



Climate Change Community



Community Update

No. 53: 1st May, 2014

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FROM THE RESOURCE PERSON

Dear Members,

Greetings!!

We are delighted to present the latest Edition of the Community Update, today. At the outset, we thank you for all your cooperation and support in making this unique knowledge sharing platform immensely successful.

You will be extremely happy to note that the Institute of Development Studies, UK has conducted a survey related to knowledge sharing in India through an independent agency. The agency studied various knowledge sharing initiatives and ranked UN Solution Exchange as the most popular knowledge sharing initiative in India. At number two was the India Water portal and Eldis knowledge sharing Networks ranked third. Many congratulations to all of you as your contribution was invaluable in making this happen.

The Action Groups that is presently active is on **Easy (not so easy) Solutions to Address Climate Change**. A compendium will be prepared which could be utilized by people from all walks of life. It will help every concerned citizen in the country to understand these simple solutions and enable their easy implementation. The Compendium will include:

- Material that is home based and easily understood and usable by people- to include basic details of where to get it from, cost, advantages, its impact on climate change etc.
- Simple indexing
- Already available material can be collated together.
- Simple solutions for mass utilization to be highlighted in the compendium.

Please send us your comments and suggestions to improve the Community Update.

Inputs received from members in the past and for the present Community Update are gratefully acknowledged.

Thanks & best regards,
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DEVELOPMENT IN THE SECTOR

15 key findings from the IPCC mitigation report

The complete article is available at:

<http://www.greenpeace.org.uk/newsdesk/energy/news/15-key-findings-ipcc-mitigation-report> .

Here are the main findings from the IPCC's WGIII report, taken the Summary for Policymakers (SPM), the Technical Summary and underlying chapters:

- **Serious emissions cuts haven't really started yet - greenhouse gases emitted still rising**
- If we carry on as we are it will result in 3.7 to 4.8 degrees of warming by the end of the century
- **It is not too late to limit warming to less than 2°C – or maybe even 1.5°C**
- Fossil fuels contributed 78% to the total GHG emissions increase between 1970 and 2010
- 2000-2010 was the decade of coal
- We need to head towards fossil fuel phase out and zero net emissions
- Fossil fuel companies face reduced revenues
- **To stop the worst of climate change from happening, low carbon technologies share needs to grow to 80% by 2050**
- Renewable energy is ready to boom and comes with benefits including less air pollution, more security and fewer severe accidents than conventional energy generation
- Using energy more smartly plays a fundamental role in emission cuts
- Nuclear is on the decline and excluding it does not much increase the costs of mitigation
- CCS has not yet been applied to scale and many barriers remain
- Costs of action are tiny when put into context
- Acting fast reduces costs and risks and avoids more drastic measures
- **Global cooperation is needed and is the need of the hour.**

Mitigate, Adapt or Face Catastrophe: Stark Warning of New IPCC Report

The complete article is available at :

http://sustainablecitiescollective.com/david-thorpe/238976/mitigate-adapt-or-face-catastrophe-stark-warning-new-ipcc-report?utm_source=feedburner&utm_medium=email&utm_campaign=Sustainable+Cities+Collective+%28all+posts%29.

The new report from the International Panel on Climate Change is a wake-up call for urban leaders everywhere. It alerts them to the likely consequences of climate change and provides a stark warning that they must prepare to protect their citizens now.

It confirms that there is absolutely no doubt that the climate system is warming, for each of the last the decay that's has been successively warmer at the Earth's surface than any preceding decade since 1850.

The report, Climate Change 2014: Impacts, Adaptation, and Vulnerability, details the impacts of climate change to date, the future risks from a changing climate, and the opportunities for effective action to reduce risks. **It has been compiled by 309 coordinating lead authors, lead authors, and review editors, drawn from 70 countries, plus 436 contributing authors, and a total of 1,729 expert and government reviewers.**

The report identifies vulnerable people, industries and ecosystems around the world and urges everyone to prepare means of protecting them as well as reducing greenhouse gas emissions.

The conclusions are unequivocal. "We live in an era of man-made climate change," said Vicente Barros, Co-Chair of Working Group II. "In many cases, we are not prepared for the climate-related risks that we already face. Investments in better preparation can pay dividends both for the present and for the future."

The report uses four possible scenarios: two extreme ones in which, on the one hand, we take all the necessary steps required to reduce emissions, and on the other, one in which emissions continue to increase through burning of fossil fuels. In between there are two middle-route scenarios.

The risk in the future from a changing climate depend strongly on the choices we make now, said Barros. "Increasing magnitudes of warming increase the likelihood of severe and pervasive impacts that may be surprising or irreversible," warns the press release accompanying the report.

"With high levels of warming that result from continued growth in greenhouse gas emissions, risks will be challenging to manage, and even serious, sustained investments in adaptation will face limits," said Chris Field, co-chair of the working group II that produced the report.

"Part of the reason adaptation is so important is that the world faces a host of risks from climate change already baked into the climate system, due to past emissions and existing infrastructure," said Barros.

Field offered a glimmer of hope: "We definitely face challenges, but understanding those challenges and tackling them creatively can make climate-change adaptation an important way to help build a more vibrant world in the near-term and beyond," he said.

He urged the sharing of best practice, and the use of analytical systems to help us understand what works and what doesn't in adaptation.

There is one further working group report to come in this cycle, in October: a synthesis report. Working Group 1's report was released last September.

The report consists of two volumes:

- Summary for Policymakers, Technical Summary, and 20 chapters assessing risks by sector and opportunities for response. The sectors include freshwater resources, terrestrial and ocean ecosystems, coasts, food, urban and rural areas, energy and industry, human health and security, and livelihoods and poverty.
- 10 chapters that assess risks and opportunities for response by region: Africa, Europe, Asia, Australasia, North America, Central and South America, Polar Regions, Small Islands, and the Ocean.

The scientific findings

Projected sea level change most - over 90% - of the stored solar energy that has been retained by the blanket of greenhouse gases around the planet is to be found in the oceans, which have also absorbed about 30% of the greenhouse gases emitted by the burning of fossil fuels by humans. The Greenland and Antarctic ice sheets have been shrinking over the last 20 years, and Arctic sea ice and Northern Hemisphere spring snow cover have continued to retreat.

The sea level is continuing to rise: between 1901 and 2010 it rose by an average of 0.19m. The

oceans are also acidifying: the pH of the ocean surface water has decreased by 0.1 since the beginning of the industrial era. This has a profound effect on lifeforms dwelling there and this effect is very likely to continue.

The IPCC report confirms that carbon dioxide is the gas producing the most global warming effect. The effect is increasing rapidly: the report gives the total man-made pressure on temperature increases to be 43% higher in 2011 than in 2005. "Human influence on the climate is clear," it says. Sea level will continue to rise and threaten low-lying and coastal areas

Improvements in climate models since 2005 only serve to confirm this. "Observational and model studies of temperature change, climate feedbacks and changes in the Earth's energy budget together provide confidence in the magnitude of global warming in response to past and future forcing," the scientists affirm.

In their firm language, the scientists warn that "limiting climate change will require substantial and sustained reductions of greenhouse gas emissions". On present trends global surface temperature change by the end of this century is likely to exceed 1.5°C relative to 1900, even if we take very strong action now. If we do not take action, much higher temperature increases are likely and they will continue for centuries to come. "This represents a substantial multi-century climate change commitment created by past, present and future emissions of CO₂," says the report.

The report makes plain the consequences of this: greater increases in storms and rainfall in certain areas and prolonged drought in others. There are unknown consequences: for example ocean circulation patterns may change which will have a knock-on effect on agriculture and fisheries. The sources of our food supplies are under peril.

Samantha Smith, leader of the WWF Global Climate & Energy Initiative says the report highlights, for the first time, the dramatic difference of impacts between a world where we act now to cut emissions, which now come mostly from using fossil fuels; and a world where we fail to act quickly and at scale.

"This report tells us that we have two clear choices: **cut emissions now and invest in adaption - and have a world that has challenging and just barely manageable risks; or do nothing and face a world of devastating and unmanageable risks and impacts.**"

Expect more extreme climate events in India

IPCC report says Bangladesh and India account for 86 per cent mortality from tropical cyclones across the world. The complete article is available at :

<http://www.downtoearth.org.in/content/expect-more-extreme-climate-events-india> .

Cyclone Phailin in 2013 ravaged over 300,000 houses in coastal Odisha in India's east coast, which the IPCC report says are among regions of maximum vulnerability.

With over 1.2 billion people, India is deemed one of the nation's most vulnerable to climate change impacts. According to the new report of the Intergovernmental Panel on Climate Change, India's agricultural sector would be worst hit.

Change in rainfall patterns would put millions of lives at stake, the IPCC report says. It states that Bangladesh and India account for 86 per cent mortality from tropical cyclones across the world. "On the east coast of India, clusters of districts with poor infrastructure and demographic

development are also the regions of maximum vulnerability. Hence, extreme events are expected to be more catastrophic in nature for the people living in these districts," the report states. **The report identifies Delhi among the three of the world's five most populated cities (the other two being Tokyo and Shanghai) which are located in areas with high risk of floods.**

Agriculture sector will be worst hit

With erratic and extreme monsoon, the report states that **by 2030 India would face an agricultural loss of over US \$7 billion, affecting income of 10 per cent of the people.** But if climate resilience measures in the form adaptive strategies are implemented, 80 per cent of the losses could be averted, the report adds.

The report quotes various scientific and weather-related studies that show that there is an increase in the number of monsoon-break (dry spells) days. "The decline in the number of monsoon depressions are consistent with the overall decrease in seasonal mean rainfall ... All models and scenarios project an increase in both the mean and extreme precipitation in the Indian summer monsoon," the report states.

Caught between floods and drought

To illustrate this point further, the report quotes a study done on Mahanadi river basin in Odisha. **The study shows a water availability projection in the river indicates increasing possibility of floods in September, but increasing water scarcity in April.** This would further impact freshwater availability, which is influenced by climate-change factors like rainfall variability, snowmelt or glacier retreat in a river catchment, and evapo-transpiration. It also points that there has been significant depletion of groundwater resources in Punjab, Haryana and Rajasthan.

By 2100, large areas of tropical and subtropical lowland in Asia is projected to experience combinations of extreme temperature and rainfall which could easily outdo today's range experienced in these parts of the world, according to the IPCC report. **The report states that a model projects changes in one-third of India's forest area from tropical deciduous type to evergreen cover, which may both have positive and adverse effects.**

High growth fallout

The report also states that economic growth for both India and China could bring in more impacts from climate-change too. **"Full liberalisation of tariffs and GDP growth concentrated in China and India has led to transport emissions growing much faster than the value of trade, due to a shift towards distant trading partners,"** says the report.

Fossil Fuel Subsidies Hamper Pathway to Inclusive Green Economy, Experts Say

The article is available at: <http://www.unep.org/newscentre/Default.aspx?DocumentID=2787&ArticleID=10837&I=en>

Fossil fuel subsidies are contributing to fiscal instability and undermining governments' efforts to combat serious economic and environmental challenges, such as climate change, and the transition to an inclusive green economy, according to experts.

The Intergovernmental Panel on Climate Change recently reported that CO2 emissions from fossil fuel combustion and industrial processes were responsible for approximately 78 per cent of the total increase in greenhouse gas emissions between 1970 and 2010.

Experts say reducing or eliminating harmful fossil fuel subsidies - and properly pricing energy to

account for environmental impacts - is one of the most promising ways governments can promote a transition to a greener economy, and even the playing field for investments in energy efficiency and renewable energy.

Subsidies to producers often support inefficient state-owned energy companies and stifle incentives for greater efficiencies and innovation, while subsidies to consumers often encourage excessive consumption, which has knock-on effects for pollution, human health and greenhouse gas emissions.

Globally, fossil fuel subsidies are estimated to be in the range of US\$500 billion. When taking into account implicit subsidies from the failure to charge for pollution, climate change and other externalities, the IMF estimates the post-tax subsidy figure is closer to \$2 trillion worldwide - equivalent to about 2.9 per cent of global GDP, or 8.5 per cent of government revenues. Furthermore, it finds the removal of such subsidies could lead to a 13 per cent decline in CO2 emissions.

In comparison, according to the International Energy Agency, global subsidies to the renewable energy industry were \$88 billion in 2011.

"Fiscal policies are of particular importance in a green economy transition. Confronted by a fiscally constrained world, government reforms might appear to be a daunting challenge," said UN Under-Secretary-General and UNEP Executive Director Achim Steiner.

