ **Eat food low in saturated fat.**
- ▶ **Avoid smoking, drinking, using drugs and becoming obese.**
- ▶ **Reduce exposure to industrial chemicals** such as those used in making plastics — they can mimic the female hormone oestrogen countering male hormones.
- ▶ **Protect women in pregnancy** — there is growing evidence that falling sperm counts may stem from effects in the womb.
- ▶ **Avoid anti-depressants** — in rare cases they can cut sperm counts.

THE INDEPENDENT

THE OTHER PROBLEM: Alongside, there has been a rise in testicular cancer and in other male sexual disorders such as undescended testes, which scientists says is indicative of a "worrying pattern"

environment, said the study was "hugely impressive" and answered sceptics who doubted whether the global decline was real.

"Now, there can be little doubt that it is real, so it is a time for action. Something in our modern lifestyle, diet or environment is causing this and it is getting progressively worse. We still do not know which are the most important factors but the most likely

are... a high-fat diet and environmental chemical exposures."

Researchers from the Institut de Veille Sanitaire, St Maurice, used data from 126 fertility clinics in France which had collected semen samples from the male partners of women with blocked or missing fallopian tubes. The men, whose average age was 35, did not have fertility problems of their own and were therefore con-

the threshold definition of male infertility — which is 15 million/ml — it was below the World Health Organisation threshold of 55 million/ml which is thought to lengthen the time to conceive. Other European studies have shown that one in five young men has a sperm count low enough to cause problems conceiving.

Combined with other social trends, such as delayed child-bearing which reduces female fertility, the decline in sperm counts could signal a crisis for couples hoping for a family. THE INDEPENDENT

The Times of India, Delhi dated December 09, 2012

Kyoto Protocol-II rollout from 2013

New Legal Pact On Climate To Be Operational By '20

Nitin Sethi | INN

Doha: The world agreed to the second phase of the Kyoto Protocol, starting 2013, here on Saturday night as it agreed to a roadmap for binding world to a new global legal compact on climate change by 2015 that would become operational by 2020. But in an unprecedented incident, two of the most influential countries—the US and Russia—decided to reject parts of the deal gavelled through using diplomatic guile by host Qatar.

The US took on 192 countries to reject the principle of equity and the application of the principles of the UN climate convention to the post-2020 global deal. Reminiscent of the ways the US had walked out of Kyoto Protocol in 1992, on Saturday it reserved the right to opt out, by claiming that it had not agreed to the decisions here.

The Doha outcomes a tricky bal-

ance among three different streams of climate negotiations. It secures a second phase of the Kyoto Protocol since it permits the unresolved issues of the last five years like adaptation and finance for poor countries, technology to be carried forward into future talks and creation of a framework to hammer out a new global compact by 2015.

Over the past two weeks, the gathered nations made several compro-

mises on each front to achieve a balance between competing demands to ensure that each stream of talks is concluded in parallel. The poor nations like the small island development countries and the least developed countries got the least out of the deal. There is neither a firm commitment for them on how the finances would be provided to fight climate change between now and 2020 and their cap on emis-

sion reductions during the eight-year period. For India, it was an occasion of relief as it got its central plank—the principle of equity and common but differentiated responsibilities (CBDR)—re-inserted in the talks after it had been shut out of the negotiations in 2009 and 2010.

KEY DECISIONS

- ▶ **Kyoto Protocol** to survive between 2013 and 2020 with very low emission cuts
- ▶ **Key developing concerns** of poor countries to stay alive but in diluted form
- ▶ **Framework** for new global post-2020 climate compact ready, to be negotiated by 2015
- ▶ **No clear roadmap** of finance for poor countries



*Deccan Chronicle, Hyderabad,
December 9, 2012*

*The Times of India Delhi,
December 09, 2012*

CLIMATE TALKS EXTEND KYOTO PROTOCOL'S LIFE

Doha, Dec 8: A UN conference passed a package of agreements on Saturday combating climate change and extended the life of the Kyoto Protocol, the only binding pact on curbing greenhouse gas emissions, its chairman said.

The "second commitment period" of the Kyoto deal came into force after 12 days of deadlocked talks, which saw conference chairman Abdullah bin Hamad al-Attiyah rushing through the package of deals.

Moscow objected to the passing of the deal, noting that it retained the right to appeal the action.

The agreement was finally approved with the European Union, Australia, Switzerland and eight other industrialised nations signing up for binding emission cuts by 2020. The protocol excludes major polluters China and India, as well as the US which refuses to ratify it. — AFP

Kyoto Protocol-II rollout from 2013

New Legal Pact On Climate To Be Operational By '20

Nitin Sethi | TNN

Doha: The world agreed to the second phase of the Kyoto Protocol, starting 2013, here on Saturday night as it agreed to a roadmap for binding world to a new global legal compact on climate change by 2015 that would become operational by 2020. But in an unprecedented incident, two of the most influential countries—the US and Russia—decided to reject parts of the deal gavelled through using diplomatic guile by host Qatar.

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The Times of India Delhi, December 10, 2012

Polybag ban: Govt checks compliance

New Delhi: The environment department of the Delhi government has launched a drive to check compliance of the blanket ban on use of plastic bags across the city.

Under the drive, 25 teams from the department carried out checks in all shopping malls and five star hotels in city on Saturday.

Officials said the teams found violations of the ban in over hundred shops and action would be taken against the violators.

The government had last month imposed the ban on manufacture, sale, storage and use of plastic bags as per provision of the Environment (Protection) Act, 1986, under which violators could face imprisonment up to five years and fine of up to Rs 1 lakh or both.

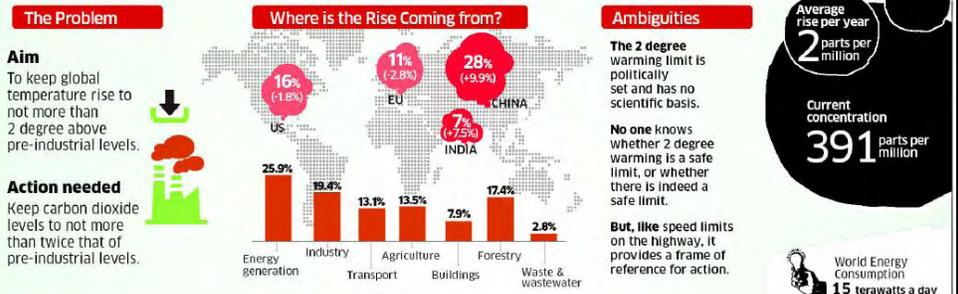
Officials said initially government will only focus on plastic carry bags and will not target packaged food and materials. **PTI**

CURBING CLIMATE CHANGE NOT IMPOSSIBLE

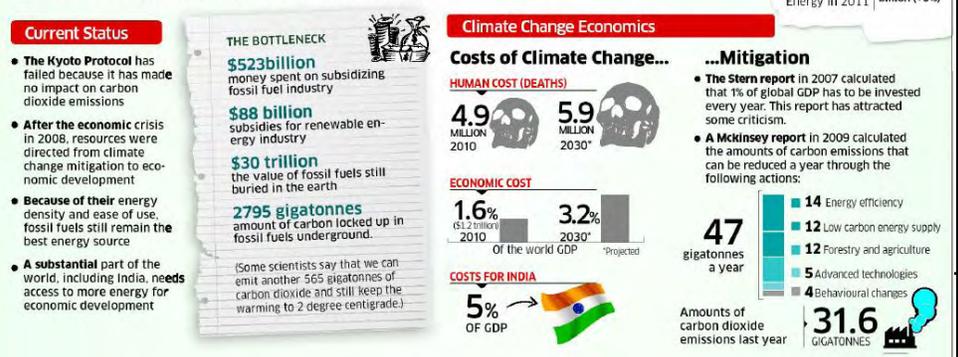
The Road Ahead After Kyoto

The 18th Conference of Parties at Doha has ended without any clear conclusion, leaving the Kyoto Protocol without a successor. Yet, the world needs to find a plan to mitigate global warming more than ever. Last week it was reported that carbon dioxide emissions rose to record highs in 2011, and is set to grow even more this year. Two weeks ago, the World Bank published a report titled 'Turn Down the Heat', which predicted dire consequences to the earth by the end of the century if we do not quickly bring down atmospheric carbon dioxide levels. **Hari Pulakatt** provides a snapshot of the problem and some possible solutions.

