

Centre for Business Sustainability, IIM Lucknow
Prabandh Nagar, Off. Sitapur Road, Lucknow- 226013
E-mail: cbs@iiml.ac.in Phone: +91 522 2736987, +91 522 2736989

Business Sustainability News

International

Revenue at risk: Business growth in an era of water scarcity

By Libby Bernick



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Water risks are becoming more tangible for businesses across sectors.

Fourteen of the world's 20 megacities — those with the largest or fastest growing economies and the largest populations — are experiencing water scarcity or drought conditions.

These are the very cities where demand for goods and services is growing at a rapid pace, and where businesses are looking to grow.

But how much growth can our thirsty cities sustain?

For many companies, water is critical to their business growth — just like a skilled workforce, technology or marketing. But while it is fairly straightforward for a finance director to factor such business necessities in a company's growth models, water dependency rarely appears in the financial models of companies or investors.

Until now.

New tools are helping businesses and investors to look at water differently by valuing the risk of water scarcity in monetary terms.

To help businesses understand how increasing water scarcity will affect their ability to grow, Ecolab and Truost expanded the Water Risk Monetizer, a free online tool, to include revenue at risk assessments.



The tool's initial launch 11 months ago provided businesses with a risk adjusted "shadow water price" based on local water scarcity and the value of water to a community. The Water Risk Monetizer now also provides a monetary value of revenue at risk, along with an estimate of the likelihood of that risk hitting the income statement.

One unique aspect of the tool is that it leverages existing water and financial data alongside scientific methodologies to estimate the amount of water available to a business — its "share" of total water available to all businesses in a water basin — based on the facility's contribution to the local economy.

Because water is a shared resource among many users in a basin, it's essential for a business to understand how its allocation may change, and with it any potential for constraints to continued revenue growth.

Financial flows

The investment community is also taking important steps to better understand the financial implications of water scarcity. Portfolio footprints historically have focused on carbon risk, but this is rapidly changing.

For example, the Canadian investment firm AGF became the first to disclose its mutual fund portfolio environmental footprint (PDF), which includes an assessment of water.

In September, the Natural Capital Declaration launched the Water Risk Corporate Bond analysis tool, helping investors understand the potential implications of water scarcity on corporate financial stability. The tool also uses a "shadow water price" for water based on natural capital accounting techniques, allowing a financial analyst to factor water scarcity into a company's debt to income ratio.

Bloomberg's new Water Risk Valuation tool, also launched in September and focusing on public equities in the mining industry, allows investors to estimate potential revenue loss from water scarcity and the overall implication to a company's valuation.

Water valuation tools take an important step forward by allowing water risk data to be integrated into business and investor models. Water data becomes actionable instead of educational, making water scarcity a more tangible issue for financial managers and analysts.

Sustainability teams finally can engage boards and investors on water scarcity with answers to questions, such as: Where does water scarcity pose the biggest threat to growth? Where can I increase production now, and where should I invest in water conservation strategies?

Growth prospects

Identifying how water scarcity could affect revenue is crucial if businesses want to continue to grow in a water-constrained world.

In 2014, 33 corporations publicly disclosed to investors via the CDP that water scarcity already threatens 1 percent to 6 percent of their annual revenue.

And in April, the Coca-Cola Company decided not to move forward on the development of an \$81 million bottling plant in Southern India due to resistance from local farmers who cited concerns about strains on local groundwater suppliers.

"Companies can prepare themselves for long-term growth by investing in water efficiency where it most matters."

By taking early action to understand the financial risks and opportunities of water scarcity, companies can prepare themselves for long-term growth by investing in water efficiency where it most matters.

Breweries, for instance, typically use 3.5 to five litres of water to make a litre of beer. If a company making beer wanted to expand production at a water-stressed site, it may have to significantly improve its efficiency to create the headroom for expansion, or face growing risks to its revenues — and reputation.

While many companies already have sustainability programs designed to improve water efficiency alongside reducing other environmental impacts, business has to achieve a massive step change in water consumption to continue to make profits while not exhausting the water resources on which it relies.

These new tools provide the means to account for the value of water to a business, not just its cost.

<Source>

5 big ideas to save the global food system

By Gaelle Gourmelon



A combination of conservation and behavior change could make a big difference in the sustainability of strained global food systems.

The key foundations of our agricultural systems — the world's land, water and climate — ensure that farmers can feed

the world. But these resources are being depleted, even as global demand for agricultural products is expected to mushroom in the coming decades.

The United Nations Food and Agriculture Organization (FAO) predicts that demand will be [60 percent higher \(PDF\)](#) in 2050 than in the three-year average for 2005–2007. If nothing is done, this growth could overwhelm our food systems.

"The best and first solution is to preserve the resources that make global food production possible," wrote contributing author Gary Gardner in "State of the World 2015: Confronting Hidden Threats to Sustainability."

To save our global food system, it's time to focus on conservation and efficiency. Here are five big ideas for doing this:

1. Combating food waste

Cutting food waste presents a massive opportunity to reshape food systems. One-third of the food we produce, about 1.3 billion tons of it, is wasted every year worldwide. High-income countries waste almost as much food (222 million tons) as is produced in all of sub-Saharan Africa (230 million tons).

Food waste can be reduced by everyone, from farmers to distributors to consumers. At the farm, storage technologies can preserve harvested food until farmers are ready to bring it to market.

Restaurants and businesses can source their food in ways that ensure that they buy only what they need, when they need it. And consumer education in wealthy countries can shift the culture of food from waste to stewardship. With less food waste, we can combat inefficiency, as well as lower the demand for food, fertilizers, pesticides and fuel.

2. Reducing meat and biofuel production

Meat and biofuel production systems compete for the same inputs as food crops. Shifting demand away from these systems could free resources needed for food production.

Meat is a resource-intensive product.

"Some 36 percent — more than one-third — of the world's grain harvest was used to produce meat in 2014," writes Gardner, citing data from the U.S. Department of Agriculture. "Fed directly to humans, this would feed many more people than it does in the form of beef, pork, chicken or fish."

36 percent — more than one-third — of the world's grain harvest was used to produce meat in 2014. Fed directly to humans, this would feed many more people than it does in the form of beef, pork, chicken or fish.

Meat production also requires large amounts of water. Producing beef, for example, requires over 15,000 liters of water for every kilogram of meat, or 10.2 liters per calorie (compared to about 300 liters per kilogram for vegetables, or 1.3 liters per calorie).

Biofuel production eats up resources that could be used to grow food. Yet some 60 countries have government mandates in place that encourage growth in biofuels.

In the seven countries that dominate this sector, the U.S. government projects that biodiesel production will rise by 30 percent and ethanol by 40 percent between 2013 and 2022. Reversing these mandates may be a key to freeing up more resources to feed the world.

3. Increasing water productivity

If all farms focused on efficiency when watering their crops, farmers could cut their consumption of water dramatically.

A 2014 study showed that if all crops were grown at the top 10 percent of water efficiency (using the same practices as the most efficient farmers), 52 percent of the water used in global production of these crops would be saved.

Setting water footprint benchmarks for various crop types could help to measure the performance and monitor progress in moving toward more-efficient watering practices. With good management and access to financing and technologies (such as drip irrigation), farmers could see huge savings of one of agriculture's most precious resources.

4. Conserving agricultural land

This one is straightforward: without farmland, there are no farms. The amount and quality of agricultural land available is pivotal to keeping our food systems healthy.

Conservation easements (an agreement that limits certain types of uses or prevents development from taking place on a piece of property) and the purchase of development

rights (financially compensating landowners for not developing their land) are both voluntary ways in which landowners can help protect land.

Stronger government action, such as enforcing agricultural zoning and promoting conservation farming practices, can further prevent the degradation of land.

5. Infusing ethics into food trade

According to data from the USDA, about a quarter of the world's countries imported more than half of their grains in 2013. As populations grow and climates shift, continued food trade will be essential to the survival of many countries.

"[F]ood trade will become an indispensable nutritional lifeline," wrote Gardner. "As such, food trade cannot be treated as just another exchange of goods, and food cannot be treated as just another commodity."

Instead, protecting access to food as a human right will ensure that food cannot be withheld for political reasons. Already, [28 countries \(PDF\)](#) explicitly have listed a right to food in their national constitutions since the FAO advanced this concept in 2004.

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Poland's second city to ban coal use after anti-smog law approved

Krakow says it will introduce a ban on burning coal in households, offices and restaurants, despite protection of the industry becoming an election issue

By Arthur Neslen

The Mayor of Krakow has told the Guardian he will introduce a ban on coal use in households, offices, government buildings and restaurants after an amended Environmental Protection Act was signed by the country's president, Andrzej Duda.

Poland's second largest city is as famed for the filthy smog that cokes its buildings and streets, as for its beautiful historic buildings. The European Environmental Agency has ranked it the third most polluted city in Europe and its particulate matter (PM) pollution can reach six times the safe levels.

Household stoves burning coal are responsible for an estimated 88% of the country's non-industrial air pollution — and almost half of Krakow's PM pollution. Under the new EPA signed on Tuesday, which was amended after a long-running battle with the courts, local authorities can now prohibit their use.

"We will concentrate our efforts on introducing in Krakow a ban on the use of coal in individual furnaces and boiler rooms," said Jacek Majchrowski, the city's mayor. "It will speed up the process of removing the coal stoves and replacing them with eco-friendly heating systems."



Household stoves burning coal are responsible for an estimated 88% of the Poland's non-industrial air pollution — and almost half of particulate matter pollution in Krakow, pictured here. Photograph: Artur Widak/NurPhoto/Corbis

Poland emits more

gases and sulphur dioxide from coal than any other European country, and also has the

continent's highest coal-related health costs, with around 45,000 premature deaths each year attributed to coal burning.

The coal industry is a major Polish employer, seen as a guarantor of energy independence. The protection of its future has become a major issue in the 25 October elections, with the leading parties out-bidding each other in its defence.

The country's prime minister, Ewa Kopacz, last week announced a plan to transfer publicly-owned stakes in coal companies such as PGE for use as collateral in their buy-out of TF Silesia, a highly unprofitable national coal firm.

"In that context the decision in Krakow gives hope," the Liberal MEP Gerben-Jan Gerbrandy told the Guardian. "All of Poland's political parties are unanimous about protecting coal consumption so when, at local level, people start questioning its use for health reasons, it might become a game changer in the national debate."

The Krakow council now says it will move ahead with plans for new district heating networks, and revamped public transit networks. Vehicle access to the city centre is being limited too, even though the national parliament rejected the introduction of low emissions zones in urban areas.

Majchrowski said he would also urge the Matopolska regional authority to follow Krakow's lead and adopt the ban on solid fuels in heating. "We are hoping that local authorities elsewhere will start fighting air pollution as vigorously as we do in Krakow," he said.

"This is a chance for a breakthrough in the fight for clean air in Poland," said Ilona Jedrasik, a spokeswoman for the environmental law firm ClientEarth. "Now it is time for local authorities to make their next move."

Poland depends on coal for nearly 90% of its electricity, and its defence of the fuel has been an ongoing bugbear in European climate negotiations.

[<Source>](#)

England's natural beauty areas at risk, says National Trust

Conservation organisation claims that local planners are not always applying law correctly in AONBs, citing example of solar farm in Dorset

By Steven Morris



Bluebells on Wenlock Edge in Shropshire Photograph: mark sandler / Alamy/Alamy

Some of England's most beautiful landscapes are threatened by inappropriate development because planning rules are not being followed properly, the National Trust has claimed.

Local planners are not always applying the law correctly when considering applications for development in the country's 34 areas of outstanding natural beauty (AONB), the organisation said in a report published on Thursday.

Drawn up with the help of independent consultants, the report flags up concerns about developments ranging from housing on the edge of the Georgian city of Bath to chicken farms in Shropshire and solar arrays in Dorset, the landscape immortalised by Thomas Hardy.

The National Trust accepts the need to build more houses and says it supports development in line with locally-agreed plans. It adds: "AONBs are living and working landscapes" but insists that "local needs" can be met through "high quality development in appropriate locations."

The report says the government has "a clear commitment to protect AONBs" which were originally established under the National Parks and Access to the Countryside Act 1949.

It accepts that existing legislation and policy contain "strong protections" but argues that on the local level they are not always being followed properly, especially in areas where councils have little free land for building houses or commercial premises.

The report calls for a ministerial statement on the issue and suggests a series of test for planners to apply when looking at a development in an AONB.

Ingrid Samuel, National Trust historic environment director, said: "We have good policy in place to protect our wonderful AONBs, some of the most special and loved places in England. But our research suggests there can be a gap between policy and practice – and that's something that needs addressing."

"AONBs are under strain from increasing development pressure, and local councils are between a rock and a hard place as their resources shrink. Reductions of 40% to planning and development management teams over the last five years will not help planning authorities to ensure quality development happens in the most suitable locations."

Richard Blyth, head of policy at the Royal Town Planning Institute, expressed concern about more tests for planners being introduced, arguing that generally the protection offered by AONB status worked well.

He suggested that areas with little land to develop because they were within AONBs should try to work with neighbouring authorities to find suitable building plots.

A government spokesman said: "We welcome the National Trust's recognition of the strong protection we have set out for areas of outstanding natural beauty and other protected areas."

"Local authorities should ensure they play their part in protecting these valued areas."

[<Source>](#)

Ikea shows off its new ethical stance ... on seafood

Swedish furniture chain's move to only sell certified seafood at its restaurants and food markets hailed as a "gamechanger" by campaigners

By Tom Levitt



Ikea's food business was worth more than £1bn in 2015, with seafood generating £160m. Photograph: Ikea

First it was veggie meatballs, then it was energy-saving lights bulbs and now it is seafood. Ikea has been keen this year to prove its willingness to nudge its customers' buying habits in a different direction.

From this week all 23 varieties of seafood, including Atlantic cod, salmon and shrimp, on sale in the Swedish furniture chain's restaurants, bistros and food markets across 47 countries will be from certified sources.

In some markets, such as Turkey,

Thailand and the Middle East, this will be the first time certified seafood has been put on sale.

Nearly two-thirds of the world's fisheries are "fully exploited", and most of the rest are over-exploited. The latest WWF report on the state of the oceans, published last week, found marine populations had declined by 49% between 1970 and 2012.

Although aquaculture can reduce pressure on fisheries, there has been criticism about its use of wild fish as a feed source, impact on local fish stocks and levels of disease and pollution.

To counter concerns, Ikea is now only sourcing seafood certified by either the Marine Stewardship Council (which limits catches of depleted fisheries) or the Aquaculture Stewardship Council (which is introducing minimum standards for fish farms).

Although better known for its cheap furniture, Ikea's food business was worth more than £1bn in 2015, contributing 5% of its total revenues. Sales of seafood generated around £160m, with its range of salmon dishes the second-biggest seller behind meatballs.

"We realise it might not resonate with everyone," said Jacqui Macalister, health and sustainability manager at Ikea, "but consumers have become so much more in tune with food and how it is produced. They are aware of overfishing and are starting to make choices and decisions that they know are responsible."

The retailer said the price of its range of seafood options will remain unchanged, despite the additional costs of certification. This follows a similar decision after the introduction of its veggie balls in April this year. Although costs of production are currently higher for the veggie balls in comparison to meatballs, the vegetarian ones have been deliberately priced lower to encourage consumers to pick them.

Farmed salmon debate

Ikea's support for certified fish has been heralded as a "gamechanger" for the farmed salmon sector in particular. The ASC's new standards only started in 2012 and are yet to gain widespread support from retailers or wholesalers.

The standards for farmed salmon – agreed by a group of NGOs, marine scientists and industry groups – cover issues including protection of wild stocks from escapees, local water quality, a ban on the prophylactic use of antibiotics (ie to prevent rather than treat infections), treatment of employees and engagement with the local community.

"The [Ikea] commitment to the ASC programme is a gamechanger; introducing the ASC to consumers in many new markets. Customers can now be assured that the salmon in IKEA's restaurants and Swedish Food Markets comes from farms that respect the environment, the rights of workers and the interests of the local community," says Chris Nines, CEO, Aquaculture Stewardship Council (ASC).

WWF, who helped set up the ASC standards, say independent certification is "the only way to ensure that the environment is protected in a way that is transparent and verifiable and that seafood will continue to be available for us all into the future".

However, critics say certification schemes on their own will not safeguard against environmental damage. As well as highlighting the importance of third-party checking up on standards, respected observers such as Seafood Watch say the ASC standard still falls short on the amount of wild fish it allows to be used in feed. The US-based group does not yet include ASC certified salmon on its recommended list.

"If we are truly interested in sustainable seafood we need to diversify diets," said Corey Peet, aquaculture manager at Seafood Watch. "Certification is one way and very much needed, but there are alternative ways for retailers, [such as] building relationships between suppliers and producers and shrinking supply chains."

Future seafood

Ikea says certification is just the first step. Its Norwegian salmon supplier, the Leroy Seafood Group, from which it has been buying since 1984, is working on a project growing mussels and seaweed alongside its salmon farms to cut out waste. The mussels feed on salmon waste and eat sea lice, a parasite that infects salmon. While the seaweed, that also feeds on salmon waste, could potentially provide an alternative source of Omega-3 for salmon instead of wild fish.

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Food: Eat don't waste

- **Be Vegetarian**
- **Use less meat**
- **Cook carefully**
- **Buy thoughtfully**
- **Buy local food articles**
- **Serve in small servings lest it is thrown**
- **Use leftover to feed needy persons**

EV as grid asset: Unlocking a \$3 billion energy market

By John Gartner



Shutterstock / Darren Borde

BMW is among the automakers seeking creative solutions to charging infrastructure linked to the grid.

New plug-in electric vehicles sold between 2015 and 2020 will see more than 75 gigawatt hours of energy storage capacity to support the grid in North America.

That's according to a Navigant Research analysis of how emerging power load management programs customized to incorporate plug-in electric vehicles (PEVs) will use car battery packs.

This back-up power could help defer load during demand response events, consume excess power when over-generation occurs and balance the intermittency of renewables to ensure grid integrity.

Already more than a dozen pilot programs active today are testing the communications links between grid operators and the PEVs. Their outcomes will influence the pace at which large scale programs are deployed.

In many cases, the PEVs will be managed alongside other distributed energy resources, such as stationary storage, natural gas gensets and solar power.

One such program in the San Francisco Bay Area known as ChargeForward, is being conducted by utility Pacific Gas and Electric Company (PG&E), which is managing the charging of 100 BMW i3 EVs.

According to David Almeida, principal program manager, electrification and alternative fuels at PG&E, the utility sends out demand response (OpenADR) signals one day in advance to BMW servers.

BMW then sends the signals through its ConnectedDrive telematics program to the participants' mobile devices, as well as the vehicles.

The EV owners can opt out of delaying the vehicle charge, although the default is set to participate. The program provided an upfront incentive of \$1,000 for participating, and up to \$540 more depending on how often the vehicles respond.

Making a market

By 2020, Navigant Research expects that the market for grid services provided by electric vehicles will surpass more than \$3 billion annually in North America, primarily focusing on demand response programs.

Almeida told me that one of ChargeForward's goals is understand how the existing infrastructure can support PEV participation. In the future, PEVs could be used to support the integration of renewable power generation in PG&E's service territory, according to Almeida.

The utility is now testing programs with residential customers that sends signal to customers to increase energy consumption on demand in order to balance excess generation. Another future application for PEVs will be in frequency or voltage regulation services that help to keep the grid in phase or balanced.

However, using telematics systems over cellular networks to relay grid events, such as in the ChargeForward pilot, is thought have too much latency and won't respond quickly enough for regulation services. That could change as communications paths become optimized.

Many grid support programs that will come online will combine the mobile batteries in PEVs with stationary storage to provide higher capacity resources.

ChargeForward combines the BMW's batteries with up to 100 Kw of stationary storage using "second life" batteries taken from Mini-E's that previously had roamed California roads, said Simon Ellgas, senior advanced technology engineer at BMW.

The stationary storage systems can send or receive power on demand, he said. Ellgas added that there is a strong use case for taking the batteries of out of the cars at the end of their leases and re-purposing them as stationary storage. The leased vehicles could be upgraded for resale with new packs, which likely would be more energy dense and better performing than the batteries they replace, according to Ellgas.

Ellgas said that "part of the goal is to demonstrate what can be done with production vehicles, and this has a strong implication because if it is a success, then we can roll it out at a much larger scale."

At BMW's headquarters in Munich, the company is gaining additional understanding of the battery packs' capabilities by being engaged in a variety of battery stationary storage research projects all around the world, ranging from residential behind the meter solution to utility-scale (several MW) projects.

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Half of Europe opts out of new GM crop scheme

Bid for exclusion by 14 countries and three regions would make two-thirds of Europe's population and arable land GM-free

By Arthur Neslen

Half of the European Union's 28 countries and three of its regions have opted out of a new GM crop scheme, in a blow to biotech industry hopes.

Under new EU rules agreed in March, 15 countries have now told Brussels they will send territorial exclusion requests to the big agricultural multinationals including Monsanto, Dow, Syngenta and Pioneer.

Applications from Latvia and Greece have already been accepted by the firms and if that pattern is extended, around two-thirds of the EU's population – and of its arable land – will be GM-free.

Industry sources warned that Europe could soon become a "graveyard" for biotech products but environmentalists hailed the news.



An advert warning against genetically modified food at a subway station in Paris. Photograph: Miguel Medina/AFP/Getty Images

"A growing number of governments are rejecting the commission's drive for GM crop approvals," said Greenpeace's EU food policy director Franziska Achterberg. "They don't trust EU safety assessments and are rightly taking action to protect their agriculture and food. The only way to restore trust in the EU system now is for the commission to hit the pause button on GM crop approvals and to urgently reform safety testing and the approval system."

On Wednesday, Germany became the largest EU country to snub GM crops, when the agricultural minister, Christian Schmidt, told Brussels that his country had no appetite for the biotech produce.

Other countries that have exercised an opt out or said they plan to include Austria, Bulgaria, Croatia, Cyprus, Denmark, France, Italy, Hungary, Greece, Latvia, Lithuania, the Netherlands, Poland and Slovenia.

Scotland, Northern Ireland and Wallonia will also be opting out on a regional basis. Wales has more recently opted out, making England the only country in the British Isles to allow GM crop cultivation. The final deadline for withdrawals is 3 October, and at least two more EU countries are expected to join the list by then.

EU sources say that agribusiness companies are most likely to object to opt-outs from big nations such as Germany. But these countries could then exercise the option of a national ban on public interest grounds, not related to environmental assessments by the EU's regulator, the European Food Safety Authority.

The news was greeted with weary resignation by the biotech industry which complains that only 140,000 hectares of Europe's land are being cultivated with GM products – compared to 181m hectares in the rest of the world.

"We deeply regret that some EU countries have decided to make use of the new licensed ban on the cultivation of safe and approved GM crops on their territory," said Beat Spath, the director of the industry group Europabio. "The new EU legislation allowing these bans is a 'stop' sign for agricultural cultivation that sends a negative signal for all innovative industries considering investing in Europe."

Commission proposals to extend the rules to imported biotech grains would set a disturbing precedent likely to "further extend the graveyard for this technology," he added.

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New Zealand Waves Goodbye to Coal

SustainableBusiness.com News

New Zealand made a big announcement: the era of coal is about to end.

In late 2018, the last two coal-fired power plants will shut down.

"Historically coal has played an important role in ensuring the security of New Zealand's electricity supply, particularly in dry years where our hydro-lake levels are low. But significant market investment in other forms of renewable energy in recent years, particularly in geothermal, means that a coal backstop is becoming less of a requirement," explains Simon Bridges, Minister of Energy and Resources.

The utility, Genesis Energy, decided to close the plants because of the "development of lower cost renewable generation, principally wind and geothermal, investment in the HVDC link, and relatively flat growth in consumer and industrial demand for electricity," says CEO Albert Brantley.

"Advance notice of the unit closures will give the energy industry time to consider further investment in renewables," says Bridges, noting that significant geothermal projects have been approved and are waiting for development.

Hydro is the main source of electricity, and combined with geothermal (about 14%), supplied 80% of power last year. Geothermal is growing rapidly, surpassing natural gas for the first time in 2014. The goal is to run on 90% renewable electricity by 2025.

New Zealand greatly lags developed nations for solar with just 13 megawatts because of the lack of any policy support. The industry is expected to begin growing anyway now prices are so low, but right now a mere 13 MW is installed, according to *Renewable Energy World*.

Last month, New Zealand submitted a fairly weak climate target to the UN - emission cuts of 30% by 2030 from 2005 levels. 46% of emissions come from agriculture (even though it leads on organic acreage), in contrast to 11% in most developed countries, according to the Ministry for the Environment. The country has been running a cap-and-trade system since 2010, but it doesn't include agriculture.



Cheap potatoes, pricey asparagus: what would a carbon tax mean for you?

For business, the winners will be those whose products get more use from less carbon and who act early on supply chains, but consumers of out of season asparagus may lose out

By Mike Berners-Lee



A kilo of air-freighted, out-of-season asparagus from Peru would incur an additional cost of £1. Photograph: Brand X Pictures/Getty Images

tonne of carbon dioxide might mean for both consumers and businesses. We can argue about the exact carbon price the world needs in order for enough fuel to stay in the ground, but \$100 (£65) is probably in the right ballpark; even though this is somewhat higher than most businesses are currently contemplating.

Cheap spuds, pricey asparagus

Based on a decade or so of analysing the carbon footprint of products and business supply chains, here are some rough estimates of how some specific prices might change in response. A kilo of local seasonal vegetables might incur a price rise of around 4p whereas the same weight of asparagus, air-freighted out of season from Peru, would be more likely to go up by about £1.

Meanwhile the cost of a small petrol car might go up by around £500 while a heavy four-wheel drive would end up rising in price by £2,500. And the cost of the fuel to drive them would probably go up by about 22p per litre (once you take account of both the direct emissions from burning it and those from taking it out of the ground, refining it and

When the world finally agrees to constrain the fossil fuel coming out of the ground, one result will be a price on carbon. Whether this comes about through a universal carbon tax or through a global carbon cap and trade system, the effect will be an additional cost that will be passed up the supply chains of all goods and services and reflected in the purchasers' price.

So let's have a look at what a price of \$100 per

transporting it to the pump). I estimate that a laptop might cost between £10 and £60 more, depending on its features and the carbon efficiency of the manufacturing supply chains.

£100bn revenue from a \$100 carbon price would be enough to enable a cut in the basic rate of VAT from 20% to 15%

All these costs are significant and provide incentives for low carbon choices without absolutely precluding high carbon habits. Since, in round numbers, the carbon footprint of the average UK person is about 10 tonnes per year, the carbon price would track through to about \$1,000 (£650) of additional costs per year on average (for simplicity I've left out the other greenhouse gases and only include carbon dioxide). But the effect on each of us would depend on our own buying choices.

Before assuming that everyone will be worse off, remember that the £100bn or so revenue from a \$100 carbon price would be about enough to enable a cut in the basic rate of VAT from 20% to the EU legal minimum of 15%. And if that were done, the carbon price could, overall, enable a hefty rise in standard of living for anyone prepared to follow the new price signals guiding them towards a more sustainable lifestyle.

Turning to the effect on businesses, while fossil fuel companies have long been keenly aware of the commercial threat from a global move to leave the fuel in the ground, companies that want to get more use from less carbon will see huge opportunities. Within any competitive market for a product or service, those with the cleanest supply chains will also have the advantage.

Since it typically takes a few years for a business to clean up its supply chains, if the carbon price is coming, it might be commercially smart to start the clean up now. This is probably why the CDP (formerly Carbon Disclosure Project) supply chain membership forum is experiencing such rapid growth.

To give one example of how supply chains might change, a few years ago my company did a study for a house builder, looking at the carbon and energy footprint of different construction types to understand what proportion of the build cost could be tracked back to energy in the supply chains. At that time, energy accounted for just 13% of the build cost and since a timber frame (which has a lower carbon intensity) was slightly more expensive than bricks and blocks it didn't make straightforward financial sense to switch across. The introduction of a carbon price changes the whole equation.

Winners and losers

A carbon price will make it automatic for shoppers to factor the carbon into their buying choices, without having to be knowledgeable about the mysterious world of carbon footprints. High carbon choices will still be possible for us all but we will have to want them more.

Most of us should be able to feel better off provided governments recycle the revenue from carbon taxes in ways that counterbalance the cost burdens for the person on the street, and provided we allow the new pricing to guide us gently towards to lower carbon habits.

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Arctic Gets Oil Reprieve, Help From Montreal Protocol

SustainableBusiness.com News

The environmental community is cheering after the Obama Administration made an unexpected announcement - with Shell out of the Arctic, there will be no leases to drill for oil for the remainder of his presidency.

But the Interior Department didn't base the decision on its environmental mission. Instead, the announcement starts this way: "In light of current market conditions [low oil prices] and low industry interest," two lease sales planned for the next two years are cancelled.



Two lease sales are still planned between 2017-22.

HFC Announcement

The US, EU, China, India and Brazil are working on an international agreement to phase out HFCs as an outcome of the Montreal Protocol meeting in Dubai, November 1-5.

In July, the US EPA issued regulations prohibiting the use of certain HFCs where

safer, more "climate-friendly" alternatives are available. And President Obama just announced executive orders and the results of private sector commitments that will bring down these climate-forcing greenhouse gases substantially.

Primarily used in air conditioning, refrigeration, and foam insulation, HFCs can be 10,000 times more potent than carbon in causing climate change. Under business as usual scenarios, their use would triple by 2030, says the White House. Halting HFC emissions would reduce global temperature rise by a crucial 0.5°C, closing the gap on country pledges.

While it's great that more companies are making climate commitments, they still aren't advocating for action in Congress, and that's critical in changing policies, points out Senator Whitehouse (D-RI). "The massive American corporate lobbying effort in Congress is at best silent on climate change, and at worst adamantly hostile," largely because of the trade associations they support.

[<Source>](#)

Italian firm Eni poised to begin Arctic oil quest as Shell quits Alaska

Italian oil giant's \$5.5bn project in Norwegian Arctic set to launch by the end of the year

By Harry Davies



Italian oil giant Eni has vowed to press ahead with oil production in the Arctic by the end of the year, undeterred by Shell's decision to abandon its quest for Arctic oil.

As environmentalists celebrated Shell's retreat from the Chukchi Sea this week, Eni is meanwhile making final preparations to a \$5.5bn (£3.6bn) project in the Norwegian Arctic.