"However, it is important to note that fossil fuel subsidies cost countries precious funds. For example, they divert government resources from pro-poor spending in Africa, where governments spend an estimated 3 per cent of GDP - equivalent to their total health care allocation - on fossil fuel subsidies," he added.

Several countries, including Ghana, Namibia, the Philippines and Turkey, have all shown that it is possible to reform energy subsidies and prices. UNEP is currently undertaking green economy fiscal policy studies in several countries, including Ghana, Kenya and Mauritius, which will inform the respective governments as they advance their fiscal policy reforms.

Experts are calling on governments to use government policies to leverage private investment in green sectors by redirecting public investments to clean technologies and providing direct public expenditure for research and development. For example, tax incentives could make investments in clean technologies more attractive, while government funds could reduce the risk profile of capital intensive new technologies.

In addition, experts acknowledge that, in some cases, eliminating these subsidies could have ramifications on the poor or weaken the competitiveness of domestic industries. Therefore, they said, social protection measures are needed to ensure vulnerable groups are not overlooked and receive assistance during a transition period.

South Asia needs \$2.5 trillion infrastructure investment: World Bank

The article is available at: <http://www.urbangateway.org/news/south-asia-needs-25-trillion-infrastructure-investment-world-bank> .

South Asia needs up to \$2.5 trillion of investment in infrastructure by 2020 if the region is to make further gains in battling poverty and provide for its growing population, the World Bank said on Wednesday.

Despite boasting similar economic growth rates to East Asia, the region lags significantly in its population's access to water supplies, power grids and roads, and by some measures is comparable to Sub-Saharan Africa, the bank said in a new report.

"The South Asia region continues to suffer from a combination of insufficient economic growth, slow urbanisation, and huge infrastructure gaps that together could jeopardise future progress," said Luis Andres, report co-author and Lead Economist for Sustainable Development for the South Asia Region. Further details are available at: <http://www.urbangateway.org/news/south-asia-needs-25-trillion-infrastructure-investment-world-bank>

Climate change damages are happening now & more severe impacts are coming if we don't act aggressively according to the second new consensus report documenting the impacts of climate change in communities around the world, both now and in the future. This report follows on the heels of the earlier report that found that humans are causing global warming and this changing climate is already impacting us. This report is the definitive scientific consensus on the damages of climate change. The findings of this new report are clear: damages from climate change have already been set in motion and major impacts will hit humanity if we fail to act aggressively. Further details are available at: <http://www.urbangateway.org/news/climate-change-damages-are-happening-now-more-severe-impacts-are-coming-if-we-dont-act>

The disruptive potential of solar power: As costs fall, the importance of solar power to senior executives is rising

The article is available at:
http://www.mckinsey.com/insights/energy_resources_materials/the_disruptive_potential_of_solar_power .

The economics of solar power are improving. It is a far more cost-competitive power source today than it was in the mid-2000s, when installations and manufacturing were taking off, subsidies were generous, and investors were piling in. Consumption continued rising even as the MAC Global Solar Energy Index fell by 50 percent between 2011 and the end of 2013, a period when dozens of solar companies went bankrupt, shut down, or changed hands at fire-sale prices.

The bottom line: the financial crisis, cheap natural gas, subsidy cuts by cash-strapped governments, and a flood of imports from Chinese solar-panel manufacturers have profoundly challenged the industry's short-term performance. But they haven't undermined its potential; indeed, global installations have continued to rise—by over 50 percent a year, on average, since 2006. The industry is poised to assume a bigger role in global energy markets; as it evolves its impact on businesses and consumers will be significant and widespread. Utilities will probably be the first, but far from the only, major sector to feel solar's disruptive potential.

Economic fundamentals

Sharply declining costs are the key to this potential. The price US residential consumers pay to install rooftop solar PV (photovoltaic) systems has plummeted from nearly \$7 per watt peak of best-in-class system capacity in 2008 to \$4 or less in 2013.

Module costs, for example, fell by nearly 30 percent a year between 2008 and 2013, while cumulative installations soared from 1.7 gigawatts in 2009 to an estimated 11 gigawatts by the end of 2013, according to GTM Research.

While module costs should continue to fall, even bigger opportunities lurk in the downstream (or "soft") costs associated with installation and service. Financing, customer acquisition, regulatory

incentives, and approvals collectively represent about half the expense of installing residential systems in the United States. Our research suggests that as they become cheaper, the overall costs to consumers are poised to fall to \$2.30 by 2015 and to \$1.60 by 2020.

These cost reductions will put solar within striking distance, in economic terms, of new construction for traditional power-generation technologies, such as coal, natural gas, and nuclear energy. That's true not just for residential and commercial segments, where it is already cost competitive in many (though not all) geographies, but also, eventually, for industrial and wholesale markets. China is investing serious money in renewables. Japan's government is seeking to replace a significant portion of its nuclear capacity with solar in the wake of the Fukushima nuclear accident. In the United States and Europe, solar adoption rates have more than quadrupled since 2009.

While these economic powerhouses represent the biggest prizes, they aren't the only stories. Sun-drenched Saudi Arabia, for example, now considers solar sufficiently attractive to install substantial capacity by 2032,

In Africa and India, where electric grids are patchy and unreliable, distributed generation is increasingly replacing diesel and electrifying areas previously without power. Economic fundamentals (and in some cases, such as Saudi Arabia, the desire to create local jobs) are creating a brighter future for solar.

Business consumption and investment

Solar's changing economics are already influencing business consumption and investment. In consumption, a number of companies with large physical footprints and high power costs are installing commercial-scale rooftop solar systems, often at less than the current price of buying power from a utility. For example, Wal-Mart Stores has stated that it will switch to 100 percent renewable power by 2020, up from around 20 percent today. Mining and defense companies are looking to solar in remote and demanding environments. In the hospitality sector, Starwood Hotels and Resorts has partnered with NRG Solar to begin installing solar at its hotels. Verizon is spending \$100 million on solar and fuel-cell technology to power its facilities and cell-network infrastructure. **Why are companies doing such things? These steps are preliminary, but if they work, solar initiatives could scale up fast.**

As for investment, solar's long-term contracts and relative insulation from fuel-price fluctuations are proving increasingly attractive. The cost of capital is falling. Institutional investors, insurance companies, and major banks are becoming more comfortable with the risks (such as weather uncertainty and the reliability of components) associated with long-term ownership of solar assets. Accordingly, investors are more and more willing to underwrite long-term debt positions for solar, often at costs of capital lower than those of traditional project finance.

Major players are creating advanced financial products to meet solar's investment profile. The best example of this to date is NRG Yield, and we expect other companies to unveil similar securities that pool renewable operating assets into packages for investors.

Disruptive potential

The utility sector represents a fascinating example of the potential for significant disruption as costs fall, even as solar's scale remains relatively small. Although solar accounts for only less than half a percent of US electricity generation, the business model for utilities depends not so much on the current generation base as on installations of new capacity. Solar could seriously threaten the latter because its growth undermines the utilities' ability to count on capturing all new demand, which historically has fuelled a large share of annual revenue growth. (Price increases have accounted for the rest.)

Depending on the market, new solar installations could now account for up to half of new consumption (in the first ten months of 2013, more than 20 percent of new US installed capacity was solar). By altering the demand side of the equation, solar directly affects the amount of new capital that utilities can deploy at their predetermined return on equity.

Broader management implications

As solar becomes more economic, it will create new battlegrounds for business and new opportunities for consumers. When a solar panel goes up on a homeowner's roof, the installer instantly develops a potentially sticky relationship with that customer. Since the solar installation often puts money in the homeowner's pocket from day one, it is a relationship that can generate goodwill. But, most important, since solar panels are long-lived assets, often with power-purchase agreements lasting 15 or 20 years, the relationship also should be enduring.

That combination may make solar installers natural focal points for the provision of many products and services, from security systems to mortgages to data storage, thermostats, smoke detectors, energy-information services, and other in-home products. As a result, companies in a wide range of industries may benefit from innovative partnerships built on the deep customer relationships that solar players are likely to own. Tesla Motors already has a relationship with SolarCity, for example, to develop battery storage coupled with solar. It is easy to imagine future relationships between many other complementary players. These possibilities suggest a broader point: the solar story is no longer just about technology and regulation. Rather, business-model innovation and strong management practices will play an increasingly important role in the sector's evolution and in the way it engages with a range of players from other industries. Segmenting customers, refining pricing strategies, driving down costs and optimizing channel relationships all will figure prominently in the solar-energy ecosystem, as they do elsewhere.

As solar energy becomes integrated with energy-efficiency solutions and storage, it will become an increasingly important element in the next generation of resource-related services and of the world's coming resource revolution.

Summary of Solar Water Heating Techscope Market Readiness Assessment prepared for UNEP, Division of Technology, Industry and Economics : India scores highest among 5 participating countries in Global Solar Water Heating Initiative

The Solar Water Heating TechScope Analysis Tool that is available for download on the project's knowledge Management web portal from the link below:
<http://solarthermalworld.org/content/solar-water-heating-techscope-market-readiness-assessment-2014>

United Nations Environment Programme [UNEP] has published a study titled 'Solar Water Heater Techscope Market Readiness Assessment' of five countries namely Albania, Chile, Mexico, India, and Lebanon in January 2014. This is one of the output of the project supported by GEF titled "Global Solar Water Heating Market Transformation and Strengthening Initiative" (GSWH project) where UNEP leads the "Global Knowledge Management and Networking" component of the project and UNDP is the GEF implementing partner at country level in the above countries.

- India implemented GSWH project from September 2008 to March 2013, has scored 3.64 out of 5 point scale, which is highest [which indicates India as 'STRONG' market for Solar Water Heater] among the five participating countries (5 being capable of attracting large

investments in SWH sector) followed by Lebanon 3.4, Mexico 3.19, Chile 3.11 and Albania 2.56. The India component of the global solar water heating project was implemented by the Ministry of New & Renewable Energy (MNRE) and UNDP, India from November 2008 to May 2013.

- GSWH project in India contributed to the installation of 4.56 million m² of collector area during its implementation, taking the cumulative installation in India from 2.55 million m² in September 2008 to 7.01 million m² at the end of project in 2013. UNDP-GEF project contributed significantly in addition to the financial incentive provided under JNNSM (Jawaharalal Nehru National Solar Mission).
- The UNDP-GEF project contributed in providing outreach, training and capacity building, developing performance benchmarks, market development activities all leading to increase in installation. It helped opening a helpline 1 800 233 4477 and dedicated website www.solarwaterheater.gov.in. The project contributed to the knowledge by publishing reports synthesizing standards, technical manuals, operational guidelines which were uploaded on the project website. Project also contributed in strengthening and expanding supply chain by training of trainers, installers, etc. For the first time, the project has helped demonstrating energy service company (ESCO) concept as one of the strategy to promote SWH. BIS [Bureau of Indian Standards] set up standards for flat plate SWH systems and components. The accreditation of Channel partners contributed to quality aspects.
- Although India scored highest amongst the participating countries, the following points illustrates the reasons for being far away from a MATURE MARKET for SWH (5 point scale):
 - ✓ Overall SWH Market Penetration is low, which is at 2.74 kWth/1000 inhabitants as per 2011 statistics (Benchmark considered was Greece 268.2 kWth/1000 inhabitants and a matured growing market)
 - ✓ Subsidized electricity tariff rates do not promote the use of SWH systems
 - ✓ Country Credit Rating is poor as per S&P – BBB- and Moody – BAA3 reports resulting in slow growth, high fiscal & current deficits and lack of improvement in the macroeconomic situation
 - ✓ Business Climate scores low as country is ranked a low 132 rank out of the 185 countries in Doing Business in 2013. The poor rank results from poor enforcement of contracts, construction permits, and starting a business among others.

An outlook and next plan of action:

India's average daily insolation of 5.9 kWh/m²/day provides a huge potential for tapping solar energy. It was assessed that India has a potential to install 44 million m² of solar thermal collector area by 2022 [market assessment reports prepared under UNDP-GEF-MNRE Solar Water Heater project]. Residential sector presents largest potential of over 85%, which was not given much importance in the previous programmes and projects. Increasing the deployment of solar water heater installation could help to address peak power deficit in urban India. In rural India, it can reduce drudgery for women in fetching firewood and also avoid exposure to pollution from chulha while heating water. The JNNSM has set an ambitious target of 20 million m² of solar thermal collector area by 2022. The UNDP-GEF-MNRE project has complimented and showed a healthy growth rate of over 20% over last four years. The annual market for solar thermal was more than tripled during project period and it increased from 0.4 million m²/y in 2008 to 1.4 million m²/y in 2013. The growth rate appear to make it possible to achieve the target set under JNNSM and perhaps provides a scope for setting up even higher targets. India has the potential to emerge from current 'STRONG' market to 'VERY STRONG' and perhaps 'MATURE' market.