1 WHERE ARE WE HEADING?



2 THE PATH TO REDUCTION



The Economic Times, Delhi dated December 10, 2012

Tiny Device to Triple Solar Cell Efficiency

Princeton researchers have found a simple and economical way to nearly triple the efficiency of organic solar cells, the cheap and flexible plastic devices that many scientists believe could be the future of solar power. The researchers, led by electrical engineer Stephen Chou, were able to increase the efficiency of the solar cells 175% by using a nanostructured "sandwich" of metal and plastic that collects and traps light. Chou said the technology should increase the efficiency of conventional inorganic solar collectors, such as standard silicon solar panels.

SPACE SOLAR

PRINCIPLE: Orbiting satellites soak in sunlight round the clock and beam the energy back to earth.

ADVANTAGES: Very little pollution, except for launching the satellites.

CHALLENGES: High initial costs, environment-friendly launch vehicles.

STATUS: Space agencies are working on the concept seriously, and startups have come up in the area.

ENHANCED GEOTHERMAL

Injecting water deep into the earth and recovering energy from the hot water.

Scaleable, Environment-friendly, available nearly everywhere and round the clock, inexpensive in the long term.

Managing geochemical impacts and induced seismicity

STATUS: Technology feasible and several projects are underway around the world.

ARTIFICIAL PHOTOSYNTHESIS

Make energy from water and sunlight the way plants do.

Non-polluting and cheap

Cost and scalability

STATUS: Focussed research making breakthroughs, a commercial device possible in ten years.

This graphic was compiled primarily from the following sources: The Intergovernmental Panel for Climate Change, the International Energy Agency, DARA, Climate Action Tracker and McKinsey reports. Several industry sources also contributed. GRAPHIC: SUNIL

The Economic Times, Delhi
dated December 10, 2012

Solar LEDs, Chips to Power India's Lighting Future

While global lighting majors are relying on chips to control power, India turns to solar LEDs

NEENU ABRAHAM
BANGALORE

Streetlights in the city of Tilburg in Europe can detect the presence of approaching pedestrians and vehicles and ramp up the brightness in front and behind the person/vehicle as they pass by. The streetlights automatically dim when there is no one in the street. This technology, called LumiMotion, developed by Philips, uses sensors to make street lights power efficient and cut carbon imprint.

According to Indranil Goswami, head (controls), Philips Lighting India, "different kinds of sensors have been developed for intelligent public lighting management systems. Photocells detect the presence of sunlight and turn on and off lights. This alone can save up to 10% energy because of the difference in sunrise and sunset times in summer and winter," says Goswami. He says the company has aggressive plans to deploy technologies like this in India, reflecting a global trend where chips are playing a vital role in power management.

"Lighting is a power hungry field, taking up about 20% of the world's electricity. A lot of current is needed to light the arc. But if you control how the arc is lit, about 25% of the power intake can be cut," says Warren East, the global CEO of ARM. Chips based on ARM design, which are found in 95% of the smartphones, are now being used in streetlighting, healthcare gadgets and even by farmers, because of its power efficient design.

While the global lighting majors are flooding the market with smart lighting solutions, India presents unique challenges as many pockets of the country are still in the dark, many areas lie in off-grid zones and the use of power efficient lighting solutions like LEDs are still in the nascent stages.

Indian scientists have started indigenously producing LED chips which run on solar energy, which does not depend on the central grid, is low-cost, can deliver high luminosity and is made of eco-friendly organic material. It looks like LEDs are going to have a big role in shaping India's power management story. But the indigenously developed LED chips are likely to take 3-4 years to reach the market. India may have had a late start in developing power-efficient lighting solutions, but this can also turn to be its advantage. Indian scientists can cou-

ple the best of both worlds by using indigenous LED chips and embedding them with sensors to make smart lighting solutions and ensure better reduction of carbon footprint.

INDIA'S LATE START

Two labs under CSIR (CSIR-CEERI and CSIR-NPL) are collaborating on a project called the 'Development of Solid State Lighting Devices/Systems: Inorganic LEDs' under 12th Five Year Plan Programme.

The first phase of the project, 'Fabrication of LED Devices and Systems for Solid State Lighting Application' is already done in the 11th Five Year Plan. Sivararam, CSIR Bhatnagar Fellow, National Chemical Laboratory, says it is easy to link LEDs with solar energy.

"LEDs take up very little power. Hence, simple solar panels are enough to light them up," he says. "Not very luminous lights are needed in India," he explains, and with solar power, even the most remote village which is away from the grid can get electricity".

"The focus of this CSIR project is bring out low-cost, high-luminous lights to cater to Indian domestic needs, especially in rural areas," he says. "We are playing around with the different variables and trying to identify niche opportunities," he adds.

"We are not very confident of providing high luminosity bulbs at this stage," he says.

POWER EFFICIENT CHIPS

Even as India is looking to solar sources and LED chips to cut energy use, global lighting majors are betting big on power efficient chips. For instance, in the UK, some streetlights are fitted with chips which can sense motion. When they are switched on at dusk, their brightness levels are just 20-30%, as the sensors inside can detect the presence of the fading sun rays. 'Enlight', the company which has installed these streetlights, claims 45% of power consumption has been reduced because of these chips. This has been enabled by chips based on ARM design. If the same technology were to be used in Indian streetlights, which consume around 7,753 GWh of power per year, emission of 1.9 million tonnes of carbon can be cut annually.

"As the tech landscape moves from mobile computing now to machine-to-machine communication expected by 2016 to the internet of things expected

Lighting is a power hungry field, taking up 20% of the world's electricity. A lot of current is needed to light an arc. But if you control how an arc is lit, about 25% of the power intake can be cut. Chips are playing a vital role in power management

WARREN EAST
ARM, Global CEO

by 2020, chips are likely to turn vital power controllers," says ARM's East.

"With future gadgets going to be increasingly cloud-oriented and with over 4 billion internet connected devices expected by 2016, more and more designs which are power efficient needs to be in," says East, speaking about how extensively power-efficient designs are now being sought after by diverse industries like lighting and medical technologies.

ARM has been seeing a rise in their non-mobile sales. "Non-mobile sales have accounted for 50% of ARM's revenue last quarter," says East. Around 2 billion devices with ARM chips were shipped last quarter, he says.

