Climate Change Community

Community Update
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In this Issue

FROM THE RESOURCE PERSON

Dear Members,

We are delighted to present the 62nd Edition of the Community Update, today.

We thank you for your continued cooperation and support to this unique knowledge sharing endeavor of the UN.

The compendium on Easy (not so easy) Solutions to tackle climate change launched last month is the first step to document a range of technologies which are simple, low cost, easy to manage locally by community; easy to modify and manage for utilization by the masses to address the adverse impacts of climate change, link communities with the youth in particular to adopt these technologies in their day to day living in both urban and rural areas.

This is an ongoing process and stakeholders, especially members of the climate change community, are requested to add to it based on their experiences and knowledge by writing to us in the days to come. **Please send details of your technologies to Prabhjot Sodhi at: prabhjot.sodhi@ceeindia.org and Ramesh Jalan at: ramesh.jalan@one.un.org .**

It is envisaged that this compendium will provide very useful and handy information to all stakeholders. Even common people will be able understand their responsibility and scope to mitigate the adverse impacts of climate change. They will be able to contact the experts using the contact details provided in the compendium.

The 27th Climate Reality Leadership Corps which took place from 22 – 24th February in New Delhi empowered another mass of over 450 enthusiastic climate leaders from 26 countries, an addition to the already existing network of over 7000 climate leaders from all over the world.

These trained climate leaders were equipped to perform ten acts of leaderships ranging from making presentations to blog posts to writing letters to editors in an efforts to raise concern about climate change.

The 27th Climate Reality Leadership Corps focused on disseminating knowledge and hope about the science, impacts and solutions to climate change. Al Gore, former US Vice President and the Chairman of The Climate Reality Project spent one and a half day training the future leaders of climate change. Mr Gore, effortlessly had people engaged as he went through explaining his presentation thoroughly to his audience. Although, the presentation talked about science and impacts of climate change it also had a very strong message of hope and the immense opportunity that the renewable sector has in store for us. Mr Gore also had three Q & A sessions during his presentation on the second day where he joined by experts like Professor Henry

Pollack, University of Michigan and Dr Ram Boojh, Program Specialist, UNESCO. The Climate Leaders now have the authority and opportunity to present a version of Al Gore's presentation to their own community to spread knowledge and awareness about climate change.

The 3 day training also saw a range of speakers talk about a variety of topics that are relevant to India like the wide array of climate change impacts in India and what we can do about it, the potential of renewable energy, and how grassroots engagement can benefit people across the country. Some of the prominent speakers included Ken Berlin, President and CEO, TCRP, Bunker Roy, founder of the Barefoot College, Henry Pollack, Professor Emeritus, University of Michigan, **Dr Ramesh Kumar Jalan, Resource Person & Moderator, Climate Change Community, UNDP**, Professor Ram Boojh, Program Specialist, UNESCO and Angela Rutter, Director of Strategic Engagement, Australian Conservation Foundation. In the experts talks was highlighted that India's position becomes important as it is already experiencing the negative effects of climate change, including extreme rainfall, flooding and significant changes to agricultural patterns, without the infrastructure to easily adapt. It was stated that while India has a low per-capita historical responsibility for emissions, it "also has the opportunity to pursue an inclusive and sustainable development pathway to secure a healthy, safe and prosperous future for its citizens and the world".

As we live in an age of social media the training had Mr Michael Ryan Leuthner, Digital Director, The Climate Reality Project talk about how the various social media can be used effectively to communicate messages to a wider crowd.

Ken Berlin, the President and CEO of The Climate Reality Project ended the outstanding training with his closing remarks. The participants, now Climate Leaders, got their certificate of participation from their assigned mentors thus ending the training. The training successfully trained and equipped over 450 new climate leaders to their already existing network of climate leaders to step forward, take a stand and win the conversation on climate change.

We look forward to your inputs and insights.

Thanks & best regards,
Ramesh Kumar Jalan
Resource Person & Moderator
Climate Change Community,
Solution Exchange-India
United Nations Development Programme
New Delhi

DEVELOPMENT IN THE SECTOR

The above picture of earth taken from outer space by NASA, made available at the recent India training of the Climate Reality Project.

The training provided about 500 Climate Reality Leaders with the knowledge and tools to build public awareness of the climate crisis and to drive action for solutions within their communities. The Climate Reality Project has trained earlier nearly 7,000 Climate Reality Leaders from 125 countries, most recently hosting trainings in Johannesburg, South Africa; Melbourne, Australia; and Rio de Janeiro, Brazil and now India.

As India will play an important role in the upcoming climate change negotiations taking place in Paris, there has never been a better time to engage people on solutions to one of the world's most important issues. Expert speakers addressed themes like India's important and unique role in the COP21 negotiations, climate impacts in India, and India's leadership in the expansion of renewable energy resources such as solar power and energy efficiency.

2015 and beyond: Action for a just, gender-equitable and sustainable future ; Produced by: CARE International (2014)

The briefing paper is available online at: http://www.eldis.org/cf/rdr/?doc=70278 .

Gender inequality is one of the most widespread and persistent barriers to securing a world of hope, tolerance and social justice. As one of the greatest injustices of our time, climate change amplifies the risks faced by people who are already poor and marginalized, with widespread negative consequences primarily for women and girls, and for society as a whole.

Social inequality and the injustice of climate change not only reinforce each other, but have common roots – in various forms of domination by powerful elites and in a development model which too often puts human rights and the environment second and economic growth first, compromising the wellbeing
of billions for the benefit of a few.

In 2015, governments will seek to agree three major international policy frameworks with long-

term implications reaching at least into 2030. These include the post-2015 sustainable development framework, a future UN climate change agreement, and the post-2015 framework for disaster
risk reduction. Within these negotiations, governments have taken their vital first steps towards addressing gender inequality, which has built on progress achieved over the last 15 years under the Millennium Development Goals.

Now is the moment for governments to make truly historic choices to globally shift course towards far more equitable and ambitious sustainable development and to tackle the underlying drivers of vulnerability and climate injustice.

Tackling climate change and reducing gender inequality are not optional extras. They lie the core of building a fair and sustainable world for all.

This briefing paper argues that gender inequality is one of the most widespread and persistent barriers to social justice and that climate change amplifies the risks faced by people who are already poor and marginalized, with widespread negative consequences primarily for women and girls, and for society as a whole.

It argues that social inequality and climate change not only reinforce each other, but have common roots – in various forms of domination by powerful elites and in a development model which can put human rights and the environment second and economic growth first.

It argues that 2015 is a key moment for governments to change course towards more equitable sustainable government as they seek to agree three major international policy frameworks with long-term implications reaching at least into 2030.

These include the post-2015 sustainable development framework, a future UN climate change agreement, and the post-2015 framework for disaster risk reduction.

New Study Identifies How Cities Can Cut Energy Use by 25% by 2050

The article is available at: http://sustainablecitiescollective.com/david-thorpe/1036406/new-study-identifies-how-cities-can-cut-energy-use-25-2050?utm_source=feedburner&utm_medium=email&utm_campaign=Sustainable+Cities+Collective+%28all+posts%29 .

A new study of the energy use of 274 cities shows how different tactics will be necessary to reduce energy consumption in different cities. It adds that a particular effort to reduce consumption in fast-urbanising cities in Asia could potentially reduce total global energy use in cities by more than 25%.

The analysis is by scientists in Germany and the United States, and appears in the December issue of the Proceedings of the National Academy of Sciences, although it was submitted in August 2013.

The analysis looked at all city sizes and regions across the world and found that 88% of urban transport energy use and 37% of all urban direct energy use is attributable to economic activity, transport costs, geographic factors and urban form.

It says that without any mitigation actions at all then the use of energy in cities will increase by more than three times, rising from 240 EJ in 2005 to 730 EJ in 2050.

At present, according to the Intergovernmental Panel on Climate Change (IPCC), urban areas consume between 67% and 76% of global energy and generate about three quarters of global carbon emissions.

But modelling by the authors shows that with appropriate urban planning and transport policies the future increase in urban energy use can be limited to 540 EJ in 2050, thereby helping to mitigate climate change.

But different cities will need to introduce different policies to be effective at reducing urban greenhouse gas emissions according to their type.

Affluent and mature cities will require higher fuel prices combined with a compact urban form to result in savings for both residential and transport energy use.

Cities in emerging or developing countries with immature infrastructures will require a compact urban form and transport planning to encourage higher population densities and avoid locking of high carbon emission patterns for travel.

The study finds that this is the greatest potential for reducing energy use in rapidly urbanizing Asia, Africa, and the Middle East.

The analysis shows that fuel price and population density correlate the most strongly with transport energy use and greenhouse gas emissions, followed by economic activity.

By contrast, "the effect of economic activity dominates final energy consumption and is followed in importance by climatic variables (heating degree days), household size and urbanisation rate".

It finds that, surprisingly, energy use decreases with an increase in cooling degree days, but that this is possibly an indirect effect of the concurrent reduction of heating degree days, and was later compensated for.

In general, economic factors are more closely correlated with energy use than with population density, whereas geographic variables are highly significant but induce less marginal change in energy use.

This correlates with other studies which quantify the ecological footprint of cities and countries and find that it is the level of economic activity which most determines the extent of the ecological footprint.

In other words, gross domestic product is a good proxy for environmental impact and greenhouse gas emissions but this will become less the case as economic activity is decoupled from the use of fossil fuels.

The analysis determined eight different types of cities, dependent upon a combination of GDP per capita, population density, gasoline price and heating degree days. Affluence was the most important thresholding variable at the top level. At the second level it was population density and gasoline prices. At the lower level it was heating degree days and population density.

Cities with a GDP of below $10,000 per capita (19% of all cities analysed) showed nearly 3 times lower energy use than those above this threshold. Amongst these, those with the highest population density showed the lowest energy use.

Among the affluent cities, those with the highest gasoline prices and the lowest heating degree

days had the least energy use.But cities with a population density greater than 450 per square kilometre are able to compensate for a lower gasoline price in terms of reducing their energy use.

The influence of climate is significant: amongst the less affluent cities, energy consumption is three times higher amongst cool climates than in warmer climates. In more affluent cities this difference reduces to 1.5 times.

The only type of cities to show a reduction of greenhouse gas emissions associated with transport at the same time as high GDP levels are those in developed countries with GDP per capita above $13,500 and with below 2 million inhabitants. All the others show a strong growth in transport energy use alongside GDP per capita.

This indicates that, with higher levels of income, urban transport use decouples from GDP per capita. This has also been observed on the national level in OECD (Organisation for Economic Co-operation and Development) countries.

The authors claim to have found that good urban planning and fuel taxes can best reduce urban energy consumption in cities in emerging economies, i.e. in Asia (57%), and nearly one-third (29%) is in Africa and the Middle East.

This is based on a model where population density is designed to increase half as fast as population growth, for example when the total population of a region increases by 10% and urban planning allows its 10 city to increase by 5%. However, they caution that there is considerable uncertainty underlying these scenarios.

Nevertheless, they say that it is unequivocally true that "how the cities of tomorrow develop spatially, especially the urban form, will lock in patterns of energy consumption for decades to come".

They cite recent forecasts suggesting that the global urban footprint will triple between 2020 and 2030, an area of one point 2,000,000 km² equal to the size of South Africa.

Demand side policies such as increased gasoline prices or taxes, encouraging compact and accessible urban forms, along with idiosyncratic urban design options can all reduce urban energy use in developed cities. This could reduce global energy use in cities by 26% or 190EJ. But to achieve this urbanization wedge different cities require different mitigation strategies.

Currently, thousands of cities worldwide are developing local climate action plans, but the authors say that their total impact on emissions is uncertain.

This is in part because of low accountability and lack of baseline data, but also because the strategies may not be the most effective ones at lowering emissions for each particular type of city.

They say that it is necessary to target the main sources of emissions. If countries with fuel prices below $1.2 per litre were to increase it to $1.6 per litre this would enable a market-based transition towards more energy efficient cities, they say.

Similarly, mixed use design and high connectivity and accessibility would support long-term energy savings. Those city types with high heating degree days, in other words cooler climates, would reduce emissions by enforcing stricter building codes and retrofitting strategies on their buildings.

In future, the study advocates the generation of material flow data that is production based for cities worldwide. This is because there may still be large variations depending upon the type of industry or dominating business that may be located in particular cities which can significantly increase energy use.

OmniProcessor Makes Drinking Water From Sewage

The article is available online at:
http://sustainablecitiescollective.com/jeffmcintirestrasbu/1036176/omniprocessor-makes-drinking-water-sewage?utm_source=feedburner&utm_medium=email&utm_campaign=Sustainable+Cities+Collective+%28all+posts%29

In many parts of the world, clean drinking water is more precious than gold. Either there is no waste water infrastructure or, if there is, the process is so basic it does little to nothing to treat the waste effectively. Much of it just gets dumped into the nearest river or ocean. Diseases caused by poor sanitation kill some 700,000 children every year and prevent many more from fully developing mentally and physically. Bill Gates has a plan to change all that.

A few years ago, his charitable foundation issued a challenge: find a way to treat sewage locally to provide a source of clean water. Janicki BioEngineering responded with its OmniProcessor, a machine that takes raw sewage in and puts clean water out. Not exactly the most pleasant process to think about, perhaps, but one that could have major implications for millions of people around the world.

'If we get it right, it will be a good example of how philanthropy can provide seed money that draws bright people to work on big problems, eventually creating a self-supporting industry," says Gates. "Our foundation is funding Janicki to do the development. It's really amazing to see how they've embraced the work. Founder Peter Janicki and his family have traveled to Africa and India multiple times so they can see the scope of the problem."

The OmniProcessor operates at 1000 degrees Celsius (1800 F) — hot enough to kill any pathogens and eliminate any noxious odors. The liquids are boiled off as steam, which is then processed and filtered into potable water. The solid waste left over is burned to produce electricity to help run the machine. One $1.5 million dollar OmmiProcessor can provide enough drinking water for a community of 100,000 people. That is a small fraction of what building sewers and a traditional treatment plant would cost.

The first OmniProcessor is located in Sedro-Wooley, Washington, 70-some miles north of Microsoft's headquarters near Seattle. Next, the Gates Foundation plans to install an Omniprocessor in Dakar, Senegal. That experience will help them learn how to work with local communities and how to choose the best location. They will also test a system of sensors and webcams that will let Janicki's engineers control the processor remotely and communicate with the team in Dakar so they can diagnose any problems.

"It tastes as good as anything I've drunk out of a bottle," Gates says. "And having studied the engineering behind it, I would happily drink it every day. It's that safe."

Let us Bring Innovative Products to People Who Really Need Them : How do you get the light when it becomes dark at night?

The article is available at : http://miracle-kids.net/en/report/2015/rpt_id000202.html .

Further details of technologies are available at: http://kopernik.info/technologies .

There is an enclave called Oecussi in East Timor, an island country in Southeast Asia. Oecussi is located in an inconvenient place, where electricity is not available to most of households.

Therefore, when the sun goes down, local people use kerosene lamps, but these are not bright enough for the price. Moreover, burning kerosene emits gases that are harmful to human health, and may cause a fire.

While the development of scientific technologies has enabled people to live a convenient life in some countries, there are still a lot of people who cannot have access to even a simple technology in other countries.

A Japanese man, Toshihiro Nakamura, considered, "**Even if outstanding technologies have been developed, they are not accessible to people who really need them. These technologies should be better used to solve poverty and other social problems."**

In this context, Nakamura, who has experiences working in many parts of the world for the United Nations, established a non-governmental organization (NGO) named Kopernik, jointly with his fellows.

Kopernik's website introduces innovative products that are useful to people's lives. On the website, citizens' groups that work in developing countries choose a product that is necessary or useful in their regions.

Then, the groups raise contributions from people all over the world who visit the website. Contributions raised will be used to help provide people with products at a lower price for the regions.

Under this project, solar lamps, which do not need kerosene and thus emit no toxic gases, have been sent to Oecussi. These lamps are simply designed to be charged by photovoltaic power during the day and to work as lighting in the evening.

Thanks to the lamps, people can walk outdoors in the evening with ease. Furthermore, children can study at night. Midwives also use these lamps, which protect the lives of both mothers and babies during delivery at night.

