

Climate Change Community



Community Update No. 52: 31st March, 2014 In this Issue

FROM THE RESOURCE PERSON

Dear Members,

Greetings from the Climate Change Community of Practice (CoP)!!

We are delighted to post the 52nd Edition of the Community Update, today. We thank you for your cooperation and support in sharing knowledge with you in concerted and sustained manner.

As communicated to you earlier, we will be launching two more sub-communities soon, one on Renewable Energy, at the request of the Ministry of New & Renewable Energy (MNRE) and the other for the Indian Himalayan Climate Adaptation Programme of the Climate Change & Development Division, Embassy of Switzerland, New Delhi. The creation of these subcommunities will facilitate focused knowledge sharing on issues of interest to specific professionals and grass-root practitioners on a particular sub-theme.

One of 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 are gratefully acknowledged.

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

DEVELOPMENT IN THE SECTOR

The International Energy Agency's Renewable Energy Technology Deployment (IEA-RETD) Outlines Architecture of a Renewable Energy Future

The complete article is available at: <u>http://climate-l.iisd.org/news/iea-retd-outlines-architecture-of-a-renewable-energy-future/</u>.

The International Energy Agency's Renewable Energy Technology Deployment (IEA-RETD) Implementing Agreement has released a position paper on the energy architecture that will be required to deliver and sustain a world with a very high penetration of renewables.

The paper, commissioned by IEA-RETD in 2011, summarizes key findings from discussions among five energy experts on the architectural challenges and opportunities of a **high renewable** energy world in 2050.

The paper, titled **'Optimized use of renewable energy through improved system design' (OPTIMUM)**, addresses three aspects of such architecture, namely vision, challenges, and policy requirements. The vision foresees the possibility of a sustainable energy system based on renewable supplies, geographically interconnected systems, smart demand, and storage, achieved at moderate costs that do not jeopardize future economic development.

The deployment of the vision contains six principles:

- ✓ Societal and political will
- ✓ Policies based on a "systems approach"
- ✓ Standards and incentives to prohibit unsustainable behavior and investment
- ✓ Reliance on markets
- ✓ Technological, social, and institutional innovation
- ✓ Shared standards and plans to ensure inter-operability and flexibility

The paper identifies and elaborates three broad challenges to realizing this vision involving: implementing and transitioning to a radically different energy architecture; ensuring system stability and security of energy supplies; and achieving an energy transition at reasonable societal cost.

Based on the vision and its challenges, the experts offer a series of policy recommendations regarding the deliberate intervention of government and regulatory authorities in the activities of business and individuals.

These recommendations cover five main areas:

- Encouraging buy-in and agreeing to targets and implementation plans
- Providing incentives to individuals and organizations
- Setting mandatory standards
- Setting constraints on appropriate behavior
- Putting in place arrangements for agreeing and changing rules.

The authors conclude by stressing the importance for forward-thinking energy system design for the deployment and integration of renewables, particularly those based on variables energy sources.

In order to realize this strategy, they stress the need to gain buy-in from leaders and opinion makers, and suggest this can be best done by convincing them that renewables will mitigate

impacts from severe climate change and air pollution, while increasing global security by eliminating reliance on a small group of fossil fuel exporters.

UN agency launches new global land cover database

The complete article is available at : http://www.un.org/apps/news/story.asp?NewsID=47369&Cr=farming&Cr1=#.UzOl_GfNuUl.

The United Nations agricultural agency, FAO launched a new database which gathers under one roof previously scattered information about land cover – how much land is covered by croplands, trees, forests, or bare soils – crucial to establishing a good global understanding of the physical characteristics of the Earth's surface.

A strong understanding of our planet's land cover is essential to promoting sustainable land resources management - including agricultural production to feed a growing population - that makes efficient use of increasingly scarce natural resources yet safeguards the environment.

The Global Land Cover SHARE database (GLC-SHARE) initiative represents a major and historic improvement: up until now, such data was collected by different countries and organizations which identified, measured and recorded information in diverse, uneven ways.

GLC-SHARE pulled together all that data and submitted it to a thorough quality-control, harmonizing process, using internationally accepted definitions and standards, thereby bringing a wealth of country-level information into one consolidated dataset spanning the entire planet.

Applications of the new GLC-share database include monitoring of global land cover trends, evaluating the suitability of land for various uses, assessing the impact of climate change on food production, and land-use planning.

It will be a valuable tool in assessing the sustainability of agriculture, and for supporting evidence based-sustainable rural development and land use policy contributing to reducing poverty, enabling of inclusive and efficient agricultural and food systems and increasing resilience of livelihoods. GLC-SHARE will also help us understand how climate change and climate variability are impacting key natural resources, as well as food production.

FAO's new database reveals the breakdown of eleven global land cover layers:

- tree-covered areas (27.7 percent)
- bare soils (15.2 percent)
- grasslands (13.0 percent)
- croplands (12.6 percent)
- snow and glaciers (9.7 percent)
- shrub-covered areas (9.5 percent)
- sparse vegetation (7.7 percent)
- inland water bodies (2.6 percent)
- herbaceous vegetation (1.3 percent)
- artificial surfaces (0.6 percent)
- mangroves (0.1 percent)

The agency stresses that a surging global population and growing demand for food pose major challenges for agriculture, which in the years to come, will **need to produce more food using fewer natural resources while at the same time coping with a changing climate**.

FAO estimates that world food production will need to increase by 60 percent by 2050, for the most part, on lands that are already being cultivated.

Electric Transportation and Carbon Dioxide

The complete article is available at : http://2greenenergy.com/2014/03/20/electric-transportation-and-carbon-dioxide/ .

Ford announced its decision to use GE charging stations for its workplace charging network. Ford plans to install GE charging stations at more than 50 of its facilities throughout 2014. The stations will be networked together, allowing Ford to gather information such as the number of hours vehicles are charging and the amount of carbon dioxide reduced.

People should not make statements to the effect that they know how much CO2 is reduced as they charge their EVs. This figure, sometimes positive, other times negative, fluctuates in realtime throughout the day and night as grid operators around the nation figure out how they can meet ever-changing demand at the lowest cost, and then buy and sell power from different sources accordingly. This is further complicated by the fact that, even within one type of resource, say coal, there are numerous variables in terms of plant efficiencies, losses in transmission, coal types, levels of effectiveness of scrubbing, etc. — none of which we can monitor.

And if coal is selected, an incremental load on the grid normally means burning more coal, which is far worse for the environment and human health, not only in terms of CO2, but also NOx, SOx, heavy metals, radioactive isotopes, etc., than the oil that the EV displaced.

However, we're moving in the right direction in terms of all the things that will make EVs a terrific solution going forward. Not only are we decommissioning coal, but we're also bringing on more renewable energy, and since that comes largely in the form of solar and wind, it means integrating variable resources. EVs, through their ability to store excess energy capacity, will be a huge help in this regard over time.

Also, we need to keep in mind that many people install solar on their roofs when they get an EV, totally eliminating this issue. In fact, the third quarter of 2013 saw the largest number of American homes in history (31,000) install solar panels on their rooftops.

We'll get there. That's not the issue, but rather this: How much damage will we have done in the process? The answer: no one knows.

Vikalp Sangam / Alternatives India: A website of hope

The website is : <u>www.vikalpsangam.org</u> or <u>www.alternativesindia.org</u>

Are you tired of reading and hearing only about scandals, crime, corruption, and other such news, sick of the depressing daily headlines? Do you long to hear some good news? We bring you Vikalp Sangam / Alternatives India, a website dedicated to the creative work that people across India are doing as alternatives to the current models of development and governance.

The site will feature initiatives in the fields of sustainable agriculture, pastoralism and fisheries,

community health and learning, decentralized governance, social justice, dignified and sustainable livelihoods, decentralized water and energy production, equitable access to social services, producer and consumer control of the market, creative media and arts in the service of sustainability and justice, and democratic conservation.

The site covers stories, case studies, perspectives, events, and resources on the above; it will also be linked to one or more discussion forums. Initiatives covered will feature on a map of India.

As far as possible, contact details of those involved in these initiatives will be provided to enable people-to-people contact. Most important, the site enables anyone to contribute material on initiatives they are familiar with or working on. We hope you find the concept of Vikalp Sangam inspiring!

Members may contribute stories, perspectives, events, resources etc. You may also provide links to Vikalp Sangam website on your site; send out to your networks, put into your newsletters, etc. You can upload your contribution on the site or send it to: <u>alternativesforum@gmail.com</u>.

How Cities Can Make Billions out of Waste

The complete article is available at : <u>http://sustainablecitiescollective.com/david-thorpe/235416/how-cities-make-billions-out-</u> <u>waste?utm_source=feedburner&utm_medium=email&utm_campaign=Sustainable+Cities+Collecti</u> <u>ve+%28all+posts%29</u>.

Many local authorities manage waste contracts and waste facilities. To increase recycling and support moves towards a closed loop or zero waste economy, it is vital to find profitable uses for recyclates. Waste processors will therefore benefit from a new European tool and protocol designed to give confidence to buyers and sellers of products made from recycled materials.

These days many products are manufactured from or contain materials that were once something else. Society is used to recycled paper, but many objects, such as pens, can be made from recycled plastics. There is a long list of products - ranging from road surfaces and building materials to compost - that can, and should, be made from materials that would otherwise, or in the past, have been buried in holes in the ground where they end up emitting greenhouse gases.

The buzzword is resource efficiency. In economic terms it's about finding value in waste. But value is only acquired by winning the confidence of consumers, and they need to be assured of the quality of the finished product.

It is for this purpose that Quality Protocols (QPs) have been designed which set out quality criteria for the production and use of products made from specific waste types. If manufacturers comply with the criteria in these protocols, then the fully recovered product will no longer be considered as waste, and can be removed from any regulatory controls concerning waste governed by environmental legislation and watchdogs.