This tricky task of notching up the power efficiency of chips and at the same time making them operate on low power, is the same challenge that the company faces in the mobile computing field. In fact, according to East, the ICT sector takes up 10% of the world's power. But to handle computing data which is likely to touch 120 exabytes by 2020 (about eight times more than today), calls for a lot of innovation on the chip design. In the next 30 years, computing power may increase by a factor of 30. If battery is efficient by a factor of 2, the smartphone designs have to be such that very little power is used up," explains East. ARM's latest series of chips (the Cortex A50 series) can offer roughly twice the performance. These processors deliver up to three times the performance of today's smartphones and extends this experience to entry-level smartphones.

"We are at a point where chip designs akin to Ferrari engines would have to be designed to fire the Ford Fiestas," says East.

The Economic Times, Delhi
dated December 10, 2012

Admitting to 20 Years of Mixed Results, Doha Agrees to Fresh Gas Emission Cuts

URMIA GOSWAMI
DOHA

The two-week long UN climate talks came to a close in Doha on Saturday with delegates of 194 countries endorsing another set of greenhouse gas emission cuts between 2013 and 2020.

Despite a near total absence of increased effort from industrialised countries to reduce emissions and paucity of funds to help developing nations limit climate change, the Doha talks made an important shift by recognizing that 20 years of effort to limit emissions did not deliver the desired result.

The outcome of "Doha Climate Gateway" came 24 hours after the negotiations were supposed to close on Friday evening. The delay was on account of countries like Poland, Russia, Ukraine and Belarus demanding use of the extra credit or assigned units commonly known as "hot air", which had been given to them in the first phase of the Kyoto Protocol to deal with the breakdown of their industrial structure after the collapse of the Soviet Union.

Poland, which will host the next round of talks, held up the process by refusing to sign on the second phase of the Protocol until the issue of hot air was resolved to its satisfaction.

"Doha has opened up a new gateway to bigger ambition and to greater action—the Doha Climate Gateway" conference president Abdullah bin Hamad Al-Attiyah of Qatar. "Qatar is proud to have been able to bring governments here to achieve this historic task. Now governments must move quickly through the Doha Climate Gateway to push forward with the solutions to climate change."

United Nations Framework Convention on Climate Change executive secretary Christiana Figueres acknowledged that much more needs to be done to ensure that the rise in global temperature is limited to two degrees so as to avoid a situation where extreme weather events become the new normal.

"Now there is much work to do. Doha is another step in the right direction, but we still have a long road ahead," she said. "The door to stay below two degrees remains barely open. The science shows it, the data proves it. The UN climate change negotiations must now focus on the concrete ways and means to accelerate action and ambition."

Figueres said the world has the money and technology to keep global warming below two degrees. "After Doha, it is a matter of scale, speed, determination and sticking to the timetable," she said.

In Doha, representatives of nearly 200 countries brought to a close the five-year long negotiations on the Bali Roadmap. Agreed to in 2007, the pillars of the Bali road map addressed emission reduction by industrialised countries that were not

part of the Kyoto Protocol—United States, voluntary efforts to limit emissions by developing countries; adaptation to the impacts of climate change; finance and technology for developing countries, and capacity building. All outstanding issues will now be addressed as part of the new regime or by the permanent technical bodies of the convention.

The Kyoto Protocol, the only legally binding agreement to combat climate change, requires industrialised countries to take quantified emission reduction targets. Only Europe and Australia, accounting for 15% of global emissions, agreed to sign on for the second and final phase.

Last year, Canada withdrew from the Protocol, while Russia, New Zealand and Japan said they would not sign on for the second phase. The 1997 iconic agreement will run until 2020. Together with the negotiations of the Bali Roadmap, the Kyoto Protocol formed the two-track global approach to limit climate change.

By bringing the existing two-track negotiations to a close, countries signalled that they were moving on to work on designing the new global climate regime they had agreed to in Durban in 2009.

Analysts and delegates had described the Doha talks as a "housekeeping conference of parties" and a "transitional COP" as it was meant to close down existing negotiations to move to work on the new regime. This meant that expectations from the Doha round were not very high.

Nonetheless, there was a sense of disappointment from the final outcome. "This is not perfect but it is a modest step in the right direction," said EU commissioner for climate change Connie Hedegaard.

The US, European Union, China and India all accepted the agreements with varying degrees of reservation

The Economic Times, Delhi
dated December 10, 2012

Perspectives

Measuring Returns in Social Business

A more collaborative work environment leads to greater competitive advantage and profitability



HIMANSHU GOYAL

How do you quantify return on investment (RoI) of a social business? By their nature, social technologies are more free-forming, making their potential more valuable, yet unpredictable, or may I say unimaginable.

A successful social business can incur external and internal benefits. Internally, companies can see RoI almost immediately. Synchronisation of analytics application into social business initiatives—where insights from social networking sentiment can be derived anytime, anywhere and put to work in real-time—leaves business with the recipe for success.

How do we measure the internal benefits then? Internal, or "soft", benefits such as greater employee collaboration, streamlined communication or improved product development are clearly beneficial for an organisation. Yet, these benefits cannot be measured easily in order to match up to the growing customer satisfaction and skyrocketing sales. Focusing solely on forms of new revenue or sales resulting from social engage-

ments implies that organisations are overlooking some of the main components of RoI in social business. More attention must be paid to shifting the nature of work and structure of businesses and the impactful results that organisations incur by making such transformational changes.

Companies that are seeing real business value from social capabilities are doing more than launching an ad-hoc Twitter campaign or putting together a corporate Facebook page. They are embedding social tools into business processes, enabling the business as a whole to become more strategic, engaged, transparent and agile.

Organisations focusing on new revenue resulting from social engagements overlook some main components of RoI

Social tools combined with a culture of collaboration enable a more effective workforce—across all departments in an organisation. By enabling employees to locate experts quickly and collaborate across geographically distributed teams, employee productivity and engagement is higher. This, in turn, leads to benefits such as reduced expenses related to travel or speedy development of new products or sales approaches.

New social tools offer some key capabilities that can relieve



some of the pressure on email, but they will not replace an important enterprise tool that has become the most preferred communication vehicle for many. The future of email is social, and the future of social collaboration tools includes email as an integral part of the enterprise communication suite.

On the contrary, many times, due to expanding employee base, it brings about a huge communication gap within an organisation besides just the geographical factor. This is where the social collaboration tools play a huge role in bridging that gap and making sure communication is carried out smoothly.

The aim of every business is to attract new customers and retain existing ones. Imagine a call centre for a large national bank where all customer inquiries are channelled through

one general number. Social enterprise tools enable customer service representatives to work more efficiently and provide higher-quality service as there is more immediate access to content and expertise within the organisation. By streamlining this process, there is a better customer experience, deepening customer loyalty and boosting future sales.

As knowledge- and idea-sharing increases, the rate of innovation is accelerated; an important asset to businesses now more than ever. Moving from idea-sharing sessions with a handful of C-level executives behind closed doors, to collaborative and transparent brainstorming across a company, leads to shortened product development cycles and improved revenue streams.

By creating social communities and microblogs, an organisation is well-equipped with the ability to crowd-source new product and business ideas. It is an innovative challenge of sorts for companies; that are looking to engage their employees and encourage them to come up with innovative ideas in the best interest of the company. By allowing employees at any level to bring ideas to the table, businesses create a flat, collaborative environment leading to ideas that are more profitable.

The days of turning your back on social tools are gone. Companies that have adopted social pr-

actices and tools early to create a more collaborative work environment are gaining competitive advantage in their market and becoming more profitable.