The Goliat project is set to become the world's northernmost offshore oil field to come on stream, eventually pumping 100,000 barrels of oil per day from reserves believed to hold around 175m barrels of oil and 8bn cubic metres of gas.

Eni's Goliat project is planned to eventually pump 100,000 barrels of oil a day from reserves in the Norwegian Arctic. Photograph: Simon Dawson/Bloomberg/Getty Images

A spokesman for Eni told the Guardian that work at Goliat is at its "final stage". The project's 64,000-tonne floating platform is already in place and its wells have been drilled, ready for imminent production.

But Eni, one of Europe's largest oil and gas companies, is still awaiting final approval from Norwegian authorities. On Monday, the Petroleum Safety Authority (PSA) told Reuters: "There is still some work left to do at Goliat."

Starting up production at Goliat represents an important milestone for the oil and gas industry as it looks to prise open the Arctic as a major new frontier, but it has come at a price. Completion at Goliat is two years behind schedule and reportedly around £1.1bn over budget.

Earlier this year, as Shell's return to the Arctic attracted international media and environmentalists' attention, Eni maneuvered one of the largest oil platforms of its kind across the world in a 63-day voyage from a shipyard in Korea to the Barents Sea, 80km north off Norway – sailing unnoticed around the UK in the spring.

Eni's spokesman sought to distance the Goliat project from Shell's pursuit for oil in the Alaskan Arctic. He insisted Goliat is operating in a region considered by the industry as "the manageable Arctic" since it remains largely ice-free compared to other regions of the Arctic.

But the Goliat project – which Eni has developed with Norway's state-owned Statoil – is undoubtedly part of the oil industry's push further north into Arctic waters in search for untapped reserves.

Eni's giant floating oil platform has been tailor-made to operate in hostile Arctic conditions. It has been "fully winterised", according to the company's website, and built to withstand once-in-100-year Barents Sea storm conditions and ice.

Environmentalists acknowledge conditions in the Norwegian Arctic are less risky than in other parts of the polar region, but question the notion of a "manageable Arctic".

Suzanne Dhaliwal, a prominent campaigner and co-founder of the UK Tar Sands Network, believes this argument leads to "slowly sliding to a mindset where Arctic drilling becomes socially acceptable".

Dhaliwal added: "We know the Goliat platform is a different beast and protection of the Arctic must continue for communities in the region and to respond to global climate change."

In Norway, opponents to the Goliat project have deployed similar arguments to those made against Shell's Arctic exploration programme in recent months, albeit less visibly.

Truls Gulowsen, the head of Greenpeace in Norway, pointed to the broader environmental and economic reasons for opposing Goliat. He said: "We know we need to keep 90% of proven fossil reserves in the ground so a good place to start would be one of the most precious, pristine and vulnerable areas of nature we still have."

Gulowsen highlighted research by Norwegian analysts that found Eni needs oil prices to average around \$95 per barrel in order for the Goliat project to break even. But with production perhaps just weeks away, Goliat risks becoming a white elephant as oil prices hover around \$45 per barrel.

"It's our opinion that Goliat will remain a symbol of abject failure for years to come," Gulowsen added, "From a purely economical standpoint the project is already a disaster."

Earlier this month, analysts at Goldman Sachs suggested oil prices could slide to as low as \$20 a barrel. The potential for prices to fall as low as this is becoming greater, they said, adding to questions around the viability of expensive projects like Goliat.

Yet starting up production at Goliat has symbolic importance for Eni, after it was forced to cut its dividend earlier this year.

Along with Eni's recent discovery of a "supergiant" gas field in the Mediterranean Sea, Goliat represents a major boost for the Italian company as it seeks to re-establish itself as a major player in the exploration and production game and diversify away from its risk-exposed and war-torn projects in Africa.

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Tips:

Alarms are being raised by IPCC, environmentalists, NGOs, Scientists about the growing pollution, global warming and climate change. Nations are committing to reduce emissions; most of the countries are announcing measures being taken to reduce emissions. But still the scenario is not very bright and this can never be so, without each individual's serious effort towards the cause. All of us should come forward and do whatever possible to make this world worth living for ourselves and future generations.

Here are some tips which most people know but

- Don't waste water by unnecessarily washing pavement lobby etc.
- Avoid asking bills for utilities etc in hard copy instead opt for bills in soft copy.
- Choose products that are biodegradable or recyclable to eliminate waste.
- Don't buy fruits or vegetables wrapped in polystyrene foam and plastic. Refuse the plastic produce bags.
- Buy products with least packaging instead of buying shampoo, conditioner etc in small pouches buy large packing and thus reduce unnecessary waste.
- Buy locally produced products and materials to help reduce the energy use and pollution associated with transporting them.
- Donate reusable items. Never throw away anything that can be used again, instead donate it to a school or nonprofit charity, give it to a neighbor, sell it, or recycle it.
- Reduce meat consumption. Meat production requires much more energy than growing vegetables and grains.
- Resolve to observe meat-free day once a week. If every person went meat-free one day a week, it would reduce emissions equivalent to taking millions of cars off the roads. In America alone going meat free for a day would save emissions equivalent to taking about 8 million cars off the roads.
- Dispose of batteries and electronic devices in the recommended manner. These could potentially leech lead and other contaminants into the soil.
- Growing your own fruits and vegetables helps reduce the environmental impacts of food transportation and provides healthier, tastier produce.
- Make applications, write letters, conduct meetings electronically and thereby reduce consumption of paper.
- It's a good idea to subscribe for online editions of newspapers and magazines. If some books, magazines are not available online and you have to buy hard copy then share with other community members. You may also join some library to read those magazines, newspapers thus you will save hard earned money and also reduce the consumption of paper.
- The meat industry also puts a huge burden on water supply. From the irrigation of feed-crops through production chain to the final consumer product, water is needed in large amounts throughout the meat production process. The numbers are again staggering: [15,415 litres of water are required to produce 1kg of beef in comparison to 287 litre of water for 1 kg of potatoes.](#)

With Dow, Coca-Cola, Ocean Conservancy seeks to cap plastic pollution

By Sureya Melkonian and Elsa Wenzel



A "fish market" in Hong Kong. Most plastic pollution in the ocean originates from five Asian nations. In developing regions, the most troublesome plastic waste tends to be in the form of low-value bags and thin films.

We've all seen the images: the albatross carcass stuffed with colorful trinkets, the sea turtle's head caught in a six-pack ring, and the swirling, Texas-size gyres of debris.

Given the estimated 8 million metric tons of plastic "leaking" into the oceans annually and its non-biodegradable nature, the problem of marine

plastic pollution appears insurmountable.

Yet the Ocean Conservancy is making a first attempt at a large-scale, long-term solution. It is releasing an ambitious plastic-reduction strategy along with the Trash Free Seas Alliance it spearheads, which includes seemingly unlikely bedfellows as Dow Chemical and Coca-Cola.

The nonprofit's report this week serves as a call-to-arms to national governments, multinational organizations, industry and technology providers alike. "Stemming the Tide: Land-based Strategies for a Plastic-Free Ocean" lays out solutions to eliminate ocean trash by preventing it from getting into the oceans in the first place.

Its focus is sharp on the five countries identified as producers of more than half of land-based plastic-waste that winds up in waterways: China; Indonesia; the Philippines; Thailand; and Vietnam. China alone is responsible for 25 percent.

These five nations have all succeeded at achieving significant development and industrialization in recent years, and their economic growth has led to waste production that far surpasses local waste-management systems.

The report proposes to reduce plastic pollution from these five sources by 65 percent over 10 years.

"We don't like simple, solvable problems," Ocean Conservancy CEO Andreas Merkl told GreenBiz.

"The strategy laid out in this solutions-oriented report is clear: Eliminate ocean trash by preventing it from getting into the oceans in the first place.

It's important to debunk common myths about plastic, he added, such as "that it comes from everywhere equally," that "you can recycle your way out of it," or that it's "all about redesign." (Yes, we want redesign, but if you wait for such options to be effective at a large scale, "the ocean will be swamped," Merkl said.) Plus, only 3 percent of marine plastic pollution is circulating in those gyres that have come to symbolize the problem.



Only after we debunk these myths can we effectively do what needs to be done in parallel with the larger circular economy efforts, to prevent 250 million tons of plastic from entering the ocean, "to stop the avalanche now," he said.

The report details pollution-reduction solutions and evaluates each by measuring the estimated cost against the estimated metric ton of plastic leakage avoided. The solutions largely focus on mitigation, treatment and collection.

The first order of business is to keep trash that already has been collected from escaping. Twenty-five percent of the plastic that winds up in the oceans in the top five countries originates after it has been collected, due to flaws within waste-management systems, such as improper dumping. So the report calls for a

concerted effort to improve the waste transport systems, increase the use of formal dumps and relocate or secure the dumps near waterways.

The second task would be to crank up collection to 80 percent. With just these two strategies in the five countries, 50 percent of global plastic leakage would be mitigated.

Currently, though, only 20 percent of the waste plastic in these countries has enough value to be collected and recycled. The report foresees capturing as much of this recyclable material as possible by expanding formal systems of recycling, as well as empowering the informal systems of recycling by subsistence waste-pickers to become safer and a bit more formalized.

What about attempts to recycle plastic debris into products, such as flip-flops or 3D-printed iPhone cases? These are "a drop in the ocean" and do not address the larger problem of the types of soft plastics so common in the waste streams in developing nations, Merkl said.

"There is no silver bullet. The closest we get to a silver bullet is the process of pyrolysis. ... When the price comes down, the profits go back through the value chain."

"25 percent of the plastic that is leaked into the oceans originates post-collection."

The report lays out plans to effectively increase the value of the 80 percent of plastic waste considered low-quality, and thereby increase the likelihood of it being collected. This is where Merkl views elements of the circular economy come into play. For example, there is a call to encourage technologies that convert plastic into fuel through gasification and pyrolysis, or into electricity through incineration with energy recovery.

"This story has been written before on renewables to a very large degree," Merkl said. "We need to copy it for energy."

A pioneer region is likely to be in the Philippines, which has progressive mayors and other local leadership. "A lot of people are already constructively engaged," Merkl said. "China is not going to be easy but it's certainly something we're going to tackle."

What is in it for the Coca-Cola Company, with its ubiquitous red-label plastic bottles, and the Dow Chemical Company, which makes plastic resins?

"Companies don't make plastic with the intent of it ending up in the ocean, and we acknowledge the strong role industry must play in order to help eliminate ocean plastic waste by 2035," said Jeff Wooster, global sustainability director of Dow Packaging and Specialty Plastic, in a statement.

"They want to make lots of plastic but don't want it to end up in the ocean, either," Merkl said. "We should have all the arguments with them about ... the circular economy elements. Yet saying 'Stop making plastic' is a nonstarter." Instead, "We decide to work with them, accept that is a nonstarter and get their help. We'd love for broad range of folks to join the alliance. There is quite a bit of discussion in environmental community around things like the role of incineration. We need a good robust discussion."

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Alaska Governor Wants More Oil to Confront Climate Change

SustainableBusiness.com News

Alaska has a problem.

Located near the Arctic, it is one of the first states to experience climate change head on. Temperatures are rising there faster than most other states, burning through an amazing 5 million acres of forest this summer. Rising seas are engulfing villages, forcing thousands of people to move inland.

How does Alaska Governor Bill Walker plan to cope with this? Incredibly, by drilling for more oil, especially in the Arctic National Wildlife Refuge.

The problem is, Alaska is short on funds just when coping with climate change is becoming an expensive priority. That's because the state relies on oil royalties for 90% of its income (it doesn't have an income or sales tax), and with oil prices so low, that doesn't amount to much.

Evacuating the small coastal community of Kivalina with 400 people could cost \$100 million, the governor told BBC, so more oil is needed.

It's not that he denies climate change. "We have villages that are washing away because of changes in the climate," he told BBC. About a dozen villages are in the same situation as Kivalina, he says. And that's just the beginning.

Oil interests have had their sights on the Refuge for decades - one of the last intact ecosystems in the US, and the site of the last great caribou migration. President Obama urged Congress to permanently protect it with a Wilderness designation, but that's gone nowhere with the Republican majority, many of which want to sell off federal public lands altogether.

"The Coastal Plain is one of the few remaining places in the country as pristine today as it was when the oldest Alaska Native communities first set eyes on it, is too precious to put at risk," said President Obama.

But that's what happens when you are completely addicted to oil.

[<Source>](#)

Dell cuts e-waste with recycled carbon fiber

BY Mike Hower



In the electronics industry, rapid technology innovation and ever-shortening product lifespans are contributing to staggering flows of e-waste.

In 2014, global e-waste amounted to nearly 42 million tons, according to a report by the United Nations University. That's enough discarded televisions, computers, cellphones and other gadgets to equal the weight of 115 Empire State Buildings.

And the total amount of global e-waste could hit 50 million tons by 2017, the report warned.

All of this has profound negative environmental and human health impacts. Toxic chemicals accumulate in soil, water and food, and harmful fumes pollute the air.

In the global South — as I witnessed first hand on a trip to Nairobi last year — children in slums can be found chewing on circuit boards and wires from discarded electronics. The global South generates even more e-waste than wealthier regions of the world.

At the same time, around \$55 billion worth of valuable materials embedded in this e-waste is being wasted, the U.N. report said.

The overall electronics industry has been slow to address the dual threat and opportunity that e-waste presents, but tech giant Dell is making some of the first inroads to a more "circular" supply chain. The company recently announced progress against its circular economy initiatives, including the expansion of its closed-loop recycled plastic supply chain and the introduction of reclaimed carbon fiber source materials into some of its products.

Making new computers from old

In 2013, as part of its 2020 Legacy of Good Plan, Dell established two objectives tied to cutting down on e-waste: using 50 million pounds of recycled materials and recovering 2 billion pounds of e-waste by 2020.

The company has made notable progress toward these goals — since 2013, it has incorporated into products more than 21 million pounds of recycled plastics from sources including water bottles and CD cases, and has recovered 1.2 billion pounds of e-waste.

But the company wanted to secure its own waste stream to free it from the volatile global plastics market, which can fluctuate depending on the price of oil and other mounting competition for recycled plastics.

That's why in 2014, Dell launched its closed-loop recycled plastics supply chain, which has since recycled more than 4 million pounds of plastics into new products. Certified by UL Environment as the first closed-loop supply chain, the program entails collecting, recycling and using e-waste to make new Dell products.

"We have a long history of making recycling convenient and easy for our customers, recognizing that products do ultimately reach a point where the user goes and purchases a new one and doesn't know what to do with the old one," Scott O'Connell, director of Environmental Affairs at Dell, told GreenBiz.

To this end, Dell offers several takeback and recycling programs, O'Connell said. The company has recycling programs in 78 countries and offers asset recovery in 44.

One such initiative, Dell's Reconnect Program, allows people to drop off any brand of used electronics to more than 2,000 Goodwill locations in the U.S. If the gadget can be refurbished, Goodwill sells it. If not, the end-of-life product is sent to Dell's recycling partner, Wistron, for asset recovery in the U.S. Metals like tin, gold and tungsten are re-sold in the commodities market. Plastics are sorted and shipped to China, turned into pellets and mixed with virgin plastics for use in new Dell products.

Currently, these plastics are being used in more than 30 flat panel monitor models and three Dell OptiPlex desktops available globally.

"As those products with recycled content come back again years from now, we can continue to re-harvest those plastics and keep the circular economy flowing," O'Connell said.

Recycled carbon fiber shrinks waste and emissions

Building on its closed-loop recycling operations, Dell earlier this month announced a partnership with supplier SABIC to recycle excess carbon fiber and scrap raw materials into new Dell products beginning in late 2015.

When the program first launches, certain Latitude and Alienware products will contain recycled carbon fiber, with plans to expand across these two product portfolios in 2016, O'Connell said.

The partnership with SABIC is expected to prevent some 820,000 pounds of carbon fiber from ending up in landfills by 2016. And the recycled carbon fiber materials have an 11 percent smaller carbon footprint than simply using virgin carbon fiber, Dell claims.

"This is another another aspect of us looking at opportunities to conserve waste and materials and put them back into use," O'Connell said. "Carbon fiber is one of these types of

plastics you're seeing more use of in different industries because of its strength and light properties."

Challenges to the circular supply chain

Transitioning from a "take-make-dispose" linear supply chain to a circular one can be, well, dizzying. Dell has had to overcome two chief challenges in making the move, O'Connell said.

One challenge was getting the engineering right.

"When dealing with plastics, getting the properties equivalent or better to virgin materials isn't easy," O'Connell said. "But this is a challenge we've been able to overcome with engineering know-how."

Another challenge pertains to establishing a reliable closed-loop supply chain.

"We had to make sure that we had sufficient volume of product coming in to be able to yield enough plastics to put into a mainstream Dell product," O'Connell said.

Dell manufactures these products on a global scale, which required a lot of upfront work to make sure the supply chain could remain viable.

[<ReadMore>](#)

World's energy systems at risk from global warming, says industry group

Energy grids, power stations and distribution networks are vulnerable to storms, flooding and heatwaves caused by climate change, says World Energy Council

By Fiona Harvey

The world's energy infrastructure is at risk from the extreme weather expected to result from climate change, a group of prominent energy companies has warned.



Hurricane Sandy causes a power cut in Manhattan, New York. Photograph: Allison Joyce/Getty Images

Energy systems, including fossil fuel power stations, distribution grids, and the networks that reach to people's homes, are all at risk from effects such as flooding, severe storms and sea level rises, according to a new report from the World Energy Council, which brings together energy companies, academics and public sector agencies.

When energy systems fail, the knock-on effects on other aspects of modern

infrastructure - from water and sewage to transport and health - can be catastrophic.

Experts point to the effects of Hurricane Sandy in New York to show that these effects are not limited to the developing world, where most of the serious consequences of climate change are expected to wreak havoc, but will be felt even in the most modern of cities.

Christoph Frei, secretary-general of the World Energy Council (WEC), warned that the question of the resilience of modern energy systems under the threat of imminent disaster must be treated as one of great urgency. "We are on a path where today's unlikely events will be tomorrow's reality," he said. "We need to imagine the unlikely. Traditional systems, based on predicted events, no longer operate in isolation."

The warning comes ahead of a UN climate summit in Paris later this year where developed and developing countries are expected to agree a deal on how to mitigate and adapt to global warming's impacts.

Adaptation to the effects of global warming will be a key theme of the conference, with the EU in particular promoting the issue as one in which developed countries must provide finance to the poor to enable them to deal with extreme weather.

Even if the most optimistic estimates in terms of emissions cuts are reached, a level of built-in global warming could result in dire problems across the world, as governments and companies struggle to adapt infrastructure that was built for calmer times.

WEC warned that the number of extreme weather events globally had risen by a factor of more than four in the past three decades, from about 38 events - such as major storms, heatwaves and flooding - to 174 events in 2014. The insurance industry has struggled to keep up, with global insured losses from natural catastrophes and man-made disasters reaching \$35bn (£23bn) last year, with the losses of the uninsured exceeding \$130bn.

Frei warned: "Current estimates for the cost of energy system adaptation do not fully account for the additional financing required to accommodate these new emerging risks."

The amount of financing that developed countries are prepared to commit to poorer nations from the end of this decade, to help them cope with the ravages of global warming, is a major unknown at the Paris conference, and could still derail the talks.

Frei called for a strong agreement in Paris that would acknowledge the scale of the difficulties being faced: "With the quadrupling of extreme weather events over the past 30 years, the resilience challenge will impact crucial energy infrastructure and investments in all countries. Therefore we need the negotiations in Paris to harvest the INDC commitments [climate pledges by countries] and translate them into the clear price signal that we need for the energy sector to transform."

[<Source>](#)

Slashing food waste is key to Sustainable Development Goals

By Brian Lipinski



More than 150 world leaders are meeting in New York this weekend to adopt the Sustainable Development Goals (SDGs), a set of global targets intended to end extreme poverty, fight inequality and injustice, and curb climate change.

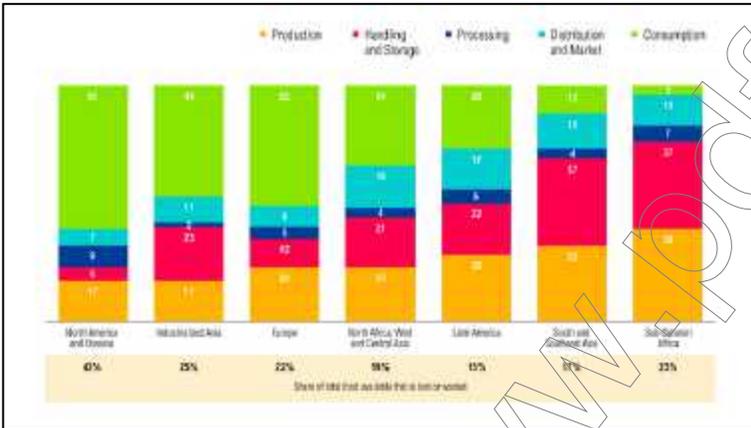
The SDGs will help set the global development agenda for the next 15 years, focusing attention

on the opportunities that will allow for a more sustainable future.

One such priority included is reducing global food waste. Specifically, SDG Target 12.3 will call for the world to cut per capita food waste in half by 2030. If met, this ambitious target not only will boost food security, but also improve livelihoods, reduce greenhouse gas emissions and save land and water. In short, curbing food waste is both a goal in itself and a means of achieving other SDGs.

The cost of food waste and loss

Globally, food worth \$750 billion is lost or wasted each year throughout the entire supply chain. Reducing food loss and waste could help to recover these economic losses and reduce financial burdens on the world's most vulnerable people. In Sub-Saharan Africa, one of the world's poorest and most food-insecure regions, the World Bank [estimates \(PDF\)](#) that just a 1 percent reduction in post-harvest losses could lead to economic gains of \$40 million each year. And out of that \$40 million, most of the benefits would go directly to the smallholder farmers growing the food.



Where waste happens in the food chain.

From an environmental perspective, food loss and waste are an extremely inefficient use of resources. According to a study by the U.N. Food and Agriculture Organization (FAO), food loss and waste accounts for [about 3.3 gigatonnes \(PDF\)](#) of greenhouse gas emissions. To put that in perspective, if food loss and waste were its own country it would be the world's third-largest emitter, only exceeded by China and the United States. Large amounts of water and fertilizer also go into the production of this food that never reaches human mouths. This is a big environmental cost to pay for food from which humans derive little to no use.

And from a food security perspective, reducing food loss and waste is a major opportunity to close the calorie gap between where the world is now and where it needs to be to sustainably feed the planet. The world faces a roughly 70 percent gap between the crop calories produced today and those that will be needed to feed a projected population of more than 9.5 billion in 2050. Recovering some of this lost and wasted food can help close that gap while strengthening livelihoods and improving food security — without requiring any additional environmental costs.

How to cut food loss and waste

The good news is that food loss and waste — a chronically overlooked issue — is starting to get the attention it deserves, both from the public and private sectors. Just last week, the U.S. Environmental Protection Agency and U.S. Department of Agriculture announced an ambitious goal in line with the SDGs to reduce food waste in the United States by 50 percent by 2030.

In just five years, the U.K. cut food waste by 21 percent, and Denmark achieved an impressive 25 percent reduction over the same time span. On the business side, the Consumer Goods Forum (CGF), which represents more than 400 companies across 70 countries, recently adopted a resolution to reduce food waste among member facilities by half by 2025.

Here at WRI, we are working to reduce food loss and waste through the Food Loss & Waste (FLW) Protocol, along with our partners at the CGF, FAO, FUSIONS, UNEP, WBCSD and WRAP. Working off the principle that "what gets measured gets managed," the FLW Protocol is a multi-stakeholder effort to develop a global accounting and reporting standard for quantifying food loss and waste.

The Protocol's forthcoming FLW Standard will allow companies and countries to quantify their own food loss and waste in a credible and consistent manner, identifying where and how much food is being lost and wasted. Companies and countries then can use that information to identify appropriate strategies for making reductions. This will lead to economic benefits, increased food security and reduced environmental impacts.

The FLW Standard will be available early next year, just in time to help companies and countries set baselines and start measuring progress against the SDG Target 12.3. This standard, along with loss and waste-reduction efforts from farm to fork, can help shift the world toward a less wasteful, more sustainable food future.

[<Source>](#)

New Zealand's new ocean sanctuary will be one of world's largest protected areas

By Oliver Milman

The Kermadec ocean sanctuary, in the South Pacific and spanning 620,000 sq km, expands an existing reserve surrounding the Kermadec Islands

New Zealand will create one of the largest marine protected areas in the world, spanning an area of 620,000 sq km.



Galapagos sharks live in the temperate waters off the Kermadec Islands. Photograph: Malcolm Francis/NIWA

The Kermadec ocean sanctuary will be one of the world's most significant fully protected ecosystems, the prime minister of New Zealand, John Key, told the UN general assembly in New York.

The sanctuary is in the South Pacific Ocean, about 1000km north-east of New Zealand, and expands a marine

reserve that surrounds a clutch of small islands.

The area is considered crucial in terms of biodiversity, featuring nearly 35 species of whales and dolphins, 150 types of fish and three of the world's seven sea turtle species. It is also geologically significant, encompassing the world's longest chain of submerged volcanoes and the second deepest ocean trench, plunging to 10km underwater — deeper than Mount Everest is tall.

The scale of the sanctuary will dwarf any previous New Zealand protected area, spanning twice the size of the country's landmass. It will cover 15% of New Zealand's exclusive economic zone.

Commercial and recreational fishing will be completely banned, as will oil, gas and mineral prospecting, exploration and mining. Key's government aims to pass legislation establishing the sanctuary next year.

"The Kermadecs is a world-class, unspoiled marine environment and New Zealand is proud to protect it for future generations," Key said.

"New Zealanders value our coasts and oceans, which are an important part of our culture, economy and environment and we are committed to managing them sustainably.

"Creating protected areas will support not only our own fisheries, but those of our Pacific neighbours, adding to New Zealand's efforts to help grow Pacific economies through the responsible management of their ocean resources."

Nick Smith, New Zealand's environment minister, said the sanctuary might impose a cost upon the mining industry but it was important to protect the ocean before exploration took place.

"New Zealand needs to use its vast ocean resources for jobs and exports with industries like fishing, aquaculture, minerals and energy, but we also need to set aside special areas where nature comes first and marine life is fully protected," Smith said.

New Zealand will monitor the area via its navy and satellite technology. The Kermadec region will join three other key areas in the Pacific protected by the US, UK and Australia, with the four reserves covering 3.5m sq km of the ocean.

Matt Rand, director of the Pew Charitable Trust's global ocean legacy campaign, welcomed Key's announcement.

"New Zealand will create the gold standard of conservation areas in the Kermadecs, preserving one of the few relatively unspoiled areas of ocean on Earth," he said.

"This commitment is an exciting step toward meeting global goals to safeguard at least 30% of the ocean through fully protected marine reserves."

[<Source>](#)

From Oregon to Johannesburg, micro-hydro offers solution to drought hit cities

Cities worldwide are harnessing the power of gravity to generate electricity from public drinking water pipes

By Terry Slavin



An umbrella painted on dry grass. New micro-hydropower technology emerges as severe drought forces some hydroelectric plants to shut down. Photograph: Lucy Nicholson/Reuters

To see how closely water and energy are linked, you only have to look at the west coast of the US, where four years of severe drought have led to historically low levels in water reservoirs, forcing some hydroelectric plants to shut down or cut production.

It's little wonder, then, that new micro-hydropower technology that allows cities to generate electricity from the water running through their pipes is gaining worldwide attention.

Water-hungry energy, energy-hungry water

"The drought has fundamentally changed the way our electricity is produced," says California-based Peter Gleick.

Gleick is president of the Pacific Institute, a water thinktank which reported in March that in the three years to October 2014 hydropower's contribution to California's electricity supply fell to less than 12%, from a previous average of 18%.

This meant a switch to a heavier reliance on more expensive natural gas, at a cost of approximately \$1.4bn a year to California's homes and businesses. It has also come at heavy environmental cost, with researchers estimating an extra 14m tons of CO2 emitted, along with an increase in other pollutants.

Water provision itself is demanding increasing amounts of energy, says Laura Wisland, energy analyst at environmental lobby group the Union of Concerned Scientists.

A recent report Wisland co-authored points out that nearly 20% of California's electricity is consumed by the state's water sector – something that is expected to increase with intensified groundwater pumping, water treatment and water recycling to cope with the state's prolonged droughts.

Harnessing electricity

To tackle the high demand water and energy place on one another, micro-hydropower is emerging as a technology with potential. In January, [Portland](#), Oregon became the first city to harness electricity from its water pipes and sell it to the electricity grid.

The city is using a technology developed by Lucid Energy, which says it will generate 1,100 MWh of electricity a year – the equivalent of powering 150 homes – from four turbines installed along a 50-foot section of Portland's water pipes.



Former CEO of Lucid Energy, Gregg Semler, describes how Lucid's technology generates electricity from water

The mayor of Johannesburg, Mpho Parks Tau, likewise intends to use Lucid's technology to help his city cope with the country's worst electricity crisis since 2008.

Lucid is not the first company to innovate with in-pipe hydropower. This summer Rentricity, a New York startup announced it had started work on a large irrigation pipeline project in Utah that will be a net exporter to the power grid. In the UK, Welsh Water and Scottish Water have been generating power in their pipes for four and two years respectively.

But Bill Kelly, who this week became Lucid's chief executive, replacing founder Gregg Semler, says its five-bladed spherical turbines are unique in not impeding the flow of water.

Financing expansion

The company is also the first to sign a power-purchase agreement with a utility, Portland General Electric (PGE), to finance the project. PGE's involvement comes as it looks to replace a coal power plant, due to close in 2020, by investing in a portfolio of renewable technologies.



Lucid's five-bladed spherical turbine design. Photograph: Sherri Kaven

Jonathan Fink, vice president for research and strategic partnerships at Portland University, says the LucidPipe technology is "pretty much a win-win". "Like a lot of cities, water coming into Portland is gravity-fed, and [the water utility has] to slow down the water as it comes down the hill. Typically, the energy [of the rushing water] is lost as heat. With Lucid's technology they can convert it into

electricity," he says.

The big challenge for uptake of in-pipe hydropower is cost as it involves a big upfront capital investment, says Kelly. Portland's water board, like in many other US cities, is publicly owned and rate-paying voters do not want to see higher bills.