US, India to Enhance Cooperation on Climate, Clean Energy

The article is available online at: http://climate-l.iisd.org/news/us-india-to-enhance-cooperation-on-climate-clean-energy/

Prime Minister Narendra Modi and US President Barack Obama have announced joint measures to boost clean energy in India and international climate action. The two sides announced their plan to cooperate together and with other countries over the next year to conclude an "ambitious" climate agreement at the Paris Climate Change Conference, scheduled to take place in December 2015.

In the 'US and India Climate and Clean Energy Cooperation,' the two countries stress the importance of: enhancing bilateral cooperation on adaptation measures; carrying out joint research and development and technology innovation; and adopting and diffusing clean energy

and efficiency solutions to help India transition to a climate-resilient and low-carbon economy.

Modi and Obama also reaffirmed their intention to cooperate in phasing down hydrofluorocarbons (HFCs) and on making progress in the Montreal Protocol discussions this year.

The two countries announced actions to increase India's share of renewable use in electricity generation consistent with its goal of increasing the solar target to 100 gigawatts by 2022. Furthermore, they agreed to:

- Strengthen bilateral cooperation;
- Expand the Partnership to Advance Clean Energy Research (PACE-R), a clean energy research and development center jointly funded by the US and Indian Governments and private sector; accelerate clean energy finance;
- Launch air quality cooperation;
- Begin technical cooperation on heavy-duty vehicles and transportation fuels;
- Initiate climate resilience tool development;
- Promote super-efficient off-grid appliances;
- Transform the market for efficient and climate-friendly cooling;
- Demonstrate clean energy initiatives on the ground.

The two countries also concluded negotiations on a five-year Memorandum of Understanding (MOU) on Energy Security, Clean Energy and Climate Change to carry this work forward, to be signed as early as possible at a mutually-agreed upon date.

India is getting its solar fundamentals right but the policy is still work-in-progress by BRIDGE TO INDIA.

The Minister for New and Renewable Energy, Piyush Goyal, called for a meeting with solar developers and manufacturers recently to discuss various aspects related to structuring of A**ccelerated Depreciation (AD) mechanism** to ensure a level playing field for developers.

The minister announced that the government is considering proposals to provide interest rate subvention for developers who don't claim AD. Separately, there is a proposal to consider how private developers can raise capital through green bonds.

But it appears that the developers' demands for a universal tax-credit structure, like the one in the US, or for waiver of Minimum Alternate Tax (MAT) for solar projects might not be approved by the Ministry of Finance.

The Indian government has announced several bold initiatives to grow solar energy in India in the last few months – new solar targets for 100 GW, strong focus on rooftop segment, setting up of government solar parks for utility scale and ultra-mega scale projects, significant increase in renewable purchase obligations (RPO) and attempts to reduce the cost of financing for solar projects.

These are fundamentally sound plans but perhaps unsurprisingly, implementation process and policy clarity is not yet matching up.

In one of our previous blogs (refer), we also discussed how the allocation process for the upcoming NSM projects does not seem very well planned. The guidelines for these projects have gone through multiple rounds of changes and the timeline has already slipped considerably.

Even on the issue of creating a level playing field for developers who are not able to claim AD, BRIDGE TO INDIA believes that interest rate subvention may appear to be a fundamentally sound concept but the practical implementation and monitoring would be very challenging.

Disappointingly though, the differential tariff structure for AD and non-AD projects has been done away with before any an interest rate subvention scheme or any other such plan is implemented.

We understand that the Indian solar policy environment has been very dynamic since the new government took over but there is an urgent need to back up mega plans with detailed policy measures and simplify allocation and other investor interfacing processes.

Announcements

Scientists Call for Evidence-based DRR at Core of Sustainable Development

The article is available online at: http://climate-l.iisd.org/news/scientists-call-for-evidence-based-drr-at-core-of-sustainable-development/ .

Scientists have called on governments to put evidence-based disaster risk reduction (DRR) at the center of their sustainable development strategies, in the lead-up to the Third UN World Conference on DRR in March 2015.

The call was made during the Tokyo Conference on International Study for DRR and Resilience. The scientists urged policy-makers to empower their national DRR platforms through greater engagement with science and technology. The Conference outcome document, the 'Tokyo Statement,' is expected to serve as a significant input to the World Conference on DRR, according to the UN Office for Disaster Risk Reduction (UNISDR).

Participants at the conference, which convened from 14-16 January 2015, in Tokyo, Japan, said part of the way forward is to mobilize and align existing networks of scientific and research institutions at national, regional and international levels. They also emphasized the contributions of science and technology to DRR in terms of advanced earth observations and geographic information systems (GIS).

Use of science and technology to improve early warning systems and the accuracy, accessibility and understanding of risk information is considered a success of the Hyogo Framework for Action (HFA) agreed to ten years ago, UNISDR notes. The post-2015 DRR framework to be adopted in March aims to highlight the increasingly important role of science and technology in strengthening disaster resilience.

Margareta Wahlström, UN Special Representative of the Secretary-General for DRR, called for more research and focus on how risk is generated, and on how risk can be prevented and reduced by decisions and measures requiring social as well as political action.

Over 400 participants from 27 countries attended the Tokyo Conference, which was co-organized by the Science Council of Japan, Integrated Research on Disaster Risk, the University of Tokyo and UNISDR.

SE4ALL Promotes Sustainable Energy Financing at Financing for Development (FfD 3)

Drafting Session

The article is available online at: http://energy-l.iisd.org/news/se4all-promotes-sustainable-energy-financing-at-ffd-drafting-session/ .

As preparations begin for the Third International Conference on Financing for Development (FfD 3) to be held in Addis Ababa, Ethiopia, in July 2015, the Sustainable Energy for All (SE4ALL) initiative is highlighting that, while it will not be easy, it is possible to fund a transition to sustainable energy access for all.

SE4ALL representatives were in New York, US, where the FfD process began 27-29 January 2015, presenting both opportunities and challenges for sustainable energy financing.

Noting the likelihood of a Sustainable Development Goal (SDG) on energy, SE4ALL Senior Advisor Elizabeth Thompson emphasized the added importance this gives to financing the initiative.

The question, she elaborated, is how. SE4ALL presented its solutions to this question, accompanied by slides, a flyer and its finance committee draft report, underlining that it is possible to finance universal access to sustainable energy.

Richard MacGeorge, Lead Infrastructure Finance Specialist, World Bank; Abyd Kamali, Managing Director, Climate Finance, Bank of America; and Mohinder Gulati, Chief Operating Officer, SE4ALL, sat on a panel that detailed the solutions identified.

The panelists have all contributed to the work of the SE4ALL Advisory Board's Committee on Mobilizing Finance and Investments.

Among their suggestions were:

- Deploying de-risking tools and improving regulatory predictability to create enabling environments and less risky investment opportunities;
- Increasing the use of guarantees and insurance products by development finance institutions (DFIs);
- Taking advantage of the potential of Green Bonds.

SE4ALL plans to take the topic up in further depth at its second annual UN SE4ALL Forum, which will be held 17-21 May 2015 under the theme 'Financing Sustainable Energy for All.'

Researchers pick 'breakthrough' technologies for growth

The report covers desired 'breakthrough technologies' for poorer nations ; These include green desalination and smart electronic textbooks ; Some suggestions may be too high-tech to be practical.

The article is available online at: http://www.scidev.net/global/innovation/news/breakthrough-technologies-growth.html .

Desalination using renewable energy, vaccines to help eradicate HIV/AIDS, malaria and tuberculosis, and electronic textbooks that adapt to readers' skills are among the 50 development-boosting technologies identified in a report published last week.

The report, released by the Institute for Globally Transformative Technologies (LIGTT) at the

Lawrence Berkeley National Laboratory, United States, on 14 January, studied the most-essential 'breakthrough technologies' and the problems around them. It also outlines funding and policy hurdles.

Breakthrough technologies are defined as those that are radically different from those that already exist, according to the report. And to be useful for development they must also be cheap, require little infrastructure and only need basic technical skills to operate, says LIGTT.

The rigorous research focuses on nine categories covering a wide range of development issues, such as health, human rights, and food security and agriculture. As well as 50 main technologies, it includes one cross-cutting one: low-cost family transport, ideally using renewable energy.

"It would be a shame if the well-intended recommendations diverted resources and attention away from existing workable solutions that aren't necessarily based on 'whizz-bang' technology."

LIGTT executive director Shashi Buluswar says the report aims to provide a radical view of the kinds of technologies that could be in the pipeline.

"A disproportionate amount of effort is focused on a small number of topics: water purification, clean cookstoves, infant warmers and the like," he says. "These are, frankly, 'me too' technologies offering incremental improvements on technologies and approaches that already existed, but not offering a true path to large-scale impact."

The report warns there is limited understanding of the underlying issues that drive technical innovation, especially in developing countries. It acknowledges that technology cannot always achieve development goals on its own, and needs supportive policies and adequate funding to thrive.

"The landscape is littered with clever technologies which get a lot of media attention, win awardsand lots of funding, but do not make much impact," says Buluswar. "Indeed, our own challenge is to ensure we don't fall prey to that phenomenon."

With technological breakthroughs that range from high-tech homes for the poor to a drug to eradicate malaria, the report could be criticized for being unrealistic. But Adrian Ely, head of impact and engagement at the STEPS Centre, a research and policy center for science and development at the University of Sussex, United Kingdom, says the report's role is to start a conversation, not to offer sure-fire solutions.

"It's not specifying the technology itself in many places; it's saying, for example, we need ways to keep vaccines refrigerated" or find other mechanisms to ensure they are unaffected by high temperatures, says Ely.

But he thinks the report could have done more to highlight simpler innovations. In some cases, he says, the high-tech solutions proposed, such as internet-connected devices, are irrelevant to many in the developing world.

"How will 'internet-of-things' devices help people who don't have electricity and have to walk for miles every day to fetch water?" he says. "It would be a shame if the well-intended recommendations diverted resources and attention away from existing workable solutions that aren't necessarily based on 'whizz-bang' technology."

Buluswar says LIGTT sought input to the report from developing countries to assess the need for dedicated local research and development capabilities to customize technological breakthroughs

to local needs.

"As a next step, our hope is to work with a broad range of organizations and individuals and create an ongoing 'state of the breakthroughs' forum," he says.

The 50 most critical scientific & technological breakthroughs required for sustainable global development is available at: https://www.ligtt.org/sites/all/files/page/50BTs-Consolidated.pdf

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STEAG India's Solar Rooftop Photovoltaic Power Plant at Holy Family Hospital, New Delhi

Steag Energy Services (India) Pvt. Ltd. has recently set up a solar photovoltaic (PV) power plant at the Holy Family Hospital in New Delhi utilizing the rooftop spaces available on four of their buildings (see adjacent photo). The company would own and operate the power plant and sell the power to the hospital for the next 20 years.

By deciding to go green with regards to its power requirements, the hospital aims to offset a part of its dependence on the utility grid. The power plant covers an area of 4000 m^2 and consists of around 1000 state of the art PV modules providing a peak output of 300 kW of clean energy. The plant is expected to have an annual production of around 500,000 kWh.

The solar PV plant would bring in additional savings in electricity bills to the hospital especially during the harsh summer months of Delhi when the demand for power generally peaks.

With the abundance of solar radiation during this period, the solar power plant will be at a unique advantage to run at maximum power output conditions thereby comfortably addressing the peaking demand.

As of today, the cost for setting up a rooftop solar photovoltaic plant in India is around Rs.60 million per MW.

At this cost, developers are in a position to sell power at around Rs.6-6.25 per unit with an escalation in tariff between 2 to 3% per year.

The developer can expect a return of around 14% by this financial structuring. It is to be noted that the case is typical of rooftop solar PV systems, where no cost is incurred for using the roof spaces of the consumer. The consumer is willing to this in most cases, since the rooftop spaces are otherwise of little use.

This may not be the case for ground mounted systems, where the cost of procuring or renting the land also is to be taken into consideration.

For industrial consumers, the electricity from the utility costs around Rs.7-7.5 per unit; thus solar PV power works out to be a viable alternative.

One of the major challenges for the developer is to find reliable consumers who can guarantee long term commitments of 20-25 years which is the norm for such projects.

Water crises seen as a top threat in next decade

Shortage of clean fresh water judged to be the greatest risk facing the globe ; A water crisis is also among the problems the world is least prepared to deal with ; The expansion of cities will put more pressure on water resources.

The article is available at: http://www.scidev.net/global/water/news/water-crises-top-threat-next-decade.html .

Pressure on fresh water resources may be the main global threat in the next decade, but the world is failing to mitigate the risk and avoid a crisis, according to a survey of leaders from business, government, universities, international organisations and NGOs by non-profit foundation the World Economic Forum (WEF).

Published in its Global Risks 2015 report released ahead of the WEF's annual meeting in Davos, Switzerland, this week (21-24 January), the survey reveals a belief that water crises pose the greatest risk in terms of global impact. This places it ahead of hazards such as the spread of infectious diseases, the failure to adapt to climate change and interstate conflict, prompted by the rise of the Islamic State.

The WEF defines water crises as a significant decline in freshwater quality and quantity, resulting in damage to human health or economic activity or both. "The report highlights the interconnection between different risk factors such as water, food security, human health." The report points to a study projecting that, by 2030, the global demand for water will exceed sustainable supplies by 40 per cent.

Most of the world's water supply is currently used in agriculture, according to the UN, with the World Bank predicting that food demand will rise by fifty per cent in the next two decades, as population grows and dietary habits change.

The looming shortages may be aggravated by an 85 per cent increase in water demand from the energy sector by 2035, the International Energy Agency anticipates.

Problems will be particularly severe in areas where factors such as urban sprawl, make it harder to manage available water resources.

By 2050, the report says, two-thirds of the world's population will live in cities. In countries such as India and regions such as Sub-Saharan Africa, urban centers are predicted to expand up to five times. As cities become more densely populated, a lack of water infrastructure will have an impact on a higher number of people.

In some cases, fresh water may be unavailable close to the city. "Take Beijing, for example. A canal has been built to supply the city with the appropriate amount of water, which is scarce in the area," said Drzeniek-Hanouz. "Studies have shown that it would be cheaper to move the whole capital closer to the water than the other way around. There is definitely a direct link between poor urban planning and water stress."

The WEF survey also examined risk preparedness. Participants were asked to rank progress made in the past ten years to address each risk. The responses suggest that a water crisis, along with extreme weather events and natural disasters, is among the problems the world is least prepared to deal with.

According to the UN, one in nine people still lack access to drinking water and one in three lack proper sanitation. The 3.5 million deaths this causes each year are set to increase, as urbanization and climate change add to the stress.

Retrofit Chicago Celebrated for Helping Residents, Businesses and City Buildings save Money, Increase Energy Efficiency

The article is available online at: http://www.mwalliance.org/node/3722 .

Retrofit Chicago has been awarded the Midwest Energy Efficiency Alliance's (MEEA) 2015 Inspiring Efficiency Impact Award.

Retrofit Chicago was launched in 2012 as part of Chicago Mayor Rahm Emanuel's Sustainable Chicago 2015 Action Agenda. Retrofit Chicago is a voluntary program that is helping to drive energy efficiency improvements, and associated cost savings, job creation and greenhouse gas reductions in Chicago's residential, commercial and municipal sectors.

"Retrofit Chicago strengthens Chicago by accelerating energy efficiency across the city," said Karen Weigert, chief sustainability officer with the City of Chicago. "Retrofit Chicago works with multiple partners to make it easier for residents and businesses to access the resources they need to make their homes and businesses more efficient, saving dollars and reducing emissions."

Retrofit Chicago includes three related programs:

- Residential : Since the start of the Residential Partnership in 2012, the program has achieved more than $7 million in savings and a 15 percent energy reduction in retrofitted homes. The city nearly doubled its original two-year goal of 7,750 retrofitted homes, and to-date has completed more than 16,000 in-depth retrofits, with more than 100,000 homes receiving free efficiency products.
- Commercial : The Commercial Buildings Initiative (CBI) includes 50 buildings covering almost 39 million square feet that have each pledged to reduce energy use by 20 percent over five years. Current participants have collectively achieved a 7 percent reduction in energy use with an annual cost savings of $2.5 million, and a reduction in greenhouse gas emissions equivalent to removing 5,800 cars from the road.
- Municipal : The municipal part of Retrofit Chicago – starting with the Retrofit 1 project – uses private investment to accelerate retrofit projects in 60 city buildings. Retrofit 1, the Chicago Infrastructure Trust and its partners estimate that upon completion of the retrofit projects the city will save approximately $1.4 million in energy costs and reduce energy use by 18 percent across all buildings.