It is important to remember that we are still in the early years of social business. Like any innovation, we need to keep a track of our efforts and what we are doing and how we are evolving with time in terms of technologies and practices. Only then can one truly have a barometer to measure the RoI.

As social businesses evolve, we'll continue to see numerous studies around the RoI of social business and just how transformative this cultural and technological shift can be.

Forrester Research estimates that the market opportunity for social software will grow to more than \$6 billion by 2016, an increase of 60% annually from 2010. Social business doesn't just mean broadcasting to customers over social networking sites. Collaboration tools get at the heart of what it means to be a social business, taking group connectivity deep into the company culture and converting siloed, offline communication habits into broadly shared asynchronous collaborations that keep everyone informed, invested and empowered to drive the organisation forward.

(The author is country manager for IBM Social Business and Collaboration Solutions at the IBM Software Group)

The Economic Times, Delhi dated December 12, 2012

Doha Meet Fails to Pledge for Huge Emission Cuts

India succeeds in pushing an indirect reference to intellectual property rights in the final outcome of the climate talks

URMIA GOSWAMI
DOHA | NEW DELHI

Several of India's key concerns found a mention during the recently concluded climate talks in Doha even as the UN organised meet failed to break the ground for aggressive emission cuts or a firm financial commitment for poorer nations.

"India managed to retrieve ground it had lost in Copenhagen and Durban," said an Indian negotiator. "The final outcome takes into account issues like intellectual property rights in technology transfer and development, equity and unilateral measures. It doesn't matter that the language in the text is weak, what matters is that the issues will figure in the negotiations."

In its statement at the closing plenary, India

gave ample indication that it would continue to push for a broader treatment of these issues in future negotiations.

India made it clear it would push for equity as the core of any climate change regime

"Mr. President, you have presented us a package," India's lead negotiator Mira Mehri said, accepting the set of deals called the Doha Climate Gateway.

"We are not happy with all parts. Some are extremely problematic for us. Many of our issues have not been addressed," she said, adding,

"We are aware of all these challenges. We, therefore, accept the entire package of outcomes as the basis for our future work, provided the entire package is treated as a composite package and is not violated either in

spirit or letter."

India succeeded in pushing an indirect reference to intellectual property rights (IPR) in the final outcome. Citing decisions of earlier rounds of negotiations, India succeeded in introducing the concept of "enabling environments for and barriers to technology development and transfer".

T S Tirumurthi, the Indian negotiator dealing with technology at Doha, said, "The decisions at Marrakesh, Bali and the Cancun rounds supported the inclusion of a discussion on enablers and barriers to technology transfer." India was supported by the Philippines, China and Argentina. "While the references to IPR is not direct, bringing this matter into the climate change discourse is an important first step in the right direction," Tirumurthi said.

All throughout Doha, Delhi pushed for explicit references to equity. Its efforts did have some impact, with the US Special Envoy Todd Stern making a reference in his speech at the ministerial segment. "Stern's acknowledgement of ambition and equity are particularly important as these must be at the core of any future climate agreement. This shift provides an opening for a meaningful dialogue on equity that should be grasped by other countries," said Jennifer Morgan, director of climate and energy programme at the World Resources Institute.

India made it clear it would push for equity as the core of any climate change regime. "That our work will be anchored in the principles of the Convention was a clear understanding when we agreed to the Durban Platform," Mehri said.

The Economic Times, Delhi dated December 12, 2012

FUTURE IS NOW

Post-Fukushima, here's how one can get the energy mix right



EMMANUEL GOUT
ENERGY ANALYST

The International Energy Agency (IEA) says the demand of energy will increase more than 33% by 2035. According to the IEA, following the German decision to quit the nuclear industry within 2020, by 2030, electricity cost in Europe will be 1.5 times higher than in the US. Saudi Arabia, the world's chief petrol producer, will build two nuclear power plants in the near future.

These hard facts spawn new questions regarding the future of energy and choosing the energy of the future. Renewable? Fossil? Schist gas? Nuclear? Others? When facing a marked increase in the demand, it appears clearly that the future of energy goes not only through an energy mix, but also a solution able to give the right

answers to the environment (basic pollution, CO2 emissions and the consequences of global warming) and safety.

In fact, if solar and wind energy become more and more part of the energy mix, the IEA underlines that this might significantly influence the energy mix within 20 years. As a result, traditional energy and schist gas will remain or become the base - despite some accidents with high pollution rate, such as in Mexico recently - of the energy mix we can only wonder whether the nuclear industry has a future after Fukushima.

Let's try to consider the future of nuclear industry. In fact, the March 2011 Fukushima radiation disaster revived legitimate security sensitivity on the

nuclear industry and the potential risks, but it could be useful to stress that all analyses of the Fukushima incident point to an error in the chain of command, to a human mistake and to an underestimation of the tsunami risk by the operator and not to a technical nuclear power plant problem. But let's be frank: these conclusions do not justify any underestimation of the risks linked to the nuclear industry.

In fact, an accident at a nuclear power plant - no matter who is the operator - affects the nuclear industry worldwide and that is the reason why the argument according to which nuclear energy is eco-friendly - no CO2 emissions - is not enough today to justify nuclear energy development. It is important to face the concerns of the population and that's why, all nuclear countries and mainly Europe and Russia, promoted stress tests to all their plants after Fukushima - Russia also extended its stress tests to terrorism conditions.

The conclusions were published and all operators had to invest millions to

complete security rules. At this stage, it could also be useful to think about a specific global authority able to deal with security and safety issues, with strong parameters and real attention to the population. Parameters of safety are in constant evolution.

In fact, the real challenge for nuclear industry lies in winning the game of public perception. Clashes between

The future of energy lies not only in energy mix, but also in a solution that blends safety, viability and ecological concerns

governments can lead to total misunderstanding by the people. For example, take the situation in Lithuania where on one side the government wanted to promote its nuclear power plants and on the other hand was accusing neighbours of building unsafe power plants. As a result, the referen-

dum organised recently said a sharp 'NO' to nuclear energy. No one knows what will happen with Bulgaria where the confusion on this topic is high and its government appears a prisoner of pressure from the US.

Rosatom, which signed a deal, a few years ago for building Belene plant, was stopped and is now asking for the compensation. In fact, Bulgaria appears to be a "complex country" for foreign investments and Rosatom is not the first international company facing this policy flip-flop in Bulgaria.

A paradox already exists. We were mentioning the debate following Fukushima, the increasing scepticism about atomic energy, but in fact, we can also list countries, which have chosen to promote nuclear energy anyway: not only Great Britain, Poland, Czech republic, Slovakia, but also India, Turkey, China, South Africa, Argentina, Saudi Arabia, Jordan and some African countries. Rosatom is, for example, following 38 new projects. Besides, the role of nuclear energy in Russia will increase from 16 to 25% in the next 20

years.

In the Czech project Temelin, for example, there is a key strategic challenge - supported by its population - for the country and like in most of the scenarios, the competition is strong between the French Areva, the American Westinghouse and the Russian-Czech alliance Skoda-Rosatom.

Regardless of which way the debate pans out, one thing is for sure: Fukushima declared the end of low-cost nuclear energy, and reinforced the policy of safety and security levels for different players, but it is probably not enough and worldwide nuclear safety and security authorities seem to be necessary and should not be limited to an area as France is trying to promote on a European scale: it is not enough!

Energy security is a challenge not limited to the "old world", but one which is changing the dynamics of the new world and all the countries, which are looking for internal growth. All sources of energy will have to be used to ensure comprehensive national growth. The involvement of traditional fossil energy producers in new energy resources such as nuclear and renewable demonstrate how different sources of energy are complementary and not an alternative between themselves. It's time for the world to get the energy mix right.