Lucid's \$1.7m project in Portland was paid for by private investors Harbourton Alternative Energy, which will sell \$2m worth of power over 20 years to privately owned PGE. After 20 years Portland Water Bureau will be given the right to buy the system and own the electricity it produces.

While the capital cost is similar to solar and wind per installed kilowatt, Semler says Lucid's turbines produce electricity three to four times more cheaply because water flows around the clock and at a constant rate.



Installing LucidPipe technology, which uses gravity to generate energy. Photograph: Sherri Kaven

In-pipe hydro systems are also impervious to weather and climate, unlike California's dwindling reservoirs, and have none of the environmental impact of big dams.

Semler, whose home state of Oregon gets more than half its energy from hydropower, is realistic about the LucidPipe technology's potential. "This is energy recovery from water. It's not a strategy that will replace large dams and power plants."

The project is possible to scale – a city could theoretically have hundreds of the turbines throughout its pipe system. For a big city, says Semler, using Lucid's pipe system throughout its water infrastructure could reduce the cost of delivering water by 20% to 30%. However, the technology may not be cost effective on a large scale unless a city was replacing or installing new water infrastructure.

Market opportunities

Lucid sees industrial users of water pipeline – agricultural irrigation schemes, sewerage treatment facilities, energy companies – as another large market. It recently signed a deal with Cadiz, a water resource development company in southern California, to provide power for a railway line by harnessing the water flow in a new pipeline flowing into the Colorado river aqueduct.

Such schemes cut CO2 emissions and make commercial sense, says the Union of Concerned Scientists' Wisland, particularly for water companies exposed to volatile prices for alternatives such as natural gas. "The more they can generate their own energy, the more they will insulate themselves from that," she says.

Fink agrees. "There's a connection between the amount of energy to move water around and the amount of water needed to generate electricity," he says. "This technology is at the intersection of that."

[<ReadMore>](#)

Worms in the kitchen: how food waste could be solved by the humble invertebrate

Worm assisted composting saves organic waste from incineration and helps create valuable planting soil

By Elisabeth Braw



Worms can be a solution for food waste, accelerating the composting process, decreasing waste and creating planting soil. Photograph: WormUp

The lowly worm is responsible for some good news. Recent Stanford research shows that worms can eat small quantities of styrofoam. Mealworms are able to live on a diet of styrofoam without any health implications, researchers found. Microorganisms in their gut break down the plastic foam into carbon dioxide and excreted pellets (resembling rabbit droppings), which can potentially be reused as soil for crops.

The discovery is being hailed as a breakthrough for managing plastic foam waste, which is hard to recycle. But there is a catch. The study found that 100 worms munched through about 37-39 milligrams a day - about the weight of a small pill. A huge number of worms would need to be mobilised if they are to provide a viable solution to plastic pollution.

Aside from plastic-eating, the humble worm is already playing an important role when it comes to waste.

"Worms are an excellent solution for organic waste," says Kim Andersson, a sanitation and sustainability expert at the Stockholm Environment Institute. "They accelerate the composting process, decrease the waste, and create valuable planting soil."



Worms reproduce quickly and you can produce compost by starting with just a few. Photograph: Alamy

largest city, uses its website to advise residents on making their own compost, adding that it will decrease their rubbish removal costs.

Making worm-assisted compost in the garden, on the balcony, or even in the kitchen is easier than it sounds.

"We took a big bucket, drilled holes in it, and added 12 worms as well as layers of wood chips and newspapers," says Sarah LaBrecque, a Canadian journalist who started composting in her apartment because "there was no place to throw away organic waste". Though the bucket's contents required stirring, which LaBrecque describes as "kind of gross", she didn't mind doing it as it didn't smell.

As a rule of thumb, 1,000 worms can consume up to 2kgs of organic waste per week. Since worms reproduce quickly, a household can start with just a dozen of the slimy but hard-working creatures, which are typically sold by weight.

"People are interested because it's new but also because they want to do the right thing," says Erich Fässler, co-founder and "worm pope" of Zürich-based startup, WormUp. "And because you can use the soil the worms produce, anybody who has a plant benefits from composting."

WormUp is developing stylish boxes for worm composting that users can keep in their garden or on their balcony year-round, without having to stir the gooey compost and worm mix. "We're focusing on cities, where there's little space for composting. The existing systems are expensive and don't look great," says Fässler. WormUp will start selling its boxes - one designed for households, the other a larger size for institutions - next spring.

While the worm's benefits are well-known, its use is not yet commonplace in municipal composts. Of a dozen northern European municipalities surveyed by Guardian Sustainable Business, none use worms for municipal organic waste, though all encourage their residents to do so. A spokeswoman for C40, the global network of megacities fighting climate change, says she is not aware of any city involved in worm composting.

City officials may simply be holding out for an even better option. Multinational research teams are currently conducting composting tests with fly larvae doing the worms' work. "The process reduces the organic waste by up to 70%, and at the end you're able to use the larvae themselves," says Andersson.

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Worms of the redworm variety, which digest organic material, are now a market of their own, and are sold by the dozens or even hundreds to individuals and institutions wanting to reduce their organic waste.

Organic waste often lands in incinerators along with regular waste, which means the nutrition contained within it is lost. However, some municipalities, especially in northern Europe, now encourage their residents to compost using worms.

Gothenburg, Sweden's second-largest city, uses its website to advise residents on making their own compost, adding that it will decrease their rubbish removal costs.

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After having consumed their way through the organic waste, the larvae - which look much like worms and contain some 40% protein - find their way out of the resulting soil. He says that as a result, the larvae are easy to harvest. And they can be used again, as feed for animals including chickens, cows, and fish. If used for protein in animal feed, larvae could replace soy meal. Indeed, they could help the EU reduce its dependence on protein imports from North- and South America, helping reduce transport emissions.



Worm composting boxes Photograph: WormUp

There's just one catch: insects can be classified as production animals, which means that under EU rules they can't be fed to other production animals. Though discussions are currently underway on a modification that would allow larvae in animal feed, it's not clear whether such a change will happen.

[<Source>](#)

Citibank: Clean energy will save \$1.8 trillion

BY Karin Rives



Shutterstock / TungCheung

A new report released by the banking behemoth gives us the hard numbers to prove that transitioning to a clean energy economy is a financial boon.

A number to remember: \$44 trillion. It's what Citibank estimates that climate change will cost the global economy by 2060 unless we take decisive steps to rein in greenhouse gas emissions.

To put the number in perspective, that is roughly the combined gross domestic products of the United States, China and the European Union.

But the banking giant's recent forecast also offers a financially attractive way forward.

The Citi researchers estimated in a recent report ([PDF](#)) what our energy-hungry world will spend on conventional power infrastructure and procurement over the next several decades. They then compared that with what it would cost to instead develop low-carbon energy sources to meet rising demand from especially developing nations.

Their conclusion: By transitioning to a clean energy economy, we will, in fact, save an estimated \$1.8 trillion by 2040.

This number, of course, only tells part of the story. Investments in clean energy will bring an array of other benefits, not the least of which are new markets, industry growth and more jobs - all of which will fuel the economy and boost GDPs.

So why is the Citibank report important? Because it gives us numbers that can help us move the needle forward at a very critical time.

Clean vs. dirty energy: The numbers

A business-as-usual scenario where macroeconomics are driving demand for energy and fuel needs are driven by short-term planning would result in an energy bill for the world of \$192 trillion over the next 25 years, Citibank estimated. That's in addition to a mounting financial impact from climate change as greenhouse gas emissions continue to rise.

A very strong 'Why would you not?' argument begins to develop.

By comparison, investments in energy efficiency and renewable energy sources will cost the world an estimated \$190.2 trillion. This scenario assumes that 34 percent of the world's energy will come from renewables in 2040, up from less than 20 percent in 2014.

"The incremental costs of following a low-carbon path are in context limited and seem affordable," the authors wrote. "The return on that investment is acceptable; moreover the likely avoided liabilities are enormous. ... A very strong 'Why would you not?' argument begins to develop."

Citibank's energy team is hopeful the world will move in the right direction, starting with the international climate talks in Paris in December.

Today's momentum, they noted, is driven in no small part by investors turning away from fossil fuel assets to instead focus on new and promising opportunities in clean energy.

[<Source>](#)

Wildlife thriving around Chernobyl nuclear plant despite radiation

High numbers of elk, deer, boar and wolves show long-term effect of world's worst nuclear accident is less damaging than everyday human activity, say scientists

Adam Vaughan



A family of elk in Chernobyl exclusion zone. Photograph: Valeriy Yurko/University of Portsmouth

uncontaminated nature reserves.

Wolves, which are commonly hunted in the region because of their impact on livestock, were seven times as abundant with the zone, according to a study published on Monday.

The findings run counter to previous hypotheses that chronic long-term exposure to radiation would hit animal populations.

"What we do, our everyday habitation of an area – agriculture, forestry – they've damaged

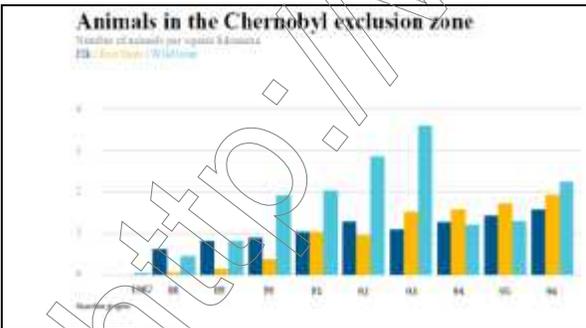


environment. It's kind of obvious but it's an amazing illustration of it."

The explosion of reactor four on 26 April 1986 killed dozens of plant staff and rescue workers, and led to high radiation doses in the first weeks and months that had significant effects on animal health and reproduction around Chernobyl.

But after analysing previously unpublished animal track records and aerial surveys from Belarusian authorities and scientists, the authors of the study, which was published in the journal Current Biology, found no long-term impact to population numbers from the radiation released by the accident.

"Chernobyl caused a lot of human damage. The social and economical problems were huge. If you set that aside – if you can set that aside – it's hard to argue that it's really damaged the ecosystem as a whole," said Smith.



effects on animals it was not enough to affect their populations, Smith said.

But Anders Pape Møller of the University of Paris-Sud questioned why the data had gone unpublished for decades and argued the rebound in populations was simply a sign of wildlife doing better across Europe.

Wildlife is abundant around the site of the Chernobyl nuclear plant, despite the presence of radiation released by the world's most catastrophic nuclear explosion nearly three decades ago, researchers have found.

The number of elk, deer and wild boar within the Belarusian half of the Chernobyl exclusion zone today are around the same as those in four nearby

wildlife more than the world's worst nuclear accident," said Prof Jim Smith, professor of environmental science, University of Portsmouth, and one of the paper's authors.

"It doesn't say that nuclear accidents aren't bad, of course they are. But it illustrates that the things we do everyday, the human population pressure, damages the

The number of animals was probably lower before the nuclear accident than now, because the area was relatively developed, with industry, agriculture and hunting. While it was possible that radiation still had some negative

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Why we'll sue CEOs who ignore climate change

Environmental lawyers have vowed to pursue legal action against directors who fail to protect their investors from climate risks

By James Thornton



With Shell announcing its withdrawal from the Arctic, the effects of climate change on business performance are everywhere – and it's time corporate leaders consider the implications for their organisation, or face the consequences.

Business and environmental concerns are becoming the same. Those directors who ignore this risk not only damaging their organisations, but could face legal action holding them personally responsible for their negligence.

Accepted wisdom says that business's short-term mindset and its need to make returns for shareholders make it ill-equipped to take on climate change, the greatest threat facing humanity. Maybe that was true. Now, not only is the environment changing but so is the financial landscape. Strategic-thinking CEOs know they cannot leave climate action to politicians or civil society.

Over a period of just ten days, Shell took a \$7bn hit as it admitted it could not make the oil supply pay in the Arctic; Goldman Sachs announced that coal prices are unlikely ever to recover from their current slump; and Mars, Unilever, Kellogg, Nestlé and others wrote to world leaders calling for clear, science-based targets to drive down emissions. They warned that "drought, flooding and hotter growing conditions threaten the world's food supply".

No longer about ethics

The biggest names in the business world are seeing climate change affect their bottom line and the rest will follow.

Climate change is no longer an ethical issue that can be sidelined as a corporate social responsibility project. It has immediate material impact on the operations of businesses today and their planning for the future.

Last week, the Bank of England governor, Mark Carney, delivered a stark warning to the insurance industry, detailing the varied risks global markets face as a result of climate change. He said there are an array of climate challenges faced by the financial community.

These include damage to physical assets from both climate change and the resulting extreme weather events, such as flooding and storms. "Transition risks" will accompany the unavoidable shift to a low-carbon economy, meaning formerly high-value commodities such as fossil fuels become hugely devalued. Finally, liability risks will result when people suffering the effects of climate change seek compensation from polluters.

But these are not only threats to business. Ignoring the risks and opportunities presented by climate change could land chief executives and their advisors in court. If directors fail to manage the impact of climate change on their businesses, they could be found personally liable for losses incurred by their shareholders.

The most obvious liabilities for companies and their directors relate to physical loss or damage. The residents of Tuvalu in the Pacific and Kivalina in Alaska, whose homes are disappearing beneath rising waters, have both threatened challenges against polluters.

Storm damage, such as that inflicted by hurricane Katrina, has also provided the basis for litigation against fossil fuel companies. The science linking extreme weather and climate change is gathering strength and many more such cases will surely follow.

Litigation will not stem only from physically affected parties but also those with a financial interest. Ocean acidification, shifting rainfall patterns and other effects of a changing climate will have implications for all major companies as their physical operations become affected.

These environmental concerns are financial liabilities, and investors will look to litigation to recoup losses if they are mismanaged. Litigation could be brought not only against corporate entities, but also against the individuals steering them.

Company directors' decisions now will affect the performance of their company in the future, and they could find themselves in court charged with breaching their director's duties if they do not manage their company's activities to achieve stability and resilience.

The Companies Act 2006 codifies directors' duties in law for the first time. They must "promote the success of the company", first by considering "the likely consequences of any decision in the long term". Failing to plan for climate change is incompatible with this and other duties and leaves directors open to legal challenge.

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Battle Lines Drawn As Excellent Clean Power Plan Published

SustainableBusiness.com News

The EPA formally published the Clean Power Plan in the Federal Register, triggering an all-out war that will likely end up in the Supreme court.

The regulations are the centerpiece of the US Climate Pledge - without them, we can't meet our promise to bring down emissions 26-28% by 2030. They were put in place in the absence of Congressional legislation on climate.

In the US, coal-fired power plants are top source of carbon emissions, followed by emissions from cars and trucks. This is why the Obama administration has prioritized lowering power plant emissions and fuel economy standards for vehicles.

While President Obama calls it "the biggest, most important step we've ever taken to combat climate change," 25 coal-heavy states and Murray Energy immediately filed a lawsuit, asking for the rules to be overturned.

Led by West Virginia, the states are: Alabama, Arizona, Arkansas, Colorado, Georgia, Florida, Indiana, Kansas, Kentucky, Louisiana, Michigan, Missouri, Montana, Nebraska, New Jersey, North Carolina, Ohio, South Carolina, South Dakota, Texas, Utah, Wisconsin and Wyoming.

Led by New York, 13 states plus the District of Columbia and New York City will intervene in the case to "fully defend the rules." The states are: California, Connecticut, Delaware, Maine, Maryland, Massachusetts, New Mexico, Iowa, New Hampshire, Oregon, Rhode Island, Vermont and Washington. Attorneys from Earthjustice, Natural Resource Defense Council, Sierra Club and Environmental Defense Fund will also intervene.

On the corporate side, the US Chamber of Commerce, National Association of Manufacturers are among the 14 business groups that filed a court challenge.

The court has already rejected plaintiffs' call to put the regulations on hold now. Plaintiffs wanted to use it as a signal to the world at next month's UN Climate Summit that Obama's climate pledge is on shaky ground. Because of the court's calendar, putting the rules on hold will be considered in late December.

In Congress, Senate Majority Leader Mitch McConnell (R-KY) and Senator Joe Manchin (D-WVA) are attempting to repeal the regulations through legislation.

The public can comment on the plan through the end of this year.

Obama says:

"We only get one home. We only get one planet. There is no plan B" ... "We're the first generation to feel the effects of climate change and the last generation that can do something about it. This is the moment to get this right" ... There is such a thing as being too late when it comes to climate change.

"There will be critics of what we're trying to do. There are cynics who will say it cannot be done. We've heard the same stale arguments before ... "scare-mongering tactics" and "excuses for inaction."

Failing to fight climate change would be "shameful", he says, urging Americans to be skeptical of the criticism they will hear. "Long before the details of this Clean Power Plan were even decided, special interests and their allies in Congress were already mobilizing to oppose it with everything they've got."

What's in the Final Version of the Clean Power Plan

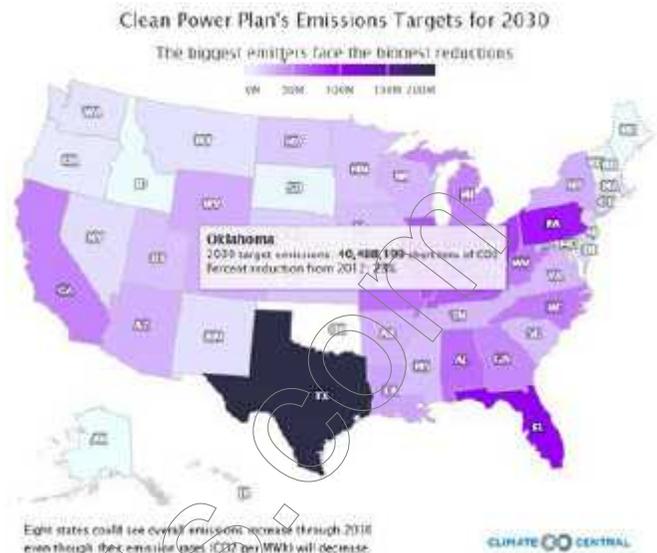
From our point of view, the final version is a big improvement from the original power plant rules proposed about a year ago.

- More ambitious targets to cut carbon emissions** from power plants: 32% by 2030 from 2005 levels, up from 30% - a 9% increase.
- Renewable energy is front and center**, rather than natural gas or nuclear. It increases the goal for renewable energy in the US to 28% by 2030, up from 22% in the original plan. That's because the industry is growing faster than earlier projections, explains Gina McCarthy, EPA Administrator. Neither natural gas or nuclear can be used to meet state emissions targets.
- Under the **Clean Energy Incentive Program**, states that expand renewable energy quickly - breaking ground on projects before the compliance period begins in 2020-2022 - earn credits that can offset pollution emitted after that. Energy efficiency projects in low income communities get double the credits than in the original rules. States can award credits to units like a coal-fired power plant, which can use them to comply with emission standards. And states that produce more renewable energy than required by the plan can sell their surplus to laggard states.
- Every state has customized emission-reduction targets** based on its current energy mix. Each state develops its own plan to meet the targets, but if it doesn't, a **federally designed program that includes cap-and-trade goes into effect**.

States can choose from a mix of options: improve energy efficiency; add renewables; **work with other states in a regional cap-and-trade program**; and even make dirty, outmoded coal plants more efficient. They don't have to shut coal plants down. New coal plants can't be built, however, unless they capture carbon emissions.

States can even charge a carbon tax as a "fee" to bring down emissions. But since taxes can't guarantee emission cuts, a "backstop" is required to ensure "federally enforceable emission standards" are met.

Go to [Climate Central](#) to see the [targets for each state](#):



- States have an extra two years** to submit plans and begin complying - until 2022. The downside is this postpones action.

Research shows the average person's electric bill will be \$85 a year less by 2030 and premature deaths from pollution will decline by an impressive 88%. The plan is expected to cost \$8.4 billion, while providing up to \$93 billion in climate, health and environmental benefits by 2030.

Remember - this is the First Time there are any federal limits on carbon emissions from power plants - which are responsible for a full 40% of US emissions.

Obama says: "Think about that. We limit the amount of toxic chemicals like mercury and sulfur and arsenic in our air and water, and we're better off for it. But power plants can still dump unlimited amounts of harmful carbon pollution into the air we breathe. For the sake of our kids, for the health and safety of all Americans, that's about to change."

Both Sides Ready For Huge Fight

ALEC will help states fight power plant regulations with its usual model legislation, *Act Requiring Approval of State Plan to Implement EPA's Carbon Guidelines*. It directs state attorney generals to join lawsuits against the EPA to prevent "unlawful and costly obligations from being imposed on states," and calls for transferring money into a special fund set up by participating states to underwrite efforts to challenge unwanted environmental regulations. The money would come from state appropriations and "gifts, grants and donations" from outside groups (ie, fossil fuels). It also gives state governments special authority to "expedite approval of resources to challenge the EPA's Clean Power Plan."

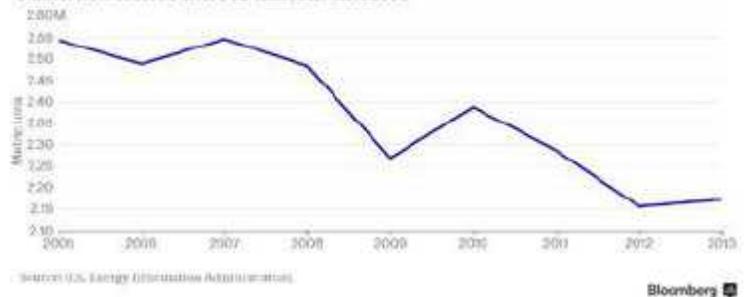
In June, the House passed a bill along party lines that allows states to opt out of power plant regulations. Another attack is through appropriations, where besides cutting EPA's budget another 9% - by \$718 million - it would be barred from funding the Clean Power Plan (sponsor: Senator Mitch McConnell (R-KY)).

Meanwhile in reality world, 31 states are more than halfway toward meeting EPA's 2020 goals for cutting carbon emissions and the plan will create about 360,000 jobs by 2020.

The coal industry is the biggest loser, but utilities aren't - they are also well on their way to significantly lowering emissions.

Carbon Cuts Already Under Way

Utilities have reduced their CO₂ emissions since 2005



"When we set ground rules to limit carbon pollution, we send a long-term market signal that propels innovation and investment in clean energy technologies, expanding new industries and creating good-paying jobs," says EPA Administrator Gina McCarthy.

Polls show that 75% of Americans now accept the scientific consensus on climate change, even 59% of Republicans - up from 47% six months ago.

Learn more at the White House website:

Website: www.whitehouse.gov/climate-change

[<ReadMore>](#)

Railway stations to go green, star-rating system being developed by IGBC

IGBC expects stations from Gujarat to be selected for the pilot project that will be carried out for this new rating system.

By: Express News Service, Ahmedabad



IGBC expects stations from Gujarat to be selected for the pilot project that will be carried out for this new rating system.

Dr P C Jain, chairman of IGBC, said here on Monday.

"These rating systems, which we plan to develop in the next six months, will be applicable to existing railway stations in Gujarat and other parts of the country. So we are very hopeful that in the next one year these stations will turn into an experience for the travellers," said Jain, who was here to announce that the 13th edition of the IGBC's Green Building Congress will be held at Gandhinagar in November and will see Union ministers like Suresh Prabh and Union Development Minister Venkaiah Naidu in attendance.

Under the project to redevelop and transform 400 railway stations into energy saving, "green" entities, there is a plan to fix the roof of the railway stations with solar photovoltaic panels which will generate electricity, install LED lights, provide added ventilation, cleaner toilets and rainwater harvesting systems.

IGBC expects stations from Gujarat to be selected for the pilot project that will be carried out for this new rating system. Jain said that the project to help railway stations go green will be partly funded by the state government and the central government. "Some of the money for the project will also be coming from countries like Sweden and Switzerland as long term loan," Jain said adding that he had no idea about the quantum of the loan.

Jain said some of metro stations in Delhi have already going green. "We are working with DMRC very closely. We have already identified 102 metro stations in Delhi which are all going green. Now we are working with them to see that an additional 200 metro stations in Delhi also turn green."

Recently, Prime Minister Narendra Modi had inaugurated about nine stations on the Badarpur-Faridabad stretch of the Delhi Metro which are partially run on solar energy, have rainwater harvesting systems, sewage treatment plants and other energy saving equipment.

Talking about the IGBC Green Building Congress which will be held on November 19-21 at the Mahatma Mandir in Gandhinagar, Sameer Sinha, the head of Gujarat chapter of IGBC said that the event will see about 2000 participants and will be the biggest event in South Asia on green buildings.

[<Source>](#)

Fed up with power cuts, Greater Noida residents turn to solar power plants

Source Name: Hindustan Times

Frustrated with long power cuts, residents in Greater Noida's Rabupura, Nagla Hukam Singh and Tirthali areas, among others, are tapping solar power by installing solar plants on rooftops and vacant spaces.

"Solar power is not only eco-friendly but also cost-effective, so I opted for it. Ten to twelve-hour power cuts are normal in Rabupura and adjoining areas. As a result, we have to depend on diesel-run generator sets to operate fans, computers, refrigerators and other home appliances. I was spending nearly Rs 40,000 a month on diesel. It was also creating unbearable pollution in the neighbourhood," said Dharendra Singh of Rabupura.

"Since putting up a 5.5 KW solar power plant on my rooftop, I am saving money and contributing to the environment by not polluting," he said.

He spent Rs 2.5 lakh on his 5 KW solar power plant, which he set up after learning the required steps from the internet.

Singh is one among the many who have stopped depending on the conventional mode of energy. Around 30 persons have started harnessing solar power with rooftop solar plants for daily use.

The Centre is offering a 30% subsidy on solar plants, thereby encouraging more people to harness solar energy and help create a healthy environment.

"I spent Rs 33,000 on my small solar plant, which is helping me run the fan, fridge and computer for 12 hours," said Dharamvir Singh, a resident of Greater Noida's Myana area.

According to experts, it takes Rs 8 lakh to set up a 5 KW solar plant on an area of 600 sq ft. On an investment of Rs 8 lakh, the Centre offers a subsidy of Rs 2.5 lakh.

"With a 5 KW plant, an air-conditioner of two-ton capacity, four fans, a refrigerator and a computer can be used comfortably," said Nikhilesh Sharma, an expert on solar energy.

"If there is no electricity available, it will be called an off-grid solar power project. If electricity supply is erratic, one needs to set up a hybrid solar plant and if grid connectivity is with scheduled power cuts, one needs to establish a grid connectivity solar power project. It has almost zero maintenance and requires no expenses for 25 years," he added.

[<Source>](#)

Rajkot Civic body plans door-to-door e-waste collection

By Vijaysinh Parmar, TNN

RAJKOT: In a major initiative of Rajkot Municipal Corporation, now you can sell your Electronic wastes at your doorstep. The standing committee of Rajkot Municipal Corporation approved a proposal to give a contract to Ahmedabad-based firm which is specialized in electric waste collections, re-used, recycle and scientifically process it and disposed it off.

RMC has become the first civic body to have such electronic waste collection system in the state.

"The firm is empanelled by Gujarat Pollution Control Board and is engaged in electronic waste recycling and scientific disposal system. The firm will pay Rs 1 lakh per to civic body as premium. The firm will go door to door and collect electronic waste and they will pay the charges for the waste as per the value of the e-waste items. They may re-used it after some repair, they dismantle it or they may dispose them. They will set up collection centers in the city and create a facility where calls can be made for collection of e-waste," Vijay Nehra, municipal commissioner, Rajkot, told TOI.

"This will help us to dispose e-waste in scientific manner and save our environment from such waste which does not mix with the land," Nehra added.

[<Source>](#)

India is all set to submit its 'climate action plan' within UN deadline

Source Name: The Economic Times

India's pledge with 'Clean India' mission, the country will tell the world on the occasion of 'Gandhi Jayanti' as what all the 'father of the nation' had

advocated for preserving the nature through sustainable lifestyle and mindful consumption when the world had not even touched the issue of climate India will on Thursday submit its post-2020 'climate action plan' to a UN body in Bonn, specifying what the country will do to fight the threat of climate change. Hours after its submission within the 'informal' deadline of October 1, the country will announce the plan on Friday (October 2) -- coinciding it with the birth anniversary of Mahatma Gandhi.

Aligning its 'Green change and global warming.

The 'Climate Action Plan' of individual country is called the 'Intended Nationally Determined Contribution' (INDC) in climate change negotiation parlance.

India's INDC is expected to focus on reducing carbon intensity (carbon emission per unit of GDP) through efficient use of energy, huge drive towards renewable energy sources (solar, wind and bio-mass), massive afforestation drive by unlocking over Rs 38,000 crore for this purpose, development of efficient public transport system across the country and a range of adaptation measures in various fields including agriculture, water resources and waste management.

India in its INDC will also give a detail accounts of what all it has been doing under its various existing climate change action plan missions in different fields to voluntarily fulfil its pre-2020 action to fight climate change at the time and during the period when such actions are mandatory only for rich industrialised nations - the historical polluters like the US, Japan, Australia and European Union (EU) countries.

All 196 member countries of the United Nations Framework Convention on Climate Change (UNFCCC) are expected to submit their climate action plan by October 1, specifying how they will act in their individual capacity to check global warming and fight menace of climate change under a post-2020 agreement.

In all, 115 countries, including the world's top three polluters (China, US and EU), have so far submitted their respective INDCs to the UNFCCC. Since the October 1 is an 'informal' deadline, many countries will submit it beyond the deadline in the next couple of weeks.

These INDCs, comprising mitigation (emission cut promises) and adaptation measures, will form the basis of climate negotiations in Paris during 'conference of parties' (COP21) in November-December.

The world is expected to come out with a global climate deal after the negotiation (COP21) in Paris in December, deciding what the 196 countries will do in their respective individual capacities post-2020 to save the world from disastrous consequences of climate change.

India is fourth largest GHG emitter at present after China, US and EU, but it ranks 120th in terms of per-capita emission. India's per-capita emission is significantly low as compared to China, US and the EU nations.

India will not announce its peaking (peak emission) year, unlike China, in its 'climate action plan'. Instead of specifying any timeline to cap its emission of greenhouse gases, the country will, rather, focus more comprehensively on all five key elements which are identified as vital components of global efforts to fight adverse impacts of climate change.

The five elements which will be reflected in India's 'climate action plan' are mitigation (emission cut), adaptation, finance, technology transfer and capacity building.