Renewable Energy Market Share Climbs Despite 2013 Dip in Investments

Renewables account for 44% of 2013's newly-installed generating capacity despite global investment dropping for second year.

A short summary of key findings is available at: <http://bit.ly/OwP7o4>. The complete report is available at: <http://bit.ly/QC1ssj>.

Renewable energy's share of world electricity generation continued its steady climb last year despite a 14 per cent drop in investments to US\$214.4 billion, according to a new report released today.

According to Global Trends in Renewable Energy Investment 2014 – produced by the Frankfurt School-UNEP Collaborating Centre for Climate & Sustainable Energy Finance, the United Nations Environment Programme (UNEP) and Bloomberg New Energy Finance — the investment drop of \$US35.1 billion was partly down to the falling cost of solar photovoltaic systems. The other main cause was policy uncertainty in many countries, an issue that also depressed investment in fossil fuel generation in 2013.

Globally, renewables excluding large hydro accounted for 43.6 per cent of newly installed generating capacity in 2013. Were it not for renewables, world energy-related CO2 emissions would have been an estimated 1.2 giga tons higher in 2013. This would have increased by about 12 per cent the gap between where emissions are heading and where they need to be in 2020 if the world is to have a realistic prospect of staying under a two degree Centigrade temperature rise.

"A long-term shift in investment over the next few decades towards a cleaner energy portfolio is needed to avoid dangerous climate change, with the energy sector accounting for around two thirds of total greenhouse gas emissions," said Achim Steiner, UN Under-Secretary-General and Executive Director of UNEP. "The fact that renewable energy is gaining a bigger share of overall generation globally is encouraging. To support this further, we must re-evaluate investment priorities, shift incentives, build capacity and improve governance structures."

"While some may point to the fact that overall investment in renewables fell in 2013, the drop masks the many positive signals of a dynamic market that is fast evolving and maturing," he added. "This should give governments the confidence to forge a new robust climate agreement to cut emissions at the 2015 climate change conference in Paris."

In recent years, Global Trends in Renewable Energy Investment has become the standard reference for global renewable energy investment figures. The 2014 edition will be showcased at the Bloomberg New Finance Initiative "Future of Energy Summit" in New York from 7-9 April 2014.

Ulf Moslener, Head of Research of the Frankfurt School-UNEP Collaborating Centre for Climate & Sustainable Energy Finance, agreed that the overall decline in investment dollars had been disappointing.

However, he said, "foundations for future growth in the renewable energy market fell into place in 2013."

Michael Liebreich, Chairman of the Advisory Board for Bloomberg New Energy Finance, said:

"Lower costs, a return to profitability on the part of some leading manufacturers, the phenomenon of unsubsidized market uptake in a number of countries, and a warmer attitude to renewables among public market investors, were hopeful signs after several years of painful shake-out in the renewable energy sector."

The report points to the end of a four-and-a-half year 78 per cent decline in clean energy stocks, which bottomed out in July 2012 and then gained 54 per cent in 2013 – an improvement that took place as many companies in the solar and wind manufacturing chains moved back towards profitability after a painful period of over-capacity and corporate distress.

Large hydro-electric projects were another important area of investment with at least 20 GW of capacity estimated to have come on stream in 2013, equivalent to approximately US\$35 billion of investment. Although investment in renewable energy capacity, including all hydro, in 2013 was once again below gross investment in fossil-fuel power, at US\$227 billion compared to US\$270 billion, it was roughly double the net figure for investment in fossil-fuel power excluding replacement plant.

The year marked a deepening involvement of long-term investors such as pension funds, insurance companies, wealth managers and private individuals in the equity and debt of wind and solar projects. Part of their new engagement was through clean energy bond issuance, which set a new record of US\$3.2 billion raised in 2013, as well as via new types of financing vehicles including North American 'yield companies' and real estate investment trusts. But the star performer among investment types in 2013 was public market equity-raising by renewable energy companies, which jumped 201 per cent to US\$11 billion. This was the highest since 2010, spurred on by the rally in clean energy share prices and institutional investors' appetite for funds offering solid yields.

Additional highlights:

- Last year was the first ever that China invested more in renewable energy than Europe. China's total was down by 6 per cent at US\$56 billion, while Europe's dropped 44 per cent to US\$48 billion.
- The US saw a fall of 10 per cent to US\$36 billion. India moved 15 per cent down to US\$6 billion and Brazil 54 per cent down to US\$3 billion, the lowest since 2005.
- The Americas, excluding the US and Brazil, increased investment in renewables by 26 per cent (to US\$12 billion) in 2013. Japan's solar boom helped to drive an 80 per cent increase in renewable energy investment to US\$29 billion in 2013.
- Installed solar jumped 26 per cent — from 31 Gigawatts in 2012 to a record 39 GW in 2013 even as investment in solar capacity decreased 23 per cent from US\$135.6 billion to US\$104.1 billion.
- A trickle of significant projects — many of them in Latin America but others in the Middle East and Africa, are taking place in wind and solar without any subsidy support, or in preference to more expensive fossil-fuel options. Hydro-electric has for decades competed head-on with coal and gas. Now, in an increasing number of locations wind and solar are doing the same. For instance, in Chile a 70MW PV plant and three wind farms totalling 213MW have been constructed as merchant plants that compete openly on the spot power market.
- Renewables excluding large hydro accounted for 8.5 percent of global electricity generation in 2013, up from 7.8 per cent in 2012, and have seen cumulative investment of over \$1.5 trillion since 2006.

Check Up of India's Heart - Delhi: A Diagnosis of the Capital's Public Transport

The complete article is available at: http://sustainablecitiescollective.com/pratik-dave/240681/health-check-india-s-heart-delhi-cardiac-diagnosis-national-capital-s-public-tran?utm_source=feedburner&utm_medium=email&utm_campaign=Sustainable+Cities+Collective+%28all+posts%29 .

As of today, DTC operates city buses as well as interstate buses in and around Delhi, connecting the city with 6 other states of India. DTC is now the lifeline of Delhi's Public Transport. 25% of the city's population uses DTC buses for their daily commute. A variety of services are provided by the DTC, which includes night services, limited and express services, school bus services, special hire buses, special bus services for women, special services for Delhi International Airport, and feeder bus services to Delhi Metro Rail. The DTC has a large fleet of CNG (compressed natural gas) driven air conditioned low floor and semi-low floor buses. The organization setup includes a training school for staff imparting various trainings, own ticket printing press, a research and development wing, labour and sports cell, employees welfare unit, a central control room accommodating accident mitigation cell, public relations and publicity department, IT department and traffic department to plan routes, decide fares, etc.

DTC operates **High Capacity Bus System (HCBS)** on few routes which use buses with improved carrying capacity and better facilities like air-conditioning, less travel time, less congestion, more comfortable interiors, GPS navigation etc. This system is also termed as 'Bus Rapid Transit' of Delhi. Dedicated bus lanes have been constructed on some roads of Delhi as BRT bus corridors. Analysis of decade's performance data gives an idea where DTC stands at the moment.

The maximum fleet made available was in the year 2005-06 (91%) after which it has been going down until 2011-12 when it was 84%. The average age of fleet operated per year was in increasing order till 2008-09 after which it was controlled and drop down from 7 to 4 years.

The ratio of percentage over age buses against total fleet operated was also high and experienced sudden increase from less than 10% to more than 50% between 2008-09, which means, more than 50% of the fleet was of over age in those years.

The gap in average fleet held v/s actual operated was somewhat widened from 2006 to 2010 which indicates that more buses were under repairs and maintenance during those years. The fuel efficiency was maintained well from 2005 to 2010 but the drastic drop down in vehicle efficiency in last two years is a matter of serious concern because the fall recorded is almost twice.

Surprisingly, while the fleet held is in increasing order in the decade and even in last 2 years, staff numbers are going down. For bus based public transit operations, the staff to bus ratio between 1:6 to 1:8 is generally considered ideal by STU's in India but as we can see, DTC had the values around 1:9 in 2003-04 i.e. clearly over staffed, DTC has been trying to optimize the staff numbers. Higher expenditure on staff costs than fuels and lubricants is a matter requiring deep study.

Vehicular ownership has increased to 88% in the last decade in Delhi (3.9 million registered vehicles in 2002-03 to 7.4 million by 2012) and around 1400 new vehicles get registered daily. More than 15% of Delhi's travel demand is met by personal cars.

It is estimated that by 2020, Delhi will have almost 4 million cars, parking space for which requires area almost 1.5 times larger than 'East Delhi'. Vehicular ownership is bound to increase as per capita income and standards of living has increased in Delhi, reports economic survey from National Census 2011. The percentage of 'bicycle users' has gone down from 37.6 to

30.6 from 2001 to 2011 and those owing cars and two wheelers has increased from 13 to 38.9 percentage in the decade. **With car ridership set to boom by 106 per cent, Delhi's air pollution and congestion crisis is bound to worsen**, warns a survey by Centre for Science and Environment (CSE). **Cars and SUVs together contribute 45 per cent, close to half of the total, CO2 load from all vehicles. This will be a stunning 52 per cent by 2021.** The survey said bus ridership had already dropped from 60 per cent in 2000 to 40 per cent now. With each bus trip lost to cars and two-wheelers, pollution and health costs will worsen.

Air quality monitoring system at few locations in Delhi also indicated high pollution levels in Delhi, at some locations which are even higher than National Ambient Air Quality Standards prescribed by Government of India, Central Pollution Control Board. The daily travel trips are expected to explode from 15 million today to 25.3 million in 2020. If no further action is taken to radically improve public transport, walking and cycling, then Delhi by 2021 will gasp for breath, pay unacceptable fuel costs and spew global warming gases like never before. Recently Delhi was reported to have air pollution even higher than that recorded in Beijing. Delhi ranks 8th amongst the top 100 cities of the world in terms of poor air quality (World Health Organization, 2011).

In 2008, the pilot corridor of 5.8 km. became operational which was termed as 'India's First BRT'. But soon became debatable and the government put hold on implementing full BRT project in Delhi which consists of 14 corridors spanning across 300 kms. The corridor infrastructure consist of single median lanes for buses with physical segregation and double platform bus stops located close to the intersections; two lanes for general traffic; and bikeways and sidewalks on the two sides. Bus operations include 57 different routes operated by DTC and private operators (Blue Line Buses).

Innovative Use of 'Scrap Buses' as Night Shelters

Recently, scraped and old age buses of DTC were utilized as 'Night Shelters' for poor and those without homes in Delhi. This initiative proved a boon for homeless and people living in slums or on footpaths of Delhi Streets. The idea was acknowledged by many because generally it the city local authorities responsibility or a part of duty to construct 'Rainbasera's (Night Shelters) for homeless.

Delhi Metro – India's First Metro Train Pride

The commercial operations begin in 2002 owing it the pride of 'India's first Metro Train'. The system today operates on 190 km. with peak frequency of 2.5 to 3 minutes have 143 stations and daily average ridership of 2 million passengers which was a mere of 45,000 passengers in 2003, the initial year of start. In other words, the daily users of Delhi Metro are comparable to the entire population of Slovenia or half of that of Ireland. The numbers shall increase once 140 km of new lines are added by 2016.

The Delhi Metro used cutting edge technology from around the world to create a system that is one of the most advanced in the world. The museum, a collection of display panels, historical photographs and exhibits, traces the genesis of the Delhi Metro which took 32 years to reach the operational stage from the drawing boards, major milestones, issues regarding the selection of the technology such as rolling stock (trains), rail gauge, etc.

The Museum has an extensive section on the construction of the Metro and the problems encountered during the process, including the story behind the construction of technological marvels such as the Chawri Bazaar Metro station, which is the second deepest Metro station in the world, India's first extra-dosed bridge.

Currently, over 200 train sets (including four and six coach trains) are in operation on the six lines of Delhi Metro. At present, the Delhi Metro is operational on six lines where more than 2500 train

trips are made each day traversing over 70,000 KMs in day. With Phase-III of the network expected to cover about 108 km, the Delhi Metro network will become 295 km **by 2015 making it one of the fastest expanding Metro networks in the world carrying about 4 million (40 lakh) passengers.**

According to a report by the Central Road Research Institute (CRRRI), as many as 1.2 lakh vehicles are off the road every day because of the Metro. Roughly Rs. 523 crore is saved annually in fuel costs whereas the cost in terms of time of passengers saved per year works out to a whopping Rs 2,978 crore, according to the study.