The Economic Times, Delhi dated December 13, 2012

On Road to a Warmer World

Doha failed to fashion meaningful action on climate change but got all nations on one platform

URMIA GOSWAMI

Typhoons Pablo and Bopha hit the Philippines as representatives from 194 countries and parties were negotiating a global response to climate change in Qatar. But its strong winds failed to make an impact in the Qatari capital of Doha, which hosted the 18th round of climate negotiations under the aegis of the United Nations Framework Convention on Climate Change.

The Doha round ensured that the all countries "reaffirmed" their commitment to limit climate change but failed to provide a concrete and meaningful plan of action to counter climate change and its impact.

Held in the shadow of a series of extreme weather events, which give substance to the dire predictions by scientists, Qatar, which held the presidency of the 18th round of talks, set the bar of expectation at a low level.

Alternately described as a "house-keeping" and "transitional" COP, Doha was to deliver three things: launching the second commitment period of the Kyoto Protocol; the closing of negotiations on the Bali roadmap or the Ad-hoc Working Group on Long-term Cooperative Action; and to begin work on a new global regime that is applicable to all countries. Doha succeeded in doing all three, but failed to push the world to reduce emissions that would avoid making extreme weather events the "new normal". Much more could have been done at Doha but a weak presidency by Qatar meant that it would not push the world to do more than it was willing to.

The credit for achieving the three process-related goals cannot be Qatar's



alone. There were many stakeholders: South Africa, which hosted the 2011 Durban round of talks; the vulnerable developing countries at the forefront of climate change; and the European Union that had put its might behind the post-2020 global regime; and others. All worked to ensure that the Durban decisions were not overturned.

The Kyoto Protocol, the only legally-binding agreement on climate change, entered its second and final phase, beginning from 2013 to 2020. The iconic protocol requires only the industrialised countries to take on legally-binding emission reduction targets. Many countries — Japan, Russia and New Zealand — refused to sign on to the second commitment period. Belarus is understood to have indicated that it will withdraw, and Ukraine and Kazakhstan might do the same. Canada has withdrawn from Protocol.

The EU and Australia are among those that have taken on reduction targets for the 2013-20 period. The signatories of the second commitment period, accounting for 12-15% of global emissions, have agreed to reduce emissions by 18% from the 1990 levels, against the 5% reduction in the first phase.

The negotiations on the Bali roadmap also came to a close. This track of the negotiations dealt with a global emission

reduction goal, emission reduction by non-Kyoto Protocol countries, voluntary efforts by developing countries to limit emissions, finance and technological support for developing countries and capacity building to deal with climate change. Outstanding matters, which could not be resolved satisfactorily, were moved for further discussions to the technical bodies of the convention. None of those who crafted the 2007 mandate in the Indonesian resort town would have imagined that the Bali Roadmap would come to an end with such a whimper.

The closing of the two tracks of the negotiations paved the way for bringing all countries on to a single regime: the Durban Platform. Work on the new global regime began at Doha, but all countries have managed to agree on broad elements that will be considered as part of the framework that would be applicable to all countries. Unlike presidencies of the past, Qatar was unable to bring new ideas or approaches to the table to help fashion a response to climate change that would take into account the needs and realities of the post-2020

world. The biggest success of the Doha round was that countries did not back out or seek to renegotiate decisions they had agreed to in Copenhagen, Cancun and Durban.

But the Doha round could have achieved much more. Qatar's inability to give a direction to the talks meant that it left far too many critical issues unresolved. Finance, both for the interim period up to 2020 and the long-term post-2020 period, has not been addressed. A push by Qatar was missing. As a result, all that was achieved in the end was a request to industrialised countries to keep up the level of \$10-billion-a-year assistance that had been pledged as fast-start finance between 2010 and 2012.

Most of the issues of the Bali Roadmap have now been pushed to the agenda of the technical bodies of the convention — the subsidiary body for scientific and technical assessment and the subsidiary body for implementation. Time-lines in the decisions taken at Doha push decisions on critical issues to 2013 and most to 2014. In effect, the Qatari presidency oversaw kicking the can further down the line. Doha failed to provide a direction to the global response to climate change — all it succeeded in doing was to shepherd 194 countries and parties safely towards a new global regime that is yet to take shape but would be applicable to all.

The economic downturn that has limited the manoeuvring room that industrialised countries have had in the past, undermining political will to deal with climate change. The Qatari presidency embodied this absence of political will to do more. It failed to marshal countries to undertake higher emission reduction efforts that science and recent extreme weather events so clearly demand or to put in place framework that would help limit climate change.

Qatar failed to seize the day. Its legacy unfortunately is that the world continues to be firmly on a path where global temperature rise will be far beyond the acceptable 2°C.

The Times of India
Delhi, December 15,
2012

'Extreme climate may wipe out mammals'

London: Mammals could be at greater risk of extinction due to a higher frequency of extreme conditions such as cyclones and droughts spurred by climate change, scientists have warned. Researchers from the Zoological Society of London (ZSL) have mapped out land mammal populations, and overlapped this with information of where droughts and cyclones are most likely to occur. This allowed them to identify species at high risk of exposure to extreme weather.

The study describes the results of assessing almost six thousand species of land mammals. "Approximately a third of the species assessed have at least a quarter of their range exposed to cyclones, droughts or a combination of both," lead author of research, Eric Ameca y Juarez said. "If these species are found to be highly susceptible to these conditions, it will lead to a increase in the number of mammals classified as threatened by the IUCN under the category 'climate change and severe weather,'" said Juarez.

In particular, primates — already among the most endangered mammals — are highlighted. Over 90% of black howler monkey (*Alouatta pigra*) and Yucatan spider monkey (*Ateles geoffroyi yucatanensis*) known habitats have been damaged by cyclones, and studies have documented ways they are able to adapt to the effects of these natural disasters. ■

The Economic Times, Delhi dated December 14, 2012

Climate change deaths up 5-fold since 1970

Kounteya Sinha | TNN

New Delhi: Even as one in four deaths worldwide in 2010 was caused by heart disease or stroke — the top two killers that have remained constant for the past 40 years — human mortality caused by climate change has shown the most dangerous spurt over the last four decades.

The Global Burden of Disease Study, 2010, published by British medical journal Lancet on Thursday, shows that there has been a 523% increase in mortality due to "exposure to forces of nature" — the highest among 235 causes of death. Alzheimer's disease and other forms of dementia, thanks to aging populations across the world, also saw a massive increase since 1970 by almost 245%.

Mortality due to Parkinson's disease rose by over 107%. Men died the most of cardiovascular disease (12.8%), with road injuries and HIV being the second biggest killers at 10.7%. Interestingly, HIV became the biggest killer of women at 14.4% in 2010, with cardiovascular diseases accounting for nearly 11% of all deaths.

The study found that chronic obstructive pulmonary disease, lower respiratory infections and lung cancer make up the top five killers for 2010. Deaths due to HIV have made the largest jump — from the 35th worst killer in 1970 to 6th in 2010. Mortality due to falls, ranked 30th in 1970, jumped to 22nd in 2010 while liver cancer rose from the 24th slot to 16th. Chronic kidney disease was found to

be the 18th deadliest killer as against 27th in 1970.