In England, it is the Environment Agency which fulfils the role of the QP checker. As part of an EU Life+ funded partnership program, the Agency has developed a new online tool called a QP Checker, to provide an easy, quick and cost-effective way for both new and existing producers to check whether they meet the QP quality requirements and any other specifications.

The tool creates a user report that documents performance and identifies any areas where

improvement is needed. It can also be used as an internal audit check, or to support a more robust and consistence compliance regime.

The tool, which is free to use although currently quite clumpy, was developed in close cooperation with a wide range of industry partners and stakeholders. All data generated remains confidential to the user.

At present it is only available for compost and recycled aggregates, but in future other products and processes will be included.

There is also interest in producing a Checker for pulverized fuel ash. This interesting by-product of industrial combustion can be used to make a form of sustainable concrete - sustainable because it locks up atmospheric carbon, whereas normal concrete contains cement which is high in embodied carbon.

The Environment & Business Manager at the Environment Agency, Roger Hoare, explains: "High quality waste-derived products not only benefit the environment through improved resource efficiency, they also benefit producers' bottom line through improved profit margins.

The Quality Protocols programme as a whole is delivering multi-billion pound benefits to business and councils. To date, the QPs have resulted in an estimated 21 million tons of materials being diverted from landfill, savings of around 40 million tons of virgin raw materials and approximately 130 thousand tons of carbon. It is estimated that by 2020 around £3.5bn in terms of increased sales and £1.5bn in terms of reduced regulatory burden will be realized.

It's now being realized that there is a huge economic value in the waste gathered from domestic and business properties by municipalities and their contractors as well as the private sector every week. But only if there is sufficient market for the products generated.

Quality protocols have been developed for the following processes or products:

- the production and use of quality compost from source-segregated biodegradable waste;
- the production of aggregates from inert waste;
- the production of processed cullet from waste flat glass;
- the manufacture of secondary raw materials from waste non-packaging plastics;
- Biodiesel derived from waste cooking oil and rendered animal fat;
- Anaerobic Digestate;
- Tyre-derived Rubber Materials;
- Gypsum from Waste Plasterboard;
- Pulverised Fuel Ash.

"By supporting producers who opt for QP compliance, it is possible to encourage market growth and end-user confidence," says Roger. "The EQual programme is also helping regulators to promote greater resource efficiency by supporting a clear and consistent regulatory framework to assist with wider End-of-Waste decision making and compliance assessment."

EQual is demonstration programme, supported by EU LIFE + funding, designed to encourage businesses to use more and better waste-derived material in new products.

The QP Checker tool complements the revised and updated Aggregate Quality Protocol published in October 2013 and the MPA welcomes any support and guidance for new and existing producers of recycled aggregates. This easy to use tool readily identifies whether the recycling operation is sufficient to ensure that the aggregate has achieved End of Waste and has therefore been legitimately removed from the waste steam. It is important to ensure that recycled aggregates gain maximum credibility and use within the market and this tool facilitates that process.

The QP Checker web tool has been developed by the consultancy Ricardo-AEA. Its technical director, Phil White, believes the production of safe and fit-for-purpose waste-derived products offers "significant benefits, including reduced use of virgin raw materials leading to reduced cost and environmental impacts throughout the supply chain. However, if these products remain classified as waste this potentially stigmatizes them, restricting market development."

This trailblazing initiative deserves to be emulated in other parts of the world, but it should not be underestimated that the protocols are the product of years of stakeholder consultations and hard work. But, given the financial let alone environmental benefits, the investment will be worthwhile.

Secretary General (SG) hails impact of UN climate change treaty, urges renewed commitment to ideals

The complete article is available at : <u>http://www.un.org/apps/news/story.asp?NewsID=47393&Cr=climate+change&Cr1=#.Uy_T3mfN_uUm_</u>.

Over the past 20 years, the United Nations Framework Convention on Climate Change (UNFCCC) has galvanized the world to seek multilateral solutions to the grave threat of climate change, according to the Secretary-General Ban Ki-moon, urging stakeholders to **use the occasion of its twentieth anniversary to "rediscover the commitment that brought the Convention to life**."

Hailing the twentieth anniversary of the Convention (UNFCCC) and commending all those who made it possible, the SG emphasized that the accord's landmark Kyoto Protocol established the world's first greenhouse gas reduction treaty, with binding commitments for industrialized countries, and set the stage for the establishment of the world's carbon markets.

Further, the clean development mechanism and joint implementation initiatives have enabled emissions trading and carbon offsets in the developing and developed worlds. The expanded UN Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (REDD+) programme is helping to place value on carbon stored in forests and reduce emissions from deforestation and land degradation.

The Secretary-General also noted that finance, technology transfer and capacity-building have unlocked access by developing countries to public and private resources. "In aggregate, the UNFCCC has been a major catalyst in the growing developmental shift to clean technology, renewable energy, improved efficiency and adaptation," he declared.

"At the same time, considerably greater ambition is needed to match the scale of the global challenge posed by climate change," said the UN chief, **explaining that greenhouse gases are at their highest atmospheric concentration in 800,000 years.** People everywhere – especially the poorest and most vulnerable – are experiencing the growing effects of unpredictable and increasingly extreme weather patterns.

Two decades of work by the UNFCCC and its parties have created the infrastructure to spur a resilient, low-carbon global economy. "Our challenge now is to **use this machinery – not only**

to tackle climate change, but to deliver sustainable energy for all, make the air in our cities fit to breathe, generate decent jobs and help eradicate extreme poverty," he said.

Continuing, the SG said that Governments have agreed to reach a new universal climate agreement by 2015. To support them, he will convene a climate summit on 23 September to mobilize political will and showcase action that can help to raise ambition levels worldwide. He has invited world leaders, along with senior representatives from civil society and the private sector, to work together for transformative results.

It is hoped that this anniversary inspires everyone to recommit to the Convention, to its implementation and to a meaningful 2015 agreement.

Meanwhile, a new report released by the International Resource Panel and the UN REDD+ Programme states that an investment of \$30 billion per year – under 7 per cent of the \$480 billion paid in annual global fossil fuel subsidies – in the REDD+ forest conservation initiative can accelerate the global transition to green and sustainable growth and ensure the long-term wellbeing of tens of millions in developing countries.

The report Building Natural Capital: How REDD+ Can Support a Green Economy, lays out recommendations to deliver the new integrated REDD+ and Green Economy approach, including better coordination, stronger private sector engagement, changes in fiscal incentive frameworks, greater focus on assisting policy-makers to understand the role forests play in propping up economies, and equitable benefit sharing. The report stresses, in particular, the need for a rights-based approach to ensure that benefits flow to the rural poor.

REDD+ is a bold project that offers an opportunity for countries to pursue a more sustainable development pathway through the conservation, restoration and sustainable management of forests.

It is crucial to create the enabling conditions required for REDD+ to succeed from good governance and sustainable financial policies to equitable distribution of benefits. These enabling conditions are themselves the building blocks for an inclusive Green Economy.

How can the 2015 agreement be designed to achieve transformative change?

The complete report is available at: <u>http://cprclimateworkshop.cprindia.org/uploads/2/3/7/5/23756750/workshop_report-</u> <u>building_the_hinge.pdf</u>.

There are two key elements to answering this question: first: how should 'Transformative change' be defined; and second, how such a change could be catalyzed by the 2015 agreement.

In order to engage in a meaningful debate on this issue, there is a need to identify strong levers of transformative change and then weave these into the 2015 agreement.

'Transformative change' involves creating a conceptual vision and then turning that Vision into systemic large scale transformations.

If the long term vision is to decarbonize, then the 2015 agreement needs to lay down the levers of transformation technology, finance, policy, signals which will help achieve systemic change.

Thus, it can be looked upon as a two-step process:

- Conceptual, as exemplified by 'green growth', low carbon pathways, steady state economy, circular economy.
- Systemic, which refers to the scale, the level, the sectors etc. at which the Transformation occurs.

One of the most identifiable steps for achieving transformative change is through a change in energy systems by creating shifts in investment towards low carbon pathways. Transformation is about catalyzing greater shifts, not merely an incremental step by step change.

It could simply be something that causes a fundamental shift in existing processes by putting things on a different scale or speed, be it in terms of climate resilient development and change in energy systems in transforming towards a low carbon economy. Transformation needn't necessarily be a long term process. The transformational aspect could be a one-time occurrence that may have immediate and significant ramifications for the rest of the world. Such a transformation would depend greatly on strong leadership, which drives the change that has long term ramifications.

Other drivers of transformative change will be technology, investment flows and a change in political will. Transformative change is mostly discussed in the national context, such as change in energy systems or building climate resilience. But, in order for transformation to occur at the national level, there is a need for significant transformation at the international level as well, especially in terms of trade, investment and finance. There is also a need to focus on the processes and methods that enable transformation.

The UNFCCC provides the normative guidance that domestic policies respond to. Therefore in order for the UNFCCC to stimulate transformative change, the 2015 agreement will need to define clear objectives for national process to aspire to. The 2015 agreement could send very clear signals on global policies and targets, for example, a phase out of net GHGs or a carbon budget. The UNFCCC can have a specific role around objective setting, guidance, monitoring. However the implementation actors will be much broader.

How could the UNFCCC bring about transformative change in the way we look at energy use, resilience, trade etc.? The key outcome would need to narrow down the broader conceptual understanding of the term 'transformation' and then determine whether the convention can deliver on those counts and also whether it has the finance to address such change.

Several actors, and not merely the 2015 agreement, can bring about transformative change. To the extent that it can't catalyze the change, the 2015 agreement should try not to create perverse incentives at the domestic level. The focus needs to be on the fact that the 2015 agreement does not constrain the other levers of transformative change.

The 2015 agreement could create space for actors (or clubs) that want to move forward faster to achieve transformative change. However, there may be concerns over how the Convention might address a situation where a developing country wants to be a part of the club that wants to moves faster how will this affect the existing balance of responsibilities between developed and developing countries, and how will this impact the fulfilment of existing support obligations to developing countries that are not part of the club?