[<Source>](#)

India's energy mix to have 40% renewable sources by 2030

The country's climate change target for Paris to be set at 35% emission intensity reduction below 2005 levels

By Nitin Sethi, New Delhi



At least 40 per cent of India's total power capacity will come from renewable sources by 2030. The decision to substantially alter the energy mix that powers India in future is likely to be taken at the Union Cabinet meeting on Wednesday when the National Democratic Alliance (NDA) government decides the country's targets for the Paris climate change agreement.

Government sources confirmed that the aggressive target for renewable energy capacity was worked out by the power and

environment ministries under close supervision of the Prime Minister's Office and is now expected to be cleared by the Cabinet.

If the Cabinet approves this proposal, India would be looking at a commitment of building a total of 350 Gw of solar and wind power by 2030. Out of this, the government expects 250 Gw of the renewable portfolio to come from solar power and 100 Gw from wind power.

The NDA government has already committed to 100 Gw of solar power and 60 Gw of wind power by 2022. In the case of solar power, even the 100 Gw target for 2022 was a five-time jump over the target committed by the United Progressive Alliance (UPA) government under the Jawaharlal Nehru National Solar Mission.

The projections done by the government suggest that by 2030, India would have a total built up power capacity of 850 Gw. This ambitious target will help India offer the global community a 35 per cent reduction in the greenhouse gas emission intensity of its economy below 2005 levels by 2030 as part of its Intended Nationally Determined Contributions (INDCs) under the Paris agreement. At present, India has committed to 20-25 per cent reduction below 2005 levels by 2020. The government's preliminary assessments suggest India is on way to achieve the lower end of the existing target comfortably and could attain more with some extra effort in the remaining years.

While the usual definition of renewable sources includes hydropower and nuclear the government does not project substantial growth of capacity from these sources in future. "From the current levels of about 56 Gw, we should be able to ramp up capacity in nuclear and hydropower to about 80 Gw," one of the sources involved in the preparation of the INDC told Business Standard . The bulk of our growth shall come from solar, wind and coal, he added.

Hydropower could see an addition of 15 Gw over the existing roughly 50 Gw and nuclear power should be able to increase from about six Gw at present to about 16 Gw by 2030.

Growth in gas-based power is also not expected to grow though utilisation of the existing 25 Gw could be enhanced from around 10 per cent at present to 60 per cent officials said.

A second official, wishing not to be named, said, "While India will continue to demand developed countries come through on their obligations under the UN Framework Convention on Climate Change, the government also wants to do more than its fair bit. It is a very ambitious leap. It has taken a long period of discussions with many parts of the government involved besides all kinds of other stakeholders like the civil society and the industry."

Prime Minister Narendra Modi will be attending the UN General Assembly as well as special summit by UN Secretary General on climate change as part of his tour to the US which starts on September 23.

The decision on India's INDC is timed to make the announcement accordingly. The government is expected to formally submit the INDC document to the UN Framework Convention on Climate Change in the coming week as well.

Key countries and blocks have already declared their INDCs and the global community for a while has been watching India for its contributions. The US has declared that it would reduce its emissions by 24-26 per cent below 2005 levels by 2025, the EU has said it would reduce its emissions by at least 40 per cent below 1990 levels by 2030. China on the other hand has committed to peak its emissions around 2030 and reduce its greenhouse gas emission intensity between 60 and 65 per cent below 2005 levels by 2030 and ensure that the share of total non-fossil fuel rises to 20 per cent of its total total primary energy supply over the same period.

But observers have noted that the figures given by countries in percentage terms contain elements of uncertainty when converted to gross greenhouse gas emission reductions it entails. A published scientific paper in reputed journal has suggested that China might have already over-estimated its emissions from burning coal by around 15 per cent. If the Chinese government was to now relook at its method of calculating emissions, it could get greater legroom in future to peak.

GREEN DRIVE

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- Hydropower could see an addition of 15 Gw over the existing roughly 50 Gw
- Utilisation of the existing 25 Gw in gas-based power could be enhanced from around 10 per cent at present to 60 per cent

[<Source>](#)

India's Fantastic Climate Science Train Criss-Crosses the Country

SustainableBusiness.com News

What a great idea!

In India, a train is criss-crossing the country to educate citizens about climate change.

The "Climate Change Science Express Train" will travel for seven months to make people aware of the consequences of global warming and the measures that can be taken on local and national levels to tackle it, reports India's *Economic Times*.

Calling it the "world's first mass education program on wheels, India's environment and climate change minister Prakash Javadekar says the train will stop at 64 locations in 20 states.



Open to visitors from 10AM to 5PM, exhibitions display the issues and challenges and what's necessary to deal with global warming through mitigation and adaptation. A training facility on the train will orient teachers, and activities are planned to engage various age groups.

Each train car (called "coaches") has a theme:

Coach 1 - Understanding Climate Change: The physical science behind the climate

system and the fact that all of earth's systems are connected; and the industrial revolution as the cause of climate change.

Coach 2 - Impact of Climate Change: Introduction to the concept of ecosystem services, how global warming impacts ecosystems and what can be done about it.

Coach 3 - Adaptation: strategies and case studies.

Coach 4 - What India is doing on Adaptation: at the local, state and national levels, and international actions.

Coach 5 - Mitigation: understanding how balance can be restored by enhancing carbon sinks and reducing emissions through renewable energy technologies.

Coach 6 - What India is doing on Mitigation: local, state and national strategies, such as India's renewable energy goals, and how they are linked to international actions.

Coach 7 - International Negotiations on Climate Change: Introduction to how the process works - IPCC and the UN Climate Summit, with individual country pledges and internationally agreed action & targets; the concept of common but different responsibilities between advanced and developing nations; and other key outcomes of negotiations.

Coach 8 - What Individuals Can Do: at school, at home and in business, with a focus on lifestyle choices.

Other coaches have exhibits on Wildlife and Nature, and the conservation work being carried out by Indian research institutions to help tigers, turtles, amphibians, coral reefs, etc., and Science & Technology innovations and careers.



The 16-car Science Express Train - custom-built by Indian Railways for India's Department of Science & Technology, has been running since 2007 with various exhibits. It's received an overwhelmingly positive response - reaching 13.3 million people, primarily students and teachers, reports *The Times of India*.

[<Source>](#)

India Comes Through On Climate Pledge

SustainableBusiness.com News

With 90% of country climate pledges in, India's - as the world's third biggest polluter - was highly anticipated when submitted last week. As expected, it puts the biggest emphasis on adding huge amounts of renewable energy rather than absolute cuts in greenhouse gas emissions.

President Modi formalized the outsized goal he's been working under since entering office - renewable energy will comprise 40% of India's electric capacity by 2030, up from 13% now. That means growing capacity from the current 36 gigawatts (GW) of renewables to 175 GW by 2022.

This rapid ramping of renewable energy will not only benefit India, it will drive the industry forward worldwide, further reducing costs and enhancing innovation.



India also commits to reducing the intensity of fossil fuel emissions (emissions per unit of GDP) 33-35% by 2030 from 2005 levels (up from 25% by 2020), while the economy grows seven-fold. To get there, increasing energy efficiency is a key priority.

The rapid expansion of renewables (and hydro, nuclear) means the role of coal will decline naturally, from supplying 70% of electricity today to 55% by 2030, resulting in 41.5% lower emissions intensity, according to Climate Action Tracker.

would lead India's emissions intensity to fall by 41.5% by 2030, according to a report by Climate Action Tracker (CAT).

India has always maintained that its top priority is to lift its population out of poverty and to provide reliable electricity to all, even if that means doing it through coal. Countries like the US - which caused global warming in the first place - must bear most of the responsibility, not poor nations trying to catch up economically, India argues.

While India isn't asking for financial assistance from wealthy nations to reduce emission intensity - reversing a key, previous demand - it does want technology transfer assistance to rapidly expand zero-carbon technology.

"Poverty reduction is our top priority. Providing power in the next 2,000 days is our priority. We want faster development. My people have a right to grow. Climate change is also a priority. We have the world's largest renewable energy sector. We want to clean our air, our water, our energy, our environment. It's not because someone else is saying so. We want that, Environment Minister Prakash Javadekar told the *NY Times*.

India's climate pledge includes its philosophy, such as:

"Much before the climate change debate began, Mahatma Gandhi, regarded as the father of our nation, said we should act as 'trustees' and use natural resources wisely as it is our moral responsibility to ensure that we bequeath to the future generations a healthy planet" ...

"The cumulative accumulation of greenhouse gases since industrial revolution has resulted in the current problem of global warming. This is further compounded by the tepid and inadequate response of developed countries" ...

The "approach should be anchored in the vision inspired by Mahatma Gandhi's famous exhortation; "Earth has enough resources to meet people's needs, but will never have enough to satisfy people's greed". We must promote sustainable production processes and also sustainable lifestyles across the globe."

Read the full submission:

Website:

www4.unfccc.int/submissions/INDC/Published%20Documents/India/1/INDIA%20INDC%20O%20UNFCCC.pdf

<Source>

India's climate tech revolution is starting in its villages

From solar-powered irrigation to handheld crop sensors, climate-smart villages are springing up across Gujarat, Haryana, Punjab and other states

By Lisa Palmer

Camels pulling wooden carts loaded with coconuts plod down the main road amid speeding motorcycles, buses, rickshaws and cars. Farmers sit atop slow-moving oxcarts loaded with

grasses and other cattle feed. In this region of central Gujarat, India, it appears that rural life has not changed for decades.

But drive down a dirt road outside the village of Thamna, about an hour north of Anand, and the 21st century comes into view. Solar panels drive a water pump that irrigates the fields of farmer Raman Bhai Parmar, 65, who grows bananas, rice and wheat on seven acres of land.

Parmar's solar energy pump is one of the technologies being promoted by a new project designed to help rural Indians adapt to climate change. The project, run by the international NGO, the Consultative Group for International Agriculture Research programme on climate change, agriculture and food security (CCAFS), aims to create 1,000 so-called climate smart villages across six Indian states including Haryana, Punjab and Gujarat.



A farm worker, carrying fodder walks in a dried paddy field. Climate-smart villages across India aim to increase the use of technology to help farmers manage climate change risks and increase productivity. Photograph: Amit Dave/Reuters

Haryana and Punjab are known as the grain basket states of India, producing the majority of the country's staple wheat and basmati rice for export to the Middle East and European markets. The pumping of groundwater for irrigation over the past thirty years has led to a spike in productivity and increased food security.

However, the region faces increases in temperature up to 5C by 2080 and wheat is particularly vulnerable to heat stress. A recent study by the Indian Agricultural Research Institute indicates that climate change may reduce wheat yields in India between 6% and 23% by 2050. Environmental problems such as depleting groundwater and variable rains - delayed monsoons and intense rainfall - limit yields. Indian farmers also typically use almost twice the amount of fertiliser needed, damaging soil, contaminating groundwater and adding to greenhouse gas emissions.

For rural communities in Haryana and Punjab the issue now is how to meet these new challenges, introduce more sustainable practices of farming and still increase yields and profits.

The pilot solar energy pump being used by Parmar is just one of the solutions promoted by the climate-smart villages project. In addition to energy, it provides a financial incentive for farmers to conserve water because they can sell energy back to the grid, thus helping to relieve stress on depleted aquifers. Last quarter Parmar, whose annual income from crops is roughly 65,000 rupees (£652), received a cheque for 7,500 rupees (£75) for producing solar energy.

"When you connect the solar pump to the grid and let the farmer use the energy they need for the pumping, and you give them the chance to sell the surplus solar power to the grid at an attractive price, then they will opt to do it," says Tushaar Shah, senior fellow at the International Water Management Institute (IWMI) in Anand, which is working with CCAFS on the project.

Shah says government subsidises had given farmers' little incentive to limit their use of diesel-powered irrigation pumps. "The solar energy will give the farmers a crop that is worth up to 90,000 rupees (£900) a year. We think this will reverse the current incentive structure that has led to over-pumping. There are very few crops farmers grow that will give you that income," he adds.

Crucially, the climate-smart technologies, like the solar pump, are now beginning to gain acceptance among village communities.

When Vikas Chaudhary, 34, of Taraori, Haryana, learned farming from his father, rains came predictably during the monsoon and agriculture was a safe bet. Groundwater was plentiful. Soils were rich. Now that's all a gamble for Chaudhary, who farms 35 acres and grows rice and a small plot of maize in summer and wheat in winter to support his extended family of seven.

Chaudhary has adopted climate-smart interventions including laser-guided land leveling of his fields, which he says has conserved 20% of water resources in his fields and has increased his yields by 15% through greater precision in seeding, tillage and measuring the moisture of soils.

Chaudhary uses a handheld crop sensor called a Green Seeker to assess crop health, a mobile phone app helps him calculate how much fertiliser to apply throughout the growing season. He also avoids tilling his fields, which helps the soil retain moisture and leads to fewer costs and fewer greenhouse gas emissions. However, the cost of the machinery needed to plant the rotational crop amid stubble from the previous season is a barrier for small farmers, he says. Most prefer to plant on bare soil.

While climate unpredictability has made farming more difficult in the past decade, Chaudhary's greatest challenge was to change the thinking of his father, who lives on the farm and remains involved in the decisions.

"He is now fully impressed by climate-smart practices, and my vision is to change thinking of every farmer, especially young farmers, and how we can make agriculture more profitable," said Chaudhary

<Source>

5 key takeaways from India's new climate plan

By Apurba Mitra, Thomas Damassa, Taryn Fransen, Fred Stolle and Kathleen Mogelgaard



The Mysore Palace in Southern India, shown at night.

Last week, India announced its new climate plan, also known as its Intended Nationally Determined Contribution, or [INDC](#). As the world's third-largest emitter and a country that's highly vulnerable to the impacts of climate change, it is encouraging to witness India invest in actions to tackle climate change while addressing poverty, food security and access to healthcare and education.

India's INDC builds on its goal of installing 175 gigawatts of renewable energy capacity by 2022 by setting a new target to increase its share of non-fossil based energy from 30 percent today to about 40 percent by 2030.

The country also commits to reduce its emissions intensity per unit GDP by 33 to 35 percent below 2005 by 2030 and create an additional carbon sink of 2.5 to 3 billion tonnes of CO₂ through additional tree cover.

The plan also prioritizes efforts to build resilience to climate-change impacts, and gives a broad indication of the amount of financing necessary to reach its goals.

Here are five major takeaways on India's new INDC:

1. It sets a clear signal for clean energy

Achieving its target of about a 40 percent share of non-fossil energy sources by 2030 would result in at least 200 GW of new renewable capacity by 2030. However, if India achieves its previously announced goal of 175 GW of renewable energy by 2022 — mostly from solar — much of this capacity will come much sooner.

The 2022 target is extremely ambitious (the world's entire installed solar power capacity was 181 GW in 2014), and clearly positions India as a major renewable energy player. With approximately 900 GW of estimated renewable capacity and favorable economic conditions, these targets can be met as long as financing and policy barriers are overcome.

While coal and other fossil fuels will continue to play a role in India's energy mix in the decades to come, the targets announced yesterday will spur a transition toward cleaner sources. That's good news for the environment, economy and the estimated 300 million Indians who do not have adequate power supply.

2. Its emissions intensity target could go further

India's emissions intensity (CO₂ emissions per unit of GDP) declined by approximately 18 percent between 1990 and 2005, and the country has already committed to reduce it by another 20-25 percent from 2005 levels by 2020. The new INDC target commits India to go further — 33 to 35 percent from 2005 by 2030.

Surprisingly, it is not clear that the country's intensity target reflects the scale of mitigation that would result from its planned investments in renewables. In fact, a number of studies suggest that India could reduce its emissions intensity by that much or more even in the absence of significant new measures. In the course of meeting its renewable energy and non-fossil targets, and by tapping the substantial potential of energy efficiency improvements, India should be able to easily exceed its intensity target.

3. It will sequester carbon by increasing forest cover

India's INDC recognizes the importance of aggressively restoring forest cover, in a manner consistent with supporting livelihoods. Creating an additional carbon sink of 2.5 to 3 billion tonnes of CO₂ through additional forest and tree cover would require average annual carbon sequestration to increase by at least 14 percent over the next 15 years relative to the 2008-2013 period.

With the Green India Mission expected to deliver 50 to 60 percent of the required total, India needs to provide further detail on how it plans to achieve the rest. The INDC notes the importance of financing to address implementation challenges.

4. Adaptation is a key priority

As a country exceptionally vulnerable to climate change, there is heavy focus on adaptation and resilience in India's INDC. It highlights current initiatives in sensitive sectors, including

agriculture, water, health, and more, and points toward plans under development in each state. While India currently spends 3 percent of its GDP on adaptation, the INDC noted that enhanced investment in these activities will require additional support through domestic and international funds. The country estimates it will need \$206 billion for the period 2015 to 2030, with additional investments needed for disaster management.

5. Policies are detailed while targets remain vague

While India's INDC lays out its existing climate measures in detail, it falls short on a number of the elements of transparency mentioned in a decision made at the Lima climate talks last December. These include a lack of clarity on emissions intensity in the base year (2005) and target year (2030), as well as the scope and coverage of the intensity target and the methodologies for measuring it.

This information is crucial for monitoring progress towards India's target and for understanding how it contributes to the global goal of limiting temperature rise to 2 degrees C.

On the other hand, the INDC lays out a compelling justification of fairness and ambition in the context of existing efforts and the country's broader sustainable development challenges. It also stresses the importance of lifestyle changes and sustainable consumption.

Looking ahead

India has put forward a well-balanced climate plan that — alongside its renewable energy goals — will generate transformational changes. These actions are also being proposed alongside an aggressive development agenda. Although implementation challenges remain, the INDC makes clear that India — along with its peers — is working toward a strong international climate agreement.

[<Source>](#)

Renewable energy to assist atmospheric water generation (AWG)

By Rajani Baburajan, [greentechlead.com](#)

Atmospheric water generation (AWG) is gaining ground in the wake of worsening water crisis and climate change challenges.

AWG is ideal where water purification is not a practical solution and in places with little access to conventional water sources.

Harvesting water from the air using solar energy will go a long way in mitigating the main consequences of climate change, says a report titled "Technology Breakthroughs Shaping the Future of Atmospheric Water Generation," from Frost & Sullivan.

The key to the success of AWG technology is the total use of renewable energy.

One of the most impactful applications is large-scale solar AWG for desert re-vegetation and agriculture.

Since the technology eliminates the burden of transporting water, it finds significant application in the army, areas that need disaster relief, offshore oil rigs, and in all water-scarce regions, irrespective of their economic status.

Middle East, one of the worst affected geographies in the world, is a hotspot for AWG adoption.

However, AWG systems are notoriously energy-hungry. The vast amounts of energy required to generate water from the atmosphere puts it at odds with the current trend of energy conservation.

However, recent breakthroughs in energy-efficient technologies promise a brighter future for this once-ancient practice of obtaining water, says TechVision research analyst Jennifer Tan.

"Other processes and technologies that have given a boost to AWG adoption are advanced controls, effective disinfection, materials replacement and commercial water production machines," Tan added.

Another issue that is dampening the sales of AWG systems is the skepticism of end users, who are still largely ignorant of the technology, Frost & Sullivan said.

Moreover, capital costs of this technology are higher than those of conventional and familiar water purification technologies.

As people are used to having water free, they are unwilling to install and maintain a machine to obtain water.

To enhance technology uptake, industry participants are developing AWG systems that can be run on renewable energy for both large-scale (farms, communities and municipalities) and small-scale (for households and offices) applications.

Industry analysts think this will make the technology more environmentally sustainable, at lower operating costs, while meeting the need for clean water.

"Key industry participants believe that as the market acceptance increases, the costs of AWG systems will reduce, making it a commercially feasible technology," observed Tan.

[<Source>](#)

US welcomes clean energy commitment by India

Source: Greentech Lead



Acknowledging a major positive shift in the trajectory of US-India relations, US officials have appreciated India's efforts to promote new and renewable energy sources and India's commitment towards the climate and clean energy.

Both sides also committed to explore new opportunities for co-operation during a meeting here on Tuesday between visiting Indian Minister of State of Power, Coal and New and Renewable Energy Piyush Goyal and US Secretary of State John Kerry.

He will meet other prominent members of the US administration, including US Energy Secretary Ernest Moniz, US Trade Representative Michael Froman and Nancy Pelosi, House Democratic leader.

Goyal will also meet major energy sector investors to showcase business opportunities in India and India's tangible progress in the doing business environment, according to the Indian embassy.

Goyal is here on an invitation from Kerry to participate in the Climate and Clean Energy Investment Forum 2015 hosted jointly by the US Department of State, Georgetown University and Google.

During the session on 'Unlocking Investment in Developing Countries' Goyal elaborated on the government-led efforts to reduce barriers to financing for clean energy projects in India, as well as India's policy and regulatory support for its clean energy goals.

Goyal emphasised the need for long term low cost funding to keep energy cost affordable considering the development imperatives of India's fast growing economy.

He highlighted India's huge capital investment requirements estimated at around \$250 billion over the next five to six years to meet its renewable energy goals. The role of developed countries in this regard was also underlined.

Goyal emphasised the Indian government's plans to reliably meet the demand for energy in all sectors including the needs of vulnerable households, in all parts of the country in a technically efficient, economically viable and environmentally sustainable manner.

He underlined India's commitment to pursuing a green path to growth through its plans for deployment of 175 GW of renewable power capacity by 2022, including 100 GW of solar and 60 GW of wind power.

Goyal said that in order to sustain the process of environment friendly economic development in the long run, development of new and renewable sources of energy acquires utmost importance for India.

India's renewable energy potential is vast and holds a great promise. It provides ample opportunities for trade and investment to set up manufacturing, leapfrog technologies and create volumes.

Goyal reaffirmed the Indian government's commitment to take all necessary steps to create a conducive environment for promoting investment in the renewable energy sector and strengthening the regulatory and institutional framework.

He asked foreign investors, developers and manufacturers to be a partner in India's renewable energy story and drew attention to the Make in India programme for investing and manufacturing in India, which would in the long run be essential to remain competitive in the market.

[<Source>](#)

\$13.5 trillion required to meet global climate pledges, says IEA

Source: BusinessLine

The International Energy Agency has said that the full implementation of climate pledges across the world will require a \$13.5-trillion investment from the energy sector between 2015 and 2030.

In a report titled 'Energy and Climate Change', the IEA states that the investment will need to be in energy efficiency and low-carbon technologies. The investment translates to an annual average of \$840 billion.

"However, despite these efforts, the pledges still fall short of the major course correction necessary to achieve the globally agreed climate goal of limiting average global temperature rise to 2 degrees Celsius, relative to pre-industrial levels," a statement from IEA added.

The total investment required will be almost 40 per cent of the total energy sector investment, according to the IEA.

"Around \$8.3 trillion is needed to improve energy efficiency in the transport, buildings and industry sector while much of the remaining investment is to decarbonise the power sector," the report said.

It added that more than 60 per cent of the total investment in power generation capacity is projected to be for renewable energy capacity at \$4 trillion. Of this, one-third is expected to be for wind power while 30 per cent is to be for solar power and a quarter of this would be for hydropower.

[<Source>](#)

Indian Renewable Energy Agency Issues Bonds Worth Over \$300 Million

By Smiti Mittal

The Indian Renewable Energy Development Agency has announced a huge bond issue likely to be the first among a long list of similar capital raising exercises to finance the country's renewable energy infrastructure.

The Indian Renewable Energy Development Agency (IREDA) is the primary government body looking after financial lending and incentives in the country's renewable energy market and is expected to play a major role in the disbursement of low-cost finance to upcoming renewable energy projects in the country.

IREDA has launched tax-free bonds worth Rs 20 billion (around \$307 million) to raise funds which would be used to finance renewable energy projects, including small-scale and rooftop solar power projects.

In June, Indian media reported that three power sector financial institutions – Power Finance Corporation (PFC), Rural Electrification Corporation (REC), and Indian Renewable Energy Development Agency (IREDA) – were to raise around \$600 million through tax-free bonds. The reports suggested that these entities would provide finance at 10.5%, which is comparatively cheaper than the rates on offer by the Indian banks.

IREDA has been tied up with several international development banks to offer low-cost finance to private project developers. Earlier this year, the International Finance Corporation (IFC) signed a master cooperation agreement with IREDA to facilitate low-cost financing in India. IREDA is looking to raise funds from all possible sources as the renewable energy installation targets set by the government are extremely high. By March 2022, the Indian government plans to have 175 GW renewable energy capacity operational. IREDA is expected to issue more of such tax-free bonds in the future in addition to signing financing deals with international banks.

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3rd January, 2016

Barcelona, Spain

ISERD – 16th International Conference on Environment and Natural Science (ICENS) aimed at presenting current research being carried out in that area and scheduled to be held on **January 3rd, 2016, in Barcelona, Spain**. The idea of the conference is for the scientists, scholars, engineers and students from the Universities all around the world and the industry to present ongoing research activities, and hence to foster research relations between the Universities and the industry. This conference provides opportunities for the delegates to exchange new ideas and application experiences face to face, to establish business or research relations and to find global partners for future collaboration.

This Conference is sponsored by **The IIER (International Institute of Engineers and Researchers)**. The conference would offer a large number of invited lectures from renowned speakers all over the country. Among topics of interest feature important and most relevant topics: Environmental sciences, Environmental Science and Technology, Environmental dynamics, Global environmental change and ecosystems management, Climate and climatic changes, Global warming, Carbon capture and storage and Ozone layer depletion.

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National Conference on E-waste Management

National Conference at XLRI Jamshedpur, India

(January 13-14, 2016)

Centre for Global Management and Responsible Management, XLRI, Jamshedpur is organizing a 2 day National Conference on E-waste Management at Jamshedpur, India during January 13-14, 2016. E-waste (discarded electrical and electronic devices) is becoming one of the most serious environmental concerns. Worldwide e-waste was estimated to be in the tune of 41.8 million tonnes in 2014, a rise of 2 million tonnes from 2013. India, with a rising need for upgrading electronic products, has attained the fifth position globally in terms of e-waste generation. E-waste, however, has a potential of being an important source of metals like gold, silver and copper if properly recycled. A study states that around 300 tonnes of gold, equal to 11% world's production in 2013, could be extracted from e-waste.

As per ASSOCHAM only 4% of e-waste is properly recycled in India and the remaining is going into landfills or dismantled in unhygienic conditions causing environmental and health problems. Managing e-waste properly with resource recovery is therefore important and

The objective of the conference is to invite researchers and corporate executives to present research papers and case studies relating to e-waste and recommend sustainable strategies for e-waste management. Conference themes are as follows:

Macro perspective

- Demand and supply side factors contributing to e-waste
- E waste environmental impacts
- E-waste as a resource
- E waste Regulations: International and National
- International trade and e-waste

User's perspective

- Consumerism and e-waste
- Knowledge and attitude towards e-waste
- Repair versus upgrading

E waste management

- Formal and Informal sectors in managing e-waste
- E-waste management in Developing and Developed countries
- Collection and recycling processes
- Education on e-waste management
- NGO initiatives
- Future innovations

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An International Conference

On

"ENDING EXTREME POVERTY: A Challenging Journey from MDG to SDG."

15th to 16th January 2016

New York, USA

First International Conference on Ending Extreme Poverty 2016 (ICEEP) is being organized by Give Globally Foundation during 15-16 January 2016 in New York, NY 10017 under theme of "ENDING EXTREME POVERTY in post 2015." The keynote speakers at the conference will be Shobhana M Pattanaik *Managing Director*, Manoj K Pattanaik *International Director*, Narendrasinh Chavda *Executive Director* and Amit Oza *Non-Profit Consultant*.

It is expected that speakers from all corners of the world will give their deliberations. The conference shall provide an excellent opportunity to connect with peers and share experiences in an interactive environment. The conference topics are divided into four tracks viz. 1. Economic Growth and Environment Mitigation, 2. Transforming Economies for Sustainable Growth, 3. Economic Growth and Poverty, and 4. Global Partnership and Sustainable Development.

[<Brochure>](#)

SBE16 Dubai

17th to 19th January, 2016

Dubai, UAE

SBE16 Dubai conference is part of a major series of international conferences taking place around the world. The conferences in this series are designed to promote all aspects of the cause of sustainability. The conference will be held in Dubai International Academic City (DIAC) from 17th to 19th January, 2016. This conference is the 1st in the conference in SBE16 series of National Conferences that will take part around the world in 2016. The National Conferences will lead to the Global SBE conference in 2017 in HK.

The conference is supported by international organizations such as the UN-UNEP Sustainable Buildings and Climate Initiative, iSBE, FIDIC and cib. The conference is supported by international organizations such as the UN-UNEP Sustainable Buildings and Climate Initiative, iSBE, FIDIC and cib.

SBE16 Dubai will be an International, conference with focus on different aspects of sustainability (triple bottom line) including, but not limited to, Guidelines & Regulations, Building Material, Renovation of Existing buildings, Energy Modeling and Conservation, Alternative and Renewable Energy Resources, Smart and Advanced Active Systems, Indoor Environmental Quality and Comfort, Waste Reduction and Management, Sustainability at the Urban Level including Transportation and Social Issues, and Financing Green Projects.

The conference will deal with issues facing both the developed as well as the developing worlds in an attempt to bridge the gap between the two and identify best practice strategies that are best suited to distinct markets.

This is intended to help speed up the adoption and transition into a sustainable low-Carbon future.

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Twelfth International Conference

on

Environmental, Cultural, Economic & Social Sustainability

21-23 January 2016

Portland State University, Portland, USA

12th International conference on Environmental, Cultural, Economic and Social Sustainability is being organized during 21st to 23rd January at Portland University, Oregon, USA. This conference consists of paper presentations, workshops/interactive sessions, posters/exhibits, and colloquia. Themes of the conference are: 1: Environmental Sustainability 2: Sustainability in Economic, Social and Cultural Context 3: Sustainability Policy and Practice and 4: Sustainability Education. The conference focuses on Urban Sustainability – Inspiration and Solution. Plenary speakers at the conference are Jennifer H. Allen, Associate Professor, Portland State University, Veronica Dujon Director for Academic Planning and Policy for the Higher Education Coordination Commission, Portland State University, USA and Carlton Eley, Senior Environmental Protection Specialist, US Environmental Protection Agency, Washington D.C., USA.