Diarrhoea, road injury, diabetes, tuberculosis and malaria figured in the list of top 11 killers in 2010, followed by cirrhosis, self-harm, hypertensive heart disease and preterm birth complications.

In absolute numbers, ischaemic heart disease and stroke collectively caused 12.9 million deaths in 2010 compared to one in five of all deaths in 1990 (9.9 million deaths).

In 2010, there were 52.8 million deaths globally. Non-communicable diseases such as cancer, diabetes, and heart diseases accounted for nearly two out of every three deaths worldwide in 2010, compared to around one in two of all deaths in 1990.

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

TOP 15 KILLERS

Deaths worldwide in 2010 (in lakhs)

IHD	70.29
Stroke	58.74
COPD	28.99
LRI	28.14
Lung cancer	15.27
HIV	14.65
Diarrhoea	14.45
Road injury	13.28
Diabetes	12.81
TB	11.96
Malaria	11.69
Cirrhosis	10.30
Self-harm	8.83
Hypertension	8.73
PBC	8.59

IHD: Ischaemic heart disease COPD: Chronic obstructive pulmonary disease LRI: Lower respiratory infections; Hypertension: Heart disease; PBC: Preterm birth complications

Increase in % of deaths (1970-2010)

Exposure to forces of nature	523.5
HIV	390.4
Opioid use disorders	385.8
Alzheimers and dementia	244
Kidney cancer	90.6
Atrial fibrillation and flutter	233.9
Drug use overdose	191.7
Peripheral vascular disease	167
Musculoskeletal diseases	191

36.44 sq km of AP's forest vanishes in a year

C.R. GOWRI SHANKER | DC VISAKHAPATNAM, DEC. 14

Encroachments in the guise of Forest Rights Act, cultivation and smuggling is shrinking forests. As much as 36.44 sq km of forest area has vanished in the state due to cultivation and illegal felling of trees within a span of one year. Andhra Pradesh forest department has completed collecting data of loss of forest cover during 2010-11 and is set to come out with a detailed report for the year 2012 soon.

Khammam district recorded an encroachment of 19.28 sq km forest area, the highest. Warangal, part of Karimnagar district fol-

lowed with 6.66 sq km and Nizamabad forest circle comprising of Nizamabad and Medak was encroached to the tune of 2.46 sq km. In coastal districts, Rajahmundry circle comprising of Rajahmundry, Eluru, Kakimada and Vijayawada has lost 1.96 sq km of forest cover. In Visakhapatnam circle (Narsipatnam, Paduru, Srikakulam, Visakhapatnam and Vizianagaram) 1.65 sq km forest area has been denuded.

Incidentally, Visakhapatnam circle recorded encroachment of 4.54 sq km in 2009 and 2010, immediately after the Act came into being, but it has recorded a drop now after sustained awareness campaign, edu-



Forest Rights Act misused

■ A misconception prevails that Forest Rights Act empowers tribals to fell trees. However, tribals can cut trees only for their sustenance.

■ Smugglers, the biggest threat to forests, are having a field day due to lack of securities.

cation and policing.

The total notified forest area in AP is 63,814 km, which accounts for 23.2 per cent of the geographical area. Khammam has the highest notified forest area

of 8,436.91 km and Krishna has the lowest — 964.26 km. "The main reasons for decrease in forest cover are harvesting (clear felling) of matured plantations, clearance of bush growth and

preparation of land for raising plantations and the fresh encroachments triggered by recognition of the rights of occupation," P.K. Sharma, additional principle chief conservator of

forests, told this newspaper. Mr Sharma said the data has been compiled with the help of Geo Information System. The data revealed scattered felling in all the regions. "There is a misconception in some quarters that Forest Rights Act empowers tribals to fell trees. It has to be used for their sustenance. Most encroachments are for cultivation," he said.

However, the biggest threat to forests is from smugglers. Smugglers are having a field day in some places due to lack of security. Sources said that one forest guard of the department has to man 2,500 hectares to 7,500 hectares of forests, which is a her-

culean task. There are more than 30 per cent vacancies in the department. Also, most of the available personnel are aged 45 years and above. The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act has triggered debate with one section insisting that the Act supports forest-dwelling communities, while another section fears large scale destruction of forests. The Act relates rights of forest-dwelling communities to land and other resources. Ever since the Act came into force in 2006, there has been an upsurge in denudation of forests to the tune of about 20 sq km.

Deccan Chronicle, Hyderabad, December 15, 2012

Listed Cos may Spend up to ₹8k crore on CSR

As per the new Act, companies will have to spend 2% of their profits on CSR activities; almost ₹5,000 crore is likely to come from the Nifty pack

ET INTELLIGENCE GROUP MUMBAI

Listed profit-making companies could spend up to ₹8,000 crore on corporate social responsibility (CSR) activities if they are able to hit a target of 2% of net profits, stipulated in the new Companies Act approved by the Lok Sabha on Tuesday. The bill, which has to be passed by the Rajya Sabha before it becomes a law, says that corporates ought to spend 2% of net profits on CSR activities. This is not mandatory but the company's board will have to explain why spending has fallen short in a particular year.

A study carried out by the ET Intelligence Group shows that bulk of this — nearly ₹5,000 crore — will be spent by the companies constituting the Nifty 50 Index. But India Inc will have to scramble to meet the target as only two companies in the Nifty — Ambuja Cement and ITC — currently spend 2% of net profit towards CSR.

A close examination of annual reports indicate that while most companies discuss CSR initiatives at great length, only a handful have mentioned the amount spent, either in absolute terms or as a percentage of their sales or profit. Thirty-eight companies of the Nifty companies mentioned CSR initiatives in their annual reports or executive sustainabil-

ity reports, but there was no information on the amount spent.

In their annual reports, some companies have mentioned the amount spent by the group of which they are apart. For instance, the Mahindra Group spent ₹72 crore on CSR, while the group's net profit was ₹5,410 crore, which translates to 1.3% of its net profit. The Vedanta Group spent ₹230 crore on CSR, when its net profit was ₹13,130 crore, or 1.75% of its net profit.

"The performance of Indian companies in case of CSR has been pathetic as they have failed in their role of being a good corporate citizen. They are found to be doing more of lip service rather than actual initiatives in and around the areas of their operations," says Anil Singhi, chairman, lean investment advisors. Companies would do well to spend more on CSR, says Singhi. "From my experience with Ambuja Cement, I can tell you we have benefited immensely from the goodwill that we generated because of engaging with the community around our operations."

As apolycy Inc says contributes 1% of its PAT to the Infosys Foundation, which then spends the money on numerous CSR initiatives. And, while not all Tata Group

Spending for a Cause

Company	Amount Spent	% of Net Profit
Ambuja Cement	₹2.5	2.1
Aud Bank	₹5.7	-
ICICI Bank	₹1.2	0.3
ITC	₹8.0	2.1
M&M (Group)	₹7.0	1.3
NTPC	₹0.6	0.8
Sesa Goa (Vedanta Group)	₹23.0	1.8
State Bank of India	₹1.2	0.2
UltraTech Cement	₹8.2	0.8

Company	% of Net Profit towards CSR
Tata Steel	4.0



PRABHAKAR

companies have disclosed their expenditure on CSR. Tata Steel's sustainability report mentions that the Tata Group companies spend 4% of their net profit towards CSR. Others, such as UltraTech, ICICI Bank, NTPC and State Bank, spend less than 1% of their earnings.