Most governments consider climate related decisions in terms of the energy mix or development options. These choices are closely affected by available technologies and finance. In order to take countries towards transformative change, the 2015 agreement must catalyze the dissemination of the best available technologies and finance. However, in order for technology and finance to

trickle down from the international to the national level, there need to be clear signals and plans from governments.

National Mission for Green India launched as centrally sponsored scheme

The complete article is available at : http://www.prsindia.org/announcements/monthly-policy-review-feb-2014-2662/ .

The Cabinet Committee on Economic Affairs has approved the National Mission for Green India as a centrally sponsored scheme, with an allocation of **Rs. 13,000 crore over the 12th Plan.**

The objectives of the Mission are to:

- Increase forest and tree cover and improve the quality of forest cover spanning two to eight million hectares
- Improve ecosystem services including biodiversity and forest based livelihoods.

Implementation:

- ✓ Gram Sabhas, along with restructured **Joint Forest Management Committees**, will oversee implementation of the scheme at the local level.
- ✓ At the state level, the Forest Development Agency and State Forest Development Agency, both restructured, will oversee implementation.
- ✓ A Governing Council, chaired by the Minister of Environment and Forests, and an Executive Committee will facilitate the implementation of the programme at the national level.

CIF Offers Lessons on Barriers to Concentrated Solar Power Deployment

The complete article is available at : http://climate-l.iisd.org/news/cif-offers-lessons-on-barriers-to-concentrated-solar-power-deployment/.

The Climate Investment Funds (CIF) has produced the first two reports of the Climate Policy Initiative (CPI), offering lessons learned from its US\$1.2 billion investment portfolio in Concentrated Solar Power (CSP).

The first report, titled 'The Role of Public Finance in CSP – Background and Approach to Measuring Effectiveness,' introduces the CPI. It is based on the premise that CSP has the potential to supply up to 10% of global energy demand by 2050, while recognizing that over 98% of CSP projects currently receive public funding.

The paper explores questions to be answered over the course of the continuing CPI on CSP, including: when is public support for CSP not needed; how cost-effective are the various policy and investment options for CSP; are specific interventions required or can public investment alone bring down the cost by enabling additional capacities; and how can international finance best

support national level programmes? It furthermore explains the approach with which the project will measure effectiveness of policies and investment tools for CSP.

The second publication is an illustrative case study of a CSP plant, titled **'The Role of Public Finance in CSP – Rajasthan Sun Technique 100MW CSP plant, India**.' The Paper is available at: <u>http://climatepolicyinitiative.org/sgg/publication/san-giorgio-group-case-study-the-role-of-public-finance-in-csp-india-rajasthan-sun-technique/</u>.

The paper describes the experience financing and constructing this plant, and how it successfully overcame investment barriers that are typical of CSP projects. The salient features are:

- A combination of national policy, public co-financing, and private risk management enabled investment in the Rajasthan Sun Technique CSP plant
- The Government of India's subsidized power purchase agreement (PPA) and payment security scheme were essential to ensuring the project's financial viability.
- Foreign development banks and an export credit agency provided debt with substantially longer maturities than local financial institutions, making the project appealing to the local developer even at a very competitive power tariff for CSP. This was true even though the costs of hedging foreign exchange risks cancelled out a large part of the benefits of foreign debt.
- After the public sector PPA reduced the revenue risks and foreign public debt the financing risks, the private sector was able to manage the remaining risks, but not always at low costs. We find that the amount of risk taken by the private sector (developer and technology supplier) in this case is much higher than standard practice for similar projects in other countries.
- While Indian national CSP policy resulted in low costs for the government, it has not deployed CSP at the planned scale and time horizon
- The Government of India awarded a subsidized PPA through a reverse auctioning system. Strong competition among project developers resulted in several bids submitted at prices much lower than the initial reference tariff and also lower than most CSP tariffs worldwide.
- Project delays, possible cancellations, and difficulties in sourcing technologies and financing indicate that the subsidized tariff alone was not sufficient to deploy CSP at the desired scale.
- The only winning bidders able to build CSP plants at the low tariffs that resulted from the competitive bidding process were those that were financially strong and able to source public debt.
- Implemented projects enabled learning on CSP, establishment of local supply chains and investment in basic infrastructure. This led to local benefits, such as job creation, and may reduce CSP technology costs both in India and abroad.
- Many elements of this project could be replicated and scaled up in India and elsewhere, but there is substantial room for improving the policy design and mobilizing local finance.

The findings suggest that this project offers valuable lessons to policymakers, international donors, and development finance institutions looking to scale up CSP in India and abroad. They are:

- If a reverse auctioning scheme is used in India for future CSP programs, the design could be substantially improved.
- The Rajasthan Sun Technique financing model combines debt from foreign public institutions with local private investment. This model could be replicated for other innovative projects, but, for scaling up CSP in India, more local financing has to be secured.
- International donors and development banks can accelerate national efforts to scale up CSP technology and reduce its costs by mobilizing local private investment, supporting

the design of relevant policies, and covering part of the subsidies.

Mining Contracts – Five Tips for Governments and the Rest of Us

The complete article is available at : http://blogs.worldbank.org/energy/mining-contracts-five-tips-governments-and-rest-us .

Mining is a high stakes industry. For the growing list of countries looking to translate underground assets into tangible benefits above the ground, the ability to negotiate and implement a good deal is critical. However, capacities to do so are often weak.

Mining Contracts – How to Read and Understand Them is a new book produced through an innovative Book Sprint methodology...in just one week. It offers over 200 pages of guidance to the budding negotiator, mining operative, and civil society advocate alike.

The book-sprint was organized by the International Senior Lawyers Project, OpenOil, Vale Columbia Center on Sustainable International Investment and Revenue Watch Institute-Natural Resource Charter, with support from the World Bank Group, among others.

In a contentious area such as mining contracts, a guidebook provides advice, but not universal agreement on everything. Nor does it offer the final word for all time. Neither the organizer, nor contributors, could possibly agree on everything in the book. It will continue to be revised as a living document.

Here are just five of the messages that resonated with me, drawing on the insights of fellow authors and their 170 years of collective negotiating experience:

1. **Help is available – use it!** Getting good advice and support for negotiations and implementation of deals is worth it. The up-front investment can pay off many times over. Plus, more facilities now offer support to governments to ensure they are able to obtain a good deal for the country (including the World Bank's own Extractive Industries Technical Advisory Facility and Africa specific trust fund).

2. Seek balance beyond just the fiscal terms. Not only do governments need to look at the right mix of royalties and taxes, but factor in their demands in terms of shared infrastructure, and creation of local jobs and economic opportunities. The trade-offs are ever more complex. Ensuring third party usage of a rail line might require a concession on royalty rate. But for Herbert McLeod, Adviser to the Sierra Leone government and one of the authors, getting balance is essential. Both parties to a contract need to know that "an unfair deal is an unstable deal".

3. **The contract can be a vehicle for development**. Yes, it is a legal document, but the contract can also form a framework to ensure that the benefits of mining are shared - down to the subnational level. This is particularly true in contexts where the legal and regulatory frameworks are not yet in place or updated, meaning more details are specified in the contract document itself. Contracts can help determine not just revenues, but resulting jobs, environmental protections, and infrastructure legacy.

4. **Publish!** Traditionally, mining contracts have been secret, but the authors come down firmly in favor of the growing trend towards transparency. They turn the question from "Why publish?" to "Why not publish?" **They note growing evidence that disclosure prompts greater**

understanding and analysis of deals, more effective monitoring of their implementation, and a stronger knowledge base to inform negotiation of future deals in the public interest.

5. **Yes, you can write a book in five days.** Publication of this book is proof that if you lock 14 people together for seven days, they can deliver. "Having everybody in the room is most valuable thing," said Adam Hyde, who helped guide the process given his experience as a creator of booksprint methodology.

Awareness Must be Coupled with Concrete Action to Protect Vital Forests, Secretary-General Stresses in Message for International Observance

The complete article is available at : http://www.un.org/News/Press/docs/2014/sgsm15706.doc.htm .

Following is UN Secretary-General Ban Ki-moon's message for the International Day of Forests, to be observed on 21 March:

Forests are the lungs of our planet. They cover one third of all land area and are home to 80 per cent of terrestrial biodiversity. They are crucial for addressing a multitude of sustainable development imperatives, from poverty eradication to food security, from mitigating and adapting to climate change to reducing disaster risk.

It is estimated that 1.6 billion people depend on forests for food, fuel, shelter and income. The World Health Organization estimates that between 65 and 80 per cent of people rely on medicines derived from forests as their primary form of health care.

Not only do forests provide essential economic safety nets for a significant number of the world's poor, they underpin economies at all levels. Round wood production, wood processing and the pulp and paper industries account for nearly 1 per cent of global gross domestic product. Non-monetary benefits from forests, such as water, energy, shelter and medicine, are estimated to be two to three times as great. Forested catchments supply three quarters of freshwater, which is essential for agriculture, industry, energy supply and domestic use.

The International Day of Forests is dedicated to raising awareness about the importance of all types of forests and trees to our economic, social, environmental and cultural wellbeing. However, awareness must be coupled with concrete action. As we deliberate on the post-2015 development agenda, let us acknowledge the vital role of forests and pledge to work together to protect and sustainably manage these vital ecosystems.

Understanding CO2 Emissions from the Global Energy Sector

The complete article is available at:

https://openknowledge.worldbank.org/bitstream/handle/10986/17143/851260BRI0Live00Box3821 47B00PUBLIC0.pdf?sequence=1.

Why is this issue important?

Mitigating climate change requires knowledge of the sources of CO_2 emissions and identifying opportunities to cut emissions of greenhouse gases requires a clear understanding of the main sources of those emissions. Carbon dioxide (CO2) accounts for more than 80 percent of total

greenhouse gas emissions globally, primarily from the burning of fossil fuels.