"Mayor Emanuel has a bold vision for the role energy efficiency plays in helping to make Chicago a more affordable, competitive, attractive, livable and sustainable city," said Stacey Paradis, MEEA interim executive director. "MEEA is pleased to recognize the City of Chicago and Retrofit Chicago for its successful, cross-sector approach to improving energy efficiency."

How Community Solar Is Finally Addressing Clean Energy Equity Problem

The complete summary can be found at :
http://www.renewableenergyworld.com/rea/news/article/2015/02/how-community-solar-is-finally-addressing-clean-energys-equity-problem??cmpid=WNL-Wednesday-February4-2015 .

It is no secret that the residential solar market in the US is booming. Declining panel prices, the rise of third-party PPAs, and the spread of the Solarize model—these are familiar storylines to anyone with a passing knowledge of the solar industry. And those of us with a passion for clean energy are more than happy to share the good news.

But as we celebrate the extraordinary success of the solar industry, there is something missing from the conversation. Specifically, how do we share the benefits of solar more equitably? How do we ensure that solar is within reach of every American household, not just those who can afford to install panels on their rooftops? Put simply: We talk about "grid parity," but what about "grid equality?"

The good news is that we now have an answer to this question: community shared solar. Households can now buy a portion of an offsite solar array in their area and see a credit on their utility bill for the energy their share produces. Harnessed properly, community solar presents a real opportunity to address inequalities in the residential solar market in at least three ways.

Keeping It Simple : Rooftop solar is a complicated undertaking. To go solar, a homeowner needs to do her diligence on which supplier to buy from, understand whether her roof it suitable for an array, take time to meet with contractors and installers, and, in some cases, perform ongoing operations and maintenance. These obstacles appear daunting enough for any household. They present especially large barriers to entry for low- and moderate-income families for whom time is scarce. Community solar does away with the hassles of rooftop solar. It allows households to opt in to a local solar project through a simple process comparable to signing up for a gym membership or subscribing to a magazine. That is an enormous step forward.

Addressing Risk : Community solar can also address hesitance on the part of lenders to extend solar access to non-traditional households, such as low-income families. Today, if a rooftop solar customer defaults on his solar lease, the developer is left with an expensive stranded asset on its hands. It is no wonder then that risk-aversion is the status quo.

By contrast, community solar creates a market where developers can mitigate their risk. If a customer for community solar fails to pay for their share, the developer can swap that customer out and find someone else to take it over. And that means more households that can go solar, at a much broader range of incomes and risk profiles.

Scaling Up through Communities: Renewable energy is taking hold not because of some slick advertisement, but through old-fashioned word of mouth. Solar is quantifiably contagious — and community solar is designed to take advantage of precisely that fact. Community solar gives our cities and towns a sense of mission, common purpose, and collective action. It transforms sustainability from a solitary pursuit — like sorting the recycling — into a collaborative effort where neighbors exhort one another to go green.

Residential rooftop solar remains the province of the fortunate few, with approximately 80 percent of American households unable to access it. By lowering the barriers to entry, mitigating risk to developers, and inviting neighbors to come together to build a renewable energy future — community solar presents a transformative way to broaden the market for solar power.

Some developers have been advocating community solar/wind projects in India. Till now Tax benefits for those investing in Renewables are given to big industrialists and businessmen who start Renewable Projects. To make it a mass movement those individuals who pay Income Tax can be given exemption under Section 80 C by Government of India by Creating a Renewable Energy Fund. Thus huge money will be available for Renewable Energy Projects besides mass participation.

Food Waste to Energy: Louisville, Kentucky Food Hub Plans Onsite Power Plant

The article is available at: https://sustainablecitiescollective.com/seedstock/1043126/food-waste-energy-louisville-kentucky-food-hub-plans-onsite-power-plant?utm_source=feedburner&utm_medium=email&utm_campaign=Sustainable+Cities+Collective+%28all+posts%29 .

A food hub is in the works for the west side of Louisville, Kentucky, but it's no ordinary food hub. Organizers also envision an onsite power plant, consisting of an anaerobic digester that would turn waste into methane gas.

The West Louisville Food Hub is a project of Seed Capital Kentucky, a nonprofit focused on bolstering the regional food and agricultural economy in the state. The project is still in the fundraising phase. Targeted completion date is early 2016, says project director Caroline Heine. The planned anaerobic digester will be built by Nature's Methane, a Star Distributed Energy company.

Organizers estimate the city will save $18 to $20 per ton using the digester as opposed to dumping organic waste at a landfill. In addition to powering the food hub, there would be enough excess electricity to sell to the grid, potentially powering hundreds of homes.

In September 2014, Seed Capital Kentucky purchased 24 acres of vacant space in the heart of the city's food desert.

"We want to transform West Louisville, now a dead zone, a concrete abyss, into a living, dynamic, job-creating, community gathering space," says Heine.

Heine hopes ground is broken on the digester between April and June, with operations starting by the end of 2015.

On December 17, 2014, Heine and her team got a first look at the food hub's master plan concept. Now, Seed Capital Kentucky is engaged in a capital campaign to raise money, as well as securing permitting, titles, zoning, etc. Since the food hub is a nonprofit project, money is being procured from a variety of capital sources, including federal grant dollars and tax credits.

Heine's long-term vision for the food hub is a multifaceted one, centered on building infrastructure for local and regional-sourced food for Louisville.

"It will be more than a food hub," she says. "More like a food park."

The goal, she says, is to engage the entire community to support local farmers, small business, and create jobs. She sees the up-and-running food hub filled with food trucks, a farmers' market, an edible community garden and a demonstration farm run by Jefferson County University of Kentucky Extension.

In 2012, Seed Capital Kentucky researched local food needs in Jefferson County.

"We found significant unmet demand in Louisville," Heine says. Major opportunities exist in connecting local food and local people, she says, and the West Louisville Food Hub will help meet this need.

Steven Estes, president of Star Distributed Energy, is excited about the new digester his company is set to build at the West Louisville Food Hub, as well as what it represents. "Sustainable agriculture is tied to renewable energy," he says.

Star Distributed Energy has digesters under order in 20 states, says Estes, most of which are in urban settings. "This is agriculture's future—we've got projects all over the country."

But Estes is equally excited about the vision for this new food hub in Louisville. "The first step is getting the food hub built," he says. "We want to see Louisville become a leader in this type of endeavor."

Heine says it was important that this food hub not be "started from scratch." Therefore, developers looked to other food hubs across the country for example and inspiration. The four food hubs that have most influenced the West Louisville Food Hub include Baltimore Food Hub in Baltimore, Maryland; The Food District in Columbus, Ohio; CCK Pearl, in Dorchester, Massachusetts; and Grow Food Carolina in Charleston, South Carolina.

Located in the city's Russell neighborhood, the food hub's land was once owned and operated by National Tobacco Works. The acreage has sat vacant since 2010, when it was sold. The area surrounding the food hub site has a poverty rate of 49.3 percent and an unemployment rate of 34.1 percent, according to U.S. Census data. Heine wants the West Louisville Food Hub to serve the community by becoming a true part of it—therefore, she and others are reaching out to neighbors of the hub so they can be involved.

Estes believes that the anaerobic digester planned for the food hub will do more than provide power—it will also provide opportunity.

"If we as a country are able to anchor anaerobic digesters to urban food hubs, this would create jobs in urban areas," he says. "Plus there would be more access to fresh fruits and vegetables."

Loss & damage issue brings developing countries together : EU asks for historical responsibility not be accounted for in the 2015 global agreement

The article is available online at: http://www.business-standard.com/article/current-affairs/loss-damage-issue-brings-developing-countries-together-115020900790_1.html

Climate change negotiations in Geneva are working to draw the rough blueprint for the global Paris agreement, which will be agreed upon by the end of the year. The signs of solidarity over select issues, which had emerged in the developing country block, G77+China, at Lima last year, reverberated at the Geneva venue too.

Several of the groups that fall within the umbrella of the G77 demanded that the 'Loss and Damage' track of negotiations be treated separately from the talks on the issue of adaptation. It was an issue that had rocked the Lima talks and the developing countries did not lose their chance to put it on the central table at Geneva.

At the same time, the European Union (EU) demanded that the preamble of the Paris agreement not have any reference to the existing provisions of the United Nations (UN) Framework Convention on Climate Change or to historical responsibility of the developed countries.

Developing countries, especially the poorest ones, want that a special mechanism should be central to the Paris agreement. They want this system to provide compensation for the losses and

damage arising out of inaction to reduce emissions by the rich world. The developed countries have fought hard over previous years to keep it as a notional concept within the larger frame of how the world adapts to inevitable climate change, consequently nullifying any new liability or responsibility.

Country groups such as the Alliance of Small Island States, the Least Developed Countries and AILAC, the Independent Alliance of Latin America and Caribbean, all came together on the issue of loss and damage.

The EU, in contrast, took a hard-line at Geneva wanting to reduce even its existing responsibilities by asking that references to historical responsibility, which exist under the UN climate convention, be dropped in the new agreement. With historically accumulated emissions of greenhouse gases being much higher for developed countries, the responsibility for reduced emissions and funds to fight for climate change in developing countries falls largely on their shoulders.

With issues of financial support from the rich to developing countries and loss and damage being a common rallying point for even the most disparate groups under the G77+China umbrella, India too aligned with the others on the issue. With its other partners in the like-minded developing countries' group, which includes China, it reiterated that the Paris agreement must reaffirm the "decisions on the Warsaw International Mechanism on loss and damage and make these operational".

The first few days of negotiations at Geneva are expected to see all countries add to the existing wish list of what the Paris agreement should look like. The wish list, or the 'elements text' as it is called in negotiating jargon, is expected to consequently bloat and enlarge before countries get down to trimming and fine-tuning it.

Countries and groups began inserting specific language that reflected their views in the 'elements text'. At the moment these remain as options on the table. Reconciling them partially and trimming the text to produce what is called a 'draft negotiating document' by the end of the week remains the tough bit.

India takes its own path on energy and climate change

The article is available online at: http://www.scidev.net/global/cooperation/editorials/india-path-energy-climate-change.html

Whoever worries about the future generations has a responsibility to be conscious about climate change [and to] adopt practices and policies which will ensure a good life and good environment for future generations

The Indian side reciprocated by coming up with an administrative solution, a "legal memorandum" to get around India's strict liability laws that have deterred US suppliers. According to the joint statement issued by the two leaders, the US will help India gain membership of the Nuclear Suppliers Group — a group of nations that aims to ensure that their exports avoid contributing to the proliferation of nuclear weapons. Not being part of this, and various other international regimes, has until now blocked India from gaining access to missile and other sensitive technology.

On climate change, Modi refused to be swayed by the US-China deal announced in November to reduce China's greenhouse gas outputs. Under the deal, China, the world's biggest emitter of these gases, agreed to cap its emissions by 2030, while the US, the second largest emitter,

pledged to cut emissions by 26—28 per cent below 2005 levels by 2025.

India, Modi said, is a sovereign country and "no pressure from any country or any person has any effect on it". But he was quick to add that he recognised that there is pressure from climate change and global warming. "Whoever worries about the future generations has a responsibility to be conscious about climate change [and to] adopt practices and policies which will ensure a good life and good environment for future generations," he said.

India's special circumstances

If India, the world's third largest emitter, dithers on cutting greenhouse gas emissions, it is because of its special circumstances. For a start, US-China trade stands at US$500 billion a year — five times the value of India's trade with the US. India trails far behind China in terms of historical and current per capita emissions.

According to US think-tank, the World Resources Institute, one in four Indians lacks access to electricity. And the World Energy Outlook 2014 says India's energy demands will overtake China's over the next ten years. India needs emission space for a few more decades plus support from developed countries to build green industrial capacities. This is where the US is now stepping in with a pledge to invest in India's ambitious plan to increase its solar energy capacity to 100 gigawatts by 2022 — that would be ten per cent of the country's projected energy mix. No country is going to be more important in moving forward a strong agreement than India.

The joint statement stressed cooperation on adaptation measures, research and development, technology innovation and the adoption of clean energy solutions that will help India transition to a climate resilient and low-carbon economy.

Cooperation on Paris deal

This year, the US and India will also closely cooperate to deliver a successful agreement in Paris on climate action. As India continued to shy away from making firm commitments on reducing emissions, Obama canvassed India's support for a credible Paris agreement. "No country," he told Modi, "is going to be more important in moving forward a strong agreement than India."

India's own stance has been that UN Framework Convention on Climate Change principles should be followed. These include prioritising poverty eradication and the idea that developing nations should be allowed to emit carbon as they develop now, just as developed countries did during the industrial revolution.

Will these hamper the agreed goal of a strong Paris outcome? According to Ghosh, what is important is that a bilateral process has begun. "After all," he says, "it took two years of negotiations between Washington and Beijing before they could make a joint announcement on reducing emissions."

Patent protection

Perhaps the icing on the cake of Obama's visit was a pledge by Modi that India would accept suggestions made by a joint working group on intellectual property rights. That was in response to a complaint by Obama that US corporations found it difficult to do business with India because of inadequate patent protection.

The joint statement said "both countries reiterated their interest in sharing information and best practices on intellectual property rights issues, and reaffirmed their commitment to stakeholders' consultations on the policy matters concerning intellectual property protection", and that the two leaders had "agreed to strengthen bilateral cooperation in the health sector, including distribution barriers and patent quality".

Just how this would work remains to be seen. India has consistently pointed out that its domestic intellectual property laws fully comply with the TRIPS (Trade-Related Aspects of Intellectual Property Rights) agreement administered by the World Trade Organisation. And Anand Grover, director of the influential Lawyers Collective, says changing the present regime would hurt India's generics drug industry, which provides cheap essential medicines to the world.

Clearly, the Modi government will need to find creative ways to circumvent existing law to accommodate the promises made on intellectual property and nuclear liability or take these issues back to parliament.

Reduce, Reuse, Recycle: Empowering Sustainable Actions Through Design

The article is available at: http://sustainablecitiescollective.com/big-city/1041916/reduce-reuse-recycle-empowering-sustainable-actions-through-design?utm_source=feedburner&utm_medium=email&utm_campaign=Sustainable+Cities+Collective+%28all+posts%29 .

Today's cities are filled with creative ideas on how to decrease waste and make recycling initiatives more appealing to local residents. However, although governments, local institutions, and individuals around the world are beginning to become more environmentally conscious, it is still important to raise public awareness of recycling and reuse, encouraging people to make a positive impact on society.

Germany, for instance, is well known for its strong social system. It is surprising to see how a society can be educated with simple actions. Instead of throwing bottles into the bin, people can get a reward by returning them to specific points (i.e supermarkets). A deposit is applied to the cost of reusable bottles when they are sold and it can only be recovered when the bottle is returned. Beer bottles are worth less than 10 cents, but most plastic bottles can be redeemed for 25 cents. For some people, it's not worth the trouble of taking them back to the shop to get their deposit. But for others, a bag full of bottles can mean a journey back home or a warm meal.

Some people in Germany make a living collecting and returning bottles. Paul Ketz, a young Product Designer from Cologne, invented a product to reduce the health risks for deposit collectors. He designed a collection ring (Pfandring, as it is best known in Germany), an urban element which goes over public bins. With his invention, instead of throwing plastic and glass bottles into the bin, people can place them in the ring so that reusable bottles are not mixed in with general rubbish and can be easily accessed.

Another innovative invention originated in Catalonia and is known as the OliPotor oil pot, which is a small plastic container designed to collect and store the remains of domestic cooking oil for subsequent recycling. This simple element started being used in many Barcelona households with the intention of avoiding spilling the liquid down the drains or dumping it in the sink, which is an action that damages the environment.