Delhi has a population of 18 million of which DTC and Delhi Metro together carry around 6.45 million passenger trips per day (36% of cities population use these modes of public transport).

With the expanding Metro Rail facility, it is assumed that additional ridership of 2 million will be attracted by 2016.

The question about DTC attracting ridership is doubtful considering the above statistical analysis of its performance. DTC, being one of the best options for mass transport in Delhi after metro rail, has to undergo series of reforms in order to provide good service to passengers along with taking measures towards cost cutting. There may be several reasons associated with huge deficits of DTC which needs to be addressed in order to make itself financially sustainable for future. Delhi is and will remain the administrative capital city of India and therefore the capital region has to have better and efficient public transport system as it is directly associated with the national image.

UNFCCC Summarizes Information on Science Available on its Website

The complete article is available at: <http://climate-l.iisd.org/news/unfccc-summarizes-information-on-science-available-on-its-website/> .

The UNFCCC Secretariat on **14th April, 2014** has released a note containing summary information on enhanced availability and visibility of scientific information relevant to the Convention on the UNFCCC website, which is available at: <http://unfccc.int/resource/docs/2014/sbsta/eng/inf05.pdf>.

The note was prepared further to the mandate from the 38th session of the Subsidiary Body for Scientific and Technological Advice (SBSTA), which noted that the availability and visibility of scientific information relevant to the needs of the Convention on the UNFCCC website has been enhanced, and requested the secretariat to provide a summary report on that work and to make it available for consideration at SBSTA 40.

The document provides an overview of the actions undertaken by the secretariat to enhance the availability and visibility of scientific information relevant to the Convention on the UNFCCC website, in particular by providing a detailed description and analysis of the use of the redesigned webpage on science, research and systematic observation.

It also describes other online tools used by the secretariat to disseminate information on climate science in a non-technical way, namely the subsection on 'science' under the 'essential background' section of the UNFCCC website, the UNFCCC e-Newsletter and press releases, and an infographic on climate science released as part of the webpage dedicated to the 20th anniversary of the Convention.

The note underlines that the review of the traffic on the various pages of the UNFCCC website

that address climate science shows that the redesign of the science webpage has had a limited effect on the number of visitors.

Similar to the UNFCCC website in general, the webpages receive the greatest amount of traffic around and during the sessional periods of the year. Furthermore, the statistics indicate that **scientific information reaches a wider audience when disseminated through the UNFCCC e-Newsletter than when displayed on the regular webpages dedicated to science.**

The note concludes with an outline of possible next steps that could be taken to further enhance the availability and visibility of scientific information on the UNFCCC website.

WUF 7 Adopts Medellín Declaration, Recommends Urban SDG

The complete article is available at: <http://climate-l.iisd.org/news/wuf-7-adopts-medellin-declaration-recommends-urban-sdg/>.

Participants at the seventh session of the World Urban Forum (WUF 7) adopted the Medellín Declaration, which recognizes the transformational power of cities and describes equity as the foundation of sustainable urban development. Signatories also support the inclusion of an urban Sustainable Development Goal (SDG) in the post-2015 development agenda.

WUF 7, organized by the UN Human Settlements Programme (UN-HABITAT), convened in Medellín, Colombia, on 5-11 April 2014, under the theme 'Urban Equity in Development – Cities for Life.' The Forum included: plenaries; round tables; assemblies on gender equality, urban youth, business and children; and dialogues on: equity in urban development law; urban planning and design for social cohesion; innovative financing instruments for local authorities; basic services: local businesses for equitable cities; raising standards of urban resilience; and a safe city as a just and equitable city. Also at the Forum, UN-HABITAT and partners launched the Medellín Collaboration on Urban Resilience.

The Declaration highlights the need for, inter alia:

- An urbanization model that puts people first and fosters social cohesion;
- Comprehensive and participatory planning; national urban policies;
- Gender equality and balanced land development;
- Better urban resilience to climate change and other disasters;
- Safe, affordable transportation.

The Declaration highlights the post-2015 agenda, SDGs and Third UN Conference on Housing and Sustainable Urban Development (Habitat III) in 2016 as opportunities to affirm the importance of well-planned cities and the potential for urbanization to be a positive force for present and future generations.

During a session on the post-2015 development agenda, Raf Tuts, UN-HABITAT, observed a window of opportunity for including sustainable urban development in the SDGs. Cynthia Rosenzweig, Columbia University, said the Sustainable Development Solutions Network (SDSN) has identified elements for an urban SDG, including social inclusion, economic prosperity, a healthy environment, resilience to shocks, and safety.

Maruxa Cardama, Communitas, proposed targets on, inter alia:

- ✓ slum conditions and housing;
- ✓ inclusive territorial planning;

- ✓ universal access to affordable and sustainable public services;
- ✓ safe public spaces; and resilience.

Panellists urged using metrics, base lines and disaggregated data to measure progress.

The 'World Urban Campaign (WUC): Towards a New Urban Paradigm' session **discussed 'The City We Need' booklet as a response to 'The Future We Want.'** **Underscoring the need to "re-think, re-imagine and re-engineer" cities, Eugenie Birch, WUC, characterized slums, the lack of core infrastructure and basic services and the shortage of safe, affordable housing as "global embarrassments."**

In the closing session, UN-HABITAT Executive Director Joan Clos recommended a stand-alone SDG on cities and human settlements in the post-2015 agenda.

Over 22,000 participants from more than 140 countries representing governments, UN agencies, NGOs, urban professionals, local authorities and academics attended WUF 7.

Distributed Generation Shines in Thailand

Distributed Generation (DG) offers opportunities that can help overcome Thailand's energy issues. Thai government incentives such as feed-in tariffs will make DG more attractive. DG development therefore aims for high penetration across Thailand.

The complete article is available at:

<http://www.renewableenergyworld.com/rea/news/article/2014/04/distributed-generation-shines-in-thailand?cmpid=WNL-Wednesday-April16-2014> .

Electricity generation today is moving towards a more decentralised model where generation is close to demand. Possible benefits are diminished transmission and distribution losses and investments, improved energy efficiency, and increased security of supply. Implementing a large central power plant is extremely challenging in terms of site availability, as well as public concern about environmental issues.

Distributed generation (DG) offers opportunities that can overcome these issues. Due to Thai government incentive schemes such as the feed-in tariff, DG will be more attractive for developers and investors going forward. DG development is therefore aiming at high penetration across the country. Small Power Producer (SPP) and Very Small Power Producer (VSPP) programmes are examples of success stories under the DG schemes. Both the SPP and VSPP programmes are implemented in order to promote primary energy savings and encourage the use of alternative energy in the power generation sector.

As of December 2013, the government has released SPP licences (power purchase agreements or PPAs) for 11,988 MW (129 projects) and VSPP licences for 3727 MW (888 projects), and more than 3250 MW are in the process of being licenced. Furthermore, future DG in Thailand will continue the growth that has allowed it to align with the country's power development plan and national policy, which increased the renewable energy target to 25 percent of generation in 2012.

The new power development plan (2013–2030) targets the addition of DG. New SPP cogeneration of 6347 MW and renewable energy generation of 13,937 MW are to be added to the system by 2030.

Power Generation Mix

Thailand's total power generation was 33,681 MW as of December 2013, which is 3.3 percent up from the previous year. Growth in power demand averages around 4 percent annually. Thailand's generation system consists of the Electricity Generating Authority of Thailand (EGAT), a state-owned utility, at 45 percent; independent power producers (IPPs) at 38 percent; SPPs at 10 percent, and imported electricity at 7 percent. Power system planning is based on a long-term national power development plan (PDP). The PDP is implemented based on electricity demand growth rate, Thai GDP, government policy, a national energy efficiency development plan (EE plan) and an alternative energy development plan (AEDP).

Under the current PDP2010 Rev3, new generation capacity of 55,130 MW is planned to replace the retired power plants (16,839 MW), which will result in a total national generation capacity of 70,686 MW at the end of 2030.

However, the government is also focusing on promoting renewable energy in order to diversify the fuel type usage in the power sector. The renewable target was originally set at 9481 MW, but has been adjusted to 13,603 MW to be in line with the new Alternative Energy Development Plan, AEDP 2012–2021.

The draft PDP 2014 (2013–2030), will retain the same complement of new natural gas plants — cogeneration, CCGT power plants and simple-cycle gas turbine plants. However, the major change from the previous PDP will be that renewable energy capacity will increase from 9481 MW to 13,603 MW.

The overall ratio of alternative energy will target a 25 percent share of total energy consumption in 2021.

According to this plan, biomass and biogas power plants will continue their development and are targeted at 4800 MW and 3600 MW respectively. However, solar power plants are currently a focus of the government promotion scheme, as solar projects currently show very little progress (550 MW in 2013). The target for solar power plants is set at 3000 MW in the next 10 years. The government has initiated various programmes to stimulate solar projects across the country as per details given below:

1. Solar PV rooftop programme

The government has launched a special feed-in tariff (FIT) for rooftop solar photovoltaic (PV) projects in order to encourage investment in the household, factory and small, medium and large enterprise sectors. The FiTs are supported for a 25-year period and are categorised according to installed capacity:

- Household (0 kW–10 kW) = THB6.69 (US\$0.21)/kWh
- Small enterprise (10 kW– 250 kW) = THB6.55/kWh
- Medium-to-large enterprise (250 kW–1000 kW) = THB6.16/kWh

2. Solar PV for community (city) initiative programme

The government has encouraged community participation in renewable energy development via direct investment. An investment fund of THB60 million has been released to villages and communities in order to meet the solar PV community target of 800 MW. The project is aiming at 1 MW per village or community and will be supported for a 25-year period.

3. Solar PV programme for government buildings

The government will install rooftop solar PV for:

- All town hall buildings in the 76 provinces of Thailand (except Bangkok), totalling 25 MW;
- 450 mid-sized hospitals with a 20 kW project size, totalling 9 MW;

- 350 vocational schools and colleges with a 40 kW project size, totalling 14 MW.

In addition to the special programme for solar PV, the government also has a core FiT scheme for all renewable energy in SPP and VSPP schemes.

The gender advantage: Women on the front line of climate change

The complete article is available at: <http://www.eldis.org/go/topics/resource-guides/climate-change&id=67399&type=Document#.U09TZWfNuUk> .

This publication has been compiled to illustrate the experiences of the International Fund for Agricultural Development (IFAD) in their work to **close the gender gap and mobilise women in climate change adaptation programmes and projects**.

IFAD has recently been paying close attention to this issue, and has noted that when women's agency is promoted, the well-being of women and their families is improved.

Through this collection of ten case studies, IFAD shows how gender-sensitive adaptation results in better outcomes in food security, livelihood options, incomes, and reduced workloads.

The case studies are grouped thematically under the following headings:

- Valuing women's knowledge and experience creates opportunities for the whole community;
- Equitable access to adaptation knowledge;
- Investing in women brings economic returns for smallholder farmers;
- Equal voice, equal access to decision making;
- Tackling women's worsening workloads.

Case studies are sourced from various multilateral and NGO projects from around the developing world, with the majority based in sub-Saharan Africa and South Asia. The case studies illustrate not simply positive results, but also examples of new gender-sensitive project designs.

Case studies included feature an example of early warning systems in Bangladesh, women's self-help groups at a climate policy forum in India, and unlocking the capacities of different generations in Mali. This particular case study in Mali is an IFAD project that will use participatory methodologies to identify women and men's local knowledge, and understand their adaptive capabilities.

IFAD argue that a holistic approach is needed to avoid unintended consequences, and that ensuring women have access to clean water and labour-saving technologies is fundamental to resolving the issue of increasing workloads. Gender-sensitive training, indicators, monitoring and evaluation, and sensitisation all underpin IFADs work.

Though difficult, IFAD believes that through the application of such project basics, it is possible to overcome the challenge of integrating gender into programme and project design, as illustrated in the case studies.

IPCC Findings: Create Age Of Renewables... Or Pay Higher Price Later

The longer we wait, the costlier it will be: IPCC's latest climate assessment makes it

perfectly clear that solutions to crisis exist, but political atrophy spells doom.