The energy sector—defined to include fuels consumed for electricity and heat generation—contributed 41 percent of global CO2 emissions in 2010. Energy-related CO2 emissions at the point of combustion make up the bulk of such emissions and are generated by the burning of fossil fuels, industrial waste, and non-renewable municipal waste to generate electricity and heat. Black carbon and methane venting and leakage emissions are not included.

Where do emissions come from?

Emissions are concentrated in a handful of countries and come primarily from burning coal. The geographical pattern of energy-related CO2 emissions closely mirrors the distribution of energy consumption. In 2010, almost half of all such emissions were associated with the two largest global energy consumers, and more than three-quarters were associated with the top six emitting countries. Of the remaining energy-related CO2 emissions, about 8 percent were contributed by other high-income countries, another 15 percent by other middle-income countries, and only 0.5 percent by all low-income countries put together.

Coal is, by far, the largest source of energy-related CO2 emissions globally, accounting for more than 70 percent of the total. This reflects both the widespread use of coal to generate electrical power, as well as the exceptionally high CO2 intensity of coal-fired power. Per unit of energy produced, coal emits significantly more CO2 emissions than oil and more than twice as much as natural gas.

What have been historical trends?

Despite improvements in some countries, the global emission factor has remained steady. Since 1990, energy demand has grown strongly, while the global emission factor for energy has remained relatively stable within the range of 460–500 grams of CO2 per kilowatt-hour. The emission factor represents average CO2 emissions per unit of energy produced and reflects a weighted average of the technologies being used.

The energy sectors in South Africa, India, Australia, and Indonesia are among the most CO2intensive worldwide, reflecting the fact that coal accounts for more than 40 percent of their energy production, leading to emissions in excess of 900 grams of CO2 per kilowatt-hour in the cases of South Africa and India. At the other end of the spectrum, countries such as Brazil, Colombia, Canada, and Venezuela—which obtain 60–80 percent of their energy from hydropower—achieve emissions of well below 300 grams of CO2 per kilowatt-hour. Countries in which natural gas dominates the energy mix—such as Mexico, Egypt, Turkey, and Ukraine—have emission factors within the range of 300–500 grams of CO2 per kilowatt-hour.

Five of the six top global emitters have slightly reduced their grid emission factor over the period 1990–2010, while India's has increased over the same period. During this time span, energy production in China and India increased at 9 percent and 6 percent per annum respectively, while Russia's production decreased 1.5 percent per annum and the rest of the top six emitters saw increases in the range of 1–3 percent annually. Despite growth in energy production in China, the United States, Japan and the European Union, emission factors in all of these areas have decreased, implying a relatively slower growth rate for energy-sector emissions relative to energy production. It is also important to note that emissions per capita for India, China, and the EU are significantly lower than for Russia and the United States.

Environment groups have a problem with population

Why are NGOs afraid to talk about the direct link between rising population and environmental disasters?

The complete article is available at :

http://www.theguardian.com/environment/blog/2014/mar/07/environment-groups-problempopulation

It doesn't take too long to open up incredibly divisive discussions about population, development and the environment. For instance, how would you respond to the following facts?

25 years ago, at the time of the 'Feed the World' campaign, the population of Ethiopia was around 33m. Today, it's nearly 80m, partly as a consequence of Western aid successfully preventing the death of millions of people who would otherwise not have survived periods of chronic drought. By 2050, on a 'business as usual' projection, Ethiopia's population will be around 175m, many of whom will be as vulnerable to serious drought as they were when we were all being exhorted "to feed the world".

The facts themselves are not really the source of the controversy but the tone with which they are communicated and its interpretation is.

To assert as bluntly as some demographers do that it is next to useless to go on pumping further aid into countries like Ethiopia until they have got on top of their unsustainable population growth, is hateful to most development NGOs.

It's pretty much the same story when direct connections are made between the continuing assault on biodiversity in countries all around the world, and unsustainably high levels of population growth. Despite all the evidence from the IUCN that growth in human numbers is one of the principal drivers behind continuing encroachment on pristine areas of high biological value, conservation and environment groups tip toe around this incontrovertible physical reality as if it was still an unproven hypothesis.

Then bring it closer to home. In all the angst-ridden coverage of the recent floods in Somerset and the Thames Valley, did you hear a single representative of any of the UK's leading environmental organizations make the connection between the floods and the UK's still rising population? No, you did not. Yet they all know that this is a key part of the story, and that the UK's population is set to grow by around another 10 million people over the next 25 years.

The only time when environmental NGOs (in both Europe and the USA) were actively involved in the population debate was back in the early 1970s. With Paul Ehrlich's Population Bomb going off all over the place, and books like Limits to Growth eloquently stressing the linkage between population growth, resource consumption and environmental impact, it made good PR sense for the NGOs to be vocal on those issues.

But as soon as that level of mainstream political interest faded away, the NGOs' interest in population faded away too. As director of Friends of the Earth in the UK between 1984 and 1990, I failed completely to get the organization to say anything intelligent about population, let alone campaign on it – and I still feel bad about that.

Given that about 80% of people here in the UK believe population growth to be an important issue, you do wonder what the problem with today's NGO leaders might be – apart from collective blindness and an understandable but gutless desire to avoid controversy.

UK Bioenergy: Are Dedicated Biomass Plants a Bust?

The complete article is available at :

http://www.renewableenergyworld.com/rea/news/article/2014/03/uk-bioenergy-are-dedicated-biomass-plants-a-bust?cmpid=WNL-Friday-March14-2014.

Despite the UK government's oft-stated renewable energy ambitions, investors are walking away from dedicated biomass projects as inconsistent and far less ambitious policy decisions begin to affect sentiment.

As Ed Davey, U.K. Secretary of State for Energy & Climate Change, spoke to the Environment Council in Brussels, saying: "We call for urgent action on reaching an ambitious 2030 energy and climate change agreement, to spur on investment in green, reliable energy," at home in Britain the backers of a flagship biomass energy project announced that it would be economically unfeasible to continue development. What happened?

When U.K.-based independent developer RES announced that it would be ceasing work on its \pounds 300 million (US\$500 million) biomass power station project at the Port of Blyth in Northumberland it cited on-going uncertainty in U.K. energy policy, prompting the withdrawal of a key project partner in late 2013.

In a statement RES said that the government's inconsistent support for dedicated biomass energy as well as increased uncertainty in regard to the Electricity Market Reform (EMR) process had critically undermined the investment case.

The company argues that biomass has "been increasingly marginalized by the U.K. government in a series of policy developments over the last two years, including the introduction of a cap on dedicated biomass under the Renewables Obligation (RO)." RES says the cap "represents a radical downsizing in government ambition for the technology from a target of 4,000 MW in 2011 to a cap of 400 MW in 2013, long after the industry had invested significant sums in developing projects on the back of DECC ambitions."

"In addition, the government's preference for the conversion of existing coal-fired power stations to biomass over dedicated biomass generating capacity is at odds with the urgent need to bridge the looming capacity crunch in the UK energy system."

However, despite RES' assertions, it is evident that conversion from coal to biomass is not necessarily a route to commercial success in the U.K.'s energy market. Last August RWE npower announced that was to close its Tilbury Power Station, which finally shut down in October 2013.

This 1960s-built coal-fired plant had been converted to fire biomass in 2011 as the European Commission's Large Combustion Plant Directive (LCPD) — which mandated either a significant upgrade investment in emissions reduction or a limited number of operational hours for older coal-fired installations — began to bite. For Tilbury B, RWE determined that it would use up the remaining operating hours by switching to biomass in the hope that the move to low-carbon generation would garner support for continued operation post LCPD, potentially with another decade or so of service life.

Operation of the plant on biomass pellets — more than 90 percent of which were sourced from North America — resulted in greenhouse gas savings in excess of 70

percent over coal at the 870-MW plant.

However, the government reportedly declined its bid for inclusion in the Contract for Difference (CFD) pricing mechanism that will support renewable generation following introduction of the EMR measures. As a result, given the investment required to modify and refurbish the plant to bring its thermal efficiency up to the required 37 percent minimum standard for new biomass-fired plant, RWE said the plant was "no longer economically viable."

Another factor possibly contributing to the decision was a February 2012 fire in the biomass fuel storage area that saw the station offline for four months.

Of course, there are those who argue that allowing wheezing and ancient coal-fired plants to eke out a few more years of life on biomass is the wrong approach. Certainly, a modern, dedicated biomass installation operates at a far greater thermal efficiency. It is therefore capable of delivering a far better energy-to-carbon emission ratio for the millions of tons of biomass that plants such as Tilbury B would consume.

Back in March 2013, Mark Whettall, managing director of U.K. district heating pipe manufacturer CPV Ltd, called for an end to the way in which the Renewables Obligation is incentivizing electricity producers to use biomass fuels in inefficient, conventional power stations.

Whettall: "I of course acknowledge that using biomass is much better than simply burning fossil fuels such as coal, but to do it at such a low level of efficiency — and furthermore provide financial incentives for doing so — really has to be brought into question."

Given that, from an energetic perspective, new build biomass is a far more attractive prospect than conversion, why is North Blyth a bust?

The warning signs have been gathering for some time. Back in October 2012 U.K. utility group Centrica announced that it was withdrawing plans for two biomass power stations, at Roosecote in Barrow-in-Furness and at Glanford Brigg in North Lincolnshire, with a combined capacity of 217 MW.

However, even back then Centrica noted "recent clarification on the regulatory framework relating to dedicated biomass plants indicates a preference for co-firing and coal conversion to biomass."

Estover Energy plans to develop a £65 million (US\$100 million) biomass-fired CHP plant in the South East of England at Sandwich, in Kent. Generating 11-15 MWe and 8-12 MWth, the plant will use locally sourced low-grade wood as fuel.

The U.K. Renewable Energy Association's Back Biomass campaign is emphatic though, saying "the introduction of a cap on dedicated biomass under the Renewables Obligation and the lack of support (unless with CHP [see box to right]) under EMR has made this outcome inevitable. This represents a sizeable change in DECC's ambitions for the sector since 2011."