[<ReadMore>](#)

2016 6th International Conference on Future Environment and Energy

23rd to 24th January 2016

Pattaya, Thailand

2016 6th International Conference on Future Environment and Energy (ICFEE 2016) will be held in Pattaya, Thailand during January 23-25, 2016. The objective of the 2016 6th International Conference on Future Environment and Energy (ICFEE 2016) is to provide a platform for researchers, engineers, academicians as well as industrial professionals from all over the world to present their research results and development activities in Future Environment and Energy. Major themes of the conference are Energy and Environment, Renewable Energy, Advanced Energy Technologies, and Fuels and Combustion. Topics of interest include Environmental Pollution & Management, Renewable Energy Sources, Climate Change and Global Warming, Sustainable Development, Remote Sensing and Environment, Climate change, Noise and acoustics, Hazardous waste and waste treatment, Industrial waste treatment, Water pollution and treatment, Solid waste management, Environmental management systems, Solar cell technology, Solar cell materials, Nanotechnology applications to RE, Hydroelectric, geothermal, tides and waves, Hybrid energy systems, Nuclear Energy Application: Power Generation, Desalination, Alternative fuels, NG as fuel for rural transportation, Hydrogen and fuel cells, Hybrid and electric vehicles, Bio-diesel fuels and Fuel additives.

Keynote speakers at the conference are Prof. Orawan Siriratpiriya Aquatic Resources Research Institute, Chulalongkorn University, Bangkok, Thailand and Prof. Dr. Manju Tembhe, M K Ponda College of Business & Management, Bhopal, India. The conference will keep updated on the latest advances in the field and will also provide an opportunity to interact and collaborate with experts from around the world.

[<ReadMore>](#)

The Times of India, Delhi dated September 26, 2015

US-China climate change deal puts pressure on India

Chidanand Rajghatta
@timesgroup.com

Washington: The United States and China have reached an agreement to limit greenhouse gases with a commitment by China to introduce a cap-and-trade system for its polluting industries. The deal, which will be announced by Presidents Obama and Xi following their meeting today will put pressure on India to follow suit ahead of Prime Minister Modi's meeting with the US President in New York on Monday.

They reaffirm their commitment to reach an ambitious agreement in 2015 that reflects the principle of common but differentiated responsibilities and respective capabilities, in light of different national circumstances. They further consider that differentiation should be reflected in relevant elements of the agreement in an appropriate manner.

Under the cap-and-trade system, firms that exceed the limit will be required to purchase credits from those polluting less.

China, which is the world's largest overall polluter, in contrast to the US, which is the world's worst per capita polluter, will also commit to prioritising low-carbon and efficient electricity production.

The agreement, which comes amid a raft of other contentious issues surrounding Xi's state visit, will align the two countries closer ahead of the global climate change conference in Paris in December.

It builds on earlier commitment by both sides to set steep emissions reduction targets ahead of the Paris meeting.

The Obama administration also wants India on board by that time and US officials have indicated that the issue will be on top of Presi-

dent Obama's agenda when he meets Modi in New York.

Like China, India is also heavily dependent on coal — and bad coal at that — for much of its energy needs and been reluctant to commit to specific targets to curb emissions, apprehensive that it will cramp economic growth. But a rising criticism of pollution levels in Indian cities, including domestic and international reports that place them at the top of the charts, has strengthened



SMOKY AFFAIR

Washington's hands.

There is growing recognition on the Indian side that the old argument about western nations having an economic headstart and being done and dusted with polluting while arresting the growth of developing nations is not sustainable anymore, even though India is one among the lowest per capita emitters.

The just-concluded US-India Strategic and Commercial dialogue spoke of both sides signing of a new five-year Memorandum of Understanding on Energy Security, Clean Energy and Climate Change and expanding bilateral energy engagement including in the field of renewable energy and energy efficiency, as well as to develop and exchange information on cleaner fossil energy resources such as unconventional oil and gas and carbon capture sequestration.

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

Warming threatens French Alps

Paris: The Alps are the birthplace of downhill skiing and a crucible for mountain climbing — but now the French government is trying to help their winter tourist towns adapt to a warming world.

French Prime Minister Manuel Valls was visiting the Mer de Glace (the Sea of Ice) on Friday on Mont Blanc, where the retreating glacier has been documented for more than a century, through water colours painted before the invention of the still camera, black-and-white photos depicting a then-modern coal train chuffing alongside the ice and today's high-definition satellite photos. Researchers say



French government is trying to help towns at the Alps, the birthplace of skiing and a crucible for mountain climbing, to adapt to a warming world

the Sea of Ice is only the most accessible example of a problem the entire Alpine region is facing as warming mountainsides become more unstable and snowfall more inconsis-

tent, threatening jobs and lives in a region heavily dependent on adventure tourism.

Scientists have drilled the Mont Blanc region with sensor-equipped boreholes in recent years, hoping that measuring temperatures in the permafrost will give a sense of how quickly the problem is accelerating and which areas are most in peril. In a study released this year in the Journal of Alpine Research, researchers documented 350 rock falls from 2007 to 2014 compared with almost none from 1855 to 1936. They found that of 1,769 pieces of infrastructure about 10% were at high risk of rock fall damage.

Deccan Chronicle, Hyderabad
dated September 27, 2015

US, China take climate vow, differ on territories

Washington, Sept. 26: US President Barack Obama and Chinese counterpart Xi Jinping vowed to fight global warming and halt commercial cybertheft on Saturday, but exchanged sharp words on human rights and territorial disputes.

At an extraordinary joint news conference, Mr Obama chided China on its treatment of dissidents and insisted hacking attacks on US firms must stop, even as he thanked Mr Xi for his commitment on climate change.

The world's top two economic powers are also its biggest polluters, and campaigners hailed their commitment to reduce emissions as a key step toward a global climate pact before the end of the year.

This achievement was all the more remarkable given the tensions between the great powers over industrial espionage and China's aggressive moves to seize disputed territory in the South China Sea.

The red carpet and full ceremonial honors that welcomed Mr Xi to the White House underlined the importance of the great powers' relationship, but the leaders made no effort to conceal the differences



US President Barack Obama has his tie adjusted by US First Lady Michelle Obama as they await the arrival of Chinese President Xi Jinping and his wife Peng Liyuan to the White House on Friday evening. — AFP

between them.

"We had a frank discussion about human rights, as we have in the past," Mr Obama said, branding China's authoritarian treatment of political dissidents and religious or regional minorities "problematic."

The Chinese leader also firmly pushed back on human rights criticism, warning that reform would come on China's own timetable and without undermining its stability.

No spying agreed

● The US and China on Saturday promised not to spy on each other's private enterprises for commercial gain. However, President Barack Obama used tough language, declaring: "I indicated it has to stop." Chinese Prez Xi Jinping protested that "China strongly opposes and combats the theft of commercial secrets and other kinds of hacking attacks."

— AFP

The Times of India, Delhi dated
September 28, 2015

Yamuna cries on Ganpati visarjan

Flouting NGT Guidelines, Non-Biodegradable Idols & Puja Items Dumped

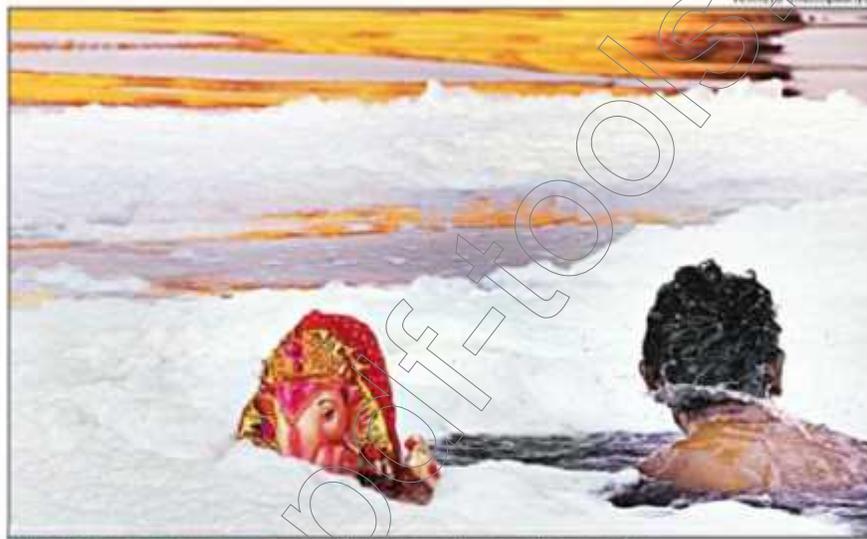
Suraksha.P@timesgroup.com

New Delhi: The afternoon sun was blazing down, but that did not deter trucks packed with gulaal-smeared faces to make a beeline at Kalindi Kunj ghat so that Ganesha idols could be immersed in the Yamuna. Amidst the loud music, honking and chants of Ganapati Bappa Moriya, the crowd drowned in puja material, rotting flowers, garlands, oil, discarded wicks and earthen lamps in stark violation of National Green Tribunal (NGT) orders.

In the backdrop of the Okhla barrage churning thick white industrial foam, men and women swam in the putrid water of the Yamuna while immersing their non-biodegradable idols.

On September 18, NGT had ordered that only biodegradable idols should be immersed at the nine identified ghats. The flood and irrigation department, DDA, municipal corporations and Delhi government had been ordered to coordinate to bring NGT's orders to fruition.

However, from trucks bringing huge colony idols painted in flashy fluorescent colours to modest families



UNHOLY END TO A HOLY FEST: A Ganesha idol goes down amid a sea of froth

bringing smaller idols, everyone had an idol made of Plaster of Paris.

On the 11th day since Ganesh Chaturti, which marks the culmination of the festivities, the Kalindi Kunj ghat had everything from Delhi Police personnel, horse guards, Delhi civil defence volunteers, CCTVs, ambulances, fire tenders, mobile toilets and stalls that read 'deposit plastic and other puja material here' for

the immersion.

Convener of Yamuna Jiye Abhiyan, Manoj Mishra said, "Since there are multiple agencies and different ghats, Delhi government and DDA were supposed to coordinate and decide which one would be looked after by whom. Clearly this hasn't happened at Shyam Ghat, Hathi Ghat, Chhath Ghat, Geeta Colony Ghat, Kalindi Kunj, Qudsia, Mayur Vihar, Ram Ghat or Ni-

gambodh Yamuna Bazar Ghat."

In a large tent set up by Delhi Police, an officer was constantly on his toes announcing whereabouts of children looking for their parents, lost mobile phones or of families hunting for their relatives. Another officer kept an eye on the CCTV footage from cameras installed at multiple locations.

Additional DCP (south-east), Vijay Kumar said, "We

have 50 civil defence volunteers, 30 horse guards, eight CCTVs, first aid kits, two CATS ambulances, three PCR and two fire tenders. We have been here since 10am and will be here till 11pm." Three boats of Delhi government were stationed to help those devotees who paddled a few yards into the water and immerse their idols.

While the security and traffic arrangements were impressive, the crucial thing — the immersion itself — remained unchecked.

Om Veer who had been visiting the ghat from the past three years was there with his 12-member joint family for the immersion. "I see that the crowds have surged since last year," he said. Sonu Naroda had come all the way from Punjabi Bagh. "I have been doing this for the past 25 years. I got the idol from the streets. I don't know if it's biodegradable," she said.

Anil Kumar and Monu Vaid were among a group of youngsters who brought their six foot idol from Ambedkar Nagar, Dakshinapuri. Like other colonies, they too had crowdsourced funding for a grand 10-day celebrations and Sunday was the final day.

Global Warming: We have
a solution, Stop Pollution!

The Times of India, Delhi dated September 29, 2015

VW to probe if it cheated on Indian emission norms

Pankaj Doyal@timesgroup.com

New Delhi: The embattled Volkswagen group has initiated an internal investigation in India to see how many diesel models and variants of its brands — Audi, VW and Skoda — may have possibly been impacted by the engines that cheated emission tests in the US and other markets across Europe, top sources said.

The inquiry will determine whether the company needs to call back some of the models it has sold in the market and, importantly, whether there is a need to halt the sale of certain variants, the sources told TOI.

"It is a dynamic situation and we are trying to confirm the details. There is no clarity at all on the issues. It is very complicated and very

2.1m Audis, 1.2m Skodas rigged

Volkswagen's Audi said on Monday that 2.1 million of its diesel cars worldwide are fitted with software enabling them to cheat emission tests. The same day, Volkswagen's Czech volume division Skoda said 1.2 million of its cars are affected by similar engine manipulations. P 23

technical and it is being centrally investigated by a team in Germany," a source said.

Some models that may have spikod engines include Audi's A3 and A4 sedans and Q3 and Q5 SUVs, VW's Jetta; Skoda's Superb sedan, Yeti SUV and and Laura mid-size (now discontinued).

► Report by Sept end, P 23

Water pollution making Aravali villagers sick

Dumping Of Waste Polluting Groundwater In Ggn, S Delhi

Shilpy.Arova@timesgroup.com

Gurgaon: With groundwater in Aravallis being polluted by tonnes of untreated waste lying near the defunct Bandhwari waste treatment plant in Gurgaon, people from neighbouring villages say they are suffering from skin lesions, bloody diarrhoea and dermatitis.

Meenu, a seven-year-old boy from Bandhwari village and Raju, a 23-year-old man from Dera village, have developed skin lesions and spots on their bodies. Both the villages on Gurgaon-Faridabad Road have stopped consuming water from natural sources like lakes and wells.

"Our lake has been poisoned by hazardous waste. Now we are completely dependent on bottled water. But one can't bathe with bottle water. As a result, we are all suffering from problems," said Jai Ram, sarpanch of Bandhwari village.

The waste treatment plant meant for Gurgaon and Faridabad districts has been lying defunct for the past two years. However, it's still being used as dumping yard and leachate has seeped into the ground, polluting



DARK REALITY: Meenu (left) is affected due to the polluted water

can't afford bottled water have been borrowing water from far off places. "We can't afford bottled water. My daughter was detected with bloody diarrhoea. We had to admit her in the local hospital which is more than eight kilometres away from our village," said Mangat Singh, a labourer.

According to doctors, since mixed waste has all types of metals, chemicals and pollutants, there are chances that the groundwater has deadly contents like lead, nickel and cadmium compounds. "Skin lesions, bloody diarrhoea and dermatitis are just the symptoms. In long term, polluted water like this can lead to liver-

tion, anorexia, memory loss, gum diseases, kidney damage, liver damage and even cancer," said Dr Vibha Sengupta, a dermatologist.

Environmentalists fear that contamination is spreading across a large part of Aravallis. A case has already been filed in NGT by activists Vivek Kamboj and Amit Chaudhary. "I was shocked to find out that even medical waste was dumped at the site. Mixed waste is simply dumped here by hundreds of vehicles coming from Gurgaon and Faridabad. While contamination of groundwater in the villages is visible, there is a huge possibility of these pollutants seeping into groundwater of Gurgaon, Faridabad and South Delhi," Kamboj told TOI.

Talking about the possible solutions, Chetan Agarwal, an environmental analyst, said, "While the long term solution is to remove the waste dump, for now authorities should immediately pump out leachate water from the lake and treat it to stop the ongoing contamination." Every day municipal corporations of Gurgaon and Faridabad dump 1,100 metric tonne waste at the 30-acre site.

3.3m Audi, Skoda cars have emission-rigging software

Audi said 2.1 million of its diesel-powered cars, including best-sellers like the A4 sedan and Q5 sport utility vehicle, are equipped with software implicated in an emissions-testing scandal that has engulfed parent company Volkswagen.

"We're working at full speed to find a technical solution," said Juergen de Graeve, a spokesman for Ingolstadt, Germany-based Audi. "Once we have that solution, we'll write to customers and we'll upgrade the cars so that they're within emissions regulations." Skoda, Volkswagen's Czech mass-market brand, said 1.2 million of its cars had diesel engines with software set up to circumvent emissions testing. A spokesman for the brand didn't provide a breakdown of the models affected. Spa-

Overstating fuel stats: Merc tops list

Mercedes-Benz topped a European lobbying group's list of carmakers to overstate fuel economy for the second year in a row in an annual study that may receive extra scrutiny amid Volkswagen AG's diesel-engine test scandal.

Vehicles from Daimler's Mercedes division used 48% more fuel on average than their published statistics claim, with gaps over 50% on new A-, C- and E-Class models. Brussels-based Transport & Environment said on Monday. BMW's 5-Series and the Peugeot 308 produced differences between real-world and laboratory results of just under 50%. Across the industry, the gap widened to 40% last year from 8% in 2001, with the difference between published specs and actual fuel use costing a typical driver an additional \$500 yearly at the pump. Bloomberg

ish small-car brand Seat said it's gathering information about vehicles affected.

Audi models that need to be upgraded to meet emissions regulations include the A1, A3, A4, A5, A6 sedans, the TT roadster and the Q3 and Q5 SUVs with 1.6-liter and 2-liter diesel engines, de Graeve said.

Of the 2.1 million autos, 577,000 are registered in Germany, 847,000 elsewhere in western Europe and 13,800 cars in North America. Audi, which is poised to lose its rank this year as the world's second-largest luxury carmaker to Daimler AG's Mercedes-Benz, sold 1.74 million vehicles in 2014. Bloomberg

Only when the last tree has died, the last river has been poisoned and the last fish has been caught, will we realize that we cannot eat money?

The Times of India, Delhi dated September 29, 2015

The Real Green Cars

Until recently, tailpipe emission was the only measure of a car's impact on the environment. Now, Tata Motors has stepped out of the box with its life-cycle assessment philosophy to sustainability, writes Naren Karunakaran

A validation by the board or a buy-in from senior management is what every sustainability professional dreams of as he or she helps craft a sustainability framework for the company.

It was, therefore, with some trepidation that Abhay Pathak set about making a presentation to a Tata Motors' board committee with celebrated scientist Raghunath Machilkar as chair.

Pathak, the Sustainability Lead at the company's Engineering Research Centre (ERC) in Pune, presented the hotspot on the life-cycle assessment (LCA) of the Nano car, the first ever cradle-to-grave analysis of an entire vehicle by Tata Motors, nay the Indian automobile industry.

Usually, the environmental impact of a vehicle is measured by its tailpipe emissions. Now, with cradle-to-grave approaches from raw material mining to the end-of-life stage, a true, big-picture impact measurement is possible. An LCA in this genre can be huge and time-consuming; a typical car is cobbled together with over 3,000 parts of roughly 50 different materials—steel, plastic, rubber, alloys, glass, even precious metals—sourced from over 200 suppliers.

Machilkar was impressed with the work done but he wanted to dive deeper. "He wanted to know how the Nano, over its life-cycle, compared with a three-wheeler auto-rickshaw," recalls Pathak.

Enthused by the proactive engagement by the board, the crack team of three engineers steering LCAs in the company since 2010, got back to work on the three-wheeler bit. They also, for good measure, included an LCA of the Nano CNG car, which was by then already in the market.

As it turned out, emissions from a three-wheeler were just about a shade lower than that of the petrol Nano. The Nano CNG car is however greener than a conventional three-wheeler.

The true validation of Pathak's work and also those of several other LCA teams in other Tata companies, came in June 2015, when Tata Group chairman Cyrus Mistry incorporated product stewardship and LCA as one of the key principles of the Tata sustainability policy.

A New Direction
"Much of our work in sustainability is within the fence," says Shankar Venkateswaran, chief, Tata Sustainability Group. "We are trying to create a larger framework and look across value chains." The \$42-billion Tata Motors, India's largest automobile maker, is one of the few companies infusing life-cycle thinking within and across its ventures. It's about time too. Globally, the transportation sector accounts for over 23% of carbon

emissions from fossil fuel combustion. In a business-as-usual scenario, it is expected to grow by 40% from 2007 to 2030.

Road sector emissions dominate transport emissions. In India, it's 87% with aviation at 7% and railways at 5%. "How the auto sector embraces sustainability therefore has a deep bearing on the environment," says Rajesh Kumar Singh, MD of thinkstep in India, a Germany-based sustainability performance measurement company.

The auto industry has also been one of the most resource intensive of all economic systems. LCAs help improve resource efficiency. Look at the resource intensity of a Jaguar XJ car, for instance.

Its aluminum content alone is around 527 kgs which corresponds to mining over 1,780 kgs of bauxite. If Jaguar Land Rover (JLR), a Tata company, now wants to use more aluminum recycled from drink cans, it means a lot. Moreover, the energy expended in recycling a kg of aluminum can save nearly 95% of the energy consumed in producing the same quantity of virgin aluminum.

A corporate mindset tweaked to design for environment (DfE) is therefore in order. But it's hard to achieve as Pathak quickly found out.

"A design expert is only focused on quality, cost and timelines; environment doesn't figure on the radar at all," he says. He, therefore, designed training modules for various groups in design—the trim group, the engine group et al.

Life-cycle thinking is so ingrained in some of the European automobile manufacturers that at Volkswagen when a new model is planned, the rule is it must consume less fuel and generate lower emissions; raw material use has to be scaled down. Components are expected to be 95% recoverable. Industry watchers claim that Volkswagen resorted to shortcuts and got into 'software tweaking to cheat on emission norms' recently, it's embroiled in today primarily due to its untrammeled ambition to beat Toyota as the world's largest automobile company and that it had banked on diesel cars to take it there.

With \$13.5 billion R&D expenditure that is 5.2% of revenue in 2013—VW has been one of the world's top spenders on research. As an innovator, its journey has been long, tortuous, and now controversial.

When Pathak took the life-cycle road, the going was tough for him too. He often began his awareness expeditions by explaining LCA and its 'impact categories' to members of senior management; the global warming potential, abiotic resource depletion, acidification, and photochemical ozone creation potential.

"Eutrophication, what?" was the refrain. This onslaught of technical language wasn't taken kindly.

Pathak then changed tack and limited himself to carbon footprint. "Carbon emissions are better understood and appreciated," says Venkateswaran. Even as Pathak's team got into the training regimen, they realised cracking LCA was a huge challenge for them too; they had never attempted an analysis before and had no outside consultants to hand-hold them. Having insiders learn and execute LCA by themselves has, in hindsight, apparently worked. JLR had done this at its UK plant too. It was a conscious decision to diffuse LCA awareness across the engineer fraternity rather than bank on specialist LCA practitioners. This apparently embeds knowledge and environmental sensitivities within teams in a more binding manner, making the transition to life-cycle thinking easier and lasting.

The exercise began with practice LCAs of small parts at the Pune plant. The bumper of the Vista car supplied by Tata Auto-comp System was first selected. Simple steel sheets were used to collate and process data.

The effort was then slowly scaled up to five different components; the fuel rail used in the engine assembly of the Nano, an air-intake manifold, wheel caps, the central flap of the world truck and a radiator component. All these components had seen a clutch in material used to manufacture them.

So, it was a backwards manoeuvre of sorts. LCAs are often used to identify the right material for a component at the design stage itself. Here it was the other way round. The component had been made and was in use. The LCA was done to support the decisions already made.

It emerged that emissions in the 'manufacture' of the plastic rail, for instance, was quite high compared with emissions in the manufacture of the earlier aluminum alloy rail. Was the move to adopt plastic a flawed one then?

However, it was also revealed that emissions during the mining and processing of aluminum was also very high. Here, it was the 'raw material stage' of aluminum that played spoiler although emissions during 'manufacture' of the aluminum component was relatively low (see Comparison of Carbon Footprint). On overall comparison, the plastic fuel-rail proved to be a better bet with a 30% reduction in carbon emissions.

Meanwhile, Pathak had realised data handling was overwhelming his team. He reached out to his counterparts at JLR in the UK. Many of his data queries were cleared and JLR also suggested he acquire GaBi, a thinkstep LCA software tool. JLR

also handed him a bouquet of formulae for conducting rapid LCAs.

JLR is working towards a target of lowering lifecycle environmental impacts by 30% from a 2007 baseline. Simulation of lifecycle impacts for all its 2017 models are on. The new model of Range Rover are already 400 kgs lighter and sport a smaller fuel-efficient engine which delivers the same performance as the outgoing model. Its life cycle global warming potential is down by 13.8%. Armed with the wheel-wisdom, Pathak thought they could take on the big challenge of analysing an entire Tata vehicle.

After much deliberation, the Nano was selected. The reasons were many; but the two that clinched the decision was that the Nano had a dedicated

supplier why the exercise was being conducted. Many told him that they were open to any number of quality audits; why study their production processes?

During the process, Pathak had to draw out customised data sheets for their key vendors; such was the level of hand-holding. The learnings were huge and numerous hotspots were identified and eventually rectified. For instance, returnable packaging was introduced for an intake manifold transported to Sarand. Polypropylene caps used to cover certain components to prevent ingress of dust were earlier discarded, now they are reused over and over again.

"When the exercise was finally wrapped up, it was quite a gratifying feeling for me personally as an

Various Stages of a Car's 'Green' Life



production line unlike the other lines. Data collection and analysis becomes easier.

The second reason was the fact that almost 70% of the car's vendors are located in the Sarand vendor park close to the Nano plant. The LCA team temporarily moved to Gajrat for the study as the supply chain and tracking components right to its raw material stage is central to the effort. This was in 2012/13. Here again the team hit a wall.

Getting Vendors on Board
Many vendors, expectably, were clueless about LCAs. The training and convincing had to start all over again. And when told the company would also like to speak with their suppliers and go deeper into the chain, many vendors turned diffident and suspicious.

"Are they going to blacklist us; many wanted to know," recalls Pramod Bodne, MD of Exotech Zaini Industries, a Tata Motors vendor of 20 years. He had to answer probing questions from his suppliers; and

environment professional" says Pathak. The light-hearted demomument came later.

When the impacts were finally presented to his seniors, the questions asked were, so what? Now what?

They were clearly not taken in by emissions of the Nano in comparison with published emissions of cars like a Mercedes. The questions were; what is the competition doing? What is the emission of a Hyundai Eon which is closer to Nano in make? Again, it was back to the drawing board. His team eventually drew upon the teardown data of all competitors' cars they maintain and worked out the emissions for Eon. In 2014, Tata Motors conducted LCAs of several vehicles including the Safari, Ace CNG and the ACE diesel. The quest for building better, greener cars has begun.

naren.karunakaran@tategroup.com

The Times of India, Delhi dated September 30, 2015

3 infants move SC seeking ban on firecrackers during festive season

Say 'Our Lungs Cannot Take More Pollution'

Dhananjay Mahapatra
@timesgroup.com

New Delhi: "Our lungs have not yet fully developed and we cannot take further pollution through bursting of crackers," said three infants in their petition before the Supreme Court seeking a ban on crackers this Dussehra and Diwali besides a host of measures like implementation of Bharat V norms for vehicles to arrest the capital's worsening air quality.

The infants — six-month-

FIRST OF ITS KIND PETITION

Making judicial history in India, 6-month-olds Arjun Gopal and Aarav Bhandari, and 14-month-old Zoya Rao Bhasin move SC

WHAT DO THEY WANT?

- Measures to tackle air pollution during Dussehra, Diwali and other festivals. Claim right to clean air under Article 21 of the Constitution
- Ban on burning post-harvest crop residue; action against those who dump dust and concrete waste
- Bharat-V emission norms for vehicles



CAN MINORS FILE PLEAS?

Yes, through their parents and guardians who term themselves as the minors' 'next friends'

olds Arjun Gopal and Aarav Bhandari and 14-month-old Zoya Rao Bhasin — moved the SC through their advocate fa-

thers to seek several measures to mitigate pollution and exercise their right to clean air guaranteed under

Article 21 of the Constitution. Supreme Court Rules permit minors to file petitions for protection of their fundamental rights through their parents and guardians who term themselves as 'next friends'.

The writ petition under Article 32 of the Constitution was filed for the upcoming festivals which have in the past years seen a drop in air quality due to bursting of firecrackers.

The petitioners sought the SC's intervention "against inevitable use of firecrackers, and other products of the same classification, especially during Dussehra and Diwali, but thereafter in all other events and festivities as well."

► 'Most polluted city', P 24

'Delhi most polluted city for last 2 years'

► Continued from P 1

The three infants also wanted measures to check pollution hazards like burning crop residues, polluting vehicles and open waste disposal.

They said, "Over the last two years, Delhi has retained the unique distinction of being the most polluted city in the world. The levels of particulate matter are highest, and across the country, over 7 lakh deaths occur annually due to air-pollution related diseases." Studies show that Indian citizens have 30% lower lung capacity than Europeans, and that children are the worst affected, as their lungs have not yet fully developed and their systems

are vulnerable. In Delhi, a majority of the pollution is caused by road dust and pollution from industries.

"To add to this, the smoke from bursting of crackers in the months of October and November during the festivals of Dussehra and Diwali virtually clogs the atmosphere, substantially increases the pollution level and magnifies the risk of contracting lung diseases."

They said every year, the adverse impact of pollution gets debated and forgotten as the lethargic government machinery does little to protect citizens, especially infants and children, from the long-term toxic effects of deadly pollution enveloping the capital city.

Deccan Chronicle, Hyderabad dated September 30, 2015

SUCH A WASTE

Improper disposal of sanitary waste

Unscientific method threatens environment and workers

AYESHA MINHAZ | DC HYDERABAD, SEPT. 29

It will take 500-600 years for the sanitary waste that people in this city generate to decompose thanks to the petroleum byproducts like polypropylene that are used to manufacture pads. What makes matters more difficult is that citizens do not dispose of their sanitary waste properly. "In our interactions with sanitation workers, we found that often unwrapped sanitary waste is found mixed with kitchen waste. It is inhuman to do so as the workers who handle the waste are exposed to health hazards," said a zonal official from GHMC.

Another prevalent practice in the city is flushing pads down toilets. This is done as it is still a stigma to carry pads or dispose them of in public, the official adds. Ten per cent of the 4,000 metric tonne of waste generated daily in the city is sanitary waste. This includes diapers and cot-

NOT FRIENDLY WASTE

125-130 kgs is the amount of sanitary waste generated by a woman in her lifetime

CITIZENS DO NOT KNOW HOW TO DISPOSE OF THEIR SANITARY WASTE

DISPOSAL RULES:

- A sanitary pad should never be flushed. Officials point out as unclogging can't be done using a vacuum machine.
- When disposing of it into the municipal waste, ensure to wrap it up in a newspaper or some waste paper. Most napkins come with a foil cover which can be used too.
- Dispose of daily and don't pile it up for a one time disposal every month.