Electronic devices and other appliances are recycled and reused as well. Not far away from the Catalan capital, in Sant Cugat del Vallès, the local council introduced a series of compact containers which were placed in main avenues within the city centre to make them accessible to everyone. These modern bins, which are made out of iron, use an inviting iconography and an interesting design to promote recycling for batteries, CD/DVDs, bulbs, ink cartridges, mobile phones, chargers, and aerosols.

With these creative urban elements for recycling everyday objects, local communities can not only help the environment, but they can also benefit physically, mentally and financially.

In Warsaw, Poland, where recycling is not yet a common activity, the Spanish art collective Luzinterruptus wanted to catch the attention of locals by setting up an installation to bring recycling awareness. The art piece was called Recycling Sunday, and it served to introduce the concept of the three Rs (Reduce, Reuse, Recycle) and up-cycling through an interactive exhibition which used the three colours used for recycling (blue for paper, yellow for metal and green for glass). Hundreds of coloured plastic bags fitted with a light bulb inside were scattered about a public square with the idea of bringing recycling closer.

Interaction was the predominant element of the piece, where urban space, art and people played the same role. Interaction is without a doubt another important technique to empower locals to be involved in a campaign or cause.

The act of dropping paper on the ground or mixing a piece of cloth, a bulb and a lemon skin in the same bin should feel awkward. Making life more environmentally-friendly makes sense, and with ideas like these, the days of people throwing reusable glass bottles into rubbish bins might be a thing of the past.

Ensure resources to developing nations on climate change: India

The article is available online at : http://echoofindia.com/united-nations-ensure-resources-developing-nations-climate-change-india-78317 .

As the global community readies to adopt an ambitious post-2015 development agenda, India has highlighted the importance of ensuring enhanced resources to developing countries to combat climate change.

It is important to ensure that the enhanced provision of resources to developing countries for climate change and environmental concerns is additional and not at the cost of traditional development finance.
The present double counting of climate finance with Official Development Assistance (ODA) is a matter of concern.

Even though ODA levels have regrettably declined, this does not diminish their relevance and ODA would remain relevant and important in the post-2015 period and much of the recent discourse has focused on the insufficiency and declining role of ODA.

In fact the broader agenda envisaged under the Sustainable Development Goals (SDG)s would require ODA levels to be enhanced and scaled up. The organization of Financing for Development Conference in Addis Ababa in July this year is an opportunity to enrich global efforts to forge an ambitious set of 'means' for implementing the agenda.

The linkage between the Post-2015 and Financing for Development processes must be seen through the lens of 'complementarity'. The objective of the Financing for Development Conference is not to replace the Means of Implementation segment under the Post-2015 Development Agenda, but to complement it.

The broader and integrated development template of the SDG will require an integrated and comprehensive financing strategy to ensure the provision of additional, predictable and stable flows of resources to developing countries.

Global Climate Governance in 2014 in Retrospect

The article is available online at : http://climate-l.iisd.org/policy-updates/global-climate-governance-in-2014-in-retrospect/ .

As the 20th session of the Conference of the Parties (COP 20) to the UNFCCC closed in mid-December 2014 in Lima, Peru, some returned to their homes feeling cautiously optimistic regarding the potential for a strong, ambitious outcome at the Paris Climate Change Conference in 2015.

Despite slow progress, the Lima conference was conducted in an overall positive spirit, and some advances were made on the crucial and controversial issue of differentiation through recognition of the special needs of vulnerable States, and the compromise language on the differentiation of countries' responsibilities, both included in the key conference outcome, the Lima Call for Climate Action. More pessimistic observers suggested that the UN climate negotiations are heading towards agreement on the lowest common denominator, namely that commitments by countries to action and support will be based on what each country subjectively determines as the maximum effort it can make, based on its national capabilities and circumstances, which most likely would not add up to staying below the 2°C target. Still, the Lima conference left a large amount of work for the Ad Hoc Working Group on the Durban Platform for Enhanced Action (ADP), which is expected to agree on a draft negotiating text at its meeting in February 2015, in Geneva, Switzerland.

The COP is the main annual event of the UNFCCC (and, to a certain extent, of the entire climate policy community), and the high expectations that precede it often translate into post-meeting disappointment among a range of parties and stakeholders. Apart from the numerous decisions taken at this key forum of global climate governance that slowly but surely move the international climate regime forward, a number of promising developments took place in 2014 outside the UNFCCC that also merit attention and cautious optimism.

Explaining the dynamics of global efforts to tackle climate change through a top-down versus bottom-up dichotomy has become commonplace. In general, the former consists in (legally) binding rules, and even absolute caps, on States' emissions under an international or regional regime, while the latter refers to voluntary actions by State or non-State actors, or among a smaller group of States. Disillusioned with the slow progress and lack of ambition under the UNFCCC, some have called for more emphasis on actions outside the Convention, and how these can accelerate and support climate action. To remedy the negotiation gridlock that stems, among other factors, from the consensus principle applied under the UNFCCC in the absence of agreement on voting rules, some have gone as far as to suggest the establishment of a "club," assembling "countries that are willing to move faster than the rest."

While most agree that neither top-down or bottom-up approaches alone are enough to keep temperature rise below 2°C compared to pre-industrial levels, a clear roadmap for how these two can work together in order to bring about action that is in line with science has yet to emerge. While the UN Paris Climate Change Conference in December 2015 is expected to provide some kind of an answer to the top-down side of the equation, making sense of developments outside the UNFCCC (the bottom-up) is becoming an increasingly complex exercise, pointing to the need for a collective, aggregate force to bring "everything" together in a meaningful way.

This policy update reviews the year 2014 through the eyes of IISD Reporting Services, whose work comprises daily feeds published by the knowledge management project 'Climate Change

Policy & Practice' on the climate change activities of UN and intergovernmental organizations, and coverage of international climate change negotiations and conferences through its Earth Negotiations Bulletin and other publications. This update focuses in particular on activities by diverse actors outside the UNFCCC process, and how these actors are supporting collective and cooperative action on climate change. It argues that, in order to stay relevant and fulfil its objective, from Paris onwards, the UNFCCC will need to reinvent itself to go beyond an exclusive focus on States. It is this broader scope – reviewed in this update – that will enable unlocking climate action beyond individual States' capacities under an umbrella of international governance.

High-level Events : The key climate event of 2014 was undisputedly the UN Climate Summit, which was convened by UN Secretary-General Ban Ki-moon in New York in September. Representing an unprecedented level of participation by Heads of State and Government and other leaders from a diverse group of actors, the event resulted in numerous announcements of action by governments and companies, as well as multi-stakeholder initiatives and coalitions. Among the key Summit outcomes was the New York Declaration on Forests, signed by 27 countries and dozens of companies and non-governmental organizations (NGOs) aiming to halve the global rate of deforestation by 2020. Also, in support of the Summit, 73 countries, 22 subnational entities, and more than 1,000 businesses and investors signed a Statement on Putting a Price on Carbon. The preparatory high-level meeting of the UN Climate Summit, the Abu Dhabi Ascent, also attracted an impressive 1,000 participants from government and various stakeholder groups.

At the beginning of 2014, the Annual Meeting of the World Economic Forum (WEF), which convened 2,500 global leaders from States, businesses, the UN system and civil society, featured the impacts of climate change among the topics discussed. Climate change was also on the agendas of the EU-Africa Summit in April, the G7 Summit in June, the BRICS Summit in July, the UN General Assembly (UNGA) in September, and the North Atlantic Treaty Organization's (NATO's) North Atlantic Council Summit in September Even if not officially on the agenda, climate change was also included in final communiqué of the G20 Summit in November.

Multi-stakeholder Initiatives : A number of global initiatives bringing together stakeholders around specific issues related to climate change mitigation and adaptation were formalized or further developed in 2014. The Partnership on Low Carbon Sustainable Transport (SLoCaT), a partnership of over 80 organizations that promotes sustainable transport policy integration, was formalized through the incorporation of its Secretariat as an independent legal entity. The Sustainable Energy for All (SE4ALL) initiative, which aims to ensure universal energy access, a doubling of the share of renewable energy in the global energy mix, and a doubling of the rate of energy efficiency improvements globally by 2030, launched the UN Decade of SE4ALL (2014-2024) through various regional and global events, and opened its Global Facilitation Office in Vienna in November 2014. The Global Legislators Organization (GLOBE) International held a number of meetings, and launched the Partnership for Climate Legislation, which will share best practices and provide assistance in climate law development and implementation.

The 1 Gigaton Coalition, launched by the Government of Norway and the UN Environment Programme (UNEP) during COP 20 in December, aims to quantify the impact of renewable energy and energy efficiency projects to support their further uptake. Another new initiative, the Medellín Collaboration on Urban Resilience, launched by the UN Human Settlements Programme (UN-HABITAT) and eight partners at the Seventh World Urban Forum, in April, will support cities to build resilience to systemic shocks and stresses, such as climate change. The UN Climate Summit also marked the launch of a number of multi-stakeholder initiatives, including the Compact of Mayors, described as the "largest effort to date by cities to fight climate change, "and the Global Alliance for Climate-Smart Agriculture, targeting 500 million farmers globally.

The People's Climate March, held during the UN Climate Summit week in New York, brought to the streets an estimated 300,000 to 400,000 participants, demonstrating the power of civil society and calling on global leaders to take urgent action on climate change while reminding them that "there is no planet B."

Finance Institutions and Developments : In the field of climate finance, the major events of the year were the Initial Resource Mobilization meetings and finalization of key decisions required to operationalize the Green Climate Fund (GCF), an operating entity of the UNFCCC that will support developing countries in low-carbon, climate-resilient development. With country pledges to the GCF (including from Peru and Colombia, both developing countries) totaling nearly US$10.2 billion in December 2014, the Fund is expected to begin considering proposals and committing funds in the first half of 2015.

In April, the Global Environment Facility (GEF) concluded its sixth replenishment for the period 2014-2018, totaling a record-high US$4.43 billion, of which US$1.26 billion are earmarked for the climate change focal area. Together with the GEF's dedicated adaptation funds, climate financing available through the Facility over the next four-year period will total US$3 billion. Major multilateral development banks (MDBs) also pledged to further develop climate financing through strengthened institutional focus on the issue.

The announcement of the BRICS (Brazil, Russia, India, China and South Africa) New Development Bank also constituted a significant development, with an initial subscribed capital of US$50 billion for financing infrastructure and sustainable development projects in BRICS and other emerging and developing economies. Further indications of forthcoming South-South cooperation were received with an announcement by China, during COP 20, on the establishment of a South-South Cooperation Fund.
In a major advance to the fast-growing global carbon and fossil fuel divestment movement, and a contribution to the UN Climate Summit, a group of major institutional investors and UNEP's Finance Initiative (UNEP-FI) launched the Portfolio Decarbonization Coalition, which will aim to decarbonize at least US$100 billion of institutional equity investment by the Paris Climate Change Conference in December 2015.

Bilateral Agreements : A number of key bilateral commitments to action were also made during 2014, most prominently the US-China joint announcement on climate change, in which the US pledged to reduce its net GHG emissions by 26-28% by 2025 compared to 2005 levels, and China committed to a peak in national GHG emissions and producing 20% of its energy from non-fossil fuel sources by 2030. An agreement between State and subnational levels was also made with the signing of a Memorandum of Understanding (MoU) by Mexico and the US state of California on enhancing cooperation on climate change, including GHG reporting, market-based mechanisms, renewable energy, forest carbon and SLCPs.

Even after these numerous events and announcements in 2014, the question remains: will the existing and new pledges of action and forms of cooperation translate into sufficient levels of implementation to avoid dangerous climate change? Will these initiatives, plans and policies, established inside and outside the UNFCCC process, add up to sufficient financial and technical support to vulnerable countries suffering the adverse consequences of climate change? And will they translate into enough renewable and clean energy installations, and action on energy efficiency around the world to contribute to the "substantial and sustained emission reductions" required to stay within the 2°C limit, which will entail a near-term peak and reductions in GHG emissions of 40-70% relative to 2010 by 2050, as indicated by the Fifth Assessment Report (AR5) of the Intergovernmental Panel on Climate Change (IPCC), finalized in 2014?

With the UN Paris Climate Change Conference less than 10 months away, all the international

climate community's attention will undoubtedly be on the 2015 agreement. But what will happen after Paris? In the life of an organization, after all major events – be they crises or achievements – comes a moment of self-reflection and, ideally, reinvention. Climate change is a complex problem that knows no boundaries. The year 2014 clearly demonstrated that the same now applies to global climate action. After Paris, will it be time for the UNFCCC to look at how it can adjust to this reality while maintaining its crucial role as the leading international regime supporting climate action by all States and actors? This may be the only way to allow for States to go beyond their individual capabilities, to collectively meet the needs of all, both humans and the planet.

Examples of Using Indigenous Knowledge for Urban Biodiversity

The article is available at: http://sustainablecitiescollective.com/nature-cities/1043231/bright-side-indigenous-urbanization-biodiversity?utm_source=feedburner&utm_medium=email&utm_campaign=Sustainable+Cities+Collective+%28all+posts%29 .

Over time, cities originated wherever indigenous cultures agglomerated and planned links between their settlements and peri-urban ecosystems for the provision of water, food and other goods and services. Not by coincidence, these settlements often occurred in biodiversity hotspots—and we know that historically cities were hotbeds for innovation of all sorts.

Yet indigenous knowledge on the sustainable use of biodiversity has largely been unutilized in city design. Here we propose to identify some "bright spots" in integrating traditional knowledge on environmental protection in cities.

Indigenous urbanization, problems and solutions : Like the rest of us, the majority of indigenous peoples all over the world now live in urban settings, and that proportion is increasing. Almost 60% of the indigenous population of Panama lives in its main city, as is the case of Maracaibo in Venezuela.

Cities like La Paz (Bolivia), Santiago (Chile), San José (Costa Rica) and Fernheim (Paraguay) concentrate up to 40% of their country's total urban indigenous population. This growing trend has implications for their lifestyles and culture, including risks of alienation and loss of traditional knowledge. Urban indigenous peoples often find it hard to pass these on to younger generations.

Furthermore, many indigenous peoples in various regions are currently living in housing that is at odds with their cultural needs, which is evident by having to give up traditional and culturally specific housing when they migrate to cities. In fact, housing conditions offered to migrating indigenous peoples often do not meet even minimal local criteria for quality of life.

This issue has been subject of the work ofUN-Habitatin the past years, in particular, from the angle of urban migration, housing, traditional building knowledge and construction industry. Christophe Lalande, leader of the UN-Habitat Housing Unit, notes:

"…cities are not always the destination of opportunities for indigenous peoples. Some indigenous peoples arrive in cities compelled to leave their ancestral lands due to necessity. Escaping natural disasters, conflict or dispossession, caused by large-scale development projects, engulfed in urban extension, indigenous peoples find themselves deprived of their resources and unable to carry out their traditional occupations and livelihood. Limited socio-economic opportunities in the cities result in indigenous peoples' exclusion from economic gains of the growing cities. Cultural distinctiveness from the majority populations can lead to discrimination and further

marginalization from processes affecting urban communities.

Indigenous peoples do not constitute a homogeneous population. Worldwide there are 350 million indigenous people living in 70 countries, representing 500 distinct communities and speaking 400 different languages. In addition to culturally-driven discrimination, some indigenous populations also face the usual sex-, age-, disability-based discrimination. The disproportionate disadvantages affect women's property rights and security of tenure; transitioning from childhood to adulthood, indigenous youth suffer face further transitions of reconciling the traditional ancestral ways with adaptation to the culture of the majority population. The work of UN-Habitat on urban indigenous issues seeks to explore ways to increase the socio-economic participation of indigenous peoples, improving the self-reliance of communities in urban centres and the realisation of their rights in cities."

Cooperating with UN-Habitat, the United Nations Environment Programme (UNEP) is the principal UN agency in the field of the environment, assisting governments to address global, regional and national environmental challenges.

The potentially positive influences of traditional knowledge in urban planning have not been studied or generally included in urban planning.

When producing the booklet celebrating the 2014 theme of islands for the International Day on Biodiversity with the Global Islands Partnership (GLISPA), the Secretariat of the Convention on Biological Diversity (SCBD) was inspired by the "bright spots" approach proposed by Rare ("find what works and repeat it").