The complete article is available at: <http://www.mintpressnews.com/ipcc-findings-create-age-renewables-pay-higher-price-later/188929/>

The latest report by the Intergovernmental Panel on Climate Change (IPCC) shows that humanity still has time to solve the global crisis of global warming and climate change, but only if governments and industry are finally forced to make the political and financial decisions that will see the rapid reduction of CO2 emissions while launching a planetary push for renewable energy sources.

Environmentalists responded to the report by saying that its findings simply go to show that far from showing a 'green energy revolution' is expensive or prohibitive, the opposite is true.

The 21st century will be the 'age of renewables'. Clean energy is not costly, but inaction is. Costly in terms of lives, livelihoods and economies if governments and business continue to allow climate change impacts to escalate.

According to the Working Group III contribution to the IPCC's Fifth Assessment Report, it remains possible, "using a wide array of technological measures and changes in behaviour," to limit the increase in global mean temperature to two degrees Celsius above pre-industrial levels as world governments have agreed is the target for this century. However, says the report, only **"major institutional and technological changes" will do and they must be done immediately without the delays and obstructions that have so far blocked meaningful action.**

The key message of the report is that the burning of fossil fuels must be rapidly curbed and phased out, while the investments in renewable, low- or zero-carbon sources of energy must be scaled up dramatically. The economic, ecological, and societal realities prove that "climate action is an opportunity, not a burden."

"Climate policies in line with the two degrees Celsius goal need to aim for substantial emission reductions," said Ottmar Edenhofer, one of the co-chairs of the report. "There is a clear message from science: To avoid dangerous interference with the climate system, we need to move away from business as usual."

The report, entitled Climate Change 2014: Mitigation of Climate Change, is the third of three Working Group reports, which, along with a Synthesis Report due in October 2014, constitute the IPCC's Fifth Assessment Report on climate change.

Divestment is the means to shift investments away from coal, oil and gas companies and into a more equitable and sustainable energy economy."

Renewable energy is unstoppable. It's becoming bigger, better and cheaper every day. The 21st century will be the 'age of renewables'."

Reporting on the IPCC's findings, the Guardian's Damian Carrington notes that solving the crisis is 'eminently affordable' compared to the disaster of doing nothing. Focusing on the various mitigation options included in the report, he writes that along with measures that cut energy waste, renewable energy – such as wind, hydropower and solar – is viewed most favourably by the report as a result of its falling costs and large-scale deployment in recent years.

The report includes nuclear power as a mature low-carbon option, but cautions that it has declined globally since 1993 and faces safety, financial and waste-management concerns. Carbon

capture and storage (CCS) – trapping the CO₂ from coal or gas burning and then burying it – is also included, but the report notes it is an untested technology on a large scale and may be expensive.

Biofuels, used in cars or power stations, could play a “critical role” in cutting emissions, the IPCC found, but it said the negative effects of some biofuels on food prices and wildlife remained unresolved.

The report found that current emission-cutting pledges by the world’s nations make it more likely than not that the 2C limit will be broken and it warns that delaying action any further will increase the costs.

Unfortunately, even as the world’s leading scientists are laying out the need for urgent action, the political leaders at the negotiating table remain unwilling to commit to the steps necessary.

Coal and natural gas have no place in our climate constrained world and the White House and other leading developed nations must finally face their special responsibility to lead, not obstruct, the path towards a new energy paradigm.

Round-the-clock solar power arrives

With the help of some clever engineering, the power of the Sun can now keep electricity turbines running however cloudy it may be, both night and day.

The article is available at: <http://www.climate news network.net/2014/04/round-the-clock-solar-power-arrives/>.

Solar power’s greatest drawback has always been that it is intermittent and, even in the sunniest climes, peak electricity demand is frequently in the evening when the Sun is going down.

The engineering challenge has been to design a system in which enough of the Sun’s heat can be stored to produce full power continuously even on cloudy days – and better still, all night.

Many different designs have been tried, but finally a commercial plant in Spain seems to have cracked the problem, and as a result has won an award from a panel of independent judges.

The Gemasolar plant near the Spanish city of Seville, built by Torresol Energy, can store enough heat to operate for 18 hours at full capacity without any additional power from the Sun. For many months of the year it can run for 24 hours a day.

The plant is small by power station standards, producing 20 megawatts of electricity – enough for 25,000 homes, reducing carbon dioxide emissions by 30,000 tonnes a year.

It has 2,650 mirrors, known as heliostats, which cover an area of 185 hectares. These train the Sun’s rays onto a central tower, where they heat molten salt to more than double the boiling point of water. More heat is produced than is needed for maximum power, so the surplus is stored in molten salt tanks until it can be used during cloudy periods or at night.

The award comes from DESERTEC, an organization dedicated to providing energy from arid regions, which had shortlisted four power plants, all able to store power from the Sun and produce electricity at night. It described the Gemasolar plant as “a pioneer for future power

stations”.

The plant has been working for three years, showing that the technology works effectively summer and winter. The company and DESERTEC both believe that it, or a series of similar plants, can be scaled up to provide much larger populations with renewable energy.

There are now 105 similar installations – known as concentrated solar power plants – across the world. One has been operating for 30 years in California, and a large number of newer ones have been built in desert areas of the western United States. Spain is a world leader in the technology, and a number of Middle Eastern desert states have built plants of different designs with molten salt storage capacity. Gemasolar is described as the most successful design so far.

The eventual aim of concentrated solar power companies is to build large plants in the deserts of the world and transfer the electricity by super-conducting cables to large centres of population hundreds of miles away.

The most obvious application is from the Sahara desert across the Mediterranean to Europe. Germany is particularly interested in the potential from this source of large-scale clean power.

It is quite distinct from photovoltaic panels, which produce electricity directly from sunlight. Here the problem of intermittent power remains, particularly where the weather is very changeable, as in north-west Europe. Despite the difficulties, engineers are working on ways of balancing the output from various solar, wind and biogas plants to keep the grid evenly supplied.

The industry is growing at an enormous pace worldwide, because the cost of solar panels has fallen by half and now is far cheaper per watt than nuclear power; and in the US it is only marginally more expensive than coal.

Those keen on preventing climate change reaching dangerous levels point out that a **one-kilowatt** solar system can each month eliminate the burning of approximately 80kg of coal, preventing the release of 140 kg of CO₂ into the atmosphere, and saving up to 105 gallons of water consumed in cooling towers.

MEMBER POSTINGS

Workshops and Conferences

Upcoming:

First Global Conference on Climate Change and Health.

Further details are available at: <http://climate-1.iisd.org/events/first-global-conference-on-climate-change-and-health/>

This three-day conference, hosted by the World Health Organization (WHO) at its headquarters in Geneva, Switzerland, will bring together leading experts in the fields of health and climate change.

The Conference aims to articulate a shared vision on how the health sector can best prepare for climate change, and to give voice to the health benefits of climate actions.

The outcomes will inform the UN Secretary-General's Climate

SPECIAL EVENT: INTERNATIONAL MOTHER EARTH DAY, 2014 ON APRIL 22

UN Celebrates International Mother Earth Day 2014 on 22nd April”. International Mother Earth Day offers an opportunity for reflection on humanity's relationship with the planet.

The article is available at: <http://biodiversity-l.iisd.org/news/un-celebrates-international-mother-earth-day-2014/> .

The UN commemorated

Summit 2014 in September, as well as discussions on Climate Change and Sustainable Development taking place this year.

The salient aspects are given below:

Dates: 27-29 August 2014

Venue: WHO headquarters

Location: Geneva, Geneve, Switzerland

Contact: Marina Maiero

Phone: +41 22 791 2402

e-mail: maierom@who.int

Web link: <http://www.who.int/en/>

The First circular of the INTERNATIONAL CONFERENCE ON CLIMATE CHANGE (ICCC-2014) at Madurai, Tamil Nadu, India (MAY 28-31, 2014) Organized by Yadava College (Government Aided), Madurai, Tamil Nadu is available at: ftp://ftp.solutionexchange.net.in/public/clmt/resource/res_info_0901_1401.pdf .

The International Conference on Climate Change 2014 (ICCC 2014) is an opportunity to bring together knowledge from across the globe to share experiences and information, enable collaboration and build new partnerships, discussions on cutting edge solutions to the world's water, food and energy issues, while also addressing approaches to sustainable and effective adaptation throughout the water sector.

Considering the current situation of India in the urban water, food, energy and climate aspects, ICCC 2014 will provide a unique opportunity to understand the new innovations to face the existing challenges.

THEMES FOR ICCC-2014:

Urban water – energy neutrality through efficient utilities, industries and cities

- ✓ Sustainable technologies and processes for urban and industrial water – energy conservation and alternative energy production
- ✓ Information and communication technology to optimize energy and carbon efficiency and energy production in industry and cities
- ✓ Water, energy and raw materials recovery from urban and industrial waste water – challenges and opportunities
- ✓ Energy demands for water" and "water demands for energy"
- ✓ Benchmarking, monitoring and measuring water – energy interactions in cities and industries

Policy and finance for energy and carbon neutrality

- ✓ Optimizing urban water and energy - cooperation between water and energy utilities and between urban water/energy

International Mother Earth Day 2014 with statements and events around the world. Mother Earth Day 2014 focused on green cities, with the aim of raising awareness on how collective action can transform cities and forge a sustainable future.

UN Secretary-General Ban Ki-moon called for "a global transformation of attitude and practice" to address unsustainable consumption of natural resources. Stressing fossil fuels as the principal cause of climate change, the Secretary-General emphasized action on climate change as an opportunity to "reset our relationship with Mother Earth and improve human well-being, especially for the poorest and most vulnerable." He recommended climate-smart agriculture (CSA), efficient cities, better managed and protected forests and sustainable energy for all.

Also on the Day, the UN General Assembly (UNGA) convened its Fourth Interactive Dialogue on 'Harmony with Nature,' which explored how to integrate the economic, environmental and social dimensions of sustainable development and discussed how to reflect connections between humans and the planet in the post-2015 development agenda. Participants emphasized the role of collective action

<ul style="list-style-type: none"> and industrial water-energy ✓ Business opportunities in improving water efficiency and water-energy efficiency in industries and cities ✓ Policy and regulation which supports innovation for energy and carbon neutrality in utilities and industries ✓ Institutional change/structures needed to support the transition to cutting edge water/energy solutions ✓ Financing mechanisms for the urban and industrial water-energy nexus 	<p>and political will in building equitable, fair and sustainable societies respectful of the environment.</p>
<p>Planning and infrastructure for a resilient water sector</p> <ul style="list-style-type: none"> ✓ Asset management to secure resilient and efficient urban water systems ✓ Improving performance of urban water infrastructure to changes in the hydrologic cycle ✓ Investing in natural and engineered infrastructure to optimize the water, energy and food nexus ✓ Strategies for creating a new adaptation landscape across cities, industries and farmers ✓ Governance and institutional arrangements for urban and watershed drainage ✓ Planning and decision support systems to improve responses to climate impact including floods and droughts ✓ Exploring trends in hydro-climatic variables and responses to extreme climatic events 	<p>Panelists discussed earth system governance; policy approaches that include indigenous peoples, women, youth and the disabled; and organic farming as a model for harmony with nature.</p> <p>In the following discussion, UN Member States recommended, inter alia: overcoming divides between natural and social sciences; and addressing inequalities.</p>
<p>Optimizing water cycle management for securing urban and industrial water supplies</p> <ul style="list-style-type: none"> ✓ Securing alternative water sources, including rainwater, reclaimed and treated water through urban and basin management ✓ Optimizing storm water opportunities usage for urban development ✓ Urban and industrial water demand modeling ✓ Information and communication technology to optimize urban and industrial water management ✓ Economic approaches to optimizing collection, storage, treatment and distribution of various water sources. ✓ Climate-Smart Agriculture: A Driver for Green Growth 	<p>Speaking at the Dialogue, UNGA President, John Ashe, said human actions, lifestyles and technologies are “irrevocably and adversely impacting nature, putting the survival of many species under threat.” He noted that many issues under consideration for the post-2015 agenda reflect the need to restore a harmonious relationship between Earth and its inhabitants, including discussions on agriculture, forests, oceans and sustainable consumption and production (SCP). He recommended promoting sustainable development and renewable energy throughout cities and communities.</p>
<p>Climate change on Energy security</p> <ul style="list-style-type: none"> ✓ Generating power from fossil fuels with lower carbon emissions, ✓ Reducing carbon emissions in the transportation sector through vehicle and fuel technologies, ✓ Addressing land use and the current unsustainable rate of deforestation, ✓ Accelerating and expanding markets for currently available efficiency technology and the use of nuclear, solar, and wind energy. ✓ Challenges and opportunities for the development, financing, and commercialization of clean energy technologies. 	<p>Also at UN Headquarters in New York, the UN Environment Programme (UNEP), the Permanent</p>

- ✓ measuring actions to reduce greenhouse gases and improve energy security

Climate Change and Health

- ✓ Improved climatic sensitive disease surveillance
- ✓ Tools to control the diseases.
- ✓ Health hazards Management.
- ✓ Emerging diseases in new environments
- ✓ vector-borne diseases
- ✓ health warning systems based on meteorological forecasts
- ✓ the use of bio-meteorological indexes
- ✓ extreme climatic events and sanitary consequences
- ✓ interaction between climate, air pollution, and health
- ✓ weather variability and mental illnesses
- ✓ deprivation index, welfare, and climate change

Attracting the region's leading policymakers, pioneers of the business, civil society, research, donor and media communities, the conference will address governance and trade & investment opportunities to optimize Southeast Asia's forest landscapes for climate change mitigation and adaptation, energy, livelihoods, food security and nutrition.