REA Chief Executive, Dr Nina Skorupska, expanded on the issue: "The government used to have a clear policy of supporting the most affordable low carbon technologies, which saw biomass projects attract healthy investment.

"However, recent government actions have eroded investor confidence in the biomass sector. The result is project cancellations totaling hundreds of MWs and millions of pounds of inward investment. This row-back on biomass leaves a huge hole in the government's plans to keep the lights on with low carbon technology."

Focus on low carbon technology, says former UN climate chief - Quarrels over science and policy are undermining the fight against climate change

The complete article is available at : <u>http://www.theguardian.com/environment/2014/mar/07/low-carbon-technology-climate-change-un</u>

Efforts to tackle climate change must urgently focus on implementing low carbon technologies such as wind and solar power rather than discussions of the science and quarrels over policy, the former United Nations climate chief has said.

Yvo de Boer headed the UN Framework Convention on Climate Change from 2006 to 2010, and was the chief mover behind the Copenhagen climate summit in 2009. Since then, he has acted as global chairman for climate change and sustainability services at the consultancy KPMG, but he is now leaving to take up a new post as **director-general of the Global Green Growth Institute**.

De Boer told the Guardian: "It's about implementation now. We need to focus on helping countries to formulate programmes they can take to the bank, working with countries to tap into finance mechanisms that are out there [for their low-carbon projects]."

He said key sources of finance were still largely untapped, including pension funds, which he said had a clear interest in long-term investments that would help to head off the worst dangers of climate change. The UN-sponsored Green Climate Fund would also provide a strong source of finance, de Boer predicted, though the slow progress on setting up the fund and disbursing cash has frustrated many international green campaigners.

But de Boer said that "non-state actors" from the private sector would also play a key role in the future, by cutting their own greenhouse gas emissions and helping others to do the same. "Private sector organizations have a lot of knowledge in this area, and they are focused on delivery," he said.

Based in Seoul and partly funded by the South Korean government, the Global Green Growth Institute has operations in 32 countries, conducting macro-economic assessments of how countries can move to a greener economy, and financing projects that forward these aims. De Boer will serve a four-year term starting April 15.

The UN negotiations, which de Boer led as executive secretary of the UNFCCC, are now approaching a critical phase. Next Monday, work will begin among all the world's governments on drafting a text for a potential new agreement on the climate, to take effect from 2020. The new treaty or legally binding pact – the exact form has yet to be decided – and which is being championed by de Boer's successor, Christiana Figueres, would be the first to bind both developed and developing countries to a long-term low-carbon future. But there is still little agreement on how the accord should take shape, and countries must come up with plans for drastic emissions cuts before a crunch meeting in Paris late next year.

De Boer said that the talks were vital but that there should also be an emphasis on making a difference through practical projects to reduce emissions. "At a time when so much of the international focus seems to be on the negotiations, I look forward to working with countries on delivering [a low-carbon future] that is not just in national interests but in the global interest."

The GGGI has about 100 staff, with offices in Copenhagen, London, Dubai and Seoul.

De Boer said: "The GGGI's work can add value to creating prosperity at a time when humans are experiencing challenges such as climate change, energy, water, population growth, and an increase in urbanization. Multiple challenges faced by humanity can only be effectively addressed through the shift toward economic growth in a more sustainable manner."

Award-winning Portable, High-Efficiency Hydroelectric Generator Now on the Market

The article is available online at: <u>http://www.japanfs.org/en/news/archives/news_id034740.html</u>

Ibasei Ltd., a Japanese manufacturing engineering company in Ibaraki Prefecture, launched sales of a new portable flow-through type of hydroelectric generator, called the "Cappa". It was jointly developed with a team led by Assistant Professor Yasuyuki Nishi of the Graduate School of Science and Engineering at Ibaraki University, and won the Product Design Prize (Small and Medium Enterprise Agency Director-General Award) at the 2013 Good Design Awards ceremony.

When the cylindrically shaped generator is submerged in a river or stream, its built-in propellers, driven by the water flow, start high-speed rotations to generate electricity.

In a river or stream of at least 60 cm in depth and 1.9 m in width, it can continuously produce an output of 160 W from an average water flow of 1.75 m per second.

It can supply minimum emergency power needed in a disaster, and at ordinary times is also useful for applications such as powering security lamps on streets at night or as a power source for mammal pest control systems on farms and in fields.

The Cappa has a water intake and flow velocity boosting device with uniquely-shaped gears that increase the water flow surrounding the intake, which allows the device to perform highly-efficient power generation, at about four times more compared to a device with a single propeller.

Small output capacity has been a weak point of flow-through type hydroelectric power generators compared to waterfall-type generators such as those used in dams, an issue the Cappa generator could overcome.

The unit can be installed without any extra construction process or exterior power source. Installation is done simply by placing four aluminum planks across a river or stream, from one bank to the other, and then fixing the handles attached to the main body to the planks.

The generator measures about 83.2, 77.0, and 66.5 cm in width, depth, and height, respectively, and weighs 57 kilograms, making it light enough to be carried by two adults.

The green economy and the BRICS countries: bringing them together; Produced by: South African Institute of International Affairs (2013).

The paper is Available online at: <u>http://www.eldis.org/cf/rdr/?doc=67010</u>

The green economy has been around as a concept since the 1970s but gained relevance again in

the wake of the global economic recession in 2009 as government leaders looked towards new economic opportunities through sustainable, equitable and resilient economic growth.

International institutions such as the UN helped to shape the thinking around, and define green growth and its constituents, including economic development and social inclusion. All these concepts are of significance to Brazil, Russia, India, China and South Africa (the emerging-economy geo-political bloc known as 'the BRICS').

This paper aims to contextualize the development of green economies in the BRICS countries, highlighting important steps the individual countries in the BRICS have taken to establish systems to support the development of a green economy.

An attempt is made to explain the differing approaches BRICS countries take in developing a green economy by comparing the outcomes of the policies they have implemented, while taking into consideration their respective economic priorities. The impact of their policies on any progress made towards establishing a green economy is also evaluated.

The paper summarizes the outcomes of BRICS countries' policy approaches to developing a green economy and establishes the stage in which the BRICS countries find themselves as a collective.

Generally, individual approaches driven by countries' overarching objectives for economic development resulted in differing outcomes.

While some countries have embraced the concept of a green economy, and hence implemented policies as well as taken actions to ensure its development, others are skeptical about the direction of economic transformation that could occur from the allocation of resources for the development of a green economy.

The authors conclude that for BRICS countries to embrace the development of a green economy fully, objectives for this transformation should be strategically linked to countries' broader economic development agenda.

However, individual governments and policymakers have to agree on the nature of desired economic development outcomes that can be realized from embarking on developing a green economy, in order to establish policy to co-ordinate activities cohesively so as to achieve the projected outcomes.

Coping with climate change: Pakistanis taking individual actions, new study reveals

The complete article is available at : http://tribune.com.pk/story/681937/coping-with-climate-change-pakistanis-taking-individual-actions-new-study-reveals/.

Pakistanis are second only to the Chinese among seven Asian countries that have taken ample action at community and individual levels to respond to climate change, according to a new comprehensive study on climate change perceptions and responses in Asia.

In Pakistan's case, according to the study, these community and individual efforts to combat climate threats are taking place despite lack of government support, low levels of confidence in

government interventions, and lack of information on climate change.

Around two-thirds of Pakistani respondents for BBC Media Action's "Climate Asia" report indicated they have made some changes in livelihood or lifestyle that could be directly attributed to climate-related issues.

But some 72 per cent of those same respondents said they were not confident that the government was taking necessary actions to respond to climate change, according to the report.

The Climate Asia report is based on 33,500 surveys, 100 focus groups and 115 in-person interviews conducted between March 2012 and January 2013 in Pakistan, India, Bangladesh, China, Nepal, Indonesia and Vietnam, said Khadija Zaheer, a researcher and projects officer at BBC Media Action. In a way, the most important aspect of the report was its emphasis on communication and media as tools for building awareness, supporting discussions in communities, and improving institutional support, all in an attempt to "help people respond to climate change."

Zaheer said the report's findings show that Pakistanis are responding at individual and community-level. She said despite low confidence in governments, Pakistani respondents seemed to have faith in local institutions such as neighborhood committees and community-based networks.

A whopping 50 per cent of respondents said they were not familiar with the term "climate change."

But 72 per cent said they had felt an increase in temperature and 51 per cent perceived a decline in rainfall — indications that changes in climate were being noticed, which global climate watchdogs consider one of the country's most vulnerable to extreme weather events.

The survey results showed that Pakistanis vary in their responses to climate change. Which, in turn, means they need to be reached out to in different ways with different sets of information on climate change, Zaheer said.

In order to identify the opportunities of communicating with the public, Zaheer said the report segmented its respondents into five categories based on their responses to climate change. While 41 per cent believed there was no need to act, 26 per cent were "acting and wanting to do more," 17 per cent were finding it too hard to take action, 10 per cent were willing to act, and seven per cent said they were trying to act but finding it very difficult.

The report suggested different communication strategies for each group, where people already adapting to climate change can be provided with more technical information, and people who are indifferent to climate issues can be communicated with, focusing on the negative impact of climate change.

The report also suggests that the content of communication messages should reach out to women, farmers and youth as "priority audiences" which are willing to take actions to cope with climate change but are not sure how to do it.

Environment journalist Rina Saeed Khan, who spoke at the report launch, said print and electronic media in Pakistan have started to pay more attention to climate change since the devastating 2010 floods.

She stressed the need for more reporting on climate change and environmental issues in Urdu

and regional languages because news items in these languages can have a bigger impact on the general public than English-language environment journalism.

Oxfam Pakistan Country Director Arif Jabbar Khan said climate change, especially the variability and unpredictability in rainfall, was making institutional knowledge of cropping patterns amassed by small farmers over generations irrelevant.