We'd like to propose the same reasoning to indigenous urbanization, as it can also present opportunities for traditional forms of land-use, ecosystem management and occupation of space to evolve into a source of new and creative ways for urban design and to achieve sustainable urbanization at a time cities around the world are facing the loss of their biodiversity. This will always be done through the full participation of indigenous peoples and traditional communities as urban citizens, planning urban spaces, diversifying landscapes and designing cities differently.

In other words, traditional knowledge and diverse cultural identities have the potential to improve urban design, governance and enhance the quality of urban life inasmuch as indigenous peoples have the opportunity to fully participate in the city planning and governance process.

Our efforts are to identify best practices on how indigenous peoples and traditional communities urbanize with nature, incorporating biodiversity and more sustainable forms of socio-ecological production landscapes and seascapes into the urban fabric, and linking peri-urban and urban ecosystems into innovative city design and planning.

The Convention on Biological Diversity (CBD) states that traditional knowledge is both an element of biodiversity and a tool for conservation of biodiversity and sustainable use of its components, which are two out of the three objectives of the Convention.

Traditional knowledge and practices can make a significant contribution to sustainable development. Most indigenous peoples and traditional communities are situated in areas where the vast majority of the world's biological and cultural diversities are found.

Many of these indigenous peoples and local communities have cultivated and used biological diversity in a sustainable way for thousands of years. Some of their practices have been proven to enhance and promote biodiversity at the local level and aid in maintaining healthy ecosystems.

Examples are being collected and further studied by the United Nations University Institute for the Advanced Study of Sustainability (UNU-IAS), which hosts the International Partnership for the Satoyama Initiative (IPSI).

Mr. Lalande of UN-Habitat cautions that sustainable urban development models must take into consideration the diversity and possible sources of discrimination. A one size-fits-all approach to housing, urban policy and planning is not adequate to counter the inequalities apparent amongst the indigenous population of cities.

However, the examples of bright spots that we have seen above show that it is possible to engage indigenous urban people in urban planning in ways that both the city government and its indigenous citizens benefit. These examples also indicate that urbanization of indigenous peoples does not necessarily mean only loss—there are gains where communities find their roots and apply their traditional knowledge to their new urban situation.

Further on, in November 2015 in Montreal, the Secretariat of the Convention on Biological Diversity plans to hold a workshop on the topic as a laboratory for discussion.

It will reflect the expertise of the broad range of actors involved in urban indigenous peoples and local communities and their traditional knowledge of relevance to the conservation and sustainable use of biodiversity, with a view to access the current status of traditional knowledge in the cities, identify synergies between different experts and contribute to the achievement of Target 18 of the Strategic Plan on Biodiversity 2011-2020. Target 18 reads as follows:

By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.

Obama: Media Overstates Level of Alarm People Should Have Of Terrorism Over Threat Of Climate Change

The article is available online at :
http://www.realclearpolitics.com/video/2015/02/09/obama_media_overstates_level_of_alarm_people_should_have_of_terrorism_over_threat_of_climate_change.html .

In a wide-ranging interview with Ezra Klein and Matthew Yglesias of Vox.com President Obama of the United States agreed that the media overstates the level of alarm people should have about terrorism instead of focusing on a longer-term problem of climate change and epidemic disease.

MATTHEW YGLESIAS, VOX: Do you think the media sometimes overstates the level of alarm people should have about terrorism and this kind of chaos, as opposed to a longer-term problem of climate change and epidemic disease?

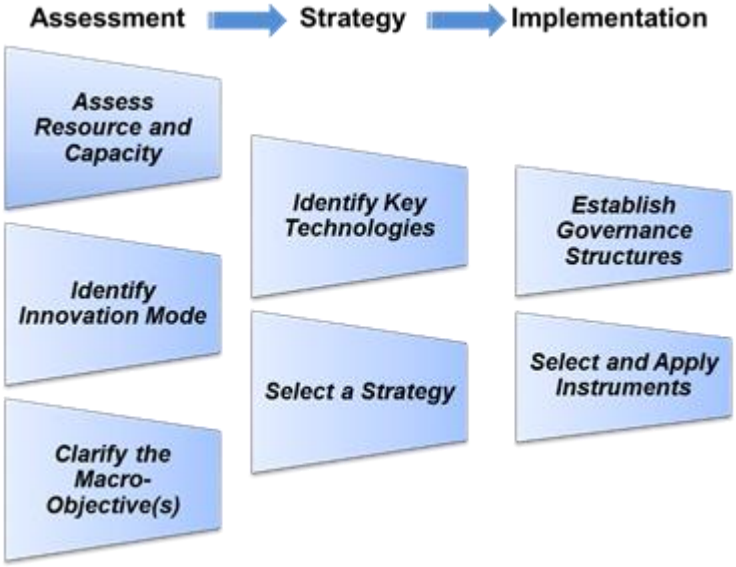
PRESIDENT OBAMA of the United States of America: Absolutely. And I don't blame the media for that. What's the famous saying about local newscasts, right? If it bleeds, it leads, right? You show crime stories and you show fires, because that's what folks watch, and it's all about ratings. And, you know, the problems of terrorism and dysfunction and chaos, along with plane crashes and a few other things, that's the equivalent when it comes to covering international affairs. There's just not going to be a lot of interest in a headline story that we have cut infant mortality by really

significant amounts over the last 20 years or that extreme poverty has been slashed or that there's been enormous progress with a program we set up when I first came into office to help poor farmers increase productivity and yields. It's not a sexy story. And climate change is one that is happening at such a broad scale and at such a complex system, it's a hard story for the media to tell on a day-to-day basis.

Renewable Energy Technology Innovation Policy: A process development guide

The article is available at :
http://www.irena.org/menu/index.aspx?mnu=Subcat&PriMenuID=36&CatID=141&SubcatID=499

Countries can use the "RETIP" process outlined in this handbook to design appropriate innovation strategies for renewable energy technologies. The seven-step process provides a platform for structuring policy development.



Beyond strengthening innovation policy, the RETIP process helps to clarify areas where the International Renewable Energy Agency (IRENA) may be able to provide assistance.

IRENA can assist countries, upon request, to choose assessment methods, identify key sectors and appropriate strategies, create coordinated policy portfolios, and define roles and responsibilities for implementation.

In addition to global benefits such as energy sustainability and climate change mitigation, renewable energy technology innovation stimulates local and national economic development.

To commemorate the 45th Anniversary of Earth Day (April 22, 2015) Earth Day Network India announces a 45-city contest titled " शहर GREEN करो - It's Our Turn to Lead "

April 22, 2015 will mark the 45th Anniversary of Earth Day. The international slogan to mark the Day is It's Our Turn to Lead.'

In India, to commemorate Earth Day, we will run a 45-city contest titled: शहर GREEN करो - It's Our Turn to Lead

All the cities chosen (listed below) have populations of over one million.

What is the contest? The pan India contest asks citizens to compete to make their city 'Swachh' and 'Green'. Clean your city, beautify it, manage waste, sustain resources, add to the green cover, reduce carbon emissions from vehicular traffic, shift to renewable energies, direct thoughts to green buildings...the possibilities are endless!

What do you need to do? Choose a name for your team/individual entry and Register with a photo/video/news clip taken of a spot/something you want to turn environment-friendly in the city. Take up to 45 days to achieve this, and by April 15, 2015 send us a photo/video/news clip that documents what was achieved. REGISTRATION OPENS March 1. Closes April 15.

Who can compete? The contest is open to ALL – individuals or groups

Entries to be submitted by clicking on the Registration Form which is available at : http://www.formpl.us/form/0B3MuSblD69rhYUs3TkdzOFZlczQ/

For queries email us at greencitiesindia@earthday.org or greencitiesindia@gmail.com

Winners will be announced on April 22, 2015, the 45th Anniversary of Earth Day. (Judges' decision final)

Let's reach out to millions in : Agra, Ahmedabad, Allahabad, Amritsar, Asansol, Aurangabad, Bengaluru, Bhopal, Chandigarh, Chennai, Coimbatore, Delhi, Dhanbad, Faridabad, Ghaziabad, Gwalior, Hyderabad, Indore, Jaipur, Jamshedpur, Jodhpur, Kanpur, Kochi, Kolkata, Kota, Kozhikode, Lucknow, Ludhiana, Madurai, Meerut, Mumbai, Nagpur, Nashik, Patna, Pune, Raipur, Rajkot, Ranchi, Srinagar, Surat, Thiruvananthapuram, Vadodara, Varanasi, Vijayawada, Visakhapatnam

Let's make cities more livable….

Why India's renewable goals can only succeed with a complete de-regulation of electricity prices?

The article is available at : http://www.solarquarter.com/index.php/industry-talk/guest-columns/item/937-why-india-s-renewable-goals-can-only-succeed-with-a-complete-de-regulation-of-electricity-prices

India's electricity is cross-subsidized i.e. the 'high value' consumers such as industries and commercial establishments pay significantly higher tariffs compared to homes and farmers. Prices are heavily regulated. The central electricity regulator (CERC) and several state regulators (SERCs) issue periodic 'tariff orders' that determine the maximum allowable tariff across each consumer category. More often than not, the price of power procured by the utilities has grown at a faster rate than the tariff increases. This has resulted in a severe strain on the utilities and most of them are in deep financial trouble.

Amidst this backdrop, India wants to rapidly expand its renewable energy programs. India wants to do 100 GW of solar in addition to 100 GW of wind by 2022 – no small feat. As of date India

has a total solar capacity of about 3 GW and a wind capacity of about 22 GW. In comparison, China has a cumulative solar capacity of roughly 25 GW and Germany at 40 GW.

If India wants to rapidly deploy renewable energy and meet its ambitious goals, it will need the participation of the private sector to not just fund the construction but also purchase 'expensive' solar and wind power for a period of 25 years. But 'expensive' is relative in an electricity market where prices are very skewed. In most states, industrial and commercial consumers are already paying tariffs higher than power purchase agreements of solar and wind. Take Maharashtra for example - industrial tariffs (HT-I express feeder) start at INR 8.61/kWh (not including taxes and surcharges). Or commercial tariffs that start at INR 7.30/kWh and even reach INR 13.52/kWh at the highest slabs. Independent solar PPAs in the market range from INR 6.20/kWh to INR 7.50/kWh from a 5 MW ground mounted system. Wind PPAs are far cheaper (INR 3.5 to INR 5.2/kWh).

Most consumers are already looking for cheaper alternatives – and are keen on adding wind and solar to their power portfolio. Unfortunately the grid operators are the bottleneck. Most DISCOMs cannot afford to lose 'high value' consumers to solar and wind developers – and with good reason. Losing the high paying consumers would mean that the DISCOMs are left with 'low value' consumers to whom they would be selling power below the cost of procurement. This is why almost all utilities in India unilaterally oppose such transactions.

India's renewable energy goals hinge on a vibrant open access market. And this is possible only when power prices are completely deregulated. This would mean that the cross subsidies are eliminated and people pay the true cost of power. For those sections of society that cannot afford it, a subsidy can be transferred directly to bank accounts linked to the Aadhar (Unique Identification Number). This would ensure that subsidies are targeted and minimized. Most importantly, the DISCOMs should not be responsible for disbursing the subsidy – this must be the purview of the state/central government. This way, the DISCOMs can be isolated from any political pandering of power prices.

This will eventually improve the financial health of the DISCOMs and this will give them opportunities to invest into clean power and compete with solar and wind developers. Ultimately, the success of the India's renewable goals can only be possible with a reformed power sector.

Scientists Have Figured Out a Way to Convert Solar Energy Into Liquid Fuel : The potential applications of solar power just got a whole lot wider

The articles are available at: http://time.com/3706444/solar-energy-liquid-fuel/?xid=newsletter-brief#3706444/solar-energy-liquid-fuel/ and http://www.sciencedaily.com/releases/2015/02/150209161423.htm

Researchers at Harvard have discovered how to convert solar energy into liquid fuel, potentially accelerating our switch to the alternative-energy source, according to an article in this month's scientific journal Proceedings of the National Academy of Sciences (PNAS).

At the moment, solar energy can be converted into hydrogen by using photovoltaic cells. The hydrogen can then be stored in fuel cells for future use. But hydrogen has failed to make headway as an energy source in a world that is infrastructurally set up to handle liquid fuels.

Now, however, scientists have figured out a way of using sunlight to split water into hydrogen and oxygen. They then use a bacterium to convert the hydrogen, plus carbon dioxide, into the liquid fuel isopropanol.

"This is a proof of concept that you can have a way of harvesting solar energy and storing it in

the form of a liquid fuel," said researcher Pamela Silver.

The hope now is that solar energy will find more takers, particularly in the developing world, where the ability to make energy locally will be a boon.

Harvesting sunlight is a trick plants mastered more than a billion years ago, using solar energy to feed themselves from the air and water around them in the process we know as photosynthesis.

Scientists have also figured out how to harness solar energy, using electricity from photovoltaic cells to yield hydrogen that can be later used in fuel cells. But hydrogen has failed to catch on as a practical fuel for cars or for power generation in a world designed around liquid fuels.

Now scientists from a team spanning Harvard University's Faculty of Arts and Sciences, Harvard Medical School and the Wyss Institute for Biologically Inspired Engineering at Harvard University have created a system that uses bacteria to convert solar energy into a liquid fuel. Their work integrates an "artificial leaf," which uses a catalyst to make sunlight split water into hydrogen and oxygen, with a bacterium engineered to convert carbon dioxide plus hydrogen into the liquid fuel isopropanol.

Silver and Nocera began collaborating two years ago, shortly after Nocera came to Harvard from MIT. They shared an interest in "personalized energy," or the concept of making energy locally, as opposed to the current system, which in the example of oil means production is centralized and then sent to gas stations. Local energy would be attractive in the developing world.

"It's not like we're trying to make some super-convoluted system," Silver said. "Instead, we are looking for simplicity and ease of use."

In a similar vein, Nocera's artificial leaf depends on catalysts made from materials that are inexpensive and readily accessible.

"The catalysts I made are extremely well adapted and compatible with the growth conditions you need for living organisms like a bacterium," Nocera said.
In their new system, once the artificial leaf produces oxygen and hydrogen, the hydrogen is fed to a bacterium called Ralstonia eutropha. An enzyme takes the hydrogen back to protons and electrons, then combines them with carbon dioxide to replicate--making more cells.

Next, based on discoveries made earlier by Anthony Sinskey, professor of microbiology and of health sciences and technology at MIT, new pathways in the bacterium are metabolically engineered to make isopropanol.

"The advantage of interfacing the inorganic catalyst with biology is you have an unprecedented platform for chemical synthesis that you don't have with inorganic catalysts alone," said Brendan Colón, a graduate student in systems biology in the Silver lab and a co-author of the paper. "Solar-to-chemical production is the heart of this paper, and so far we've been using plants for that, but we are using the unprecedented ability of biology to make lots of compounds."

The same principles could be employed to produce drugs such as vitamins in small amounts, Silver said.

The team's immediate challenge is to increase the bionic leaf's ability to translate solar energy to biomass by optimizing the catalyst and the bacteria. Their goal is 5 percent efficiency, compared to nature's rate of 1 percent efficiency for photosynthesis to turn sunlight into biomass.

"We're almost at a 1 percent efficiency rate of converting sunlight into isopropanol," Nocera said. "There have been 2.6 billion years of evolution, and Pam and I working together a year and a half have already achieved the efficiency of photosynthesis.

World Development Report 2015: mind, society, and behaviour; Produced by: World Bank (2015)

The report is available at: http://www.eldis.org/cf/rdr/?doc=70969 .

This report argues that development policies based on new insights into how people actually think and make decisions will help governments and civil society more readily tackle such challenges as increasing productivity, breaking the cycle of poverty from one generation to the next, and acting on climate change. It identifies new policy tools on the psychological and social constraints to development which complement standard economic instruments.

There is a chapter dedicated to climate change which argues that it is such a large problem that multiple, coordinated approaches will be needed to address it and that psychological, social, and cultural insights can make significant contributions.

The chapter highlights that climate changes slowly, whereas individuals' judgments about the climate are based on what they have perceived recently.