- Unwrapped sanitary waste is found mixed with kitchen waste. It is inhuman to do this, as workers are exposed to health hazards.
- Another prevalent practice is flushing pads down the toilets, which clogs drainage.

coloured packets so that they serve as an indication for sanitation workers. While disposal of sanitary napkins continues to be unscientific despite the guidelines of the Pollution Control Board, awareness about modern bio-degradable options for managing menstruation continues to be abysmally low.

"The government should take up awareness drives on options like cloth pads, menstrual cups and biodegradable sanitary pads on a regular basis. Currently, mostly NGOs are taking this up," said Mahalakshmi, who has been running awareness campaigns in the city about reusable cloth napkins.

ton that reach the landfill of the city. The GHMC at present does not follow a scientific method to dispose of sanitary waste, while segregation of sanitary nap-

kins at the source level is a huge task. One suggestion from experts is to look into a mechanism wherein used pads are wrapped in special covers or

http://www.wwm.org

Deccan Chronicle, Hyderabad
dated September 30, 2015

Designer makes low-cost incinerator

DC CORRESPONDENT
HYDERABAD, SEPT. 29

A city-based designer has come up with a design of a low-cost incinerator for sanitary napkins, which can be used both in households and schools and colleges.

The household one will cost around ₹1,000 and the designer is trying to come up with a bigger one for schools, colleges, hostels etc. and it might cost around ₹3,000. Electric incinerators generally cost ₹20,000 to ₹30,000.

"It is a 15-inch box with

- The household one will cost around ₹1,000.
- The designer is trying to come up with a bigger one for schools, colleges, hostels etc. and it might cost around ₹3,000.
- Electric incinerators generally cost ₹20,000 to ₹30,000.

a simple mechanism. The fuel used is kerosene or turpentine. Around 12 pads can be burnt at one time. It is better," said Prashant Lingam, the designer.

"Due to the huge popu-

lation and lack of availability of free land, dumping used pads in landfills is not an option as it damages the water table and soil. Our team interacted with GEMS, Women and Child department and they concurred that the incinerator seemed like a feasible option for hostels, schools and households," said Mr. Lingam.

He agreed that though an incinerator was not a permanent solution, the government should find alternatives and a permanent solution to the problem.



Low-cost incinerator built by Prashant Lingam costs about ₹1,000

The Times of India, Delhi dated
October 01, 2015

India to submit 'climate action plan' to UN today

Vishwa Mohan
@timesgroup.com

Berlin: India will on Thursday submit its post-2020 'climate action plan' to a UN body in Bonn, specifying what the country will do to fight the threat of climate change. Hours after its submission within the 'informal' deadline of October 1, the country will announce the plan in New Delhi on Friday (October 2) — the declaration coinciding with the birth anniversary of Mahatma Gandhi.

Aligning its 'Green India'

pledge with 'Clean India' mission, the country will seek to remind the world on the occasion of 'Gandhi Jayanti' how the 'father of the nation' had forcefully campaigned for preservation of nature through a sustainable lifestyle and 'mindful consumption' when the issue of climate change and global warming were not even on the horizon.

All 195 member countries of the United Nations Framework Convention on Climate Change are expected to submit their climate action plan by October 1, speci-

fying how they will act in their individual capacity to check global warming and fight menace of climate change under a post-2020 agreement.

Meanwhile, environment minister Prakash Javadekar said, "All countries need to respect differentiation as a principle to deliver climate justice to the developing world. Some developed countries want to negate the whole set of principles of UNFCCC which is regrettable."

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

TOXIC FUMES

TOP 10 emitters of climate-damaging greenhouse gases (GHGs)



TOP PER CAPITA EMITTERS



INDIA per capita emission 2.44 ton

INDIA is at 120th rank

* Top per capita emitters
Figures in per cent of total emission

Ton of emission per capita

WHO PROMISED WHAT

EU (26 countries) To cut emissions by at least 40% from 1990 levels by 2030

China Commits to peak its emissions around 2030; Emission will dip after reaching peak; cut carbon intensity by 60-65% from 2005 levels by 2030

USA To cut emissions by 26-28% below its 2005 levels by 2025

All these nations have committed to increase share of renewable energy in their total energy mix

Deccan Chronicle, Hyderabad
dated October 02, 2015

ECO FRIENDLY ■ India won't give in to pressure of developed nations Centre to release its 'green target'

ANIMESH SINGH | DC
NEW DELHI, OCT. 1

After espousing the cause of 'climate justice' at the United Nations last week, where India clearly indicated it won't give in to developed nations' pressure on checking its emission levels, the government is likely to focus on greater usage of renewable energy when it discloses the country's emission targets on Friday.

As a run-up to the prestigious UN climate conference in Paris in December this year, all nations were due to come out with emission targets by September 30. India had told the UN it would officially release this Friday on Gandhi Jayanti.

With the United States and other developed nations raising climate change concerns, and US



environment and forests Prakash Javadekar officially releases India's emission targets in New Delhi on Friday. Prime Minister Narendra Modi will simultaneously be inaugurating a district court compound in Khunti, Jharkhand, that will be fully operated through solar energy.

This clearly sends out the message that India bats for a switch towards renewable energy, and sources said the clean energy targets released on Friday are likely to have an emphasis on this.

By mooted the concept of climate justice, India has taken up a pole position of developing and poor nations, and thus New Delhi will have the backing of African and Latin American nations, official sources said. Climate jus-

tice also means insulating poor nations from natural disasters, and thus the concept was well received by developing nations, they added.

The United States and other rich nations, by committing drastic cuts in emission levels, have been putting pressure on nations like India to follow suit. For this, Washington and New Delhi have even formed a joint working group to discuss climate change.

The US pledged to reduce greenhouse gas emissions drastically by 2025, and even China plans to cut down massively on carbon emissions.

According to estimates, India's per capita emission is 1.7 whereas that of the US is 16 or 17, this itself gives a clear picture of the situation.

The Times of India, Delhi dated
October 02, 2015

No safe drinking water, DDA rapped

Times News Network

New Delhi: The Delhi high court has slammed the DDA for its failure to provide safe drinking water to residents of Lok Nayak Puram area.

Warning the land owning agency, Justice Manmohan on Wednesday made it clear, if they fail to make adequate arrangements, the court may as well send some of the officials to the locality to see for themselves the hardships being faced by the local residents.

HC's remarks came while hearing a plea by one of the residents who has been demanding since 2013 directions to DDA to ensure supply of safe drinking water to the residents. DDA built 500 LIG flats in Bahadurpura but only 50% are occupied.

The petitioner has alleged that DDA extracts ground water from a nearby tube well and without treating it, direct-

ly supplies it to the overhead tank, making the water unfit for drinking. The residents told the court that due to this reason most of them have to carry potable drinking water in a bucket from nearby areas.

On the last date of hearing HC had pointed out that the allegations were "virtually confirmed by DDA" and said the

IN THE DOCK

only question that survives for consideration is if DDA or DJB or both are responsible for the lack of supply of potable water, which is a fundamental right of each and every citizen.

"Chief secretary, government of NCT of Delhi is directed to convene a meeting within the next ten days and resolve the issue of supply of potable water to residents of an authorized and legal colony," the court had ordered.

The Times of India, Delhi dated October 02, 2015

In SC, call to 'tax' polluting trucks that enter capital

Dhananjay Mahapatra
@timesgroup.com

New Delhi: The petition by three toddlers complaining about Delhi's toxic air has resuscitated the issue, with amicus curiae and senior advocate in the Supreme Court's Green Bench, Harish Salve, seeking imposition of a hefty pollution tax to rid the city of trespassing trucks.

In his application before the court, Salve said every night nearly 40,000 trucks use Delhi roads to save toll, spewing harmful pollutants. "The principle of envi-

POLLUTER PAYS

➤ Harish Salve argues in SC that trucks use Delhi roads to save toll, pollute city

➤ Says Centre and Delhi govt spend huge amounts on maintaining air quality & healthcare of residents

➤ Saying polluter must pay, calls for charge of ₹1200 to be levied on 3-axle commercial vehicle, while 2-axle ones must pay ₹600

ronment law that a polluter has to pay is now part of constitutional jurisprudence. It

has become a constitutional imperative to recover these illegal savings (by the truckers), which are contrary to the mandate of the right to life under Article 21 of the Constitution and to use these for dealing with the cross-question of pollution," he said.

"For a 3-axle commercial vehicle and above passing through Delhi a charge of Rs 1,200 should be levied. Trucks of 2-axle and light commercial vehicles should pay Rs 600 under the 'polluter pays' principle," he said.

➤ 'Swift action needed', P 8

'Swift action on trucks needed as winter near'

➤ Continued from P 1

Salve argued that pollution from the trucks east a huge financial burden on the Centre and Delhi government which had to take measures to maintain ambient air quality in the capital and provide healthcare to suffering citizens. On the other hand, these polluting trucks use the Delhi roads as a transit route to save on toll charged on alternative routes, he said, terming it as unjust enrichment of truckers at the cost of citizens' health.

Salve said Delhi's ambient air quality most of the time stays above the danger mark, a situation which in foreign countries trigger closure of schools and stopping of traffic till the pollution level comes back to normal. "The NCT lives with much higher levels of pollution on a daily basis at the best of times. Winter is fast approaching and no steps have been taken since last year, in spite of assurances to the Supreme Court. It has become necessary for the SC to pass some orders, which will save the lives of the NCT residents," he said.

In February last year, Salve had started the SC by presenting a report which established a direct link between the death of 3,000 children annually in Delhi and the increased pollution level attributable mainly to diesel cars. He had said subsidised diesel was almost on a par with CNG, leading to a massive increase in sale of diesel cars. As a result, emissions have directly contributed in taking the ambient air quality in Delhi much beyond the danger level.

The Economic Times, Delhi dated October 02, 2015

SC to Vet Plea for Extra Surcharge on Trucks Passing Through Delhi

Senior lawyer Harish Salve says levy on trucks will deter them from entering city & check emissions

Samanwya.Rautray
@timesgroup.com

New Delhi: The Supreme Court agreed on Thursday to consider a plea by senior lawyer Harish Salve for an urgent hearing on high air pollution levels in the Capital and will examine a plea for an additional surcharge on trucks passing through the city to keep vehicular emissions down.

Salve claimed Delhi's air pollution levels were higher than other major cities of the world. "...metros in other parts of the world close down when respirable suspended particulate matter, which is particularly toxic for human health, crosses 250 ppm (parts per million)."

Last winter, the pollution levels touched such limits within the top court and came close to 1,000 ppm in a place like Lodhi Garden, an 80-acre park in central Delhi, according to a fresh application filed through lawyer Aparajita Singh. He mentioned the application out of turn before a bench comprising Chief Justice of India H.L. Dattu and Justice Amitava Ray, who listed it for hearing on Monday.

Trucks passing through Delhi account for roughly 70% of commercial traffic, Salve said, citing statistics from the Delhi-based Centre for Science and Environment. With winter approaching, spiraling air pollution levels will be compounded by fog. Municipal records suggest that 22,628 commercial heavy

TOUGH TALK

Two-axle trucks & light commercial vehicles, apart from taxis, should be charged ₹600, suggests Salve

vehicles enter the city daily through nine main entry and exit points, although CSE estimates them at 38,588. Trucks pass through the city because it's cheaper than taking the highways around the capital. Salve said this made the problem of air pollution acute for all, especially children and older

residents, he said. Salve is the court-appointed amicus curiae of the Supreme Court's green bench, which has been grappling with the issue of air pollution for years.

In the interim, Salve suggested that a compensatory surcharge be levied on such vehicles to deter them from entering the city. He suggested that a 3-axle commercial vehicle passing through Delhi be charged ₹1,200 in addition to the toll paid to the municipal authorities. Two-axle trucks and light commercial vehicles, apart from taxis, should be charged ₹600, the application said. Salve also suggested that all such vehicles be fitted with a radio frequency identification system for toll collection from December 1.

Deccan Chronicle, Hyderabad dated October 03, 2015

DOWN TO EARTH

India to cut emission 35%

Delhi sets ambitious green target on eve of Paris meet; that is a 75% jump

DC CORRESPONDENT
NEW DELHI, OCT. 2

Ahead of the global climate change summit in Paris in December this year, India on Friday pledged to cut down its greenhouse gas (GHG) emissions by around 35 per cent by 2030 from its 2005 levels, a 75 per cent jump over its current voluntary commitment.

Prime Minister Narendra Modi, in a thinly veiled reference to



40% \$2.5tn

BOOST IN RENEWABLE ENERGY CAPACITY BY 2030

WILL BE REQUIRED TO MEET INDIA'S CLIMATE CHANGE ACTIONS BETWEEN NOW AND 2030

3 We will save carbon emission to the tune 3.59 billion tonne of CO2 equivalent. It is a huge contribution from a developing country. — Prakash Javadekar, minister

crore Indians that we have no role in this sin which precipitated the environment crisis. Our heritage, culture, ancestors never permitted the exploitation of nature and natural resources. India will make its contribution for the welfare of humanity. Irrespective of who committed this sin, India will cut emissions," he said.

➤ Page 9: No curbs on use of coal, says ministry

developed nations' blamed for the "sin" of environment degradation, it would still contribute towards containing it. "I want to tell the world on behalf of 125

The Economic Times, Delhi dated October 03, 2015

Emission Control

India, the world's third biggest emitter after China and the US, on Friday vowed to slash its emissions intensity by 35% by 2030 as part of its plan for tackling climate change, but set no emission cut targets. So far more than 140 countries have submitted their pledges — called Intended Nationally Determined Contribution, or INDCs — ahead of a key conference in Paris in November that will seek to forge a global agreement on curbing Earth-warming emissions. Here's a look at what the largest polluters are bringing to the table...

OFFERS OF MAJOR GREENHOUSE GAS EMITTERS

Intended Nationally Determined Contributions (INDCs) to reduce emissions of ...

China

CO2 per unit of GDP by **60-65%** by 2020 compared to the 2005 level; reach CO2 emission peaking around 2030; increase % of non-fossil-fuel in primary energy consumption to 20% by 2020; increase forest stock volume by 4.5 b cu m from 2005 level

US

GHG by **26%-28%** below its 2005 level in 2025

Japan

GHG by **25.4%** compared to FY2005

Brazil

GHG by **37%** below 2005 levels in 2025

Mexico

GHG by **22%** below BAU for 2030 & black carbon by 51%; reduction to be deeper, up to 36% GHG and 70% BC subject to availability of global technical and financial assistance

Russia

GHG by **70-75%** of 1990 levels by 2030

EU

GHG by at least **40%** by 2030 compared to 1990 (28 Nations)

Canada

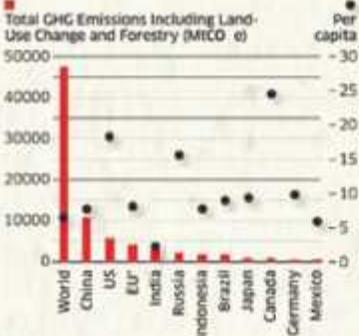
GHG by **30%** below 2005 level by 2030

Indonesia

29% of BAU scenario by 2030 (BAU: 2.881 GtCO2e in 2030); additional 12% intended contribution subject to global technical and financial assistance

146 Countries Covering Almost 87% of Global Emissions Submit Plans

TOP EMITTERS, 2012



Source: World Resources Institute, UNFCCC (28 Nations)

TOP EMITTERS, PER CAPITA, 2012



India's energy intensity has decreased to 15.02 goe (grams of oil equivalent) per rupee GDP in 2012 from 18.16 goe in 2005, a decline of over 2.5% per annum

Country	2000	2010
China	351.15	264.97
India	251.92	186.14
Brazil	135.84	135.00
Russian Federation	491.46	347.95
US	203.74	170.26

Note: Energy intensity is the ratio of primary energy supply to the gross domestic product (GDP) at basic prices. It is expressed in terms of oil equivalent. It is calculated as the ratio of the total primary energy supply to the total gross domestic product at basic prices.

Note: PPP GDP is gross domestic product converted to 2005 constant international dollars using purchasing power parity rates. An international dollar has the same purchasing power over GDP as a U.S. dollar has in the United States.

India has made it clear coal will "continue to dominate power generation in future"...

INDIA'S EMISSIONS...

	1990	2012
CO2 emissions from fuel combustion (Mt)*	580.47	1,954.02
GHG emissions (Mt CO2 eq)**	1,352.57	2,814.85
TPES / Pop. (toe per capita)	0.36	0.64
CO2 per capita emission (t CO2 per capita)*	0.67	1.58
CO2 emission/GDP (kg CO2/2005 USD PPP)	0.41	0.35

...TOTAL PRIMARY ENERGY SUPPLY (TPES)

	1990	2012
TPES (Mtoe)	316.4	788.13

* IEA, ** Emissions Database for Global Atmospheric Research (Edgar); * data for 2010, Mt=million tonnes, Mtoe=million tonnes of oil equivalent, Mtoe=millions tonnes of oil equivalent

India Pledges Up to 33% Cut in Emissions by 2030

Also vows to generate 40% of total electricity from non-fossil fuels

Our Political Bureau

New Delhi: India steered clear of announcing an absolute reduction in carbon dioxide output and instead vowed to cut the emission intensity of its GDP by about a third and generate 40% of the country's electricity from non-fossil fuels by 2030.

The country's climate action targets, known as Intended Nationally Determined Contributions (INDC), were submitted to the United Nations Framework Convention on Climate Change on Friday. Earlier at Copenhagen, India had pledged a 20-25% reduction in emission intensity by 2020. INDCs proposed by various countries will go into negotiations being carried out ahead of the Conference of Parties 21 meeting in Paris in December to forge an agreement.

India to Spend \$2.5 T in 15 Years >> 6

Joining The Green Fight

THE EIGHT-POINT PROPOSAL IN INDIA'S INDCs:

- Sustainable lifestyles
- Cleaner economic development
- Reduce emission intensity of GDP by 33-35% from 2005 levels by 2030
- Increase share of non-fossil fuel-based electricity by 40% by 2030
- Create additional carbon sink (forests) of 2.5-3 billion tonnes of CO2 equivalent
- Mobilise finance to meet \$2.5 trillion estimated cost
- Technology transfer and capacity building
- Adapt by enhancing investments in programmes in sectors vulnerable to climate change

India to Spend \$2.5 T in 15 Years

From Page 1

The agreement in Paris will seek to limit the increase in average global temperature to less than 2°C above pre-industrial levels by cutting greenhouse gas emissions. To absorb emissions, India will create an additional "carbon sink" of 2.5-3 billion tonnes of carbon dioxide equivalent by expanding forest and tree cover. India estimates it will spend \$2.5 trillion on its climate change actions over the next 15 years. "Our INDCs are a clarion call for climate justice," said Prakash Javadekar, minister for environment, forests & climate change. "We will carry on our own programme for meeting the cost, but we will also factor in the financial commitment that the developed countries have promised. Sustainable development, climate justice and lifestyle changes are key to our INDCs." The Centre for Science & Environment, a non-governmental organisation, said India's emission intensity target is similar to China's and its commitment on non-fossil fuel sources was more ambitious than what the US proposed.

"India's INDC is fair and is quite ambitious, specifically on renewable energy and forestry," said Sunita Narain, director-general of CSE.

LOW-CARBON EMISSION PATHWAY

The minister said India is striving to work towards a low-carbon emission pathway while simultaneously striving to meet developmental challenges. "India's INDC has been prepared in a balanced and comprehensive manner to reflect all issues of mitigation, adaptation, finance, technology transfer

and capacity building," Javadekar said. Asked how India would meet its goals while ramping up coal production, Javadekar said the component of non-fossil fuels in the energy mix will be increased. The share of non-fossil fuel in the total installed capacity is projected to rise to about 40% by 2030 from 20% in 2015. "If someone does not appreciate it, we can't help it," Javadekar said at a press conference. "We are clear that we will follow a cleaner energy path and have submitted what is a most ambitious and almost 15-year plan, including even a robust pre-2002 action. I have repeatedly said that the world cannot go on an action holiday from 2015 to 2020." India has also listed efforts such as the 175 gigawatt (GW) renewable energy target by 2022 and plans to anchor a global solar alliance.

"From all angles, India's INDC is as good as China's and better than the US's, considering that both these countries have higher emissions than India and are economically more capable of reducing their emissions and mitigating climate change," said Chandra Bhasan, deputy director-general of CSE.

The Indian government is sending signals about its support for the international process and its confidence in a deal at COP, said Krishnan Pallassana, India director of the Climate Group, an environmental organisation. "The fact that India is a developing economy should not be seen as a constraint but as an opportunity to demonstrate to others how ambitious growth can be achieved through a clean industrial revolution and building a strong, low-carbon economy," Pallassana said.

Emission intensity cut leaves scope for growth

■ What is the difference between absolute carbon emissions and emission intensity?

Absolute emissions, as the name suggests, is the total amount of carbon released during a polluting activity, say the generation of electricity in a power plant. Emission intensity, on the other hand, is the carbon emitted per unit of energy produced during the activity. To understand the difference, let's return to the example of the power plant. Let's say the plant emits 100 units of carbon on a particular day. That would be its absolute emissions for the day. For calculating the plant's emission intensity, one would also need to look at how much electricity was generated.

So, if 100 units were generated, the intensity would be one unit of carbon for every unit of electricity. If, on the other hand, 200 units were generated, the intensity would be only 0.5. In other words, emission intensity is the rate of carbon emissions during the activity. For a given intensity, the power plant would emit more carbon if its capacity is increased. But, at the same time, if the generation process is made more efficient, the plant's energy intensity can be reduced. On a national scale, emission intensity is often defined as the amount of carbon emitted per unit of GDP.

■ Why has India pledged to reduce its emission intensity but not its total emissions?

India is at a stage of development where its economy needs to grow significantly if all citizens are to get a decent standard of life. Taking on absolute emission targets would make economic growth, of the scale we are talking about, prohibitively expensive even if it were theoretically possible. Also, India has always maintained that the advanced economies, which are historically responsible for the accumulation of greenhouse gases (GHG) in the atmosphere, should shoulder the maxi-

mum burden of limiting or lowering GHG levels. By pledging to reduce its emission intensity by 33%-35% from the 2005 levels by 2030, India would still have to make significant changes in the way energy is produced in the country. But it would leave room for India's total emissions to grow.

■ Where does India stand in terms of carbon emissions?

In absolute terms, India has emerged as the third largest emitter of carbon after China and the US. That's quite natural given that we are home to the second largest population in the world. But in terms of carbon emissions per person, India remains way behind the developed world and even China. In-

dia's current per capita emission is 2.44 metric tonnes well below US's 19.86 metric tonnes, China's 8.13 metric tonnes and the EU's 8.77 metric tonnes. Environment minister Prakash Javadekar has said that even in 2030, India's per capita emission is likely to be far lower than the developed world average.

■ Why has India announced an emission intensity target?

All countries participating in the Climate Summit in Paris this December are required to submit a target for their emissions in 2030 to the United Nations, and what's being called Intended Nationally Determined Contributions (INDCs). What Javadekar did on Friday was to announce India's INDC.



LEARNING WITH THE TIMES

The Times of India, Delhi dated October 03, 2015



India's green vow revolves around the Sun

To Add 150GW Of Power From Non-Fossil Fuel Mix In 15 Years

Sivakumar.B@timesgroup.com

Chennai: India may have held its ground by not committing to an emission cap and cut plan, or to a peak emission year like China, but the commitments on increasing its non-fossil fuel component of power generation to 40% by 2030 are substantial.

Given India's 10% increase in power demand year on year, the nation may have to more than double its installed capacity to 550GW by 2030. The 40% commitment would mean adding at least another 150GW of non-fossil power plants in the next 15 years.

India's pledge document talks about increasing nuclear power from 5 GW to 63 GW by 2032 and doubling wind capacity to 60 GW by 2022. But the most ambitious is the plan to increase solar capacity from 4 GW to 100GW in the next seven years. With the liability issue bogging down nuclear, much of the heavy lifting may have to be done by solar and, to some extent, wind.

INDIA'S CLIMATE PLAN FOR 2030

THE PROMISES

- Propagate healthy and sustainable way of living based on traditions and values of conservation and moderation
- Reduce emissions intensity of country's GDP by 33-35% by 2030 from 2005 level
- Achieve 40% power generation from renewables (solar, wind, biomass, hydro and nuclear)
- Create additional carbon sink of 2.5 to 3 billion tonnes of CO2 by adding to forest and tree cover
- Better adapt to climate change by enhancing investments in development programmes in sectors vulnerable to climate change, particularly agriculture, water resources, Himalayan region, coastal regions, health and disaster management

COST OF IMPLEMENTATION

A preliminary estimate suggests that at least US\$ 2.5 trillion (at 2014-15 prices) will be required for meeting India's climate change action between 2015 and 2030. India will utilise new and additional funds from developed countries to implement its mitigation and adaptation actions in view of the huge fund requirement and resource gap.

WHAT GOVT WOULD DO TO ACHIEVE ITS TARGET

- Introduce safe, more efficient and cleaner technologies in thermal power generation
- Reduce emissions from transportation sector
- Promote energy efficiency in the economy, notably in industry, transportation, buildings and appliances
- Build capacities, create domestic framework and international architecture for quick diffusion of cutting-edge climate technology in India and for joint collaborative R&D for such future technologies
- Reducing emissions from waste
- Developing climate resilient infrastructure
- Full implementation of Green India Mission and other programmes

WHAT OTHER MAJOR ECONOMIES HAVE PROMISED

EU Commit to cut emissions by at least 40% from 1990 levels by 2030	USA Reduce emissions by 26-28% below its 2005 levels by 2025	China Achieve peak emissions by 2030. Emissions to decline thereafter. Cut carbon intensity (emissions per unit of GDP) by 60-65% from 2005 levels by 2030	Australia Implement economy-wide target to reduce greenhouse gas emissions by 26 to 28% below 2005 levels by 2030	Brazil Commit to reduce greenhouse gas emissions by 37% below 2005 by 2025
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ALL THESE COUNTRIES HAVE ALSO COMMITTED TO INCREASE SHARE OF RENEWABLE ENERGY IN THEIR TOTAL ENERGY MIX

Solar power has become the catchword for many states in recent times. Internationally, the price of solar power components has been declining at 15% year over year, and states are leveraging this trend to get good deals. Recently, Madhya Pradesh was able to beat down the price it will have to pay for power from a solar project to Rs 5.05 a unit.

According to a National Institute of Solar Energy estimate, the country has a solar potential of 750 GW, with Rajasthan having the maximum capacity of 142 GW, followed by

J&K at 111 GW, Tamil Nadu's potential is slightly less than 18 GW. The state has set a target of achieving 3 GW before March 2016 and has made it compulsory for all new high-rise buildings to have solar power units.

The pledge document says: "A scheme for development of 25 solar parks, ultra-mega solar power projects, canal top solar projects and 1,00,000 solar pumps for farmers is at different stages of implementation." The 100 GW expansion planned nationwide would need acquisition of nearly 5 lakh acres — at least three times the size of Mumbai.

"Land may be available in

some states but the main issue in the coming years will be the cost of land. Government must find land at low cost for companies to put up solar power plants in varying capacities," former Union energy secretary Anil Razdan told TOI. Besides land, transmission would need to be augmented to evacuate all the new solar power. Wind and solar power fluctuate, which means the grid would need backup sources and bulk power storage facilities. Razdan stressed the importance of a smart grid and smart substations which will evacuate power and also store it at times.



The Times of India, Delhi dated
October 03, 2015

Every week, we talk about new electronics you can buy, whether its phones, tablets, laptops or e-accessories. But today, it's about the proper way to dispose old, unused devices. Savio D'Souza and Ashutosh Desai tell you about why you should...

RECYCLE & REUSE

Most of us exchange our old devices in "buy back" schemes when acquiring new products, but increasingly many of us are left with unused electronics in our homes. Now dumping them into trash bins or simply selling them to roadside dealers is dangerous to the environment. Harmful chemicals from electronics buried in landfills could seep into - and poison - water systems, while incineration by unqualified e-waste disposers could release toxins into the air. For instance, one colour monitor alone can contain up to 2kg of lead, along with smaller amounts of cadmium and mercury. Other chemicals usually found in electronics include arsenic (in light-emitting diodes), barium (CRT monitors), beryllium (power supply boxes), lithium (batteries), nickel (batteries, CRTs), selenium (copying machines) and zinc sulphide (CRTs).

Then, there's the whole issue of conserving natural resources. According to the US EPA (Environmental Protection Agency), recycling a million cell phones helps recover about 24kg of gold, 250kg of silver, 9g of palladium, and more than 9,000kg of copper.

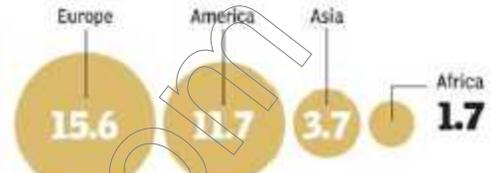
Similarly, a June 2014 report by the US-based Electronics Takeback Coalition states that...

- > It takes 240kg of fossil fuels, 21kg of chemicals, and 1.5 tonnes of water to manufacture one computer and monitor, and that 81% of the energy used by a desktop PC is in manufacturing the machine, not using it.
- > A tonne of used mobile phones (6,000 handsets) yields \$15,000 (nearly ₹10 lakh) in precious metals.
- > While recycling metals from e-waste uses a fraction of the energy that's employed to mine new metals. For example, recycling aluminium saves 90% of energy needed to mine new aluminium.

It's no surprise then that recycling electronics conserves natural resources, reduces greenhouse gas emissions from manufacturing and also protects the planet from air and water pollution - and there isn't a single good reason why each and every one shouldn't think of environmentally friendly ways of disposing old gadgets and gizmos.



CONTINENT-WISE BREAKUP OF E-WASTE PER INHABITANT (in kilograms)



TOTAL E-WASTE GENERATED IN 2014 (in million tonnes)



Source: The Global E-Waste Monitor 2014 by the Institute for the Advanced Study of Sustainability, United Nations University

HOW TO SELL OR DISPOSE USED ELECTRONICS RESPONSIBLY...

Most consumer electronics brands - including Bosch, LG, Nokia, Panasonic, Philips, Samsung, Sony, Whirlpool - have "take back" programmes wherein consumers can send their old appliance to local collection centres that arrange for the equipment to be responsibly disposed. These are not "buy back" schemes. They are initiatives that are in line with the rules drawn up for the management and handling of e-waste by the Ministry of Environment and Forests (MoEF).