"Companies in India have not been able to link CSR with the sustainability of business and it is one of the reasons why companies are reluctant to spend on CSR," says Sudhir Sinha, corporate head, CSR, in Cipla. While the company has not disclosed the amount it spends on CSR in its annual report, the company claims it to be far above

2% of its profit due to its various efforts for slinking (making low-cost life-saving anti-HIV drugs available. "It not spending much on CSR is also to do with the Indian attitude that if you can get away without doing something, it is best to avoid it," says Singhi.

Opinions vary on whether the government should have made CSR mandatory in the first place. "It is a good idea to make it mandatory. Companies who are doing it sincerely will continue to do it. And those who want to avoid doing it will find ways to do so," says a sustainability and CSR consultant, who did not wish to be named.

But according to Rajesh Tiwari, CEO of the Indian Centre for CSR by mandating CSR in the Companies Bill, the government has created a process whereby companies are forced to spend on social returns, along with financial returns, and they are forced to report on such spends. This will also help companies who are typically viewed with suspicion by governments and consumers in general, to enhance their image, thanks to the mandate on spending and reporting on CSR activities.

Sachin Pilot, the minister of state for corporate affairs, has promised industry that he will consider providing tax relief for CSR activities during a meeting held days ahead of the passage of the bill.

The Economic Times, Mumbai, December 20, 2012

The Economic Times, Mumbai, December 20, 2012

Neural Net

For a Global Climate Change Regime

URMIA GOSWAMI



"A spoonful of sugar makes the medicine go down." The line made famous by Mary Poppins is true for an effective global climate regime required to keep human-induced global warming at acceptable levels as well. Over the last 20 years, all countries have repeatedly recognised the need and reaffirmed their commitment to tackling and limiting climate change. But meaningful efforts that take a serious stab at ensuring this global public good have not been adequate or even forthcoming. In part, this is because there have been inadequate incentives.

Incentive to be part of a global climate change regime and to making it work is the crucial element that could ensure its effectiveness. Implicit in any action to limit climate change is the notion of first-mover disadvantage. This is because emission reduction, which is the central focus of limiting climate change, has economic costs. Countries that take on efforts to limit cli-

mate change have to contend with fallout like loss of economic competitiveness as compared to countries that are not taking similar efforts. So, countries need to be incentivised to take measures to limit climate change, so that no country is worse off than another for moving to a low-emission economy.

Current climate change is the impact of emissions that took place over a hundred-odd years ago with the onset of the Industrial Revolution or its stock of emissions. Given that a handful of countries reaped its benefits, the onus of addressing the fallout lies with them. Any effective effort to address climate change requires a shift to a new economic pathway that is low on emissions. This is not an inexpensive or painless proposition, even for countries that have the economic and technological wherewithal to do so.

Industrialised countries are unwilling to make the transition as many developing countries are now registering impressive growth, presenting an economic challenge. But the only successful model of economic prosperity is based on a high-emission pathway



Therefore, like their industrialised counterparts, these developing countries are registering growth through the same high-emission development options. Their rapid growth and accompanying emissions aren't helping prevent tipping the world towards a situation of adverse and irreversible climate change. A global response to climate change must work towards an absolute reduction of the stock as well as reduce the rate of growth of emissions. Given the overriding economic and attendant social considerations, how can the impasse be broken? The Durban Platform takes

the first step by suggesting that the new global regime would bring all countries within the same framework. Scott Barrett of Columbia University sets out three markers for working global response: stringency, participation by all countries and compliance. The concept of the Durban Platform seeks to address all three factors — increasing ambition or emission reduction efforts, the framework will apply to all countries and the stated aim of a rule-based regime would address the issue of compliance. What remains unaddressed is how to ensure that all countries participate in this global response.

Each country has to have a clearly defined stake in making the system work. Each country has to be reasonably sure that it will not be at a disadvantage. Over the last five years, the focus has been increasingly on advanced developing countries like India and China. These are countries with growing economies, which means a growing emissions profile. Experts say that even as industrialised countries migrate to a new development path replacing their high-emission structures,

fast-growing countries like India and China, among the most notable contributors to the emission flow, must move to a new low-emission development pathway. But to do so would mean loss in economic growth for these countries, so essential to pull teeming millions out of poverty.

If the new global regime is to be effective and seeks to address the issue of current emissions alongside that of historical or stock emissions, then it must build in clear incentives for fast-growing countries like India, China and South Africa. This incentive can be through easy access to technology that will help make the transition along with the requisite finance. Incentives should come in the form of protection within the new regime to help address the obvious developmental needs of these countries.

A global regime that doesn't incentivise action is doomed to the same fate as efforts of the last two decades. It is time to recognise that delivering a global public good like limiting climate change can't be seen as an act of good faith but one that is beneficial to a country's current goals.

The Economic Times, Delhi dated December 21, 2012



SUSTAINABLE DESIGNS

Environment-friendly buildings are gaining popularity around the world, due to their cost saving designs, says ET Realty

TRISH DONNALLY

While the awareness of sustainable design for residential properties is only just emerging in India, environment-friendly buildings have become popular around the world, even mandatory in some countries. We list below a sampling of how sustainable design and its nuances are being embraced, in varying degrees, in the United States, Italy, Denmark

and Bolivia. In the US, interest in sustainable design is growing, especially in the multi-residential segment, says Asa Foss, director of Leadership in Energy and Environmental Design (LEED) Residential Technical Development, a sustainability rating system developed by the US Green Building Council.

ITALIAN COUNTRYSIDE Sometimes, people have sustainable intentions, but

QUICK BYTES

You can have an energy efficient house, but if you have to drive 100 miles to get to work, then this dwarfs the carbon reduction of the home

government rules and regulations get in the way. Italian architect Domenico Minchilli says: "We live in Rome, in the old part of the city, and

we have a roof over our apartment that faces south. "It would be an ideal site for either solar or photovoltaic panels, which would save on our use of gas to heat the apartment and electricity to light it. Unfortunately, the centres of most old Italian cities do not allow for the installation of any roof panels."

This doesn't prevent Minchilli, who specialises in restoring residences ranging from farmhouses to castles, to continue to make eco-

responsible choices wherever possible. In fact, his firm recently completed the restoration of a medieval castle, where he integrated several major sustainable design elements, including a geothermal system for heating and cooling.

URBAN DANISH DESIGN

A Danish architectural firm renowned for its sustainable designs designed the 8 House at the edge of Copenhagen. This mixed-use property features 476 units, including apartments, office and retail space, plus two large courtyards. The southwest courtyard was designed to be bathed in afternoon sunlight. The complex has more than 2,000 square feet of green roofs, meant to reduce the urban island effect and improve the efficiency of the building.

BOLIVIAN BEGINNINGS

While sustainable design is making its presence known in many parts of the world, in Bolivia it is not a priority, yet. "In Bolivia, there were laws for the sustainability of resources in general; however, there are no clear terms, and no efficient controls to ensure there is a responsible treatment of our natural resources," says Daniela Viscarra, director and senior designer of a Bolivian foundation, which promotes handicrafts.

"Foreigners are far more concerned about sustainability than Bolivians," she says. "On the other hand, there are young designers and new companies that are trying to talk about these concepts. Maybe, in time, that will be the road to advocate and to obtain regulations and better practices," Viscarra says.

The Economic Times, Delhi dated December 21, 2012

This bulb glows on gravity power

Energy Generated By Gravitational Pull Can Light Up Life Of 1.5Bn People

London: A British company has developed new 'incredible' light bulbs which are powered by gravity, for free distribution to communities in India and Africa who do not have reliable access to electricity. The 'GravityLight' uses a sack of sand to gradually pull a piece of rope through a dynamo mechanism which generates electricity to power an LED light.