The 11th Conference of the Asia-Pacific Roundtable on Sustainable Consumption & Production will be held in Bangkok on 19-20th May 2014.

Decision-makers from all over the world, particularly from Asia will be participating. This would be an excellent opportunity for:

- Production managers, plant/Works managers, environmental specialists, pollution-control specialists, process engineers, chemists, design engineers, equipment suppliers and all those interested in cleaner/more sustainable production methods and techniques
- Economists, social scientists, businessmen, bankers, professional managers and others studying or wishing to get involved in sustainable consumption - whether household or institutional consumption.

Full details are available at: <http://www.aprscp.net/11th-APRSCP>

The 2014 Millennium Development Goals Congress in Asia to be held in Hiroshima, Japan from August 6-8, 2014

Further details are available at the link:

<http://www.esdfocus.org/millennium-development-goals-congress/>

The 2014 Millennium Development Goals Congress in Asia is scheduled to be held in Hiroshima, Japan from August 6-8, 2014.

Mission of the Dominican Republic to the UN and the Global Foundation for Democracy and Development (GFDD) organized a screening of the documentary '**On the Edge: Antarctica,**' to celebrate the Day. Following the screening, a panel discussion took place on climate change and sea level rise.

EARTH DAY 2014

The theme for Earth Day 2014 and 2015 is Green Cities. To focus on the theme, Earth Day Network-India has compiled an eBook "Pathways to Green Cities –Innovative Ideas from Urban India".

You can download this eBook from the following link:

<http://www.scribd.com/doc/218422039/Pathways-to-Green-Cities>

Growing out of the first Earth Day held on April 22, 1970, the Earth Day Network today networks with around 22,000 partners in over 190 countries to widen, mobilise, and diversify the environmental movement.

Today, over one billion people come together worldwide to commemorate Earth Day.

The theme for Earth Day 2014 and 2015 is Green Cities. To focus on the

The 2014 Millennium Development Goals Congress in Asia invites scholarly interactions among academics, researchers, doctoral students, and representatives from industry, entrepreneurs, and non-profit and non-governmental organization professionals.

Authors are welcome to submit from a range of topics, perspectives, and disciplines. The range of research submissions may include conceptual, empirical, experimental, and case studies.

The congress theme of **The Future We Want: Perspectives on the Millennium Development Goals for Asia** seeks to explore such issues and their links to the notion of sustainability through the combined and holistic lenses of an interdisciplinary approach.

Asia MDGs 2014 is an international, peer-reviewed congress. Full papers are welcome, but not required. Registered participants with an accepted abstract and/or refereed full paper will be published in the Asia MDGs 2014 Congress Proceedings.

theme, Earth Day Network-India has compiled an eBook **"Pathways to Green Cities –Innovative Ideas from Urban India"**.

The book presents 24 case studies from 13 cities across India on innovative strategies that have already been implemented to make cities greener.

Many of these are related to water and waste management. Others to increasing the green cover, developing green buildings, traffic control, reduction of air pollution, use of renewable energies, and the judicious use of natural resources.

It is hoped that those who read the case studies are inspired to adopt and replicate the novel ideas in their cities as well. To facilitate that, the contact information for each of the organizations written about is also provided.

Announcements

International conference on Development, Biodiversity and Climate Change: Issues and Challenges" from 3-5, October, 2014.

More details are available on web page of the conference: www.conferencechamba.com and also from Mohinder Slariya at: mkslariya@gmail.com

Publications to promote community based climate change adaptation. A compendium of 25 adaptation options which have increased climate change adaptive capacities of communities at grassroots level has been prepared. Development Alternatives (DA) Group has also developed package of practices for climate resilient agriculture in semi-arid regions.

Development Alternatives (DA) Group is working at the grassroots to promote community based climate change adaptation in Central India.

Keeping the regional vulnerabilities in mind, a lot of our initiatives have focused on increasing community resilience by building natural resource base and increasing the scope for alternate livelihoods. Climate change communications is centric to this approach and utilizes the potential of traditional and modern mass media tools for up-scaling simple adaptation measures within the community.

It has compiled traditional knowledge from the community and identified community based adaptation measures for building the resilience of the communities. These options are being up-scaled through different interventions of the DA group.

A compendium of 25 adaptation options which have increased climate change adaptive capacities of communities at grassroots level has been prepared. Interested members can contact us for further/detailed information.

DA has also developed package of practices for climate resilient agriculture in semi-arid regions. Interested members can get in touch with DA (hbisht@devalt.org) for:

- Package of Practices on Climate Resilient Agriculture
- Low Carbon Pathways to increase resilience of farmers, artisans and women clusters

Video link of a wonderful movie on Climate Change.

It can be downloaded from: <https://www.youtube.com/watch?v=H6uDiJng-uo> .

This animated film is both educational and entertaining and takes a fun and creative approach to explain the basics of climate change.

Some Comments include:

- ✓ Bats Rule! there's a reason why they do
- ✓ Wonderfully informative and nicely told by amazingly beautiful and beneficial--bats!
- ✓ These are Grey Headed Flying Foxes btw. Absolutely beautiful creatures.
- ✓ Major coolness! Love how you used flying foxes in the video. Very nice indeed!
- ✓ Any video that combines climate change education and fruit bats is a winner!
- ✓ Love it, and yes indeed Bats Are COOL
- ✓ Awesome, awesome, awesome!!! thank you ! BATs rule

Renewable Energies for Developing Countries: Environmental Necessity – Economic Opportunity

Presented by [CIFAL Scotland](#), UNITAR, University of Strathclyde in partnership with the Scottish Government; **8 September to 27 October 2014 ; Register your place [HERE](#)**

"Sustainable energy—energy that is accessible, cleaner and more efficient—powers opportunity. It grows economies. It lights up homes, schools and hospitals. It empowers women and local communities. And it paves a path out of poverty to greater prosperity for all." (UN Sustainable Energy for All)

This on-line programme will give a comprehensive overview of renewable energy as a means to enable sustainable development and explore how renewable energies represent at the same time an environmental necessity but also an economic opportunity for developing countries.

The course aims to enhance the capacity of local decision makers, energy/sustainable development officers and other personnel, from Africa, Latin America, Caribbean, South-East Asia and Pacific regions, to make an informed decision on which renewable energy technologies will meet their own needs or the needs of their countries, communities, villages or neighborhoods. It aims to provide an overview of clean, secure and sustainable technology options for the development and offer insights into the management of renewable energy projects, from small scale, through to major projects. The course is aimed at those in the business, non-profit, public and academic sectors who wish to install renewable energy systems in urban and rural settings or simply make their contribution to reducing carbon emissions through energy efficiency and use of sustainable energy sources.

Methodology

Learning activities are based on UNITAR's sound adult learning pedagogical principles. They include, among others, readings, a case study to apply knowledge practically, quizzes and online group discussions. They are distributed in such a way to ensure the achievement of the learning objectives in a flexible manner: learning materials can indeed be consulted in a non-linear way so as to provide participants with a high degree of flexibility in choosing the learning pace that is the most adequate to them. Recognized experts from the University of Strathclyde will moderate the course.

Course Outline

Module 1: The Role of Energy in Society

Module 2: Selecting a Sustainable Energy Solution

Module 3: Elements of a Sustainable Energy Solution

Module 4: Solar Energy and its Applications

Module 5: Wind

Module 6: Marine and Hydro

Module 7: The Role of the Public and Private Sectors in Ensuring the Development of Low Carbon Energy Solutions

For more information contact: e-learning@cifalscotland.org

Full information about the course is available at [here](#) and in the course flyer. **Deadline for registration is 1 September 2014.**

YEARS OF LIVING DANGEROUSLY is a groundbreaking documentary exploring stories on climate change which unfold over nine parts focusing on how climate is affecting peoples' lives.

For more information on the documentary and on upcoming Parts, please visit:

<http://yearsoflivingdangerously.com/> .

"(it is) perhaps the most important climate change multimedia communication endeavour in history... We scientists struggle everyday to communicate the importance of climate change to the world. It is great to see communication experts come in and accomplish what scientists alone cannot." **The Guardian blog, John Abraham**

"the Showtime team, at least in episode one, deserves plaudits for taking a compellingly fresh

approach to showing the importance of climate hazards to human affairs...having the movie and television stars...asking questions and driving the story through their inquiry." **New York Times Dot Earth blog, Andrew Revkin**

The series shows what scientists do in the field "and why they're reaching the conclusion that this problem is such a serious risk to the viability of our civilisation and requires urgent action...(the) actors (get) their 'hands dirty'. (The show) may...open new avenues for climate change communications." **The Yale Forum on Climate Change & The Media**

About the documentary:

The goal of YEARS OF LIVING DANGEROUSLY, according to its creators is to galvanize a national conversation on the realities of climate change and inspire people to share their own stories and empower them to get involved in solutions. They are also implementing an engagement campaign that will extend this effort beyond the broadcast to encourage global leaders in politics, business and religion, as well as concerned citizens, to state where they stand on key climate issues and take action.

The episodes feature celebrity investigators who travel around the world and throughout the U.S affected by global warming to interview experts and ordinary people and view the impacts of climate change. The celebrities include Harrison Ford, Matt Damon, Jessica Alba, Don Cheadle, America Ferrera, Arnold Schwarzenegger, Lesley Stahl, Mark Bittman, Ian Somerhalder, Olivia Munn and Michael Hall, Joseph Romm and Heidi Cullen are the chief science advisors. James Cameron, Jerry Weintraub and Arnold Schwarzenegger are the executive producers.

Available to watch are:

PART 1: LAST STAND with Harrison Ford

"Nothing is more important to human society than preserving its natural capital. Nature does not need people, people need nature." – H. Ford

PART 2: CLIMATE WARS with Thomas Friedman

"We're going in the wrong direction and I think the only way to counter that is to bring the story home in real concrete ways to people, vivid ways that kids can understand, non-scientists can understand." – T. Friedman

PART 3: PRAY FOR RAIN with Don Cheadle.

"I wanted to know what caused the drought that cost these people their jobs. Was it just an act of god? Part of the natural cycle? Or could it have been caused by us?" – D. Cheadle

Climate Change Adaptation in Rural Areas of India (CCARAI), A joint initiative of GIZ and MOEF

Further details are available at: <http://www.ccarai.org/fields-of-work.html> .

The main fields of work currently are:

- **State Action Plans on Climate Change (SAPCC)**
- **Vulnerability and risk assessments**
- **Adaptation measures**
- **Financial instruments for adaptation**
- **Climate proofing government programmes**

- **Information and knowledge management**
- **Human Capacity Development**

State Action Plans on Climate Change (SAPCC)

The Indian Ministry of Environment and Forests (MoEF) has asked all Indian states to develop action plans to define how they intend to undertake activities and programmes aimed at climate change adaptation and mitigation. These State Action Plans on Climate Change (SAPCC) should be in line with the objectives of the National Action Plan on Climate Change (NAPCC) and ensure its implementation at state level. The SAPCCs play a vital role in the implementation of the NAPCC. At the same time, they consider particular regional and local characteristics and the specific concerns of vulnerable sectors and communities within each state.

So far CCARAI has supported 16 Indian states and 2 Union territories in developing their SAPCC. These are **Arunachal Pradesh, Assam, Daman and Diu, Dadra and Nagar Haveli, Gujarat Haryana, Jammu and Kashmir, Manipur, Meghalaya, Mizoram, Nagaland, Punjab, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttar Pradesh and West Bengal**. Out of these the following have been endorsed by the Expert Committee on Climate Change and Ministry of Environment and Forests: West Bengal, Manipur and Mizoram.