He said the resulting "knowledge gap" among the farmer community should be filled through awareness-raising campaigns and provision of information on changing weather patterns.

New Bionic Leaf Could Solve Solar Energy Storage Problem

The complete article is available at : http://cleantekmarket.com/index.php/news/index/act/news_detail/id/347

Researchers from Lawrence Berkeley National Laboratory are developing a new bionic leaf that can convert energy from sunlight into an energy-dense fuel, imitating the photosynthetic process of plants. We've covered the artificial leaf concept before but aside from using a cool new name the Berkeley project represents a new twist on the technology that could lead to far greater efficiencies.

The Artificial Leaf Concept

Whether you call it an artificial leaf or a bionic leaf, the basic concept is relatively simple. Instead of using a photovoltaic cell to generate electricity directly from sunlight, you deploy a chemical reaction that stores solar energy in the form of hydrogen, which you can then use in a hydrogen fuel cell to generate electricity.

That sunlight-to-hydrogen chain means you can store solar energy indefinitely, potentially in huge quantities, so think of it as a kind of battery and you're on the right track. The fuel cell connection means that the intermittent nature of solar energy is not an issue, and neither is its resistance to mobility.

As for how you get there, you drop a photo-electrochemical cell in a bucket of water and let it go to work stripping out the hydrogen.

That's a much more sustainable way to produce hydrogen than the current standard, which involves a good deal of fossil energy. With Toyota, GM and other auto manufacturers poised to deliver hydrogen fuel cell vehicles to the mass market, the race is on to develop solar powered hydrogen production at scale.

The Berkeley Lab Bionic Leaf

The trick behind the photo-electrochemical cell is to find the right combination of materials that give you a cost-effective reaction, otherwise your bionic leaf is going to sit in the lab and amuse visitors forever.

We've been following one solution, an actual leaf-sized artificial leaf that is being developed with a focus on low cost materials to serve households in underserved communities. The absolute efficiency of the cell is not as important as the overall cost, since in this market electricity consumption is almost negligible (in the latest development, the artificial leaf has been tweaked to function effectively in impure water).

The Berkeley team is also taking cost into consideration while moving along a tack that is focused

on revving up the performance of the photocathode at the molecular level (the cathode is the part of the cell that generates an electrical current).

The team has been focusing on a hybrid photocathode of gallium phosphide (a semiconductor that absorbs visible light), and cobaloxime, a hydrogen-producing catalyst.

Both materials are relatively abundant and inexpensive compared to conventional precious metal catalysts like platinum.

The team just published its latest analysis of the photocathode in the journal Physical Chemistry Chemical Physics under the title "Energetics and efficiency analysis of a cobaloxime-modified semiconductor under simulated air mass 1.5 illuminations," which demonstrated that almost 90 percent of the electrons generated by the hybrid material were stored in the target hydrogen molecules.

The team has also found that the ability of the gallium phosphide to absorb solar energy is far outstripping the ability of the cobaloxime to catalyze a reaction. The result is that only 1.5 percent of the photons that hit the surface get converted into a photocurrent.

Frequently asked questions (FAQ) on solid waste management

The complete article is available at : <u>http://www.indiawaterportal.org/questions/FAQ-solid-waste-management#WM</u>

This is a simple guide to individuals on handling the household waste that they generate. It has two parts:

- Part 1 gives a broader overview of the legislations on waste management and handling. It also lists out the broad options available for large-scale waste disposal.
- Part 2 lists out simple steps that individuals can follow to segregate the waste they generate at source.

Part 1: Waste management regulations and disposal methods:

- What is waste management?
- What are the rules and regulations that guide waste management in India?
- What are the common methods of waste disposal?
- What is aerobic composting?
- What is anaerobic composting?
- What is incineration?
- What is a sanitary landfill?

Part 2: Easy and effective ways for individuals to handle waste

- ✓ How do I practice waste management at home?
- ✓ What are the first few steps to initiate a waste management programme in your apartment complex?
- ✓ What are the different types of waste?
- ✓ What are ways of storing waste at homes?
- ✓ How do I dispose my waste?
- ✓ How do I manage my garden waste?

Part 1: Waste management regulations and disposal methods

What is waste management? Waste management is the collection, transportation and disposal of waste materials. What are the rules and regulations guiding waste management in India?

- Municipal Solid Waste (Management and Handling) Rules 2000 regulate the management and handling of the municipal solid wastes and are applicable to every municipal authority responsible for collection, segregation, storage, transportation, processing and disposal of municipal solid wastes
- Bio-Medical Waste (Management and Handling) Rules, 1998 regulate the management and handling of bio-medical waste and are applicable to all persons who generate, collect, receive, store, transport, treat, dispose, or handle bio medical waste in any form.
- E-Waste (Management and Handling) Rules, 2010 regulate the management and handling of electrical and electronic waste and is applicable to every producer, consumer involved in manufacture, sale, purchase and processing of these equipment's or its components.

What are the common methods of waste disposal?

The commonly practiced technologies for SWM can be grouped under three major categories, i.e., bio-processing, thermal processing and sanitary landfill. The bio-processing method includes aerobic and anaerobic composting. Thermal methods are incineration and pyrolysis. Sanitary landfill is generally used to dispose off the final rejects coming out of the biological and thermal waste processing units.

What is aerobic composting?

Aerobic composting is the creation of fertilizing compost using bacteria that thrive in an oxygenrich environment. Aerobic composting is considered the fastest method of composting, but involves more work in terms of rotating the organic material periodically.

What is anaerobic composting?

Anaerobic composting is the creation of fertilizing compost using bacteria that cannot thrive in the presence of oxygen. Anaerobic composting is known to work slowly, but also requires lesser work.

What is incineration?

Incineration is a waste treatment process that involves the combustion of organic substances contained in waste materials. Incineration of waste materials converts the waste into ash, flue gas, and heat. In some cases, the heat generated by incineration can be used to generate electric power.

What is a sanitary landfill?

A sanitary landfill is a low-lying area that is filled with waste rejects. It has a liner at the bottom to prevent the groundwater from contaminating with the mix of the liquid that oozes from the waste that is buried called the leachate. Waste is buried in-between layers of soil and is compacted nicely to make it a hard surface. When the landfill is completed, it is capped with a layer of clay or a synthetic liner in order to prevent water from entering. A final topsoil cover is placed, compacted and graded, and various forms of vegetation may be planted in order to reclaim the otherwise useless land.

Part 2: Easy and effective ways for individuals to handle waste

How do I practice waste management at home?

Keep separate containers for dry and wet waste in the kitchen.

Keep two bags for dry waste collection- paper and plastic, for the rest of the household waste. Keep plastic from the kitchen clean and dry and drop into the dry waste bin. Keep glass /plastic containers rinsed of food matter.

Keep a paper bag for throwing sanitary waste.

What are the first few steps to initiate a waste management programme in your apartment complex?

- \checkmark Form a group with like-minded people.
- ✓ Explain waste segregation to your family / neighbors in your apartment building.
- Get the staff in the apartment building to also understand its importance.
 Get separate storage drums for storing dry and wet waste.
- ✓ Have the dry waste picked up by the dry waste collection center or your local scrap dealer.

What are the different types of waste?

- > Wet waste: Wet waste consists of kitchen waste including vegetable and fruit peels and pieces, tea leaves, coffee grounds, eggshells, bones and entrails, fish scales, as well as cooked food (both veg and non-veg).
- Dry Waste: Paper, plastics, metal, glass, rubber, thermocol, Styrofoam, fabric, leather, rexine, and wood - anything that can be kept for an extended period without decomposing is classified as dry waste.
- Hazardous waste: Household hazardous waste or HHW include three sub-categories -E-waste; toxic substances such as paints, cleaning agents, solvents, insecticides and their containers, other chemicals; and biomedical waste.
- E-waste: E-waste or electronic waste consists of batteries, computer parts, wires, electrical equipment of any kind, electrical and electronic toys, remotes, watches, cell phones, bulbs, tube lights and CFLs.
- > Biomedical waste: This includes used menstrual cloth, sanitary napkins, disposable diapers, bandages and any material that is contaminated with blood or other body fluids.

What are ways of storing the waste at homes?

- Dry waste: Store it in a bag in the utility area after cleaning and drying till it is picked up. No food residue must be left in the bottles and packets. Clean them as you would to reuse them. If clothes are totally unusable, or much damaged, they are categorized as dry waste. If clothes are soiled with body fluids, they become sanitary waste. If they are soiled with paint, or any chemicals, they are HHW (household hazardous waste).
- E-waste: Store those in separate container which is kept closed, away from moisture and in which nothing else is put.

How do I dispose my waste?

- Compost your wet waste at home: Home composting can easily be done in any aerated container. Get more details on composting and begin composting today!
- Compost your wet waste at the community level: If you live in a large apartment building, a community composting system like tank composting could be set up for all the wet waste from the residents. If not, the wet waste can be given out every day to your Municipality collection system.
- Biomedical waste has to be wrapped separately in a newspaper and handed over to the municipality waste collection system. Expired medicines and injections, used syringes also have to be disposed in the same manner.
- o Paint and other hazardous waste like cosmetics, mosquito repellents, tube lights etc. have to be stored separately and handed over to the Municipal collection system.

How do I manage my garden waste?

You can compost your garden waste. There are several decentralized, easy to use methods available for composting garden waste. Here is a step-by-step guide to treat garden waste.