You can find information about a company's e-waste program from the product manual (look for the garbage bin logo with the cross on it). Alternatively, look for details in the 'Sustainability' or 'Corporate Social Responsibility' sections of the company website or do a web search to find the page. You will find addresses and toll-free numbers where you can inquire and arrange for a pick up.

In case you feel your old gadgets and appliances are still worth some money then try out one of the following service providers who pay for such used goods.

RECYCLO

Recycle takes the hassle out of finding buyers for your electronics, including laptops, mobile phones, tablets, PCs, TVs (CRT as well as LCD), game consoles, refrigerators, air conditioners and washing machines. First, you need to fill an objective form detailing the condition of the appliance you intend to dispose. It is important that accurate information is entered here as a service engineer will check the product at the time of pick-up to match the description you provide online. The

service then gives you an instant price estimate for your equipment. If you are agreeable, schedule a free pick-up and Recycle will send someone within 2-3 working days - with cash - for collection.

If your device is too old to be reused, Recycle will dispose of it through its recycling partners. At present, Recycle operates in 40+ cities across India. www.recycle.in

BUOLI

Just like Recycle, buy your old mobiles, laptops and tablets. In most cases, the company arranges for free pickup, but if this service isn't available in your city, you can also have it couriered to them (the cost of which will have to be borne by you). The payment for your product is made to you within seven days via a bank transfer or cheque. www.buoli.in

E-PARISARAA

E-Parisaraa is a government-authorized electronic waste recycler, which converts discarded items into reusable raw materials in an eco-friendly way. Apart from computers, E-Parisaraa also accepts telecom equipment, washing machines, toner cartridges, electrical wires and cables, vacuum cleaners, bulbs, CFL tubes, and more. All of these are dismantled, shredded and separated into raw materials - metals, plastics and glass. Its services, however, are more suited to housing societies, offices and educational institutions where bulk electronic and electrical waste is discarded routinely.

The organization has developed its own set of machines and processes to ensure safe handling and dismantling. It is also into recovery of precious metals like gold and silver from printed circuit boards. To arrange for a pick-up, you need to call E-Parisaraa on its toll-free line. www.e-wasteindia.com

ATTERO

Attero is another service that buys used electronic items. The company, which covers more than 500 cities and over 2,000 pin codes across India, has its own e-waste management system that extracts pure metals and rare earths from e-waste in an eco-friendly and cost-effective manner. It even provides on-request data erasure, while its "Clean e-India Initiative" raises awareness about the hazards of e-waste by working with OEMs and distributors. It even provides training to rag pickers and scrap dealers. You can also reach out to Attero to place e-waste collection bins for broken electronics in your school, college, school, company and society. Attero also refurbishes gadgets whose lifetime can be extended. www.atero.in

Alternatively, you can also look for similar services around the area you live. www.sahivalue.com, for instance, is a website that buys and picks up old cell phones in the Mumbai area only, while [yen.in](http://www.yen.in) only has operations in Hyderabad.

BUYING "REFURBISHED" GOODS

Selling old unused electronics or recycling is only one part of being environmentally friendly. The other part includes using recycled goods. You can shop at...

- www.aterobuy.com
- www.gobal.in
- www.greenidust.com
- www.covercart.com
- valueart.in

Most of the electronics that you buy from these websites look and work just like new. In fact, they also come with warranties and return policies. Another advantage of buying refurbished and unboxed goods is you can expect to pick up these up at a fraction of their original cost at bargain prices.

http://www.sahivalue.com

Next 5 years to see spurt in renewable energy generation

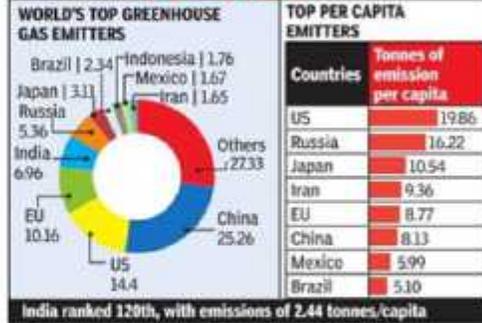
TIMES NEWS NETWORK

New Delhi: Renewable energy will represent the largest single source of growth in power generation over the next five years on the back of falling costs and aggressive expansion in emerging economies, the International Energy Agency (IEA) said on Friday, a day on which India dramatically raised the climate bar on the back of its green energy push.

India pledged to cut greenhouse emission intensity by up to 35% by 2030 from 2005 levels, marking a dramatic increase of 76% over its present voluntary commitment. Rapid expansion of renewable energy capacity and replacement of old coal-fired power stations with more efficient ones have been at the core of the Narendra Modi government's climate mitigation plans.

The government recently raised the target for renewable energy sources to 175 GW

LEADING POLLUTERS



(giga watt) by 2022. Of this, solar power target has been raised from a modest 30,000 mw to 100 GW. In 2014-15 alone, the target is set at adding 10,000 mw of solar capacity. Wind energy will contribute 60 GW and 10 GW of biomass and 5 GW of hydro-power.

But for such rapid expansion to happen, the IEA warned in its annual market

report, governments must reduce policy uncertainties that are acting as brakes and blocking an affordable method to mitigate climate change.

The IEA report sees the share of renewable energy in global power generation rising to over 36% by 2020 from 22% in 2013.

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

The Times of India, Delhi dated October 03, 2015

The Times of India, Delhi dated October 06, 2015

Sagarmala: Govt will fast-track green nod

Dipak.Bash@timesgroup.com

GROWTH ALONG COASTLINE



FOCUS | Developing industries & marine clusters connected to ports

New Delhi: The government is embarking on the Sagarmala project aiming to spur industrial development along the coastline and develop smart cities near key ports such as Kandla and Paradip. To fast-track the ambitious projects and achieve visible progress, which needs green clearance, government will start the process of getting the approvals as soon as it sets up the Sagarmala Development Company (SDC), sources said.

Shipping ministry officials said environment minister Prakash Javadekar has suggested that SDC can start the process of getting necessary clearances for setting up of industries and allied facilities along the coast before the works are awarded. This suggestion has been accepted by the group of ministers from the Centre and states, which met in the capital on Monday for the first conference of National Sagarmala Apex Committee (NSAC) under the shipping minister Nitin Gadkari.

Andhra Pradesh chief minister N Chandrababu Naidu has suggested that early setting up of SDC would facilitate FDI investment to the port.

Gadkari said the plan targets to bring down the logistic cost of products while pointing out how the logistic cost in India is thrice than China's and how Indian products can't compete globally so far as prices are concerned. The minister added the government has lined up to invest about Rs 70,000 crore on de-

- > 22 projects identified for funding & implementation (2015-18)
- > 14 coastal economic zones identified, plans under development (by Jan 2016)
- > Feasibility study initiated for port-based smart cities - Kandla and Paradip
- > 1st port-based SEZ at INPT (₹ 4,000cr) to generate 1.5 lakh jobs
- > Increasing share of coastal shipping & inland waterways to transport coal, fertilizer and steel

COMMUNITY DEVELOPMENT
Skill development on coastal districts, coastal development fund, fisheries development projects

velopment of 12 major ports to increase their efficiency.

Sagarmala, which Narendra Modi government has revived, focuses on port modernization and capacity augmentation and speedy evacuation besides port-led industrial development and development of coastal communities.

Following the Chinese model of growth driven by port-led development, the government has identified four industries which have strong linkages to ports - thermal coal, petroleum, oil and lubricants (POL), steel and containers - to accelerate growth. These four in-

dustries contribute to almost 80% of the port traffic. China is far ahead in port-led development of steel and allied industries.

Gadkari's aide one of the focus areas of the meeting was to highlight the opportunities emerging from the origin destination study of coal. It was highlighted that there is a potential to transport 100 million tonnes of thermal coal annually by coastal shipping by 2020 as against the present volume of only 23 million tonnes. "This will lead to an annual savings of about Rs 7,000 crore in coal logistics cost by 2020," a release issued by the ministry said.

The Economic Times, Delhi dated October 06, 2015

India, Germany Seal Climate and Renewables Pact

Berlin to assist with \$2.25 b for clean energy corridor, solar projects

Dipanjana Roy Chaudhury @timesgroup.com



New Delhi: India and Germany on Monday took a giant step towards clean energy collaboration with the creation of long-term 'Climate and Renewable Alliance', and Berlin extending a lump sum assistance of 2 billion euros (€2.25 billion) for developing a clean energy corridor and solar projects, ahead of the Paris climate change meet in December.

The announcement of German support for India's clean energy projects was made following wide-ranging discussions between PM Narendra Modi and German Chancellor Angela Merkel at their third Inter Governmental Consultations here on Monday.

"Energy cooperation is very much in the foreground, particularly exploring and developing rural areas is very much on our agenda," Merkel said, standing alongside Modi.

"We have agreed on India-German Climate and Renewable Alliance with a long term

vision and a comprehensive agenda of cooperation. I place great value on Germany's assistance of over one billion euros for India's Green Energy Corridor and a new assistance package of over a billion euros for solar projects in India," Modi said, pointing out that India was looking forward to a concrete outcome at a climate change conference in Paris that strengthens the commitment and the ability of the world, especially of poor and vulnerable countries, to transition to a more sustainable growth path.

Merkel and her ministers signed 11 deals with the Modi government, including on renewable energy and fast-tracking approvals for German companies to operate in India.

The Times of India, Delhi dated October 06, 2015

Solar energy to power up Delhi secretariat

TIMES NEWS NETWORK

New Delhi: In an attempt to help in their endeavour to make Delhi a solar city, the government has decided to start the work from Delhi secretariat itself.

Delhi government in association with ministry of new and renewable energy is setting up a 5 MW ground-based solar power plant at the vacant land of Indra-

prastha Power Station, which will light up the secretariat.

The solar power plant will supply power directly to Delhi secretariat for the next 25 years. "This will make Delhi secretariat, the first state secretariat of the country running completely on the renewable and green energy making it an environment friendly green building," said an official.

The Times of India, Delhi dated
October 06, 2015

Ahead of Paris, Modi & Merkel send green signal

Berlin's billions put India firmly on low-carbon track

TIMES NEWS NETWORK

New Delhi: Recognising "renewable energy" and "efficient use of energy" as the most effective routes to mitigate climate-damaging greenhouse gas emissions, India and Germany on Monday decided to move on this path more aggressively under the new 'Indo-German Climate and Renewable Alliance'.

EU's ban on drugs a speedbreaker on FTA path, Berlin told

Conveying his concerns about the EU's ban on 700 Indian generic medicines clinically tested by Hyderabad's GVK Biosciences, PM Modi on Monday asked German Chancellor Angela Merkel to use her clout to remove impediments in the path of resumption of talks on a free trade agreement. India had called off a meet of chief negotiators of the two sides on FTA following the EU ban in August. Calling the ban "unwarranted", foreign secretary S Jaishankar said, "The PM urged the Chancellor to use her influence to ensure that the right decision was made by the regulators in this regard."

Sushmi Dey

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

They identified seven focus areas to intensify their ongoing cooperation. Germany, on its part, will provide soft loans worth €1 billion to India for solar projects over five years in addition to €1.15 billion it had committed earlier under Green Energy Corridors Partnership.

The alliance will be a comprehensive partnership to harness "technology, innovation

and finance" in order to make affordable, clean and renewable energy accessible to all and to foster climate change mitigation efforts in both countries.

Interestingly, both sides also underlined that "adaptation" must be a central part of a balanced Paris climate agreement — a point consistently raised by India despite being resisted by many rich nations who want a mitigation-centric deal.

The renewable energy pact is in tune with Delhi's promise to the UN that the country would increase its share of clean energy by nearly 40% of its total energy mix by 2030, for which it would need \$2.5 trillion.

This is where the new 'Indo-German Climate and Renewable Alliance' will come as a boost for India's efforts to move on a low carbon growth path. PM Narendra Modi too flagged this issue in his statement at a joint briefing with German Chancellor Angela Merkel in New Delhi on Monday while recognising Germany's cooperation.

Both countries also decided to explore opportunities to enhance cooperation in "climate risk insurance" — an area expected to get new focus in the wake of a global climate deal in Paris in December.

Underlining joint efforts of countries to address climate change, both sides also launched an 'Indo-German Working Group on Climate Change' under the Indo-German Environment Forum.

Modi and Merkel also agreed that state and city level entities should be supported to harness new technologies, policies, financing mechanisms, and economic incentives to reduce emissions.

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

INKING MOUs



Merkel & Modi with a 10th century idol of Durga. Germany on Monday returned the idol, which went missing from a J&K temple 20 years ago & was later found in that country

- Promotion of German as a foreign language in India and the promotion of modern Indian languages in Germany

- Cooperation regarding the Indo-German Solar Energy Partnership (Germany commits a billion euros for solar energy in India)

- Skill development and vocational education and training

- Disaster management and security cooperation including aviation security, which will see deployment of sky marshals

- Setting up of a fast-track system for German companies in India

- Cooperation in the field of railways

- Partnerships in higher education



PM Narendra Modi and German Chancellor Angela Merkel with musicians Pandit Shubhendra Rao and Vidushi Saskia Rao-de Haas after their fusion music concert in New Delhi on Monday

PTI

The Times of India, Delhi dated October 07, 2015

The Times of India, Delhi dated October 08, 2015

Trucks will pay pollution fee, govt to tell court

TIMES NEWS NETWORK

New Delhi: Delhi transport minister Gopal Rai on Tuesday said the government would levy a "pollution fee" on commercial vehicles entering the city. The announcement comes a day after the Supreme Court slammed the Centre as well as the state government for allowing a large number of trucks to pass through Delhi and letting its air quality deteriorate.

"We will apprise the court of the government's decision to levy a pollution charge on such vehicles. It is a cabinet decision," said Rai. Deputy CM Manish Sisodia chaired a meeting on this matter, which was attended by representatives from transport, environment and legal departments.

According to Rai, the pollution charge has been fixed according to the capacity of the commercial vehicle. "The pollution charge and the basis on which it will be charged will be conveyed to the court tomorrow. We already have the proposal in place, and it has been approved by the cabinet," Rai added. On Monday the SC had directed the Centre and the state government to submit a plan of action against polluting trucks entering the city. It had also asked what the government was doing to tackle these vehicles.

The government has proposed to levy a fee on entry of vehicles in Delhi. While the entry charge for tempo (light commercial vehicle) will be Rs 100, it will be Rs 500 for four-wheel trucks, Rs 750 for six-wheel trucks, Rs 1,000 for 10-wheel trucks and Rs 1,500 for fourteen-wheel trucks.

The pollution charge or pollution "fee", as the government proposal calls it, was originally introduced in the budget earlier this year.



POLLUTION PLIGHT		
AIR QUALITY INDEX (PM2.5)		
Delhi	233	Poor
Tomorrow	242	Poor
Pune	48	Good
Tomorrow	55	Good
Mumbai	90	Good
Tomorrow	102	Moderate

Source: SAFAR/PM2.5-ITM-IMD (10 stations)

Hyderabad	63	Good
Chennai	57	Good
Kolkata	36	Good

US Embassy data calculated as per Indian standards by SAFAR/PM2.5-ITM-IMD
Based on 1 Station Data Per City at 4pm



At the time, Sisodia had proposed a range of fees for commercial vehicles coming into the city, which are not destined for Delhi.

Sources in the government said the fee had not been levied because of the pressure from the truckers' lobby, which has been threatening to go on strike if the decision is implemented.

The government intends to use the funds collected to augment environment-friendly public transport system, installation of weigh-in-motion bridges, and other initiatives to improve ambient air quality in Delhi.

Green tax on trucks entering Delhi

NGT Says Non-Destined Vehicles Will Be Diverted In Panipat

TIMES NEWS NETWORK

New Delhi: National Green Tribunal (NGT) on Wednesday directed that no heavy commercial vehicles that are not destined for Delhi will be allowed to ply through the city. They will have to take an alternative route—Panipat-Bawal—comprising parts of NH 71, NH 71A and NH 8.

The tribunal also imposed an "environmental compensation" charge on heavy vehicles entering Delhi, which they will have to pay in addition to the toll fee. Delhi traffic police had submitted to NGT that non-destined vehicles prefer plying through Delhi because the toll fee charged by the municipal corporation is cheaper than ones charged on other routes.

NGT directed that the "compensation" to be paid by heavy vehicles besides the toll fee is Rs 700 for two-axle vehicles, Rs 1,000 for three-axle and Rs 500 for four-axle and above. The bench, headed by NGT chairperson Justice Swatanter Kumar took a serious note of the traffic police's submission that more than 60,000 heavy vehicles entered Delhi every day on an average in August.

On Monday, Harish Salve, the Supreme Court-appointed amicus curiae on air pollution matters, submitted a report prepared by Environment Pollution (Prevention and Control) Authority (EPCA), which highlighted gross underestimation by the corporations of the number trucks entering the city.

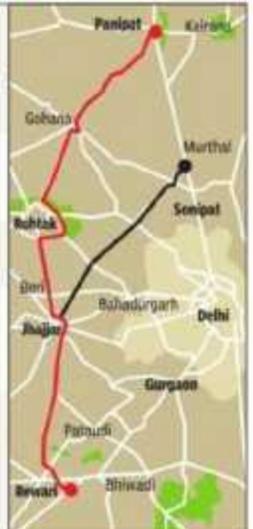
The actual number of trucks that entered Delhi in May, June and July may be 71% higher than the corporations' estimations, the report which quotes a study commissioned by Centre for Science and Environment (CSE), indicated.

"It is a conceded position

WHAT THE GREEN COURT SAYS

- 1 All heavy diesel vehicles that are not destined for Delhi will be diverted from the Panipat toll gate into an alternative route—Panipat-Bawal—comprising parts of NH 71, NH 71A and NH 8.
- 2 Trucks entering Delhi will have to pay an environmental compensation of ₹700 (2-axle), ₹500 (4-axle) and ₹1,000 (3-axle).
- 3 The amount collected will be paid to Delhi Pollution Control Committee, which will utilize the money in improving air quality of the city. A separate account will be maintained for this.
- 4 Vehicles en-route to Delhi, which have not taken the alternative route, will be returned to Panipat and forced to use the alternative route.

- 5 Check-posts already created by the transport department based on earlier NGT orders will be authorized to return non-destined vehicles from Delhi border.
- 6 NHAI and Haryana government will also be responsible for diverting the trucks to alternative routes.
- 7 The same order will apply to return traffic entering from the Bawal side.
- 8 DPCC and CPCB told to get instruments or mechanism to check pollution from moving overloaded vehicles.
- 9 Joint commissioners of traffic police of Delhi, Haryana and UP will also examine the possibility of creating alternative routes for trucks from Ghaziabad and Gurgaon.



AVERAGE NO. OF COMMERCIAL VEHICLES ENTERING DELHI DAILY (FOR AUGUST)					
Category 1 (taxi, tempo, tata 407 and others)	Category 2 (bus, truck and other similar vehicles)	Category 3 (six-wheel truck)	Category 4 (10-wheel truck)	Category 5 (14-wheel and above)	Total
37,009	14,880	4,418	6,551	3,211	66,069

Source: MCD (submitted by Delhi traffic police)

before us that vehicular pollution is one of the main sources of inferior quality of air in Delhi... Nearly 66,000 heavy commercial vehicles enter Delhi daily. It is stated before us that low toll tax is an incentive for heavy vehicles to pass through Delhi rather than taking alternative route, which will reduce pollution." the bench said adding, "It will be...appropriate to direct the check posts to charge heavy vehicles entering Delhi...or en-route to other places entering from Sonapat to pay environmental compensation in addition to

toll tax payable." D Rajeshwar Rao, the lawyer representing the Delhi traffic police, also submitted to the bench that about 25% of the heavy vehicles entering the city is not destined for Delhi.

They ply though the capital because it's cheaper, roads are in better condition and it's convenient, he said.

The toll rates payable in Delhi range from Rs 225 to Rs 1,130 as against the Rs 500-1,500 range payable on NH 71 and NH 71A.

The bench also made it clear that all vehicles des-

tined for places other than Delhi will be diverted in Panipat into an alternative route via NH 71-A and NH-71 and exit at Bawal in Haryana. But officials as well as experts claimed it is extremely difficult to identify non-destined vehicles due to a variety of reasons, including lack of personnel and infrastructure to determine their routes.

The environmental compensation collected from the truckers will be deposited with Delhi Pollution Control Committee, which will utilize the money in improving Delhi's air quality.

The Times of India, Delhi dated October 09, 2015

Capital to soon get solar autos



PILOT PROJECT: Solar autos will initially run from ITO to secretariat

Times News Network

New Delhi: The capital is likely to get solar-powered autorickshaws soon. Delhi transport minister, Gopal Rai, on Thursday flagged off a new prototype of a solar-powered autorickshaw, which he said could be used to replace the old petrol-based ones.

These autorickshaws are being manufactured by a Bengaluru-based company, Alfa Bravo Motors, which will also run pilot projects in three other cities. A few days ago, Union transport minister Nitin Gadkari flagged off the first prototype at Nagpur.

"This autorickshaw will run from Delhi Secretariat to ITO initially. If the feedback is good, we will look at introducing it on other stretches," said an official from Rai's office.

The autorickshaws can run on battery that can be charged with grid electricity or with solar panels fitted on top of the vehicle. "The cost of operating an autorickshaw on petrol is Rs 4.50 per km, while it is only Rs 1.50 per km for this rickshaw," added the official.

Deccan Chronicle, Hyderabad dated October 10, 2015

2 waste power plants for TS

Centre to use Swachh funds to make electricity from these units viable

DC CORRESPONDENT HYDERABAD, OCT. 9

Union urban development minister, M. Venkaiah Naidu said on Friday that the Centre is focussing on encouraging production of electricity from municipal solid waste in a big way.

Addressing an international symposium on municipal solid waste management here, Mr Naidu said he had three rounds of meetings with chemicals and fertilisers minister, H.N. Ananth Kumar on generating compost from solid waste, and power minister, Piyush Goyal on producing electricity through a similar initiative.

Noting that generating compost is not a profitable proposition, the minister said there is a proposal to provide subsidy of ₹1,500 per tonne to encourage such activities. Mr Naidu also said that the power ministry is in the process of amending the Central Electricity Act, 2003 to include provisions on mandatory purchase of all power generated from municipal solid waste by state discoms.

The Central Electricity



CEI Telangana vice chairman and Fenner Industries Ltd. chairman Nrupender Rao (from left) sharing a lighter moment with Union minister of urban development, housing and urban poverty alleviation Venkaiah Naidu at the 5th International Symposium on Municipal Solid Waste Management. CEI southern region deputy chairman and CMD Elco Ltd. Ramesh Datta is also seen.

The minister said there is a proposal to provide subsidy of ₹1,500 per tonne to encourage such activities. He also said that the power ministry is in the process of amending the Act.

Regulatory Commission has determined general tariff for waste-to-energy at ₹2.90 per unit.

"This rate is not financially viable so the gap in funding will be filled from the Swachh Bharat fund," he said.

He also said 16 more waste-to-energy plants are planned and will be commissioned on public-private-partnership mode in the next one year in different parts of the country generating 73.6 MW of power.

Swachh Bharat mission has caught the imagination of people, especially children and is becoming one of the most powerful people's movements.

— VENKAIAH NAIDU

'SPECIAL STATUS IS NOT ZINDA TILASMATH'

DC CORRESPONDENT HYDERABAD, OCT. 9

Taking a dig at critics of the Centre and the AP government, Union minister M. Venkaiah Naidu on Friday said that the special status was not like Zinda Tilasmath, the unani medicine, to solve all problems of the state.

He said that the ancient Amaravati town in AP would get heritage city tag and new capital Amaravati would benefit from the AMRUT scheme.

"Eleven states have been granted special status. I know their condition. They are coming to me and seeking help. They expressed helplessness in even repaying 10 per cent loan and seek freebies," he said. Mr Naidu made it clear there was no link between special status and AAIMS, IIT, IIIT, power cuts among others.

He criticised YSHC leader Y. S. Jagan Mohan Reddy for holding an indefinite fast in Guntur.

The Times of India, Delhi dated October 10, 2015

No tax on buses, emergency vehicles, food vans

Court To Review Situation Four Months After Levying Tax

Dhananjay Mahapatra @timesgroup.com

SC set to levy ₹1,300 pollution tax on trucks entering city

Dhananjay Mahapatra @timesgroup.com

New Delhi: In a bid to reduce the capital's high air pollution levels, the Supreme Court on Friday said it would order levying of a pollution tax of Rs 1,300 on heavy trucks and Rs 700 on light commercial vehicles to deter the smoke-spewing vehicles from entering the city. The court said it would pro-

vide full coverage of the order on Monday and review the pollution situation in four months.

The levy will be collected by the existing toll booths at the 127 entry points to Delhi from Haryana, Uttar Pradesh and Rajasthan.

This will be the second most significant anti-pollution intervention on the part

CNG-EXEMPT

- Tax only on trucks using diesel as fuel, not those running on cleaner CNG
- Buses, emergency vehicles and those carrying essential supplies exempt from tax
- Ruling to be enforced for 4 months after which pollution levels in city will be checked.
- Delhi govt may use the additional levy for revamping public transport and roads

of the Supreme Court to help improve the ambient air quality in the national capital after 1998, when it had directed conversion of the entire city transport fleet — buses, taxis, auto-rickshaws and trucks — to cleaner CNG in three years.

► No tax on buses, P 4

New Delhi: With SC struggling with Delhi's critically high air-pollution levels, seen to pose serious health concerns, amicus curiae Harish Salve presented the outline of the levy proposal to a bench of Chief Justice H L Dattu and Justices Anil Mathur and Adarsh K Goel. The proposal was arrived after Salve held discussions with solicitor general Ranjit Kumar on behalf of the Centre and senior advocate Dushyant Dave for Delhi government.

The lawyers and the bench agreed to adopt the additional pollution levy of Rs 1,300 on big trucks and Rs 700 on LCVs, as decided by the National Green Tribunal. The bench clarified it would pass the order on suggested lines and direct its strict enforcement for four months. "We will examine its effect on the pollution front after four months and hear all parties for further improvement and fine tuning of the order if needed," it said.

The court intends to stop the anti-pollution levy on trucks using diesel fuel and not on those vehicles using cleaner CNG. The levy would be payable by all diesel-run trucks whether they use Delhi roads as transit routes or enter the capital to deliver goods.

The court said it would al-



FIGHTING POLLUTION: Trucks running on CNG will be exempted

so exempt passenger buses and mini vans, emergency vehicles and those carrying essential commodities — food grains, fruits, milk, vegetables, all kinds of food stuffs and oil tankers — from the pollution levy.

The bench was worried that collection of additional levy could result in traffic snails caused by haphazardly queued trucks at the toll booths.

But, Salve said, "facility of collection of toll exists at all entry points into the city. Therefore, collection of environmental compensation charge will not result further delay or inconvenience, to other traffic."

The toll collecting con-

tractors will hand over the additional levy to the Delhi government on a weekly basis, preferably every Friday. "The Delhi government may use the money for augmenting public transport and improving the roads, particularly for most vulnerable users — cyclists and pedestrians," he said.

The court also accepted the suggestion that Haryana, UP and Rajasthan government must prominently advertise the levy for the benefit of truckers and inform them about the alternative routes to bypass Delhi.

Salve pitched for installation of radio frequency identification (RFID) mechanism at every entry point to pro-

hibit entry to trucks without accounting for them on records submitted to the municipal authorities. "This is why the MCD record shows entry of only 22,980-cdt trucks every night into Delhi though independent sources put it at over 30,000. Under the contract with MCD the private toll collectors are obliged to put in place RFID systems at their own cost, but it has not yet been done. A direction is necessary that RFID facility be installed across all 127 entry points," he said.

"This RFID system should be installed by November 2015 at the nine main entry points, from where 70% of the commercial traffic enters Delhi. All remaining entry points should be covered with RFID facility by January 2016. If this is not done by the stipulated deadline, then the contractors would be treated as being in breach of their obligation," Salve said.

In 1998, three years after the lawyer had filed his case and as a direct result of it, the Supreme Court published a directive that specified the date of April 2001 as deadline to replace or convert all buses, three-wheelers and taxis to CNG. In addition, the directive specified that an infrastructure of 70 CNG refuelling stations had to be made available, and asked for financial incentives for the conversion of vehicle fleets.



LET DELHI BREATHE

The Times of India, Delhi dated
October 12, 2015

In non-metro cities, 60% houses empty waste into open drains

20% Households In 416 Cities Linked To Sewer System

Dipak.Dash@timesgroup.com

New Delhi: Over 60% of houses in mid-size cities such as Moradabad, Gorakhpur, Kolhapur, Bilaspur and Kharagpur with less than one million population discharge waste water to the open drains, indicating how the government has a mammoth task in achieving complete sanitation even in urban areas.

Nearly one-fourth of 416 such non-metropolitan cities have less than 20% households that have waste water outlets connected to the closed drainage system. According to a report on the status of demographic, econom-

STATUS OF DRAINAGE SYSTEM

Details of non-Metropolitan Class-I cities

27 cities with less than 10% houses having wastewater outlets connected to closed drainage. Kharagpur, Guwahati, Raiganj, Rajnandgaon, Jangipur, Jhunjhunu, Hindaun etc

99 cities with 10-20% houses having wastewater outlets connected to closed drainage. Salem, Siliguri, Amravati, Latur, Imphal, Sambalpur, Hapur, Bharatpur,

38.4% Households having wastewater outlets connected to closed drainage

44.5% HOUSEHOLDS HAVING WASTEWATER OUTLETS CONNECTED TO CLOSED DRAINAGE IN URBAN INDIA

Source: Status of demographic, economic, social, housing & basic infrastructure (NIUA)



Dankuni, Katihar, Bulandshahr, Sivakasi, Porbandar, Haldia, Chhindwara, Lakhimpur, Godhra

ic, social, housing and basic infrastructure prepared by National Institute of Urban Affairs (NIUA), a research organisation of urban develop-

ment ministry, more than half of the households in 327 such cities discharge waste water to the open drains.

The report was released

last week and has been prepared based on the Census 2011 data. There are only eight cities which have more than 80% houses that discharge waste water to the closed drainage system and Mysuru leads the list with over 94% coverage. "The percentage of households with waste water outlets connected to closed drainage system is abysmally low," the report said.