Understanding Vulnerability and risk assessments

Although there are various methodologies for vulnerability and risk assessment, there is a gap between global scenarios and local risk assessments. Through CCARAI the governments of the four participating states are being assisted in carrying out state vulnerability and risk assessments.

These analyses provide the scientific basis for decision-making at the policy level. They take into consideration global scenarios and local peculiarities as well as contributions from different experts and stakeholders. The assessment approaches that are currently being developed and tested in the four partner states aim to be simple, robust and easily replicable.

Moreover, CCARAI is supporting its partner NGOs in carrying vulnerability assessments at the local level. These assessments are participatory in nature. They help the NGOs in identifying and adapting proposed adaptation options to local conditions.

Furthermore, a framework for carrying out vulnerability assessment has been prepared to assist decision makers and adaptation implementers in developing methodologies for carrying out their own vulnerability and risk assessments.

Implementing Adaptation measures

So far, there is very little detailed empirical knowledge about how to deal with the risks of climate change or exploit the opportunities it may bring. The Indian Ministry of Environment and Forests (MoEF) and GIZ are supporting the governments of the four partner states, local communities and other relevant stakeholders in identifying, developing and carrying out adaptation measures in model regions. **The progress of some of them is summarized below:**

- Madhya Pradesh: Climate-Proofing Fish Farming & Eco-Restoration and Institution strengthening
- Rajasthan: Improving Pasture Management and Livestock Rearing & Using Vegetation to Stabilise Sand Dunes
- Tamil Nadu: Integrated Mangrove Fishery Farming Systems; Rain Water Harvesting and Agro Forestry and Rehabilitation of Coastal Habitats
- West Bengal: Livelihood Diversification Through Integrated Production Systems & Introducing Salt-tolerant Species and Preparing for Disasters

Once tested, these adaptation measures can be fine-tuned and implemented in other regions with similar agricultural-climatic conditions. So far, seven projects have been selected to test adaptation options at local level. They are mainly being implemented by non-governmental organisations.

Supporting Financial instruments for adaptation

The rural poor often have only limited access to financial means that could help to reduce the impacts climate change has on their livelihoods. Through CCARAI, a number of financial instruments that already exist are being assessed. These include insurance and credit schemes that might be suitable for promoting adaptation to climate change.

In order to design, test and market affordable financial products to support adaptation in rural areas, CCARAI also establishes close links with international and national actors from both the public and private sectors.

The role and the limitations of market-based financial instruments as mechanisms for adaptation to climate change in India were discussed during a seminar on financial instruments for adaptation, held in May 2011 in Delhi.

Backing up Climate proofing government programmes

The sustainability of public programmes and investments may be at risk due to climate change. In order to reduce climate change risks in development programmes, GIZ has developed its Climate Proofing for Development tool.

Policy-makers can use the climate proofing tool to analyse whether the objectives of government projects might be threatened by climate change and how the planned measures could be adapted accordingly. First, selected public schemes are assessed to ascertain how they are already contributing to adaptation and then options are developed for how they could further prepare communities for climatic changes and build capacity to deal with them.

In India, public investment schemes and rural development programmes are being climate proofed in the four partner states of Madhya Pradesh, Rajasthan, Tamil Nadu, and West Bengal.

Communicating Information and knowledge management

Awareness on climate change and the necessity and possibilities for adapting to its impacts still have to be improved. This applies particularly at local level since a lot of existing experts' knowledge does not reach the communities that are affected most by climate variability and change.

For this reason, CCARAI provides information about relevant approaches, technologies and lessons learnt. A network of stakeholders for future activities and exchanges of information is being built up. CCARAI promotes involvement on different scales, ranging from rural communities and states to national and international levels.

Empowering: Human Capacity Development

In their daily work decision-makers, development planners and practitioners in India are increasingly being confronted with the question of how to deal proactively with the effects of climate change. CCARAI conducts a number of different training courses in order to build capacities and spread awareness and knowledge of adaptation.

Call for Proposals: Bharat Rural Livelihoods Foundation (BRLF).

The geographical focus of the proposals should be the central Indian tribal belt in the

states of Odisha, Jharkhand, West Bengal, Chhattisgarh, Madhya Pradesh, Andhra Pradesh, Maharashtra, Rajasthan and Gujarat. Please note that at the present time there is no deadline for submitting proposals. It is an ongoing process.

Bharat Rural Livelihoods Foundation (BRLF), an independent Society set up to upscale civil society action in partnership with the Government, invites proposals from prospective partner organizations.

The geographical focus of the proposals should be the **central Indian tribal belt** in the states of Odisha, Jharkhand, West Bengal, Chhattisgarh, Madhya Pradesh, Andhra Pradesh, Maharashtra, Rajasthan and Gujarat.

More details are provided in the documents indicated below:

- **The Call for proposals** is available at:
<ftp://ftp.solutionexchange.net.in/public/decn/resource/BRLF-Call%20for%20Proposals.pdf>
- **The concept note** is available at:
<ftp://ftp.solutionexchange.net.in/public/decn/resource/BRLF%20-%20Concept%20Note.pdf>
- **The List of Blocks**, indicating the Geographical coverage of BRLF is available at:
[ftp://ftp.solutionexchange.net.in/public/decn/resource/BRLF-%20List%20of%20Blocks%20\(2011-rural\).pdf](ftp://ftp.solutionexchange.net.in/public/decn/resource/BRLF-%20List%20of%20Blocks%20(2011-rural).pdf)

Energy as a Focus Area in designing Sustainable Development Goals

The discussion paper is available at:

http://www.teriin.org/projects/teddy/pdf/Energy_and_environment_goals_discussion_paper.pdf

Energy is a fundamental requisite to growth and development. Energy is required for basic human needs to deliver adequate energy services, food, water, health care, education, shelter, gender considerations, and employment. The relationship between energy and human well-being is depicted in the relationship between per capita energy use and the Human Development Index (HDI).

At the same time, economic growth powered by fossil fuel based energy consumption has been a major contributor to greenhouse gases (GHGs), leading to anthropogenic climate change.

Especially in context of India, choices made in its energy sector seem to have important linkages to its sustainable development parameters such as water, energy, health, biodiversity and has economy-wide implications.

India has also endorsed the major global initiative of Sustainable Energy For All, which was launched by the Secretary General of the United Nations and the President of the World Bank. The initiative which has spurred country level actions signifies the relevance of energy in context of sustainable development and includes provision of universal energy access, doubling the share of renewables and improving energy efficiency across the economy.

Ensuring access to affordable, modern and reliable energy resources for all is also important for poverty eradication and provision of basic services.

Yet, as energy use presents opportunities, it also presents many sustainable development challenges that need to be addressed:

- Ensuring universal access, for both women and men, to modern energy services

- Deployment of cleaner including low- or zero-emissions energy technologies
- Increasing the share of renewable energy in the global energy mix, including by providing policy space and necessary incentives for renewable energy
- Improving energy efficiency in buildings, industry, agriculture and transport; phasing out inefficient fossil fuel subsidies that encourage wasteful consumption
- Mobilizing finance to invest in modern energy infrastructure
- **Sharing knowledge and experience on appropriate regulatory frameworks and enabling environments**
- Promoting partnerships on sustainable energy
- Building capacity and transferring modern energy technologies

Inter-linkages to other focus areas include:

- ✓ poverty eradication and economic growth
- ✓ food security
- ✓ education
- ✓ health
- ✓ water
- ✓ gender equality
- ✓ sustainable consumption and production
- ✓ climate change

The Asia Pacific Roundtable on Sustainable Consumption & Production (APRSCP) will be holding its 11th Conference of experts in **Bangkok on 19-20th May 2014**. This would be an excellent opportunity for:

- Policy-makers, Regulators, Civil Society Organizations/NGOs, multilaterals working in the Asia-Pacific Region and academicians
- Production managers, plant/Works managers, environmental specialists, pollution-control specialists, process engineers, chemists, design engineers, architects and civil engineers, equipment suppliers and all those interested in cleaner/more sustainable production methods and techniques
- Economists, social scientists, environmentalists, businessmen, bankers, market-research agencies, professional managers in the sales/marketing areas and others studying or wishing to get involved in sustainable consumption - whether household or institutional consumption.

The topics slated for discussion at expert levels include:

- Education for Sustainability
- Sustainable Procurement & Ecolabelling
- Sustainable Energy and Transport
- Sustainable Lifestyles
- Sustainable Tourism
- Sustainable Buildings & Construction
- Sustainable Agriculture and Food
- Resource Efficiency
- Cleaner Production

Full details are available at: <http://www.aprscp.net/11th-APRSCP>

Please do pencil these dates in your calendar and plan to attend. There is an early-bird discount for registration before 21st March, although the fees themselves are not very high and Bangkok is relatively inexpensive even for high-quality accommodation.

Everest glaciers in Tibet have shrunk due to warming

The article is available at: http://zeenews.india.com/news/eco-news/everest-glaciers-in-tibet-have-shrunk-due-to-warming_926701.html .

Glaciers on Mount Everest in Tibet have shrunk by 10 per cent over the past 40 years due to global warming, a Chinese researcher said Wednesday, warning that climate change has impacted the plateau.

Kang Shichang, a researcher at the Institute of Tibetan Plateau Research of the Chinese Academy of Sciences, said the data was based on long-term remote sensing and on-site monitoring.

The glacial lake downstream is 13 times bigger than four decades ago, Kang, who has headed several glacier inspection teams to the Mount Everest area, was quoted as saying by state-run Xinhua news agency.

Glaciers on Mount Everest in Tibet have shrunk by 10 per cent over the past 40 years due to global warming, he said.

Glaciers in the Tibetan Plateau combined cover an area of about 50,000 sq km, accounting for more than 80 per cent of China's total.

Glaciers are very sensitive to climate change and therefore serve as monitors, he said.

Climate change has impacted the plateau, which has the highest altitude in the world.

Kang said glaciers started to shrink since the 20th century and speeded up since the 1990s.

Compared with 20 years ago, the SERAC forest is now at higher altitude and glaciers have more and bigger cracks, he said.

The glaciers on the plateau are supplementary water sources of many inland rivers and lakes and shrinkage could reduce water flow downstream

India's rain woes grow bigger, scientists worried

The article is available at: <http://www.hindustantimes.com/india-news/india-s-rain-woes-grow-bigger-scientists-worried/article1-1212673.aspx>.

Forecasting the June-to-September rains, which account for three-quarters of India's annual rainfall, is becoming tougher. Last year, six states had to declare droughts despite predictions of a normal monsoon.

Although India is scaling up its prediction techniques, including joint Indo-American forecasting under a bilateral agreement, too little is understood about how pollution and rising temperatures are impacting the monsoon. **But new research shows that they are surely having an**

impact on the climate.

Studies show the Indian Ocean has significantly warmed in 50 years by about 0.6 degrees. Monsoon has been declining in the Western Ghats, and interior areas, such as Jharkhand and Chhattisgarh, by about 6-7%. A weakening monsoon circulation has quickened the "warming of the equatorial India Ocean" and this, in turn, has contributed to a "further weakening of the monsoon".

The new findings portend problems India isn't currently prepared to address. Two-thirds of Indians rely on rain-fed farm income. The monsoon also replenishes 81 nationally monitored water reservoirs critical for drinking, power and irrigation. A changing monsoon could hurt millions of farmers.

Yet another published study, by Dr Veerabhadran Ramanathan of the University of California, San Diego, notes that climate change has "evidently already negatively affected India's hundreds of millions of rice producers and consumers." Initial breakthroughs, such as identifying some heat-resistant wheat varieties, are too small to make any impact.

What actions do you think the G20 can take at the 2014 Brisbane Summit to mitigate the risks of anthropogenic climate change?

More details and views are available at: <https://undp.unteamworks.org/node/421150> .

Anthropogenic climate change poses serious risks to the world economy, social stability, individual lives and the environment. Meeting the international goal of limiting warming to no more than 2°C requires a global transition from fossil fuels to renewable sources of energy, along with reducing emissions from agriculture and other sources.

Current G20 position:

'We are committed to support the full implementation of the agreed outcomes under the United Nations Framework Convention on Climate Change (UNFCCC) and its ongoing negotiations. We strongly welcome the efforts of the Secretary-General of the United Nations to mobilize political will through 2014 towards the successful adoption of a protocol, another legal instrument, or an agreed outcome with legal force under the convention applicable to all Parties by 2015, during COP-21 that France stands ready to host.'