Responding to climate change is one of the defining challenges of our time. Poor countries and communities are generally more vulnerable to the effects of climate change and will also bear significant costs during transitions to low-carbon economies. Addressing climate change requires individuals and societies not only to overcome complex economic, political, technological and social challenges but also to get around a number of cognitive illusions and biases . Individuals ground their views of climate on their experience of recent weather. Ideological and social allegiances can result in confirmation bias, which is the tendency of individuals to interpret and filter information in a manner that supports their preconceptions or hypotheses.

Individuals tend to ignore or underappreciate information presented in probabilities, including forecasts for seasonal rainfall and other climate-related variables. Human beings are far more concerned with the present than with the future, and many of the worst impacts of climate change could take place many years from now.

People tend to avoid action in the face of the unknown. Self-serving bias—the tendency of individuals to prefer principles, particularly principles regarding fairness, that serve their interests—makes it hard to reach international agreements on how to share the burdens of mitigating and adapting to climate change.

Psychological and social perspectives also expand the menu of options for addressing climate change. One option is to use policy to foster new habits of energy use. In a study of the effect of an eight-month period of compulsory electricity rationing in Brazil, evidence shows that the policy led to a persistent reduction in electricity use, with consumption 14 percent lower even 10 years after rationing ended. Household data on the ownership of appliances and on consumption habits indicate that a change in habits was the main reason for the decrease in consumption.

An energy conservation program in the United States illustrates how social comparisons can also influence energy consumption. The company running the program, Opower, mailed "home energy reports" to hundreds of thousands of households; these reports compared a household's electricity use to the amount used by others in the neighborhood in the same time period. This

simple information led to a 2 percent reduction in energy consumption, which was equivalent to reductions resulting from short-term increases in energy prices of 11–20 percent and a long-term increase of 5 percent.

Climate Change and Poverty - An Analytical Framework.

The Policy Research Working Paper is available at: http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2014/11/26/000158349_20141126134353/Rendered/PDF/WPS7126.pdf

The World Bank Group has published a paper that explores the relationship between climate cha poverty by examining the impact of climate change on: poor people's livelihoods and wellbeing; for non-poor people to fall into poverty; and the ability of poor people to escape poverty.

The document, titled 'Climate Change and Poverty: An Analytical Framework,' proposes four "c that determine household consumption and through which households may escape from or poverty: prices, assets, productivity and opportunities.

Climate change and climate policies will affect poverty reduction efforts through direct and im impacts on the poor and by affecting factors that condition poverty reduction, such as economic This paper explores this relation between climate change and policies and poverty outco examining three questions:

- **The (static) impact on poor people's livelihood and well-being;**
- **The impact on the risk for non-poor individuals to fall into poverty;**
- **The impact on the ability of poor people to escape poverty.**

The paper proposes four channels that determine household consumption and through which ho may escape or fall into poverty (prices, assets, productivity, and opportunities).

It examines whether and how climate change and policies affect these channels, focusing on e vulnerability and the ability of the poor to adapt. The report also reviews existing literatu investigates how climate change impacts on poverty reduction depend on a combination of clim non-climate policies, as well as exogenous economic, social and environmental changes.

It then discusses whether and how these channels are affected by climate change and climate focusing on the exposure, vulnerability, and ability to adapt of the poor (and those vulne poverty). It reviews the existing literature and offers three major conclusions:

- **First, climate change is likely to represent a major obstacle to a sustained eradica poverty.**
- **Second, climate policies are compatible with poverty reduction provided that (i) concerns are carefully taken into account in their design and (ii) they are accon by the appropriate set of social policies.**
- **Third, climate change does not modify how poverty policies should be designed creates greater needs and more urgency.**

The scale issue is explained by the fact that climate will cause more frequent and more severe the urgency, by the need to exploit the window of opportunity given to us before climate imp likely to substantially increase.

Bringing the research community together: example from Bangladesh

The blog is accessible at: http://www.eldis.org/go/blog/posts/bringing-the-research-community-together-example-from-bangladesh#.VOFvzstEiUk .

Gobeshona is a knowledge initiative that has been established in an effort to bring together the climate change research community interested in Bangladesh, to encourage sharing and uptake of quality research, with the ultimate objective of informing appropriate policy. As a global leader in climate change, it is fair to say that there is a lot of research happening in Bangladesh, covering a range of themes related to climate change. Gobeshona brings this wealth of knowledge together to identify and strengthen synergies and collaborations.

The first Gobeshona Conference : The Gobeshona Conference for Research on Climate Change in Bangladesh represented a major milestone in Gobeshona's efforts. It brought this wide ranging and large volume of research into one place, enabling interaction between both the researchers producing new knowledge, and with practitioners, policy makers and donors using the knowledge. The conference was an interesting event to co-ordinate; as an organizer, what really shone through was the enthusiasm of individuals to be involved and take part. Different institutions took responsibility for hosting individual sessions, coordinating with researchers and allocating knowledgeable chairs. These sessions examined research on themes such as migration, Loss and Damage, adaptation technologies, health and gender, in the context of climate change in Bangladesh.

The relevance of study findings was discussed with a session on 'Research into Policy' hosted by UNDP, which brought together the various themes of the conference, discussing how quality research can better influence policy. Researchers travelled to Dhaka from all over Bangladesh and other countries to participate. This was on a completely voluntary basis, people's involvement being driven by their commitment to the cause, to the desire to see representation of Bangladeshi researchers on an international platform, and to share their expertise and knowledge. The final day was organised by the Government of Bangladesh, who had an entire day of technical sessions that examined the work they are undertaking in order to tackle climate change. The technical sessions were centered on natural resource management issues, focusing on agriculture, forests and water.

Bringing the national to the international stage : Gobeshona panel We had a range of international guests and VIPs attend, including the Bangladesh Ambassador for France, professional acquaintances from Bangkok and India, young researchers and lecturers from universities in the UK, USA and Sweden, among others, and the guest of honour, Dr. Jean-Pascal van Ypersele, the VC of the Intergovernmental Panel on Climate Change, who delivered a keynote speech at the Closing Ceremony. The presence of these guests enabled us to highlight the significance of Bangladesh as a major player and leader in actively and successfully responding to the challenges of climate change, on the international stage. In fact, the conference really served to emphasise Bangladesh's role as a warrior against climate change, rather than merely a vulnerable country, as it is often depicted. Gobeshona highlights Bangladesh's ability to become resilient and to lead other countries in becoming resilient. Forming collaborations between national and international researchers is key to this quality.

Future Activities and Research : As a hugely successful event, the Gobeshona Conference for Research on Climate Change in Bangladesh will take place again next year, from 8-11 January 2016, at the Independent University. Following feedback and suggestions, researchers will be encouraged to think carefully about the needs of policy makers, and what research can be done that will really aid solutions to the problems faced by the country. At the same time, the research needs to be strong enough to lead policy makers to critically analyse the issues highlighted by the research community, who often have a stronger connection with people on the ground who are

experiencing the impacts of climatic change. Some research needs identified in this year's conference include evidence for solutions to safe water access, data to draw firm causative inferences for changes in health and research to identify the limits of urban areas in the context of increasing numbers of climate migrants. At next year's conference, there will be a greater emphasis on identifying research needs and defining realistic targets for future research in order to ensure strategic progress in Bangladesh's response to climate change..

Multi-level involvement and response : Working on Gobeshona since its conception a year ago, it has been interesting to get a comprehensive overview of climate change research in Bangladesh. It has been exciting to see commitment to the activities of Gobeshona growing. This includes a commitment to improving the quality of research, thereby strengthening the voices of young, national researchers, who will be leading the way on these issues in the years and decades to come. Moving forwards, I think Gobeshona has great potential to link with similar initiatives in other countries to encourage international knowledge sharing with the understanding that climate change must simultaneously be addressed at the local, national and international level. In this way, Gobeshona, the research community and other countries involved could thrive and contribute to a real, positive, sustainable and effective response to climate change in the years ahead.

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e-discussion : 2015 ECOSOC theme : Managing the transition from the Millennium Development Goals to the sustainable development goals: What it will take till 17 March 2015.

In order to follow the discussion or post your contributions, participants may join the e-discussion at: http://www.unteamworks.org/amr2015

UNDP and UNDESA are hosting an e-discussion on the 2015 ECOSOC theme of "***Managing the transition from the Millennium Development Goals to the sustainable development goals: What it will take***"– to be held from **TODAY to 17 March 2015*.***
The 2015 e-discussion is expected to provide ECOSOC with concrete ideas and proposals for defining the steps required for the **successful transition from the MDGs to the SDGs**. Contributions made by e-discussion participants will be included in a summary of the e-discussion posted on the ECOSOC website and will inform the report of the Secretary-General on the ECOSOC theme.
Concrete country examples on how your respective offices have supported countries to accelerate and achieve the MDGs would be helpful. You can contribute your technical expertise to one or more of the thematic windows, as follows :

Thematic Window I: Policy choices and mindset change for an integrated agenda

- **What are current examples of an integrated approach to policy-making and what is their degree of success? What are the existing tools and approaches for operationalizing an integrated approach at different levels?**
- **What are the approaches to, and changes in behaviour required for integrated policy-making for the new agenda? What kind of communication strategies are needed for changing this mindset?**
- **What are the potential complementarities and synergies involved in the pursuit of a universal agenda at the national, regional and global levels?**

Thematic Window II: Required adaptation by institutions, structures and individuals

- **What types of changes and adaptation in institutions and structures will be needed at the national, regional and global levels to facilitate a smooth transition to a post-2015 era? What are the necessary corresponding changes**

in the roles and responsibilities of all partners?

- **To what extent are existing global institutions and policy frameworks ready to adopt and implement a more integrated approach to development? What adjustments may be needed to ensure that governments, the UN system and other partners respond to the universal and unified agenda and deliver equitable results for everyone?**
- **What are the institutional and individual capacities required to facilitate a smooth transition from the MDGs to the SDGs?**

Thematic Window III: Partnerships for the implementation of the SDGs and the post-2015 agenda

- **What are good examples for fostering partnerships, including public-private, that can lead to implementation and development results at the global, national and local levels?**
- **How can multi-stakeholder partnerships be effectively established and taken into account to facilitate the implementation of development priorities?**
- **What elements will be needed to ensure accountability within partnerships for managing responsibilities, commitments and expectations for the implementation of the SDGs?**

Thematic Window IV: Monitoring and review

- **What kind of monitoring and review in the multi-tiered and multi-stakeholder responsibility structure will be required for the SDGs and the post-2015 development agenda? What would be the key features of an effective monitoring and review framework?**
- **How will action on the different goals at the global, regional or national levels be better tracked, taking into consideration national and regional specificities? What incentives would be needed to ensure that a broad range of actors engage in monitoring and review of results?**

In order to follow the discussion or post your contributions, participants may join the e-discussion at: http://www.unteamworks.org/amr2015

Outlook for Bioenergy 2015: What's in Store for This Versatile Renewable Energy Feedstock?

The article is available at:
http://www.renewableenergyworld.com/rea/news/article/2015/02/outlook-for-bioenergy-2015-whats-in-store-for-this-versatile-renewable-energy-feedstock?cmpid=WNL-Wednesday-February25-2015

Bioenergy is the only renewable energy feedstock that cuts across the thermal, electrical and transportation sectors. However most experts agree that its vast potential has only just begun to be tapped.

To say that the bioenergy industry is multi-faceted would be a huge understatement. The catchall term "bioenergy" can be used to describe biomass for power; biomass for heat; biogas — derived from agricultural or animal waste — for power; and biofuel for transportation — which encompasses everything from biodiesel to corn ethanol to second-generation ethanol. Each facet of this enormous industry has its own trade associations, its own set of opportunities and challenges and its own job offerings. It's often surprising to learn that a forester, an electrical engineer and a chemical biologist can each claim to be part of the bioenergy industry.

Overall, the bioenergy industry continues to chug along, making important strides on the policy

front to ensure that governments recognize the renewable and carbon-neutral aspects of this feedstock across the world. **The International Renewable Energy Association (IRENA) released a Global Bioenergy Report in September of 2014 that showed steady growth of bioenergy in all of its forms for the past 20 years.** Growth is projected to continue in most bioenergy forms, however the rate of growth for each sector will differ widely by region and technology. On the whole, however, policy challenges may be the single most important obstacle facing bioenergy today.

Biomass for Power — Standing Still

For 2015, the Biomass Power Association, which is primarily focused on the United States, is working on policy tweaks that will allow existing biomass power plants to continue to function economically, said Cleaves. He is cautiously optimistic that EPA's Clean Power Plan (111d) will recognize the environmental benefits of sustainably sourced biomass. "2015 is going to be working with the agency [to educate it] about why biomass that is currently being used in the U.S. is sustainably sourced," he explained.

Traditional biomass refers to solid biomass that is combusted in inefficient, and usually polluting, open fires, stoves, or furnaces to provide heat energy for cooking, comfort, and small-scale agricultural and industrial processing, typically in rural areas of developing countries. It may or may not be harvested in a sustainable manner. Traditional biomass currently plays a critical role in meeting rural energy demand in much of the developing world. Modern biomass energy is defined in this chart as energy derived efficiently from solid, liquid, and gaseous biomass fuels for modern applications.

Biofuel Companies Thriving

Scott Chabina, a director with Carl Marks Advisors, is extremely bullish on the biofuels industry and is excited about what's to come in 2015. Chabina — who said he hasn't "had a single day where I am not in the cornfield either physically or mentally since 2008" — explained that for the past year ethanol companies have been diversifying their offerings and now almost every single one of them produces ethanol and "high value co-products." Chabina said that one reason they were able to make these investments is that Q32013 and the first three quarters of 2014 were "some of the best, if not the best, time to be in the ethanol market. Ever."

The reasons for their good fortune are manifold he said but suffice it to say that ethanol producers for the first time began to realize profits that they could re-invest in new ventures such as high-value co-products or cellulosic (aka second generation) ethanol plants. Chabina said that the running joke in the industry has been that second-generation ethanol plants have been "five years away forever," but said that Poet's Project Liberty, the first second-generation ethanol plant that began operation in 2014 is a sign of things to come. "There are also a number of interesting facilities – the Abengoa facility in Hugoton [Kansas], the Dupont Facility in Nevada, Iowa, [and] Quad County Corn Processors added a cellulosic facility to their ethanol plant," he said. Chabina continued: "So people are putting in the technologies and spending the capital" to make second-generation ethanol a reality. A viable export market, however, would let the industry overcome the blend wall problem, he acknowledged.

It's important to realize that advanced biofuels companies are not just about making fuel. Instead they are focusing on "higher margin specialty chemical and specialty co-products that have the potential to displace a lot of traditional fossil fuel markets," said Chabina.

Low Oil Prices Threaten Growth of Biomass Thermal Industry

Nevertheless, there is trepidation in the biomass thermal industry over the price of oil, Niebling also pointed out. He said that biomass thermal energy is cost competitive when the price of a barrel of oil is in $80-100 range. "Oil prices have the effect of dampening the momentum in the

last few years," said Neibling who added that up until the price of oil started to drop, sales of modern wood-heating appliances were definitely on the rise. "So there's been a lot of momentum but there is also a lot of trepidation right now," he said.

Momentum is also the result of more biomass thermal systems in commercial operation today. "Installations are getting better and more competent. People are learning more about what works and what doesn't," Niebling said. With more performance data available, potential bioenergy adopters can ask other customers about cost savings and see actual proof that the systems work, rather than having to take a manufacturer's word for it.

The Opportunity for Biomass

On the technology side, Europe is way out ahead of the U.S. when it comes to improving the efficiency of biomass thermal energy and Niebling believes that soon more of that technology may be available in the U.S. "We're seeing more and more of the leading-edge, state-of-the-art European technology working its way into the [U.S.] market," he said. So far, the bigger U.S. manufacturers such as Hurst Boiler and Messersmith have stuck to woodchips, according to Neibling who added that they probably feel there isn't enough interest in "more sophisticated or more refined pellet engineering." According to Niebling, "the American boiler manufacturers are really in a slumber when it comes to wood heat. They haven't awoken to the opportunity."

Niebling said that the European market for biomass thermal is extremely well established and leading manufacturers such as Froling, Viessemann, Okofen and Windhager may be interested in expanding into other parts of the world. "The heavily heating-oil dependent northeast has been a real target for the Germans, the Austrians and the Scandinavians," said Niebling.