According to urban development ministry sources, some of the states that have sent their plans seeking approval under the urban rejuvenation scheme have focused more on improving the drainage system and augmenting the sewerage network. "These are necessary ingredients of cities for their sustainable development. Many of our towns and cities have open drains," said an official.

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

Migratory birds keep away due to warm weather

Times News Network

New Delhi: Despite the birding season setting in, very few migratory birds have arrived in NCR. Birders and scientists say it is still too hot, particularly during the day for them here.

The Aravalli Biodiversity Park, for instance, hasn't recorded any migratory birds yet, while the Yamuna Biodiversity Park has started getting some Great cormorants and Coots from Bihar and China. Ducks have still not been spotted.

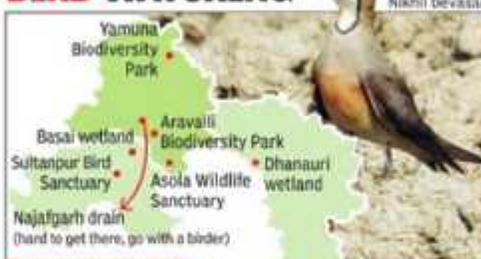
"We hope they will start arriving by mid-October as the weather is still too warm. The cool northerly winds haven't started blowing yet. We

get a lot of terrestrial migratory birds like Black Redstart, a variety of flycatchers, thrushes and warblers from the Himalayan foothills and several water birds as well. The Garganey is most often the first to reach the city. The terrestrial ones are insectivores who find a lot of food here in winter," said M Shah Hussain, a scientist at Aravalli park.

The maximum temperature in Delhi is indeed higher than normal. On Sunday, it was about 36.8 degrees Celsius, about three degrees above normal.

At Yamuna Biodiversity Park, the staff is still expecting shovelers, Red-crested pochards, Teals, Wigeons,

BIRD WATCHING



- WEEKEND GETAWAYS**
- ▶ Bhindawas bird sanctuary
 - ▶ Chambal sanctuary
 - ▶ Bharatpur bird sanctuary
 - ▶ Soor Sarovar bird sanctuary

"We got about 16-17 migratory bird species. Most important among them is the Red-

crested pochard which comes from Siberia and Central Asia. They stay here the

longest. Photographers and visitors have started inquiring about their arrival. Coots and some Great Cormorants have been spotted," explained Faiyaz A Khudsar, a scientist at the Yamuna Biodiversity Park.

Birders are surprised too. Bikram Grewal, birder and author, couldn't spot anything remarkable in Delhi but saw a couple of Northern Shovelers at the Asan barrage at the Uttarakhand-Himachal Pradesh border. "This year is really an odd one. The weather is still very hot, even though we have had plenty of rain. It's quite surprising. I was expecting many more birds at the Asan barrage," Grewal said.

However, another birder, Nikhil Devasar, managed to spot Wood sandpipers, Redstart, some birds of prey—Peregrine falcon and a Tawny eagle. "I spotted them at Basai and Dhanori wetlands. There is nothing left to be seen at the Yamuna. The water quality is so poor that the number of migratory birds arriving there is diminishing rapidly every year," he said.

At the National Zoological Park, about 800 Painted storks have already arrived. There are also some Cormorants, Egrets and White ibis that usually come from the northern, cooler parts of the country. These come in October and stay till March.

The Times of India, Delhi dated October 13, 2015

Levy pollution tax from Nov 1: SC

Heavy Vehicles To Pay 'Environment Compensation Charge' At Toll Booths

AmitAnand.Choudhary
@timesgroup.com

New Delhi: In a move to check high level of air pollution in the capital, the Supreme Court on Monday formally imposed Environment Compensation Charge on vehicles entering Delhi from November 1. Heavy trucks would have to pay Rs 1,300 and light commercial vehicles Rs 700, in addition to the toll tax for entering the city.

A bench of Chief Justice H L Duttu and Justices Arun Mishra and Adarsh Kumar Goel directed that the charge be levied on the vehicles on an experimental basis for four months till February 29, 2016 and directed the Delhi government to issue a notification.

The bench noted that 23% of commercial vehicles and 40-60% of heavy trucks entering Delhi were not destined for the capital and took the route only



BATTLE FOR CLEANER AIR

to save toll. It said the commercial vehicles must be discouraged to pass through the city.

According to a study conducted by Centre for Science and Environment, commercial vehicles entering Delhi spew close to 30% of the total particulate load and 22% of the total nitrogen oxide load from the transport sector.

"It has been pointed out that even though alternative

routes are available, such traffic enters Delhi to save on toll. In the process, pollution caused by such traffic inflicts heavy cost on the health of the residents of Delhi. To tackle this situation, an Environment Compensation Charge may be required to be imposed on all light and heavy duty commercial vehicles," it said.

The bench, however, clarified that ambulances and vehi-

cles carrying passengers and essential commodities like food stuff and oil tankers would be exempted from paying the cess. It directed that the charges would be collected by the toll operators and the amount handed over to the Delhi government every Friday.

It also asked the government to furnish accounts of the receipts and expenditure to SC every quarter.

The court also directed the governments of Uttar Pradesh, Haryana and Rajasthan to take effective steps to ensure that commercial vehicles, which are not destined to come to Delhi, take alternative routes of the national highway connecting Rewari to Panipat via Jhajjar and Rohtak. It also

directed the NCT government to install CCTV cameras at nine entry points to oversee collection of ECC.

"The government of NCT Delhi may issue an appropriate notification to levy the charge forthwith which will operate for a period of four months starting from November 1, 2015 to February 29, 2016 on an experimental basis," the court said.

This is the second most significant anti-pollution intervention on the part of the apex court to improve air quality in the national capital after 1998, when it had directed conversion of the entire transport fleet of the city—buses, taxis, auto-rickshaws and trucks—to switch to cleaner CNG fuel.



LET DELHI BREATHE

The Times of India, Delhi dated October 14, 2015

India bags No. 3 spot in world's startup ecosystem

ROCKETING AWAY

NUMBER OF STARTUPS	
us	47,000-48,000
UK	4,500-5,000
India	4,200-4,400
Israel	3,900-4,100
China	3,300-3,500



TIMES NEWS NETWORK

Bengaluru: Fueled by \$100 million flowing into the country's startups every week, the number of startups founded in the country has grown by 40% in 2015 over the previous year, said Nasscom's latest report on the Indian startup ecosystem.

India is the third biggest startup ecosystem with more than 4,200 founded and it is expected that the country will receive \$6.5 billion in funding in 2015. The largest startup ecosystems are the US (47,000-48,000 startups) and UK (4,500-5,000). Israel and China follow India.

India saw 1,200 startups being born in 2015. Currently, three-four startups are born each day. The

number of startups is projected to grow to around 12,000 by 2020. The startups now employ around 85,000 people directly.

The report, launched in partnership with consulting firm Zinnov and Google, finds that 72% of the founders are less than 35 years old. The number of female entrepreneurs still constitutes only 9% of the entrepreneurs in the country, but the absolute number grew by 50% over the past year.

R Chandrashekhar, president, Nasscom, said, "The emergence of unicorns (startups with a valuation of \$1 billion or more) and the big exits have created a lot of confidence in the ecosystem. Startups are now creating innovative technology solutions that are addressing social problems."

The Times of India, Delhi dated October 16, 2015

NGT slaps ₹5L fine on hotel

New Delhi: The National Green Tribunal has imposed a fine of Rs 5 lakh on a five-star hotel for flouting environmental norms and causing damage to the environment.

A bench headed by Justice U D Salvi directed the hotel to pay the environmental compensation within four weeks.

The tribunal noted that the effluent treatment plant, which was originally installed for 150 kilo litres per day load, was actually over utilised for treating discharge of waste water of 270 kilo litre per day and subsequently 356 kilo litres per day.

The green panel directed that the compensation would be paid to Environmental Relief Fund as per Section 24 of the NGT, Act, 2010, read with Rule 35.

The directions came while hearing a plea by environment activist Shailesh Singh who has claimed that the hotel situated on Bangla Sahib Road here was causing harm to the environment and there was no system installed for checking the pollution. 7/1

The Times of India, Delhi dated
October 16, 2015

China rules India's solar power market

In Absence Of Anti-Dumping Duty, Preference For Foreign-Made Panels Has Firms Struggling

Jayashree.Nandi
@timesgroup.com

New Delhi: As soon as a solar developer gets an order to set up a solar rooftop system in the city, they dial a Chinese company for the panels to be shipped to India. Despite the distance and logistics, the panels are far cheaper—with a difference of Rs 5 to Rs 6 per panel—than what a manufacturer in Noida or any other part of the country would quote. It takes about 30 to 45 days for the consignment to be delivered, but there are still no takers for locally-made ones.

So, while cities like Delhi are gearing up for ambitious solar rooftop projects, the solar panel and cell manufacturing industry is dying a slow death. The manufacturers have recently petitioned the government to impose an "anti-dumping duty" on the cells and panels imported from China, US, Taiwan and elsewhere as they have flooded the market.

A solar cell manufacturing company based out of Delhi that has its factory in Andhra Pradesh has stopped



making cells altogether. "We have the same technology. In fact, our products are of superior quality but the government has put no checks on imports. I read with great interest Delhi's draft solar policy

—of installing 2 GW by 2025—but will it all be with imported panels? We have mailed the Delhi government our concerns," said Arun Mishra, member of the Solar Energy Society of India and

vice-president of a solar products manufacturing company. Delhi's solar policy mandates all Delhi government buildings to install solar rooftop systems within three years of its notification.

"We, as developers, and even state governments will opt for the lowest bidder. Indian manufacturers are expensive. It will take a long time to bridge this gap," said a manufacturer, currently developing rooftop projects on government buildings in Delhi.

In fact, solar manufacturers have petitioned the ministry of commerce to impose an "anti-dumping duty" a second time. "The last time around, the ministry of commerce recommended our demand to the ministry of finance but it did not take action. We have filed a petition again in September. While the number of solar projects is rising nationwide, the import base is also expanding massively. It's a global phenomenon but US, Europe, China all have anti-dumping duty to address the problem," Rahul Gupta, secretary, Indian Solar Manufacturers Association, said.

The commerce ministry had recommended an anti-dumping duty of 0.11 to 0.81 US dollars per watt on solar cells imported from the US, China, Taiwan and Malaysia. The only time private entities

source India-made panels is when they are working on a government project. Projects under Jawaharlal Nehru National Solar Mission mandatorily use locally made products.

Activists have also been campaigning against US reservations regarding India's local content requirements under Jawaharlal Nehru National Solar Mission. "The US continues to fight a WTO case against India's domestic content requirements for the solar sector, undermining India's shift to renewable energy and the fight against climate change. We had written an open letter to the prime minister on this. The Indian solar market is struggling and enough jobs are not being created," Pujarini Sen of Greenpeace India said.

"We have been told there are also quality issues with locally made solar panels and cells. Plus, even after paying import duty Chinese panels are cheaper. We are not sure how state governments can help address this," said an expert associated with developing Delhi's solar policy.

The Times of India, Delhi dated
October 17, 2015

'Make clean cooking part of eco drive'

Subhabrata.Guha
@timesgroup.com

New Delhi: India has more than one million premature deaths per year from smoke from chulhas. Switching from cooking with solid fuels in chulhas to more efficient stoves and fuels can help save lives, says a top UN official, while also providing women with more time to engage in productive efforts.

Against the backdrop of Prime Minister Narendra Modi's pledge to provide clean air and India's promise in Berlin to cut carbon inten-

Switching from cooking with solid fuels in chulhas to more efficient stoves and fuels can help save lives, says Radha Muthiah, CEO of the UN-backed Global Alliance for Clean Cookstoves

sity — the amount of carbon per rupee of economic output — between 33% and 35% by 2030 from the 2005 levels, chief executive officer of the UN-backed Global Alliance for Clean Cookstoves Radha Muthiah says India should incorporate clean cooking into its environmental agenda.

"India is doing a commendable job in social, envi-

ronmental, and health issues across multiple areas," said Muthiah, adding, "Whether it's Swachh Bharat or water or sanitation or air pollution, India has taken steps to achieve a more sustainable development model and is moving in the right direction. Beyond its current work, the government should also incorporate clean cooking as

part of its agenda in tackling public health."

Asked for her opinion on India's declaration of its commitment to cut carbon intensity, Muthiah said, "India plays a critical role in global climate talks. Its commitment in Berlin is a bold signal leading up to the negotiations in Paris this December, where global leaders will seek to finalise an international framework for climate action with the goal of significantly reducing fossil fuel emissions."

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

The Times of India, Delhi dated
October 20, 2015

Ecologist lists steps to tackle dust pollution

TIMES NEWS NETWORK

New Delhi: Creating a buffer of trees and shrubs around residential areas and along highways could mitigate dust pollution quite effectively, DU professor emeritus and ecologist C R Babu has recommended to the Delhi government. The government had organised an inter-departmental meet chaired by deputy chief minister Manish Sisodia to come up with solutions to the capital's problem of air pollution. Sisodia called for recommendations so that emergency measures can be put in place before winter when air pollution levels go up massively.

Babu, who recently submitted his report to the environment secretary, Kulnand Joshi, listed out the main reasons for dust pollution in Delhi—construction of houses, expansion or renovation of old houses, building of roads, flyovers and bridges, dumping of soil by Delhi Metro, presence of sandy areas without grass cover, dust blown by vehicles, and sand and construction waste lying around.

"There are several measures the Delhi government can take that are easy to implement. They do not need major technology or investment. For instance, why can't we use treated water, say from Najafgarh drain, and settle the dust with

IDEAS FOR CLEANER AIR

WHAT C R BABU HAS RECOMMENDED

- A green belt 5-10m wide having **three-tier vegetation should be developed on highways around city**
- **Around residential complexes, a 3-tier green belt 10-50m wide should be developed**
- **Open areas interspersed with residential complexes should alternatively be developed into arboreta**
- **On high-pollution days, sprinklers connected to STPs should be used to spray water**



NGT notice to Haryana on truck routes

National Green Tribunal (NGT) on Monday sought a response from the Haryana government on a plea seeking restrictions on commercial vehicles transiting through Gurgaon as they contribute to high air pollution levels in the city.

A bench headed by NGT chairperson Justice Swatanter Kumar issued a notice to the Haryana government, MCG and the Haryana State Pollution Control Board, seeking their reply by November 20. The direction came on a plea filed by advocate Ashwini Kumar, who argued that air pollution in Gurgaon has increased to extremely high levels. ¶

sprinklers?" Babu said.

The report recommends that loading and unloading of cement bags and mixing of cement with sand or gravel should be carried out in closed sheds covered with plastic sheets. Patches with no grass cover may be identified with satellite imagery and covered immediately. Roads that are not black-topped should also be tarred.

On highways, Babu recommends a thick green belt, at least 5-10m wide and having a three-tier vegeta-

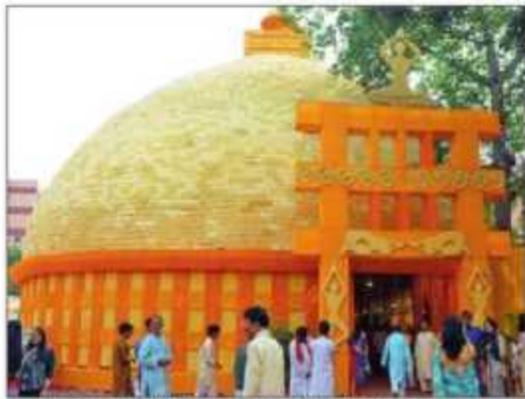
tion, and a green belt, 10-50m wide, should be developed around residential areas. Open areas interspersed with houses can also be developed into arboreta—places where a variety of trees and shrubs are planted for educational or scientific purposes.

To address pollution from vehicles on roads, a sprinkler connected to STPs should be developed for spraying water during peak-hour traffic. The environment department officials said they received the suggestions.

The Times of India, Delhi dated
October 22, 2015

DURGE DEVI NAMASTUTE - Behind glitz, pandals embrace eco-friendly themes

TIMES NEWS NETWORK



UNIQUE CONCEPTS: A lot of research has gone into making the themes



THE TIMES OF INDIA

New Delhi: Durga Devi Namastute, a Times of India initiative to give an award to the best Durga Puja pandal and idol, saw the enthusiastic participation of puja committees across the National Capital region. Judges Bipasha Sengupta, a painter, and cartoonist Uday Shankar, who have toured the puja milieu over two days, were pleasantly surprised with the thought and research that had gone into the conceptualisation of pandal imageries.

In Gurgaon, at South City II the judges saw a replica of the

Dakshineswar temple of Kolkata. "We have tried to use biodegradable materials as far as possible in its construction," said Paritosh Roy, the pandal-in-charge. The committee at Sector 56 has plumped for the Jor Bangla temple of Bishnupur after having sent a team of five art college students to West Bengal to study it. "Our pandal is a blend of Islamic multilobed arches with Bengal's traditional huts and the terracotta style," said Sabyasachi Ghosh, the secretary. The pandal at DLF 5 is simple with the idol made of clay, paper, water and

terracotta. Also, this is probably the only idol housed indoors in a hotel.

The Karol Bagh Durga Puja Samiti's pandal is ornate with grand chandeliers from Chandan Nagar in West Bengal lighting it up, while a rural Bengal had been created outside, complete with cows and rustic women. The main pratima was made by Shambu Pal, the famous artisan of Kumartuli. Unlike the usual idols that have Durga draped in a sari in the traditional Dhaker Saji, for our idol Pal fashioned it out of clay itself," disclosed

Robin Banerjee, the committee head.

There can be no mistaking that the Arambagh Puja Samiti has taken up violence against women as its theme. A 40-ft idol of a tribal woman welcomes devotees to pandal whose adornments are uniquely the pictures of inspirational cultural activities," says Amit women, including Mother Theresa, Kalpana Chawla (first Indian woman in space), Phoolan Devi (who became a bandit to avenge her rape), Mary Kom, Sushila Chandran (a Bharatanatyam dancer who danced with a prosthetic leg) and Irom Sharmila (anti-AFSPA protestor). Abhijit Bose, executive chairman of the Puja Samiti, said, "We have received a tremendous response from both men and women to our theme."

At the Cooperative Ground in CR Park's K Block, you will find a rustic Bengal made of jute, fodder, husk and bamboo straws. The pandal depicts the deities as commoners in a rural landscape. In Matri Mandir in Safdarjung Enclave, the pandal features a clever use of bamboo and coloured lighting to accentuate the showcasing of east Indian tribal cultures. The judges also visited the Mela Ground in B Block as well as

the Navapali Durga Puja Samiti.

Banar's rural culture is reiterated at Jalvayu Vihar Sanskritik Kalyan Samiti in Noida Sector 25. "We have tried out the concept of 'Gram Bangla' not just in the look of the pandal, but also in our cultural activities," says Amit Dasgupta, secretary of the committee. Elements of rural Bengal can also be seen in the pandal organized by the East End Apartment Durga Puja Samiti in Mayapuri Vihar, where a 'Dhaner Gola', a container used to store grains and considered a symbol of Goddess Lakshmi, is the centrepiece. Similarly, there is extensive use of thatch work in the Delhi Rohini Puja Samiti's pandal.

Revival of Odia folk art is the central theme of Milani Cultural and Welfare Association in Mayapuri Vihar. Art, the Rath Yatra and the tradition of sand sculpture find a conspicuous place there. For its part, the Paschim Vihar Bengali Association has the pandal in the form of Sanchi Stupa, created by Padma Sris winner, Professor Biman D Das. It also has motifs showing yoga postures.

The Paschim Vihar Bangiya Parishad has not gone the way of most committees. "We have not chosen a theme because we want to stick to the spiritual essence of the puja," said Tama Dutta, general secretary. It is simplicity too at the red-and-white pandal of the Indraprastha Matri Mandir Nirman Society, where the walls are adorned by minimalist paintings of Goddess Durga done by youngsters in a bid to "enhance the skills of local artists". Ashok Ghosh, member of the society, added that they chose to cut down on excessive expenses to be able to maintain the park where the pandal is located.

Uniquely, the Agrani Durga Puja Samiti in Rohini has a second Durga idol that will be immersed in a small pond within the pandal. "The Yamuna is in a very poor condition, so we have constructed a pond for the immersion," revealed Prantik Dutta, cultural secretary of the committee.

Music director Shantanu Moitra will be the special guest at the competition finale on October 22 and will give away the awards to the winners.

<http://www.sustainabilityforum.com>

The Times of India, Delhi dated October 23, 2015

Air cleaner as few vehicles ran

Holiday Kept Cars Away, But Experts See Many Virtues In Car-Free Day Idea

Times News Network

New Delhi: Restricting cars on a 5-km stretch for a few hours may have been too limited an exercise to make any visible difference in Delhi's air quality, but Thursday, the day when the capital had its first Car-Free Day, did prove that road traffic adversely affects the atmosphere. There was dramatic reduction in measured pollutants, though the main reason for this was the thin traffic due to the day being a holiday for Dussehra.

The Centre for Science and Environment (CSE) found a 62% reduction in PM 2.5 (fine, respirable particles measuring 2.5 micrometres or less) compared with the levels measured on October 21. CSE had monitored the span between Red Fort and Bhagwan Dass Marg on the two days using a portable air quality monitoring device. According to CSE, the device monitors exposure and captures the roadside pollution that is directly influenced by emissions from vehicles.

The System of Air Quality and Weather Forecasting and Research (SAFAR) under the ministry of earth sciences also reported a 19.5% drop in the average PM 2.5 level of the last six days between 7am and 11.30 am. "In Delhi, since fossil fuel emission accounts for about 35% of PM 2.5 emissions, today's restrictions must have reduced a fraction of that figure," said Gufran Beig, project director, SAFAR. "The emission factor for PM 2.5 from diesel is 7.9 times higher than petrol's, so the re-

REST DAY FOR POLLUTION

This is what CSE found using their portable PM 2.5 monitoring device at the car-free stretch

- 1 265 µg/m³ on October 22. On October 21, it was 689 µg/m³
- 2 Greenpeace India pegged it at 172 µg/m³ (Oct 22) against 428 µg/m³ a day earlier
- 3 Delhi Pollution Control Committee found 45% drop in overall PM 2.5 levels compared to October 21. However, CPCB's ITO station—closest to the car-free stretch—was not functioning

sults may be far better if we have a diesel-free day," he added. Greenpeace India reported a similar fall in pollutants when it recorded 172 micrograms per cubic metre of PM2.5 on the streets against the 428 micrograms per cubic metre that it had recorded a day earlier.

Government agencies also reported declines, with the Delhi Pollution Control Committee finding a 47% reduction in PM 2.5 levels compared to October 21. However, the Central Pollution Control Board's data was insufficient because its monitoring station at ITO was non-functional.

These figures make one thing abundantly clear: fewer cars do mean less pollution. As CSE said in a statement on



CSE ASKS FOR MORE

- Immediately link and scale up Metro, buses, autos & taxis
- Provide safe and barrier-free walking and cycling infrastructure by redesigning roads
- Limit legal parking and introduce taxes to discourage car usage
- Impose high parking charges as well as penalties for illegal parking
- Prepare pollution emergency plan for winter



BREATHE FREE: Monitors reported drop in pollutants on Thursday

Thursday, "By implementing the car-free day and by choosing a national holiday for it when car volumes are already low, the Delhi government has proved that reducing car numbers can significantly

bring down pollution in a city where air pollution kills at least one person every hour and impairs the lungs of every third child."

Experts now feel that the initiative should be backed by

strong policies limiting the number of vehicles on Delhi's roads. "While a car-free day every month can help build public awareness, the government will have to leverage this to implement hard steps to scale up alternatives and restrain car usage on a daily basis, immediately scale up integrated public transport system, safe walking and cycling, limit legal parking," CSE said.

CSE added that in just a single year between 2013-14 and 2014-15, vehicle registration in Delhi had increased 14%. "By 2021, car ridership will increase by 106 per cent. Bus ridership will be slowest to increase at 28%," its statement highlighted. It suggested that the government could leverage the benefit of such car-free days to "implement hard steps to scale up alternatives and restrain car usage on a daily basis, immediately scale up integrated public transport system, safe walking and cycling, limit legal parking."

A car-free day implemented in Paris recently had seen improvement in air quality similar to the one notice in Delhi, even when restrictions on vehicles had been placed only in a third of the French capital's city limits. According to media reports Airparif, which measures the French capital's pollution levels, said levels of nitrogen dioxide had dropped by around 40% in parts of the city that day. Beijing and Bangkok also observe car-free days to encourage better air quality and less road congestion.

http://www...

The Times of India, Delhi dated
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Climate finance big hurdle in Bonn talks

Vishwa.Mohan
@timesgroup.com

New Delhi: Developing countries, including India, might have got their major suggestions inserted into the expanded draft text of the climate agreement during the meeting in Bonn on Friday, but the road to a global climate deal in Paris does not appear to be smooth as this round of negotiation could not help much in resolving the sticking points of finance.

The questions over nature of contribution from rich nations and debate on the issue of beneficiaries are to be settled during the three-day pre-COP (conference of parties) meeting in Paris during November 8-10.

Rich nations want the emerging economies like India, Brazil and South Africa to also contribute to the Green Climate Fund. Besides, they also want loans and existing overseas development assistance to be counted as climate finance — the points which were strongly opposed by G77 plus China group in the five-day Bonn meeting that concluded on Friday. India is part of this group comprising 134 developing countries.

Though the countries will get another window to end their differences over the issue of finance when head of states assemble in Turkey for G20 meeting in mid-November ahead of the crucial Paris

STICKING POINTS



- Issue of climate finance is the major obstacle
- Rich nations are expected to contribute to the Green Climate Fund (GCF) – a multilateral fund to help countries fight climate change
- It is a financial arm of the UNFCCC
- There is a goal to mobilise \$100 billion a year from both public and private sources to the fund beyond 2020
- There is, however, no clear road map to mobilise \$100 billion a year from 2020
- Rich nations want the emerging economies, including India, too contribute to the GCF
- Rich nations also want that the money to be provided to only poor nations and not to countries like India
- Developing countries want the rich nations to keep loans and existing overseas development assistance out of the climate finance
- Developing countries also want the rich nations to scale up their contributions to the GCF beyond \$100 Billion per year target

134 countries
of the G77 plus China group, including India, say all rich nations must contribute to the GCF and the money should be made available to all developing countries under a global climate deal

COP21 (conference of parties), the ministerial round will be quite crucial.

“Climate finance will be a sticky issue and I believe this is one of the main reasons for keeping observer organizations out of the negotiations (in Bonn). While the draft text does have many options to keep the core issues under the agreement, the developed countries continue to hope that this will be dealt with outside the agreement,” said Ar-

juna Srinidhi of the Delhi-based think-tank Centre for Science and Environment.

Srinidhi, who is in Bonn, told TOI, “The expanded draft has most of the suggestions of G77 and China”.

Indian negotiators must be happy as they also got their suggestion on the issue of ‘climate finance’ and ‘technology transfer’ inserted in the expanded draft text.

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

The Times of India, Delhi dated October 25, 2015

India promising more than rich bloc on emission cuts

Pledges Won't Hold Temp Rise At 2°C

Subodh Varma | TIMES INSIGHT GROUP

If you add up all the promises of carbon emission cuts made by different countries, the total is still not big enough to prevent global temperatures from crossing the red line of 2 degrees Celsius rise by the end of this century, according to two different analyses by scientists.



SMOKESCREEN VOWS?

Emission Cuts by 2030

Country	Fair Share	Pledged	Pledge As % Of Fair Share
US	9,382*	2,089	22
EU	7,589	1,587	21
China	4,138	4,888	118
India	353	280	79
Japan	2,176	228	10

Source: Fair Shares: A Civil Society Review of INDCs, Oct 2015 * Million tonnes of CO₂ equivalent
Calculated for emissions since 1950

And another report released by 16 major global NGOs finds that richer countries or blocs like the US and the European Union are promising

cuts much below their accumulated share of emissions. In comparison, developing countries like India and China are pledging much more.

Climate Action Tracker, one of the groups, which includes the Potsdam Institute for Climate Impact Research, says there is a 66% probability that the temperatures may rise by 3 degrees. Climate Interactive, a US non-profit, is predicting that temperature rise will be 3.4 degrees with current proposals. Scientists had earlier concluded that a 2-degree rise will entail sea level rise up to 4 feet because of polar icecaps melting, increasing extreme events like typhoons, changes in rainfall patterns and loss of biodiversity.

► Chief emitters, P 14

Chief emitters have more responsibility

► Continued from P 1

Until now, all global negotiations, including the Kyoto Protocol, had kept the 2-degree-rise as their final target. In five weeks from now, 195 countries are going to meet at Paris to thrash out a climate change agreement.

To prepare for that the countries had been asked to submit their voluntary targets of carbon emissions cuts.

As the recent preparatory talks in Bonn, Germany, showed, there is going to be much acrimony at the Paris meet. Two issues that are causing the biggest discord are responsibility and money. Greenhouse gases started rising dangerously in the earth's atmosphere with the Industrial Revolution in the West. It has been estimated that of the total excessive carbon in the atmosphere, just five countries or blocs are responsible for more than two-thirds: US, European Union, Russia, China and Japan. This is when you count from 1850 onwards.

Why is this relevant? Because



Gulmarg in J&K received this season's first snowfall on Saturday

the more carbon you add to the earth's atmosphere, the more temperatures will rise.

Future increases are bound to happen because so much carbon has been pumped in the past. So, many argue that the chief emitters of the past have more responsibility than those like India who started contributing to emissions significantly only recently.

According to an analysis by a group of 16 civil society organisations, current promises of advanced countries are way below what they owe the world given their historical shares of emissions. The US emission cut plan is about a fifth of what their 'fair share' should be while that of the European Union is slightly more than a fifth of its share, the report released on Mon-

day said. Japan is cutting emissions by only a tenth of what it should while Russia is not going in for any cuts at all.

The developing countries, including India and China, are broadly meeting their fair share of emission cuts, the civil society analysis points out.

Another side of this problem — and another contentious issue at the climate talks — is money. The rich countries who have used up the carbon space in the atmosphere need to compensate the emission cuts to be done elsewhere in other countries. This is necessary not only because of their historical responsibility but also because they own many of the technologies necessary to cut emissions.

A recent review by the IMF and World Bank found that the developed countries had no clear plans to give \$100 billion they pledged in 2009 for helping emission cuts in the developing world. The rich bloc could come up with a plan for only \$77 billion even though several banks were on board for lending.

http://www.iiiml.org