Internal Migrants: Myths and Facts in the table below.		
Myths	Facts	
"Internal Migrants are a drain on society and a burden for the economics of the destination"	Internal Migrants contribute cheap la manufacturing and services and in do contribute to national GDP, but this recognized. Far from being a drai burden, migrants are in fact provis subsidy.	
"Internal Migrants steal jobs from the local population"	Poor migrants typically do the 3-I (Dirty, Dangerous and Degrading) locals do not want to do; this is diffe `stealing jobs'.	
"Internal migration can be stopped"	Migration and urbanization are an in part of economic development and s transformation, and historical experier shown that it cannot be stopped.	
"Inhospitable and harsh cities are the best deterrent to migration flow"	By not accepting migrants or pro facilities for them, governments are increasing the risks and costs of mig and reducing its development potentia	

"Internal migration is a non-issue in India since all citizens have the right () to move freely throughout the territory of India; to reside and settle in any part of the territory of India"	In practice, internal migrants do no the freedom and dignity that Constitution promises. Policy make urban planners mostly view migratio negative process and have therefore of an unconducive and unsup environment through neglect and inact	t have the s and n as a reated portive tion.
"Women's migration is mostly for marriage and associational reasons (as members of a migrating family)"	The design of the Census and NSS surveys enable respondents to give single reason for migration. Though m is reported by women as the most pro reason for migration, women's migration captured owing to the casual approach. This has cont toward undercounting of women's mid for employment.	D data only a arriage minent labor mono ributed gration

BRIEF ANALYSIS OF OWG-9

The complete article is available at: <u>http://www.iisd.ca/vol32/enb3209e.html</u>

OWG-9 marked a turning point as delegates began the process of shifting gears from stocktaking mode to negotiating mode. The possibilities—and enormity—of the OWG's task came into greater focus as delegates began to discuss what issues, goals and targets may be included in the final list of SDGs. On the one hand, several participants acknowledged that about 80% of the proposals for goals and targets have broad consensus among Member States. However, on the other hand, they noted that the remaining 20% represent some of the most challenging issues, including means of implementation and broader financing issues, common but differentiated responsibilities, and universality. This brief analysis of OWG-9 reviews the changes that the OWG is facing as it moves forward and possible areas of convergence and divergence on goals and targets, based on the comments on the OWG Co-Chairs' focus areas document.

THE TIMES THEY ARE CHANGING

Over the past year, OWG speakers have recognized that the possibility exists for the SDGs to set a new course for development. During the OWG-9 discussion on financing for sustainable development, for example, some raised the possibility to address new sources of finance, with Co-Chair Kamau suggesting that the focus should go "way beyond" traditional official development assistance. This comment, however, reminded many participants that change is never easy. Iran recalled that the decisions of those who are thinking outside the box "will be judged by inside-the-box people," serving to remind the OWG that the latter may have a different set of concerns and may not implement the decisions that do not resonate with them.

Throughout the OWG's work, participants have recalled the differences between the process underway to develop the next set of global goals and the process by which the MDGs were elaborated. Determined to learn from the MDG experience, governments are taking a different approach for the post-2015 development agenda. Both trust and understanding will be needed to help move this unique decision-making process forward.

SOME THINGS CHANGE AND SOME REMAIN THE SAME

Specific areas of convergence and divergence became clearer during OWG-9, as governments responded to the Co-Chairs' focus areas document. For example, "Focus Area 1"—poverty eradication—received nearly unanimous support as the primary focus of the SDGs. There was also significant support for economic growth as the subject of several focus areas and/or goals, such as on industrialization and infrastructure.

At the other end of the document was the much discussed "Focus Area 19"—peaceful and nonviolent societies, and capable institutions. A number of speakers highlighted the missing or underdeveloped areas of the focus areas document, including food security and nutrition, agriculture, disaster risk reduction, and desertification, land degradation and drought.

Some voiced support for "Focus Area 16" on oceans and seas, while others instead preferred to cluster this issue in a "sustainable management of natural ecosystems" goal.

Delegates also suggested that: climate change should be incorporated in a cross-cutting manner; migration and youth should receive greater prominence in the framework; water and sanitation are key issues; and gender equality and women's empowerment should be treated in both a stand-alone goal and as cross-cutting across all other areas.

On CBDR, Brazil asserted that the principle applies to the entire SDG framework because "Rio+20 universalized it," expanding its scope beyond climate change. Many developed countries, however, argued that CBDR applies only to environmental degradation, and not poverty eradication or other areas of development.

MOVING FORWARD

Amid discussion of the many pressing issues, delegates were clearly anxious to discuss "the way forward"—how the OWG will begin negotiation of specific goals and targets. Such discussions were confined to informal meetings until the final hour of the meeting, when the Co-Chairs offered to prepare four informational documents: an amended focus areas document; a compendium of existing targets on various issues; a matrix of interlinkages between issues; and working definitions of goals, targets, and indicators.

Using a slightly "tweaked" version of the focus areas document as the basis for the next meeting's discussion seemed acceptable to all, although Co-Chair Kamau repeatedly reminded the delegates that the discussion should now move to specific proposals for goals and targets, rather than continued exposition of the issue areas. **With just twenty negotiating days left on the calendar, the OWG appears ready for change as the time for negotiations has arrived.**

MEMBER POSTINGS

Workshops and Conferences

Upcoming:

First Global Conference on Climate Change and Health.

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

This three-day conference, hosted by the World Health Organization

SPECIAL EVENT:

Earth Hour is WWF's global campaign inspiring governments, businesses, communities and individuals to take a stand against Climate Change. It is that one crucial hour uniting the world and building synergies through

(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 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:** <u>maierom@who.int</u> **Web link:** <u>http://www.who.int/en/</u>

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

the collective action of switching off non-essential lights in celebration of life and our planet. **This year Earth hour was on March 29th , 2014 between 8.30 and 9.30 PM**

Where Earth Hour began?

Earth Hour was launched in Sydney, Australia in 2007, where 2.2 million individuals and more than 2,000 businesses turned their lights off for one hour. Just a year later, Earth Hour reached 370 cities and towns in more than 35 countries across 18 time zones, and the campaign shifted from a 'Sydney Event' to a 'Global Sustainability Movement'. Since then, every year Earth Hour sets new standards and breaks its own records of mass participation and support. 2010 received participation from a record 1.3 billion individuals across 4616 cities in 128 countries globally. Notable landmarks like Acropolis in Greece, Eiffel Tower in Paris, Hiroshima Peace Gardens in Japan, and Pvramids in Egypt switched off in support. 2011 was a memorable year in the history of the campaign, as it marked a new phase, with supporters going beyond the hour by committing to sustainable action all vear round. A record 1.8 billion individuals across more than 5200 cities in 135 countries participated by switching off lights, and

- ✓ 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 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 waterenergy nexus

Planning and infrastructure for a resilient water sector

- ✓ 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

Optimizing water cycle management for securing urban and industrial water supplies

- ✓ 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

Climate change on Energy security

- ✓ 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 have taken

pledging to imbibe environment friendly practices into everyday life to benefit the planet. The year 2012 was bigger than ever, with more than 7000 cities across 150 countries participated in the campaign.

Why get involved?

Earth Hour is a unique opportunity for individuals, groups, businesses and governments to do something positive for the environment. It is not just about saving energy for that one hour, but it symbolizes the first step in the direction of adopting environment friendly activities into everyday life, which will lead the way towards a cleaner environment and а sustainable lifestyle.

Earth Hour 2014 was observed across the globe on 29 March 2014.

Millions of people worldwide switched of their lights during the Earth Hour, between 8.30 pm and 9.30 pm local time, as part of an annual alobal environmental campaign to raise awareness about energy use and conservation.

Earth Hour, organised by the World Wildlife Fund for Nature (WWF), originated in Australia in 2007, so as to create awareness about carbon pollution. Since then, several countries have taken part in the wind energy.

- Challenges and opportunities for the development, financing, and commercialization of clean energy technologies.
- measuring actions to reduce greenhouse gases and improve energy security

Climate Change and Health

- ✓ Improved climatic sensitive disease surveillance
- \checkmark Tools to control the diseases.
- ✓ Health hazards Management.
- ✓ Emerging diseases in new environments
- ✓ vector-borne diseases
- ✓ health warning systems based on meteorological forecasts
- \checkmark the use of bio-meteorological indexes
- ✓ extreme climatic events and sanitary consequences
- \checkmark 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: <u>http://www.aprscp.net/11th-APRSCP</u>

8th International Conference on Community Based Adaptation (CBA8) in Kathmandu, Nepal from 24-30 April 2014.

Further details are available at: <u>www.cba8.org</u> .

initiative and is observed every year on the last Saturday of March.

India joined the Earth Hour movement in 2009 when "5 million Indians across 56 cities showed their support by switching off non-essential lights and saving approximately 1,000 MW of power in one hour," according to the Earth Hour India's website.

In 2012, the movement witnessed the biggest ever public participation in India, where Hundred and fifty cities and 10,00,000 students volunteered to take part in the event.

Last year, New Delhi was announced as India's National Earth Hour Capital 2013 in the Earth Hour City Challenge. As part of the initiative, dance performances, candlelit marches, musical evenings and signature campaigns were organised to renewable promote energy.

This year too, Earth Hour observed across was various cities in India. illuminated Lights of monuments such as Gateway of India, Mumbai, India Gate in New Delhi, the Howrah Bridge in Kolkata, the Chhatrapathi Shivaji Terminus railway station in Mumbai and the presidential palace Rashtrapati Bhavan in New Delhi plunged into darkness during the Earth Hour.

As you may be aware, the **8th International Conference on Community Based Adaptation (CBA8) is being held in Kathmandu, Nepal from 24-30 April 2014**. The registration process is progressing well.

The theme for CBA8 is "**Financing Local Adaptation**" and it will be an occasion to showcase Nepal's pioneering policies and efforts in this regard. Enclosed please find the flyer for CBA8.

The annual international CBA conferences are jointly organized by the International Institute for Environment and Development (IIED) based in the United Kingdom and the Bangladesh Centre for Advanced Studies (BCAS) with a local partner organization. The local partner organization in Nepal for CBA8 will be Clean Energy Nepal (CEN) on behalf of the Climate Change Network Nepal (CCNN). Previous conferences have been held in Bangladesh, Vietnam and Tanzania.

We are expecting over 200 participants from around the world and will take them (in groups of 20 to 25) to 8 or 10 field sites to see local level adaptation by communities for the first three days (from 24th to 26th April, 2014).