Biomass for Combined Heat and Power

The best technology according to Niebling, however, would be a 'cookie cutter,' reliable and affordable combined heat and power (CHP) plant that would run on biomass and could work at a community scale. "That's a real frontier of opportunity," he said. "We need systems that are engineered to meet heat load and that produce electricity as a byproduct of heat generation, not the other way around. Because that's how you get the really high efficiencies," he explained.

Niebling said that Turboden, an Italian company that was acquired by Pratt and Whitney Power Systems in 2009, which was then acquired by Mitsubishi in 2012 has a "fantastic" organic rankine cycle (ORC) power plant that runs on biomass and uses waste heat to produce electricity. The company announced in January that it was chosen by Maine Woods Pellet Company to supply the world's largest biomass-based ORC power unit for its plant in Athens, Maine, United States. Neibling said the technology is "very sophisticated and very expensive," but addresses a market need that all renewable energy technologies are addressing: distributed generation. "I would love to see the market open up to what Turboden has got and by their leadership persuade others to enter that space. Because I think distributed generation is coming."

The Two Things India Must Get Right for its Economic Future; Renewable energies and connected, compact cities are the key to unlocking sustainable economic growth for India's urban future

The article is available online at: http://sustainablecitiescollective.com/embarq/1045611/two-things-india-must-get-right-its-economic-future?utm_source=feedburner&utm_medium=email&utm_campaign=Sustainable+Cities+Collective+%28all+posts%29 .

Taking even a quick look at India's current pattern of growth, it's not hard to see both the rising energy insecurity and the stress that cities across the country are experiencing. Congestion, urban sprawl, and poor access to reliable energy are daunting challenges to the development of

the country. However, by developing connected, compact cities and encouraging more renewable energy use, India can pave the way for sustainable economic growth, universal access to energy, and enhanced quality of life for its citizens.

Pollution and poverty are holding the country back : India's cities are bursting with growth. The country's urban population will exceed 600 million in the next 15 years, and cities will account for 75 percent of national GDP. However, even economic output is likely to be impacted by congestion, urban sprawl and high levels of pollution. Delhi, Patna, Gwalior and Raipur already have some of the worst air pollution levels in the world. In fact, the World Bank estimates that the impact of growth-only oriented policies are costing the Indian economy a staggering 5.7 percent of the GDP as a result of urban air pollution, and 3.5 percent of the GDP as a result of ecosystem service losses.

India's quickly rising demand for energy is consistent with the country's recent urban growth. Large swaths of the country—especially the rural poor—have little or no access to a reliable source of power. With limited natural resources for domestic production, energy will continue to be a serious constraint to growth and development unless policy changes, new business models, and innovative finance solutions are adopted to harness energy-efficient technologies, tap renewable resources, and advance universal access to energy.

Rethinking our priorities for an urban future : Evidence shows that designing connected and compact rather than sprawling cities can save trillions of dollars globally. Recent thinking about urban planning highlights the need for: a) efficient public transport systems that can reliably move city residents to their destinations, b) high-quality, walkable public spaces, and c) environmentally sustainable infrastructure such as reliable water supply and sewer systems.
Focusing on renewable energy to fuel India's growth has big advantages. Given the increasing affordability of new technologies, renewable sources will provide greater energy security for a country struggling to maintain its rapid economic growth, while also reducing the environmentally harmful impacts of current energy usage

Cities use the most energy, and produce the most greenhouse gas emissions. By focusing on building and appliance efficiency and integrating energy planning models from both the demand (energy efficiency) and supply (renewables, distributed generation) sides, India will make progress toward ensuring reliable and sustainable energy access for all.

Current targets are a good starting point : The Indian government has made ambitious public commitments to both sustainable energy and urban development. It has already announced plans to build 100 smart cities across the country by 2024 in a collaborative public-private partnership. On energy, the government has revised its solar targets for 2022 to 100 gigawatts—more than five times the previous goal—and is considering a new target of 60 gigawatts in wind energy capacity. In fact, discussing clean energy was a big part of Indian Prime Minister Narendra Modi's agenda during President Obama's visit to New Delhi last month.

Recommendations for a new economy : Local governments are the best placed to lead development on smart cities, as well as to look at integrated resource planning. A few immediate recommendations for these governments include:

- Integrate public transport infrastructure and land development to ensure efficient expansion of urban areas and accommodate growing populations.
- Focus on infrastructure, especially public transit, water, sewage, sanitation and power
- Strengthen existing regulation to make sustainable energy more accessible for the poor
- Reduce power-sector losses and utilize savings to invest in energy-deficient areas in partnership with clean energy entrepreneurs
- Implement innovative financing models to make distributed and grid-scale renewable energy

more viable
- Focus on better distribution models for power and give micro-grids a boost
- Strengthen urban governance, by employing more transparent, accountable, and technology-enabled decision-making processes

Looking at the long-term : In the long-term, the Indian government and its partners—whether public or private—will need a more holistic path towards development. Growth in cities is unstoppable; but why is there such massive growth in Indian in the cities in the first place? The discourse on sustainable development must address the causes of urbanization. Eventually, India's path to sustainable economic growth will have to take into account the economic geography of land, food, water and energy, as well as the development of peri-urban and rural areas of the country.

Felicitation Ceremony to recognize ECBC Master Trainers, launch of logo and website of the UNDP-GEF project on Energy Efficiency in Commercial Buildings on 12th February, 2015 at India International Centre (IIC), New Delhi.

The UNDP-GEF-BEE project on Energy Efficiency Improvements in Commercial Buildings was initiated in April, 2011. The main objective of the project is to assist the Bureau of Energy Efficiency in addressing all the challenges in the operationalization of ECBC. The key outputs include development of fiscal and regulatory frameworks, creation of a cadre of trained ECBC professionals and demonstrated energy savings through ECBC compliance.

On the successful completion of the 2nd phase of Master Trainers Programme for 2014, BEE awarded certificates to the qualified Master Trainers. Shri Bhaskar J. Sarma, Secretary, BEE presented these certificates, in the presence of Mr.Jaco Cilliers, Country Director, UNDP. In his special address Country Director, UNDP emphasized the importance of Energy Efficiency in Buildings and applauded the efforts made under the project in the last 2 years.

In addition to above, the Project logo, website and ECBC APP was launched together with the release of Studies carried out under the project. The findings of these studies and the experience of the stakeholders was presented in the technical session.

At present twenty two States are at various stages of ECBC implementation with a few of them (9 states) already notifying the code, and another few in the final stages of approval. The project plans to create ECBC cells in the states in the coming months to support the SDAs; thus adding pace to the ECBC implementation.

Policy instruments play a very crucial role for the implementation of any programme for transforming markets in the desired direction. Therefore clear cut implementation methodologies supported by an enabling enforcement framework is important for the success of any policy instrument. The EC Act empowers the states to amend the energy conservation building codes to suit their local and regional climatic conditions.

The widespread implementation of ECBC at the state level has been sluggish due to barriers that need to be overcome through appropriate interventions and institutional arrangements. The study through the prepared report attempts to provide clear strategies to engage key stakeholders and guide ECBC enforcement in the states. It would be in the interest of the states that these findings are used for a wide-scale enforcement of ECBC.

Building material plays a major role in achieving high operational energy efficiency in buildings. As a result informed procurement of building materials and construction practices has the potential

to save up to 40% of energy in commercial buildings. The 12th plan targets of the Government of India identify faster adoption of building codes as one of the strategies for a low carbon and inclusive growth.

The ECBC is in the early stages of implementation; during its implementation it was observed that the market for energy efficient products is still immature in India. With the rising demand for insulation materials, high performance glass, heat reflective paints, energy efficient masonry units, etc., the number of manufacturers and suppliers of these materials is gradually increasing. The report will provide important information on energy efficient building materials, current market size, future trends, energy-saving potential, test standards and labs for testing material etc..

The demonstration buildings component was designed with intent to facilitate ECBC implementation in the States by providing technical assistance in the selection, planning, design, modeling, formulation of construction documents and commissioning as well as construction, M&V of the projects.

Training and Capacity Building is the essential backbone for the implementation of any code or regulation. It is a herculean task especially in the building sector as the market is diverse and characterized by fragmentation into various players. There is a lack of knowledge of benefits related to energy efficiency in buildings among the politicians and policy makers at national as well as state/municipal levels. The complexity of interaction among these participants is one of the greatest barriers to energy-efficient buildings. **Hence training programmes as well as sensitization workshops will bring confidence among the administrators to take the step towards mandatory implementation.**

How Addis Ababa is on the Frontier of Sustainable Transport for African Cities

The article is available online at: http://sustainablecitiescollective.com/embarq/1046471/friday-fun-addis-ababa-frontier-sustainable-transport-african-cities?utm_source=feedburner&utm_medium=email&utm_campaign=Sustainable+Cities+Collective+%28all+posts%29 .

Addis Ababa, Ethiopia's crowded downtown streets are soon to get some relief as the city prepares to open its first major public transport system, a light rail. Photo by Sam Effron/Flickr.

East Africa doesn't make a lot of headlines for its sustainable transport achievements. That's changing, as its cities are starting to pioneer innovative new projects to bring urban Africa into the spotlight for sustainable development.

The challenges in the region are many. According to the African Development Bank, rapid urbanization in sub-Saharan Africa has led to a rise in informal housing, poverty, and social inequality. This has resulted in not only insecurity and crime, but also intense traffic congestion, as demand for modern transport has increased faster than cities can provide it. In turn, mounting gridlock is creating health and safety risks, impeding economic development, and producing more greenhouse gas emissions despite Africa's historically small carbon footprint. Because of these cities' aging transport systems and struggles with road safety, it is time for city leaders to focus their attention on creating urban transport solutions.

In response to these challenges, Addis Ababa, Ethiopia recently launched pre-testing of its first light rail system (LRT) prior to an official launch scheduled for May 2015. This first phase was well-attended by government officials, foreign dignitaries, and thousands of residents in support of the new development. Addis Ababa's LRT is expected to help mitigate carbon emissions from transport and reduce travel time for commuters. In an effort to address global and national

concerns over climate change, the Ethiopian government has been working to ensure that its citizens will benefit from a modern, low-carbon transport system. Additionally, the system has been designed to be comfortable, efficient, reliable, and affordable.

Transport boosts economic development
According to the Guardian, the $475 million light rail project is just one part of an ambitious five-year growth and transformation plan that will end in July 2015. The planning has ensured that "the two lines cross at Meskel Square, an iconic open space at the city's core, used for political demonstrations and public events such as the 2012 funeral of Meles Zenawi, the leader who had masterminded Ethiopia's development as president then prime minister since 1991." Furthermore, the initiative has support from the top down.

"The successful completion of Addis Ababa's light railway project is a testimony of the fruitful journey towards Ethiopian renaissance and [that] the government would continue to invest in infrastructure expansion to fuel [the] socio-economic development of Ethiopia," said Mayor Dirba Kuma.

Addis Ababa also has plans in progress for a future bus rapid transit (BRT) system, and this week welcomed a new City Advisor for low-carbon development through its role in the C40 Cities Climate Leadership Group.

Not to be outdone, regional peer Dar es Salaam, Tanzania is also developing a 20.9 kilometer second phase of its BRT system, which will provide the necessary transport backbone for ensuring economic growth. The two cities hope to collaborate and learn from each other's experiences advancing sustainable urban transport in the region.

Making equity a priority
In some transit-oriented development (TOD) projects, the property values surrounding light rail stations rise to the point where poorer families are no longer able to afford housing or maintain their businesses. To prevent this, the government of Ethiopia is working closely with Arup South Africa to make transport hubs along the new system walkable and accessible while allowing for flexibility as the areas around stations develop. Arup South Africa will design a transit-oriented development master plan and illustrate potential future development as in the short, medium, and long-term. This kind of planning is aimed at ensuring accessibility, connectivity, and efficiency.

Additionally, Addis Ababa's LRT system has prioritized accessibility for disabled users. Along with affordability, this has been one of the key elements lacking in public transport systems in African cities.

What's next for sustainable transport in sub-Saharan Africa?
Ethiopia's light rail transit-oriented development initiative is a big step towards addressing the challenges rising from urbanization in the region and ensuring prosperous, equitable, and sustainable cities. As African cities continue to grow, more city governments should take the opportunity to learn from Addis Ababa's experience and apply these lessons to their own efforts to plan integrated, sustainable public transport systems that prioritize moving people, not cars.

What are the Best Indicators for Measuring the Sustainability of Cities?

The article is available online at: http://sustainablecitiescollective.com/david-thorpe/1047756/what-are-best-indicators-measuring-sustainability-cities?utm_source=feedburner&utm_medium=email&utm_campaign=Sustainable+Cities+Collective+%28all+posts%29 .

All over the world, individuals, groups, towns and cities are struggling with the knowledge that in total, humanity's activities breach the ability of the planet to support them. There is a wide variety of initiatives and programs which are being developed to try to address this and now it is crucial to define a universal standard for the environmental aspects of sustainable towns and cities.

The advantage of this is that there can be measurement, goals and verification. The advantage of having an objective standard and a universal standard is that it enables comparisons to be made. One can compare one town's performance against another, just as one can compare the energy performance of a building or the health of its occupants against that of another building.

These comparisons need to be made against baselines, which should be established for each town at the beginning, but while it is useful to deal with percentage reductions or increases of particular indicators against those baselines, these are not absolute measurements. Absolute measures enable one area to be compared with another.

Carbon accounting is a form of absolute measurement. It is now relatively easy to both state the annual carbon emissions of a country or a city (absolute) and the percentage improvement on previous years (relative). A measurement of the overall sustainability of a town or city would incorporate this indicator amongst others.

The European uses 28 indicators of which five are environmental:

- Greenhouse gas emissions – in tons per capita
- Share of renewable in energy consumption
- (Percentage of) Areas designated for nature protection and biodiversity under either municipal, communal, national or local schemes
- The number of times that the limit PM10 permitted by the European directives on air quality is exceeded
- Soil sealing (m2) per capita.

The above are all absolute indicators, enabling proper comparisons to be made between cities of different sizes.

Objective indicators are also the intention behind ISO 37120 Sustainable Development of Communities: Indicators for City Services and Quality of Life. It includes 46 indicators covered under the following headings:

- Economy
- Education
- Energy
- Environment
- Finance
- Fire and emergency response
- Governance
- Health
- Recreation
- Safety
- Shelter
- Solid waste
- Telecommunications and innovation
- Transportation
- Urban planning
- Wastewater
- Water and sanitation.

Of the 46 indicators, the following are explicitly about environmental matters:

1. Total residential electrical use per capita (kWh/year)
2. Energy consumption of public buildings per year (kWh/m2)
3. Percentage of total energy derived from renewable sources, as a share of the city's total energy consumption
4. Fine particulate matter (PM2.5) concentration
5. Particulate matter (PM10) concentration
6. Greenhouse gas emissions measured in tons per capita
7. Percentage of city population with regular solid waste collection (residential)
8. Total collected municipal solid waste per capita
9. Percentage of city's solid waste that is recycled
10. Percentage of city population served by wastewater collection
11. Percentage of the city's wastewater that has received no treatment
12. Percentage of the city's wastewater receiving primary treatment
13. Percentage of the city's wastewater receiving secondary treatment
14. Percentage of the city's wastewater receiving tertiary treatment
15. Percentage of city population with potable water supply service
16. Percentage of city population with sustainable access to an improved water source
17. Percentage of population with access to improved sanitation
18. Total domestic water consumption per capita (litres/day).

Few of these are absolute measures that relate to planetary limits, the point of the ecological footprint method. Only numbers 6 and 8 are: greenhouse gas emissions measured in tons per capita and collected municipal solid waste per capita. 18 is also an absolute measure but not related to ecological foot-printing since the amount of water available to a population for consumption will vary by location; what is perhaps interesting from an environmental sustainability angle is the water's life-cycle impact or energy intensity.

It is claimed that ISO 37120:2014 can be used by any city, municipality or local government wishing to measure its performance in a comparable and verifiable manner, irrespective of size and location or level of development. It is being developed as part of an integrated suite of standards for sustainable development in communities by the Global City Indicators Facility, a program of the Global Cities Institute.