Manufacturers claim a three-second pull on the rope to raise the sack will keep the LED bulb running for up to 30

minutes, the Daily Mail said. The London-based design and innovation initiative deciwatt.org, designed the GravityLight as a sustainable solution for 1.5 billion people who rely on biomass fuels like kerosene for lighting, which can be hazardous to health. Deciwatt.org, a division within design company Therefore, said the trend for rapid advances in technology has made their product possible.

The relatively simple devices progressively need less energy to run, making possible a range of relatively sim-



A BRIGHT IDEA

ple gadgets that can be powered by unconventional means.

The GravityLight was co-invented by Martin Riddiford and Jim Reeves, both directors at Therefore.

"We've done a number of projects, including the Pison products — where the requirements were incredibly efficient in terms of power usage," the paper quoted Riddiford as telling The Register.

"The digital age has made products much power hungry but now there's a reversal of that — everyone's chasing lower power again," he said.

Deciwatt.org appealed for backing from crowd funding website indiegogo.com, and have already more than tripled their goal. With the \$55,000 initially requested they had promised to fund the manufacture of 1,000 bulbs for free distribution to poor communities in Africa and India who do not have reliable access to electricity.

Kerosene is responsible for thousands of deaths across the developing world every year, deciwatt.org says and it can be expensive, the report said.

The Times of India, Delhi dated December 25, 2012

Antarctic ice warming faster than thought

Washington: The West Antarctic Ice Sheet, whose melt currently contributes substantially to sea level rise each year, is warming twice as quickly as previously thought, a new study has found. The temperature record from Byrd Station, a scientific outpost in the centre of the West Antarctic Ice Sheet (WAIS), demonstrates a marked increase of 2.4°C in average annual temperature since 1958 — three times faster than the average temperature rise around the globe.

This temperature increase is nearly double what previous research has suggested, and reveals — for the first time — warming trends during the summer months of the Southern Hemisphere, said David Bromwich, professor of geography at Ohio State University.

"Our record suggests that continued summer warming in West Antarctica could upset the surface mass balance of the ice sheet, so that the region could make an even bigger contribution to sea level rise," said Bromwich.

"Even without generating significant mass loss directly, surface melting on the WAIS could contribute to sea level indirectly, by weakening the West Antarctic ice shelves that restrain the region's natural ice flow

Violent storms in the Arctic control world weather?

Violent polar storms help control the world's weather, a new study has found. These mini-hurricanes occur in the Arctic winter, when freezing airflows out of the region and over the warmer Atlantic Ocean. As the Arctic warms in the coming decades, there are expected to be fewer of them. However, without the storms, the rest of the world could face weather disruption. They are vital to the global thermohaline circulation in the ocean, which underpins ocean currents and weather systems, experts said.

into the ocean, he said.

Andrew Monaghan, study co-author, said that these findings place West Antarctica among the fastest-warming regions on Earth. "We've already seen enhanced surface melting contribute to the breakup of the Antarctic's Larsen B Ice Shelf, where glaciers at the edge discharged massive sections of ice into the ocean," he said. "The stakes would be much higher if a similar event occurred to an ice shelf restraining one of the WAIS glaciers," he said.

The Economic Times, Delhi dated December 25, 2012

India's Top CSR Spenders

The new Companies Bill, passed in one of the two houses of Parliament last week, makes it mandatory for companies above certain thresholds to spend 2% of their net profit on corporate social responsibility (CSR) activities. **Labonita Ghosh** documents what some of India Inc's big CSR spenders are currently doing:

MAHINDRA & MAHINDRA

What is its CSR philosophy?

We operate in society. And since we make profits, we believe we should give something back as well, to the extent that we can. Not just because it's the right thing to do or that it creates goodwill for the company, but it also creates a 'brand connect' with our stakeholders



Rajeev Dubey
Chairman-CSR Council,
M&M

What is it doing?

EDUCATION: Spent ₹5 crore, with a focus on girls and disadvantaged youth. Free education to 4,569 girls; awarded 563 scholarships, including 53 for post-graduation studies; livelihood training to 1,452 underprivileged students



ENVIRONMENT: planted 1.2 million trees; initiatives to reduce energy consumption by 17.1% (over 2008-09); water consumption by 13.5% and greenhouse gases and carbon dioxide emissions by 22.6%

PUBLIC HEALTH: Financial aid to the economically disadvantaged; treated 4,429 patients at its medical camps

VEDANTA GROUP

What is its CSR philosophy?

To secure our future, we must make sure that no child in India is malnourished and deprived of basic amenities, health, education and nutrition. Moreover, whatever you have earned, a portion of it should go back to society



Anil Agarwal
Chairman, Vedanta Group

What is it doing?

CHILD NUTRITION & EDUCATION: Runs 5,500 Anganwadi centres to improve nutrition to 225,000 rural, underprivileged children aged 2-6 years; adopted 92 schools in Rajasthan and spent ₹3.35 crore to improve basic infrastructure in them; runs computer literacy programmes in 5,350 schools and 250 vocational education centres.

WOMEN'S EMPOWERMENT: 2,100 self-help groups, with 290,000 rural and tribal women as members; provides them vocational training and bank funding to start small enterprises

HEALTHCARE: A ₹22.5-crore heart hospital in Udaipur; a ₹350-crore, 350-bed cancer hospital is expected in Raipur, Chhattisgarh, in 2013-14, which will reserve 20% of beds for BPL families



AMBUJA CEMENT

What is its CSR philosophy?

Our vision is to be the most sustainable and competitive company in our industry. At the same time, we want to create value for all our stakeholders like our customers, employees, shareholders and, of course, society in general



BL Taparia
Director, Ambuja Cement

What is it doing?

WATER: Become two times 'water positive' by conserving water in project areas by constructing check dams, recharging wells, creating water storage tanks and employing micro-irrigation systems



AGRICULTURE: Helped 54,804 farmers with horticultural plantations, drip and sprinkler irrigation, cattle health camps and such

SKILLS TRAINING: 17 skills & entrepreneurship development institutes have reached out to 7,200 people, 75% of whom have been placed; trained 947 masons in tie-up with Gujarat government

WOMEN EMPOWERMENT: 790 self-help groups reach out to 9,790 women. Company corpus for SHG programmes: ₹3.9 crore

Note: Figures for CSR spend are for 2011-12
SOURCE: company and company reports

ITC

What is its CSR philosophy?

ITC has consciously strived to deliver societal development in the context of its businesses through inclusive value chains that encompass the most disadvantaged sections of society. This approach has fostered innovative business models and an enduring engagement with rural communities



YC Deveshwar
Chairman, ITC

What is it doing?

INTEGRATED WATERSHED DEVELOPMENT: About 98,000 hectares of land under soil and moisture conservation. ITC, which has been water positive for the 10th year in a row, has also facilitated 3,845 water-harvesting structures

LIVELIHOOD OPPORTUNITIES: Helped strengthen agri-production base of about 400,000 farmers

WOMEN'S EMPOWERMENT: 1,473 SHGs have reached out to 17,000 women and created livelihood opportunities for 39,912 women

EDUCATION: Primary education programmes aimed at 300,000 students with a focus on increasing enrolments and minimising drop-outs; infrastructure support to 1,069 government schools



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