What the C20 said in 2013 in Russia:

- Goal 1: Reduction (compared to the present-day level) of fossil fuels and a transition to the use of renewable sources of energy (not including large hydro or nuclear) situated close to end consumers, with this being available/accessible to the majority of the world's population by the mid-21st century.
- Goal 2: Transition to energy efficient technologies and prioritizing demand-side and supply-side energy efficiency ahead of any new energy capacity.

Potential solutions for the G20 to adopt in 2014:

- G20 members commit to finalizing their provisional contributions to a new global climate agreement by the first quarter of 2015
- G20 members strengthen their existing commitment to the international 2°C goal by agreeing in principle to work towards emissions reductions that are informed by the IPCC's emissions pathways (carbon budgets) and which accord with members' historical responsibilities and economic capabilities

- G20 members endorse an action plan for accelerating the roll-out of renewable energy and energy efficiency technologies in the near term (pre-2020)

What actions do you think the G20 can take at the 2014 Brisbane Summit to mitigate the risks of anthropogenic climate change? Your views, comments and suggestions are most welcome.

Agenda for Survival : Certificate course on the policies, politics and practices of environmental management in India. New Delhi, June 2 - 30, 2014

↓
For details please see: <http://www.cseindia.org/node/1701>

This interdisciplinary month-long summer certificate course allows Indian participants 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 include a **week-long field trip** to explore community-led eco-restoration efforts in rural India and **several field trips within Delhi**.

Course assignment: The Brink (online): <http://cseindia.org/agenda2013/index.htm> ; The Brink (print) : http://cseindia.org/agenda2013/the_brink.pdf
Report, write, edit, design and learn hands-on to produce your own magazine.

The course will cover:

- State of India's environment: An overview
- Poverty and the biomass economy
- Ecological rights & natural resource management
- Land and its use: Agriculture, food security
- Conservation & conflict: wildlife management debate
- Urban growth challenges: Water & waste management, air pollution & mobility
- Sustainable industrialization & public health concerns
- Climate change & global environmental governance
- Week long field visit to Himalayas and several with Delhi

For details please see: <http://www.cseindia.org/node/1701>

Eligibility: Open to 25 young professionals and college students from any stream from India.

Fee: INR 25,000/- this covers cost of the course, food and stay (shared accommodation) at a walking distance from training venue. (Cost for your **stay in Delhi** (from the afternoon of Sun, June 1 to July 1, morn): **INR 10000/** ; **Course Fee: INR 15000/** (course cost, field visit, food during course hours etc.))

Kamla Chowdhry Fellowships: Will be awarded to a few selected candidates to support stay in Delhi ; **Medium of Instruction:** English

Admission Criteria: The course is open to young professionals and college students from any stream. A total of 25 participants will be selected.

How to apply: Candidates are required to send their latest CV/resume with a short cover note to: sharmila@cseindia.org/ cseindiasharmila@gmail.com

Stories of Impact-Climate Change; compiled by IFC.

You may access now by clicking the external IFC web link given below:
http://www.ifc.org/wps/wcm/connect/Publications_EXT_Content/IFC_External_Publication_Site/Publications_Listing_Page?languagessubjectsregions=%2C%2CIFC_EXT_Design%2FSouth+Asia&languages=All+Languages&subjects=All+Subjects®ions=IFC_EXT_Design%2FSouth+Asia

Brand new addition to the ICLEI congregation – Nashik, India

Located in the north-west of Maharashtra, India, Nashik is the newest South Asian member of the ICLEI family. With a population of 1.5 million, Nashik is the third largest city in Maharashtra. The city is also known as the Wine Capital of India since it accounts to a large amount of the country's grape export and adobe of many vineyards in and around Nashik.

Mr. Sanjay Khandare, Commissioner of Nashik Municipal Corporation, commented: *"Becoming an ICLEI member is a natural step after one year of intense work with the South Asian team. With their support, we at Nashik Municipal Corporation have started working on developing our own Sustainable Urban Habitat Action Plan (SUHAP). In parallel, with a very committed group of local stakeholders and ICLEI's assistance, we are looking into the benefits for Nashik of an urban nexus approach, through the identification of inter linkages between the water, energy and food sectors. We are looking forward to further benefit from ICLEI's expertise and network."* [Read more.](#)

City visits lay the ground for ADAPT Finance project activities

Prioritisation of resilience interventions and linkages to finances were some of the issues discussed during the first city visits to two of the three Indian project cities, Shimla and Bhubaneswar, under the project "Climate Adaptation Project Preparation and Financing in Urban India (ADAPT Finance)". On 10-14 March 2014, ICLEI South Asia, along with its project partners ADAPT Asia Pacific and Cities Development Initiative for Asia (CDIA), presented and discussed the scope of the project, the process and its timeline with high level officials and other relevant departments in the cities. The city visit to Mysore, the third project city, will follow soon. The next steps will be financial and project related data collection.

Portraying his thoughts on the discussion, Mr. Sanjay Chauhan, Mayor of Shimla Municipal Corporation, said: *"Climate change is a global issue with imminent local impacts including the change in the weather and micro climate. Shimla Municipal Corporation will extend all its support to the ADAPT Finance team in accomplishing the tasks under the project and to combat climate change"*. [Read more.](#)

How do people in Asia live with climate change? How will it impact their future and how will they shape their own environment? These are the questions behind [Climate Asia](#), a [BBC Media Action](#) study – the largest ever carried out so far - of people's experience of climate change in seven Asian countries (Bangladesh, China, India, Indonesia, Nepal, Pakistan and Vietnam). Using both quantitative and qualitative research, the Climate Asia team surveyed more

than 33,500 people in the region and built a picture of how they live and deal with climate change.

Based on the Climate Asia country reports, ICLEI South Asia has compiled a brief summary of the main findings for the South Asian countries part of the study – Bangladesh, India, Nepal and Pakistan. The most aware about climate change are the Bangladeshis, while Nepalis feel best informed on how to respond to it; they are also those who feel the need to act and are willing to do so, but lack resources. Among the four countries, Pakistanis - motivated by the need to survive - are those who are already taking most action, followed immediately by the Bangladeshis. [Read more.](#)

Calls for Entries are now open for the sixth edition of "Quotes from the Earth" - An Environmental Film Festival, 2014.

About the Film Festival

Toxics Link and India International Centre (IIC) is organizing "*Quotes from the Earth*" an exploration of films on environment, to be held at IIC, New Delhi, on **5th & 6th December, 2014** (Friday & Saturday).

"*Quotes from the Earth*" has been the first of its kind in the Indian capital since 2004. This being the sixth edition, the environmental film festival aims at providing a discursive platform to highlight environmental challenges faced by people at the national and international level through films, which happen to be one of the most powerful medium of communication and discussion.

Since its inception the focus and aim of the film festival has been on awareness creation and is strictly non-commercial.

The 2-day film festival goes beyond viewing of films. A panel discussion consisting of eminent academicians, vibrant activists, media persons and filmmakers is planned during the festival, apart from the short discussions following every screening.

We would like to call for entries for films/documentaries/animations on the theme of Earth, Water, Wildlife, Climate Change, Mining, Forest, Environmental Justice etc.

For more information please visit our website: www.toxicslink.org.

Kolkata's grossly undervalued natural sewage management system

Kolkata Wetlands are known to all in the state but the greed for land and lax penalties are destroying this Wetland of International Importance.

The article is available at: <http://www.indiawaterportal.org/articles/kolkatas-grossly-undervalued-natural-sewage-management-system>

The city of Kolkata is blessed to have its very own natural urban wastewater treatment system in the form of the East Kolkata Wetlands. According to the Ramsar Site Information Service, these wetlands are "one of the rare examples of environmental protection and development management where a complex ecological process has been adopted by the local farmers for mastering the resource recovery activities". Because of their international significance, unique

ecological character, multifunctional nature and enormous productivity, these wetlands have been designated as Wetland of International Importance and are governed by the East Kolkata Wetlands (Conservation and Management) Act, 2006.

The Act provides for the establishment of the East Kolkata Wetlands Management Authority, which is a statutory body entrusted with the responsibility of conserving and managing the Wetlands. It also provides wide powers and functions for this Authority to conserve, manage and protect this unique ecosystem that spans over an area of 12,500 hectares. This includes the powers to demolish, alter or prevent any illegal activity, which is likely to change the ecological character and adversely affect the wetlands. The Authority can even enforce land use control within the area and in case of any illegal construction may ask the person responsible to restore the land to its original status.

Despite such wide powers in hand, the Authority has not been successful in eradicating unauthorised developments on the wetlands, evident from news reports that warn people about the future of this peri-urban wetland. Large chunks of land including water bodies which are used for pisciculture by the local residents, have been under constant threat of getting filled up. These fisheries ponds are an important source of livelihood not just for the local people but for the entire city of Kolkata, which depends upon the fish stock coming from these ponds. The city's Metro Line project and the growing urban sprawl on the fringe of these wetlands especially in Rajarhat- New Town area, are examples of such misuse.

The penalty for failure to comply with the provisions laid down in the statute is imprisonment, which may extend to three years or a fine which may extend to Rs. 1 lakh or both. In case of a continued offence, an additional fine of Rs. 5000 per day will be levied but are either of these good enough to deter people from misusing the wetlands? The Act has been criticized by many as being weak especially given that this unique resource recovery system has saved the city from the humungous cost of setting up a separate water treatment plant. A sum of Rs. 1 lakh is negligible, especially for those in the real estate sector.

If we truly wish to save these wetlands, penalties including fine and imprisonment need to be more severe and must be imposed better. This calls for important amendments to existing laws as well as coordination between various government departments.

It is crucial for the people of Kolkata to raise their voices and their concerns in order to protect this pristine site which is a lifeline to their city.

We didn't have this green thing back in my earlier days

When at a store checkout, the young cashier suggested to the older woman that she should bring her own shopping bags in future because plastic bags weren't good for the environment.. The woman apologised and explained, "We didn't have this green thing back in my earlier days." The cashier responded, "That's our problem today. Your generation did not care enough to save our environment for future generations."

She was right -- our generation didn't have the green thing in its day. Back then, we returned milk bottles, pop bottles and beer bottles to the shop. The shop sent them back to the plant to be washed and sterilized and refilled, so it could use the same bottles over and over. So they really were recycled. We refilled writing pens with ink instead of buying a new pen, and we replaced the razor blades in a razor instead of throwing away the whole razor just because the blade got blunt. But we didn't have the green thing back in our day.

We walked up stairs, because we didn't have an escalator in every shop and office building. We

walked to the shop and didn't climb into a 300-horsepower machine every time we had to go two streets. But she was right. We didn't have the green thing in our day.

Back then, we washed the baby's nappies because we didn't have the throw-away kind. We dried clothes on a line, not in an energy gobbling machine burning up 2200 watts -- wind and solar power really did dry our clothes back in our early days. Kids got hand-me-down clothes from their brothers or sisters, not always brand-new clothing. But that young lady is right. We didn't have the green thing back in our day.

Back then, we had one TV, or radio, in the house -- not a TV in every room. And the TV had a small screen the size of a handkerchief (remember them?), not a screen the size of the county of Yorkshire. In the kitchen, we blended and stirred by hand because we didn't have electric machines to do everything for us.. When we packaged a fragile item to send in the post, we used wadded up old newspapers to cushion it, not polystyrene or plastic bubble wrap. Back then, we didn't fire up an engine and burn petrol just to cut the lawn.. We used a push mower that ran on human power. We exercised by working so we didn't need to go to a health club to run on treadmills that operate on electricity. But she's right. We didn't have the green thing back then.

We drank water from a fountain or a tap when we were thirsty instead of demanding a plastic bottle flown in from another country. We accepted that a lot of food was seasonal and didn't expect to have out of season products flown thousands of air miles around the world. We actually cooked food that didn't come out of a packet, tin or plastic wrapping and we could even wash our own vegetables and chop our own salad. But we didn't have the green thing back then.

Back then, people caught a train or a bus, and kids rode their bikes to school or walked instead of turning their mothers into a 24-hour taxi service. We had one electrical socket in a room, not an entire bank of sockets to power a dozen appliances. And we didn't need a computerised gadget to receive a signal beamed from satellites 2,000 miles out in space in order to find the nearest pizza place. **But isn't it sad the current generation laments how wasteful we were just because we didn't have the green thing back then?**

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

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