It is early days for the standard since it was only published in May 2014 following a development period using input from international organizations, corporate partners, and international experts from over 20 countries. Nine pilot cities, including Bogotá, Toronto, São Paulo and Belo Horizonte originally helped to devise a list of some 115 initial indicators; eventually there were 258 participating cities across 82 countries.

ISO 31720 is meant to provide a comprehensive set of indicators and a methodology that will enable any sized city in a developed or a developing economy to measure its social, economic, and environmental performance in relation to other cities. The standard includes 54 other supporting indicators. New additional indicators on sustainable development and resilience are currently being developed within the ISO, led by the GCIF. As of December 2014 the standard is being piloted by just one city: Mexico City.

Ecological foot-printing: The most commonly used method is available at : http://www.footprintnetwork.org/en/index.php/GFN/page/methodology/.Footprint is an aggregator, an interpretation lens. To calculate the Ecological Footprint of a product, you need a

life cycle assessment first. With those LCA data points then you can calculate Footprint. It is also worth pointing out, of course, that the Footprint is a measure of 'unsustainability', not a measure of sustainability.

Firms pledge investments to back renewable energy push

The deals amounting to 266 GW potentially cuts India's dependence on fossil fuels and strengthens position at global climate change negotiations

The article is available at : http://www.livemint.com/Industry/nMlGobKsiSAwxW0Luw3LtK/Firms-pledge-investments-to-back-renewable-energy-push.html

India, the world's third-largest emitter of greenhouse gases, has secured pledges from 213 companies for setting up a renewable energy capacity of 266 gigawatts (GW) over the next five years, potentially cutting its overwhelming dependence on fossil fuels and strengthening the country's position at global climate change negotiations.

The companies—a mix of public and private entities— include state-run NTPC Ltd, which has agreed to set up 10,000 MW of renewable energy in the next five years. In the private sector, the largest commitment for generation is from SunEdison for 15,200 MW, while ReNew Power has promised 11,500 MW.

While India has so far resisted international pressure to commit to capping emissions, Prime Minister Narendra Modi has pledged to increase the country's renewable energy capacity in a bid to reduce the use of fossil fuels. During US President Barack Obama's trip to India last month, Modi had agreed to work together with other countries to reduce emissions, signaling that India may join an international deal on global warming.

The government is expecting an investment of $200 billion in green energy projects. This chimes in with hopes of a meaningful climate change pact at a UN climate conference in Paris in December. The summit is expected to finalize a global agreement to cut greenhouse gas emissions.

A commitment to finance renewable energy projects totaling 78 GW has also been made by financial institutions, with state-owned State Bank of India (SBI) alone committed to lend Rs.75,000 crore towards 15,000 MW of projects.

"There is also a need to build the pieces together with the support of the society and give access to power for the most deprived section of the society. Viable business models and debt financing will have to take the driver's seat to achieve the India's RE (renewable energy) dreams," wrote Yes Bank in a report prepared for Re-Invest 2015.

Modi told Re-Invest 2015, India's first global investors' meet for green energy, that India is also working to build a consortium of some 50 countries that have abundant solar radiation. This grouping will pool research and technological advances in the field of solar energy in order to improve its accessibility among the poorest of the poor, and in the remotest of locations.

Mint reported on 2 December about the plan aimed at lowering the cost of solar energy and improving the country's standing at global climate change and environment protection discussions. The proposal aims to bring together 56 countries who have more than 300 days of good solar radiation each.

"Today, the world is very worried about climate change. Resources are drying up. So, it is time to think about how to continue our lives without troubling the nature. In that context, we have begun with our renewable energy drive," Modi said.

"In 2000, the then prime minister Atal Bihari Vajpayee had said that renewable contribution to India's overall power requirement should increase from 1.7% to 12% by 2012. But it is just 6.5%. Let me tell you PM Modi wants multi-fold growth to 15% in 10-12 years from now," said Piyush Goyal, minister for power, coal and new and renewable energy.

India's National Action Plan on Climate Change recommends the country generate 10% of its power from solar, wind, hydropower and other renewable sources by 2015, and 15% by 2020. India has an installed power generation capacity of 255,013 MW.

In the run-up to the Paris summit, much international attention is focused on India's plans.

US and China are the world's top polluters. The two countries have signed a major bilateral climate deal in November, wherein the US will reduce its emissions by 26-28% below its 2005 level by 2025 and China will reach the peak of its harmful carbon dioxide emissions around 2030.

India, too, is gearing up to meet the climate change challenge. In November, the country's National Green Tribunal announced that it would ban vehicles older than 15 years from New Delhi's roads. The central government is also allotting Rs.1,400 crore to the Indian automobile industry to promote sales of electric and hybrid vehicles.

"If anyone can show the world a way around climate change, it is India," Modi said. "I don't want to hoist Indian flag in the world but to provide power to the poor."

India's efforts to promote green energy has also been lauded by countries such as the US and France. Even though India claims it is under no pressure to act on climate change, the government is taking steps to voluntarily cut carbon emissions and diversify its energy mix. This comes in the backdrop of the Modi government substantially raising an earlier solar energy target of achieving 20,000 MW capacity by 2022 to 100,000 MW. The government is also targeting wind power capacity of 60,000 MW by 2022. It plans to start five funds of $5 billion each to promote green energy sources.

According to the International Energy Agency (IEA), around 300 million Indians, roughly a quarter of the country's population, do not have access to electricity. India's per capita power consumption, around 940 kilowatt-hour (kWh), is already among the lowest in the world. In comparison, China has a per capita consumption of 4,000kWh, and developed countries average around 15,000kWh.

Speaking at the same conference, India's chief economic advisor Arvind Subramanian said that while discussions around new and renewable energy in India are encouraging, the country is going to be dependent on coal for its energy needs in the foreseeable future.

"Therefore, we should not lose sight on clean coal when it comes to climate change. We need to press for clean coal and investments should happen in that direction also," said Subramanian.

WEBINAR 11 March 2015 @ 15:00 – 16:00 CET

Title: Capturing the Multiple Benefits of Energy Efficiency

Register: http://www.leonardo-academy.org/course/details.php?id=311

About the webinar:
Nina Campbell will present the key findings of an important recent IEA publication entitled *Capturing the Multiple Benefits of Energy Efficiency*.

The traditional focus on energy savings as the main goal of energy efficiency policy has, at times, led to an underestimation of the full value of energy efficiency in both national and global economies. Energy efficiency can bring multiple benefits, such as enhancing the sustainability of the energy system, supporting strategic objectives for economic and social development, promoting environmental goals and increasing prosperity. The book contains a dedicated chapter on the benefits for macroeconomic growth, balancing public budgets, health and well-being, industrial competiveness and energy service delivery.

The aim of this book is two-fold: to build knowledge of the multiple benefits of energy efficiency, and to demonstrate how policy makers and other stakeholders can use existing tools to measure and maximise the benefits they seek. Five key benefits areas – macroeconomic development; public budgets; health and well-being; industrial productivity; and energy delivery – are investigated in-depth, showing compelling returns when the value of multiple benefits is calculated alongside traditional benefits of energy demand and greenhouse gas emissions reductions. Considering multiple benefits also has important implications for unravelling one of the persistent challenges in energy efficiency – the rebound effect – revealing that it often signals a positive outcome in terms of achieving broader social and economic goals.
By identifying and quantifying a broader range of impacts of energy efficiency, the multiple benefits approach repositions energy efficiency as a mainstream tool for economic and social development, and has the potential to motivate higher uptake of energy efficiency opportunities in the market.
http://www.iea.org/w/bookshop/475-Capturing_the_Multiple_Benefits_of_Energy_Efficiency

Moderator: Hans De Keulenaer
Hans de Keulenaer is Director of Energy & Electricity at the European Copper Institute (ECI), a non-profit organisation working towards the support and expansion of copper and copper alloy's markets in Europe. He has over 25 years of experience in running international campaigns for companies and international organisations in the industrial sector. His current interests are sustainable energy systems, e-learning, quality of supply, smart & age-adaptive buildings and energy regulation.

Speaker: Nina Campbell

Nina Campbell authored this report as an Energy Policy Analyst within the Energy Efficiency

and Environment Division of the International Energy Agency (IEA). Originally from New Zealand, Nina began her career as a lawyer in resource management, before joining the IEA in 2008 where she worked for six years on various climate change and energy efficiency related policy issues. Most recently, Nina was the project manager and of the IEA's study on the multiple benefits of energy efficiency – which involved a two-year research programme engaging more the 300 experts in various disciplines in which the impacts of energy efficiency have been witnessed. Nina is now based in Dublin, consulting on the multiple benefits of energy efficiency with partners in Europe and further afield.

E-Learning Course : Policy Instruments for Low Emissions Development: From Design to Implementation ; Last date to apply – March 15, 2015

Course Delivery Dates: March 24 – April 8, 2015

http://einstitute.worldbank.org/ei/course/policy-instruments-low-emissions-development-design-implementation

Introduction:
As the world seeks to enhance global greenhouse gas (GHG) mitigation efforts, countries are exploring innovative and cost-effective ways to scale-up emissions reductions and foster private sector investment. A range of policy instruments such as voluntary, regulatory and market-based approaches can help achieve these goals. This course will assist you to plan, design and implement these policy instruments to help spur your country into a low emissions development path.

The course continues with a broad overview of LED policy instruments and is enriched with examples of how these instruments have been implemented worldwide. Individual lessons provide more details on the design and implementation of specific policy approaches, including information and labeling programs, voluntary industrial agreements, performance and technology standards for the industries and vehicles, emissions trading systems, and carbon taxes.

Learning objectives:
The course starts by discussing the rationale for Low Emissions Development (LED) policy and the expected benefits of such policies. The discussion considers both contributions to global emissions reductions and local development opportunities such as:

Increased energy security by reducing the dependence on fossil fuels and exposure to volatile prices.

Increased industrial productivity as a consequence of energy efficiency measures.

New economic opportunities and employment through deployment and diffusion of low carbon technologies.

Reduced costs of environmental degradation.

Target Audience:
Government officials, policymakers, development planners,climate change practitioners, carbon market agents.

For Queries Contact:
Chandni Dinakaran at cdinakaran@worldbank.org

Link to Application:
http://info.worldbank.org/etools/wbi_learning/sec/app_form.cfm?sch_id=GCCKN-FY15-716

Appeared on Pg 12 Hindustan Times
Saturday, February 7, 2015

We need a corporate vision on climate change

Global warming has far-reaching effects on the economic environment in which banks operate

Rana Kapoor

As we prepare for the United Nations Climate Change Conference 2015, to be held in Paris in December, there is a need for concrete plans. It's a marathon — marathons are a sort of mania where participants head towards a common goal; in spite of being competitors and diverse in nature. Yet, it requires collective perseverance, commitment and stamina. We need such a sustainable developmental mania which will lead us steadily towards balanced sustainable growth.

Banking has not been seen as an industry with a significant environmental footprint, and as a result it has mostly been insulated from scrutiny. But the fact remains that climate change is causing far-reaching changes in the economic environment in which banks operate. As public trust institutions, and 'baskets of the economy', banks can play a tremendous role in forging a corporate vision for sustainability.

A five-point action plan for financial institutions could be: One, build climate change into the risk management matrix. Banks are as much at risk from climate change as other aspects that are monitored by their risk management committees. There may be merit in revisiting the pricing of loans to companies engaged in businesses likely to get adversely impacted by climate change.

We need a sustainable developmental mania which will lead us steadily towards balanced sustainable growth REUTERS

Two, identify, and cash in on new and innovative opportunities. Despite the challenges, climate change also gives rise to opportunities to finance and invest in new products like 'waste to energy' to energise wealth creation. Financing renewable energy resources and other sustainability initiatives are just some of the areas that banks can find exceptional value in going forward.

Three, mobilise and actualise 'sustainable investments'. 'Climate Bonds' or 'Green Bonds', which are essentially securities issued to fund climate change solutions, are an important new asset class gaining traction globally.

Four, give rise to 'disruptive' technology. Technology may be the single greatest disrupter in the way we look at finance. Mobile money services have been successful in Africa to achieve financial inclusion; the same is being replicated successfully in India. In fact, the RBI has taken this a step further by institutionalising payments banks, which will put in place a new paradigm for rural financial inclusion, and usher in a new era of partnership between banks and technology providers. The climate-related benefits of e-banking are immense; from saving paper, to saving energy as well as reducing the banks' carbon footprint.

Five, transparency in reporting. There is merit in extending banks reporting to reflect social and environmental impacts and dimensions. It is important that banks evaluate the carbon footprint and potential climate change risks that their direct and indirect assets pose.

As economies around the world continue to develop, financial institutions will play an important role in meeting the growing global demand for capital. Meeting the challenge of taking action on climate change will require prudent financial innovation, skilled people, technical innovation and responsible stewardship from policy makers, corporates and from individuals.

Rana Kapoor is MD and CEO, YES BANK
The views expressed by the author are personal

Global WaSH News

UN-Water Analytical Brief on Wastewater Management
UN-Water recently issued an analytical brief highlighting wastewater management as a critical step in improving global water quality and public health. The report recognizes the emerging consensus that wastewater merits specific consideration in the post-2015 development agenda. UN-Water listed wastewater pollution and water quality as one of five target areas recommended for post-2015, while the Open Working Group on Sustainable Development Goals (SDGs) proposed a specific target for wastewater management.

WHO Report: Preventing Diarrhea Through Better Water, Sanitation, and Hygiene
The World Health Organization released a report on the global burden of diarrheal disease showing a reduction in the number of deaths of children under five years old from 1.5 million in 1990 to 622,000 in 2012. Of these, 361,000 could be prevented with improved water, sanitation, and hygiene. Achieving universal access is an essential first step. The findings are based, in part,

on collaborative research undertaken by WHO, The Water Institute at UNC, and 13 other institutions. In addition, raising the quality of service levels through Water Safety Plans, household water treatment and safe storage, and well-managed sanitation systems is expected to yield substantial additional improvements in health.
Agenda for Survival : 1 – 30 June ; For details please see: http://www.cseindia.org/node/1701

Apply By: March 30, 2015

Every year in the month of June, learn the art and craft of communicating environment from the publishers of India's only magazine on environment, Down to Earth. This niche summer program, is an opportunity for young students from all streams to understand and critically evaluate issues that lie at the interface of environment & development; poverty; democracy, equity & justice.

Learning mode:
Classroom lectures, case study presentation, discussions, and lot more. Interrogate policy makers and activists. Hear leading academics, policy pundits, lawyers, grassroots activists and members of CSE's research and advocacy teams speak. Several field trips to rural India and within Delhi.

Course assignment:
Participants will be helped to hone their communication skills through supervised field-based reporting and writing to understand environment a subject of coverage.

See year 2014 assignment
UNEARTH (online) http://bit.ly/1AWxoby
UNEARTH (print) http://bit.ly/1xaucM9

Eligibility:
Open to 25 young enthusiastic persons between the ages of 18 to 25.

The course will cover:

MODULE 1: State of India's environment
1.1 Poverty and the Biomass Economy
1.2 Ecological Rights & Natural Resource Management
1.3 Land and its Use: Agriculture, Food Security
1.4 Conservation & Conflict: Wildlife Management Debate

MODULE 2: Urban growth challenges
2.1 Water & Waste Management
2.2 Air Pollution & Mobility
2.3 Sustainable Industrialization
2.4 Public Health Concerns

MODULE 3: Climate change
3.1 Global Environmental Governance
3.2 Climate Change & Equity
3.3 Adaptation & Mitigation
3.4 The Way Forward

MODULE 4: Field Visit
4.1 To explore community-led eco-restoration efforts in rural India
4.2 Within Delhi (NCR)

For details please see: http://www.cseindia.org/node/1701
Kamla Chowdhry Fellowships: Will be awarded to selected candidates to support stay in Delhi.
How to apply: Candidates are required to send their latest CV/resume with a short covering note to the email addresses given below:
E-mail: Ranjita Menon: ranjita@cseindia.org ; **Sharmila Sinha:** sharmila@cseindia.org / cseindiasharmila@gmail.com

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Many thanks to all who contributed to this issue of Update!

If you have items to feature in the Updates, please send it to Solution Exchange for the Climate Change Community at : se-clmt@solutionexchange-un.net.in