We have invited some prominent international personalities in the field of Climate Change and Climate Finance, including Ms Christiana Figueres, the **Executive Secretary of the United Nations Framework Convention in Climate Change (UNFCCC), Dr. Achim Steiner, Executive Director of the United Nations Environment Programme (UNEP) and the Chair of the Adaptation Fund Mr. Mamadou Honadia**, amongst others.

Concluded:

The fourth *trialogue* 2047 - "Synergy or Stand-off: Climate Change in South Asia" was organized by Development Alternative (DA) in partnership with the Climate Action Network South Asia (CAN-SA) on 28th March, 2014 from 6.00 to 7.30 PM at DA's World Headquarters in New Delhi. It aims to understand the implications of climate change in South Asia.

The year 2015 will be pivotal for climate change and sustainable development. The Post-2015 Framework needs to place a stronger emphasis on the long-term risks as opposed to current risks associated with temperature rise, changing precipitation conditions and severity of extreme events, particularly in the context of vulnerable regions and communities.

Climate change cannot be treated in isolation. The construction of an adaptation strategy needs to take cognizance of the interlinkages amongst sustainable livelihoods, disaster management and limited natural resources. There needs to be integration of climate

Hotels corporate and houses also took part in movement the by switching off the lights. The WWF had also organized a concert "Jam for the Hour" that had performances by bands like Faridkot at Dilli Haat.

See the World Go Dark for Earth Hour 2014

Iconic landmarks and cities went dark for one hour on Saturday to showcase their commitment to protecting the planet for this year's Earth Hour.

Over 7,000 cities in 150 countries joined the movement with places like the Golden Gate Bridge in San Francisco, Times Square in New York City, the Acropolis hill in Athens and even the Kremlin in Moscow participating.

Organized by the World Wide Fund for Nature (WWF), the movement began in 2007 in Sydney, Australia. Started by Earth Hour CEO and co-founder, Andy Ridley, its main goal was to raise awareness about climate change.

Since then, the event has become an international phenomenon that organizes the globe around a single symbolic act of turning off its lights. The effort also encourages participants to go beyond that simple act and think of new ways to create a

change adaptation and mitigation across the sustainable development goals making them forward looking, flexible and creating a feedback loop for an exchange of learning, rather than a one-off goal. South Asian region-comprising of small island countries (Maldives, Sri Lanka), least developed nations (Nepal, Bangladesh, Bhutan, and Afghanistan) and middle income countries (Pakistan and India)-is particularly vulnerable to climate change impacts owing to existing climate variability, high population density and concentrated poverty.	more environmentally sustainable lifestyle. "Earth Hour is a moment to kind of celebrate that trend and think about how we can switch the way we use electricity," Keya Chatterjee, of the World Wildlife Fund, told 1010 Wins.
Climate change and its variability has the potential to compound the existing growth problems and negate the hard won development gains, while increasing the pressure on scarce resources. South Asia paints a unique picture as all countries follow different growth trajectories and international negotiating positions, especially with respect to, climate change issues. It is amongst the fastest growing regions in the world, but it is also home to the largest number of the world's poor.	Sixty pandas parade down London's Southbank spreading awareness of the World Wide Fund For Nature's Earth Hour. The following iconic images are noteworthy:
Over the long-run, adaptation efforts need to ensure that the poor and marginalized benefit from this process and not share the burden of the risks associated with climate change. There is a complex interplay such risks with the length of time involved for revelation of its impacts, making adaptation efforts difficult to define. The problem of inadequate data and poor capacities further obscures the predicament. Synergies between climate change adaptation and mitigation efforts	 Taipei 101 skyscraper lights were turned off for Earth Hour 2014 in Taipei, Taiwan. The Parthenon temple atop the Acropolis hill lights were switched off to mark the annual Earth Hour in Athens, Greece.
and development pathways need to created, based on sustainability principle, right to development, common but differentiated responsibilities and international cooperation, recognizing the development needs of South Asia. A development model that eradicates poverty and transforms livelihoods while promoting resilient and low-carbon growth necessitates successful adaptation and mitigation efforts. This needs to align the highly context specific local needs to national and regional development strategies.	 Electronic billboards were turned off for Earth in Times Square, New York. The landmark India Gate with the lights turned out for one hour to mark Earth Hour, in New Delhi, India.
 Some questions addressed: Is there a common understanding of vulnerability in relation to climate generated poverty and marginalization? Is there a set of common indicators? What are the implications of differences in perceptions of climate change and risks (for example by gender, age, livelihood or location) for strengthening adaptation efforts and building resilience? What are the patterns of coping and resilience of the 	 The lights are turned off at the Kremlin during the worldwide Earth Hour in Moscow, Russia. Lights Out at Brandenburg Gate. People gather around the Brandenburg Gate after the lights were
 affected? How can capacities be built for coping and resilience to make the communities <i>climate smart</i>? What are the structural changes needed to ensure local needs are systemically aligned in national and regional 	turned off to mark Earth Hour in Berlin, Germany. Earth Hour participants spell out the phrase 'earth hour 2014' in front of the

strategies for climate change adaptation and mitigation? How do we link community-led adaptation with national and regional policies?

- How do we raise and deliver climate change finance to help transition to a low-emission, climate-resilient development?
- What are the different learning experiences in policy-making and programme formulation for successful adaptation and mitigation efforts that can be exchanged?

This is a series of intellectual encounters planned at the Development Alternatives Headquarters in New Delhi and to a wider audience through the Internet. Its aim is to provide a forum that can engage a large audience in identifying the new directions that India must take and the measures needed to help accelerate the transition towards a sustainable tomorrow.

Announcements

illuminated Brandenburg gate before the lights were turned off to mark the event in Berlin, Germany.

- The Kingdom Tower with its lights turned off during the worldwide Earth Hour in Riyadh, Saudi Arabia.
- Candles placed by participants to create the number 60, representing the minutes in an hour, marking Earth Hour in La Paz, Bolivia.

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: <u>www.conferencechamba.com</u> and also from Mohinder Slariya at: <u>mkslariya@gmail.com</u>

Release of a new report on *Mainstreaming of Resource Convergence in Policymaking, Programme Design and Execution* by Dr. Aruna Sharma, Additional Chief Secretary, Panchayat and Rural Development, Government of Madhya Pradesh, illustrating how convergence across sectors can be used to enhance qualitative and sustainable outcomes for development activities was released on 14th March, 2014.

The Report assesses successful convergence initiatives underway in six states. These Schemes include the Mahatma Gandhi National Rural Employment Guarantee Scheme in Kerala; rural housing in Sikkim; collaboration among agriculture, water, rural development and forestry sectors in Chhattisgarh; horticulture in Andhra Pradesh; sanitation in Tamil Nadu and rehabilitation of beggar families in Gujarat. These remarkable model interventions illustrate the potential within these schemes to complement one another and improve the lives of people and communities.

Resource convergence aims to establish a synergy between government, NGOs, the private sector and beneficiaries in addressing the needs of the poorest communities. Since India does not have a lack of resources, the book examines convergence mechanisms that can be incorporated in policymaking, programme design and execution for optimum utilization of funds. The model includes all stakeholders such as government, non-governmental, civil society and corporate sector thinkers and philanthropists as part of the resource-convergence strategy.

Further, the Report examines the manner in which Madhya Pradesh created a single window for delivery of entitlements of several schemes and departments to the beneficiaries under its Samruddhi Model of Financial Inclusion leading to improved resource efficiency.

The publication can be downloaded from:

http://www.in.undp.org/content/india/en/home/library/democratic_governance/mainstreamingof-resource-convergence-in-policy-making--programm.html

Free e-Course: Everything You Need to Know About Climate Change in a Nutshell.

To make a start just click on the adjacent link and register: <u>http://unccelearn.org</u> Please note the course works best with Mozilla Firefox or Google Chrome.

UN CC:Learn is a partnership of 33 multilateral organizations which supports Member States in designing and implementing results-oriented and sustainable learning to address climate change.

The Secretariat for UN CC:Learn is provided by UNITAR. An important aspect of UN CC:Learn is to support countries develop a National Strategy to Strengthen Human Resources and Skills to Advance Green, Low Emission and Climate Resilient Development through a multi-sectoral and multi-stakeholder process.

During the course of 2012-2013, Benin, the Dominican Republic, Indonesia, Malawi, and Uganda have participated as UN CC:Learn pilot countries.

Core funding for the 2011-2013 implementation phase of UN CC:Learn has been provided by the Swiss Government.

Please find below information on the new UN CC:Learn e-Course on climate change:

- This free self-paced e-learning course covers 6 modules including climate science, policy, adaptation, mitigation, finance and planning.
- It provides 10-12 hours of interactive learning and uses a mix of different approaches including visuals, explanatory text, videos, and quiz questions.
- Learners receive a certificate once they have completed and successfully passed all 6 modules.
- It also comes with downloadable PPT based versions if you want to use it as an instructional tool.
- The course has been developed and peer-reviewed through UN CC:Learn, a One UN partnership involving 33 organizations.

Renewable Energies for Developing Countries: Environmental Necessity – Economic Opportunity

Presented by <u>CIFAL Scotland</u>, UNITAR, University of Strathclyde in partnership with the Scottish Government; **8 September to 27 October 2014 ; Register your place** <u>HERE</u>

"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: <u>e-learning@cifalscotland.org</u>

Full information about the course is available at <u>here</u> and in the course flyer. **Deadline for** registration is 1 September 2014.

WHO Estimates One in Eight Deaths Relates to Air Pollution

The article is available at: <u>http://energy-l.iisd.org/news/who-estimates-one-in-eight-deaths-relates-to-air-pollution/</u>.

The World Health Organization (WHO) has released an updated set of estimates on the burden of disease from air pollution. The data show that the combined effects of household and ambient air pollution were responsible for seven million deaths worldwide in 2012.

According to the estimates, deaths from air pollution are almost twice as high as previously thought. In particular, the data show that air pollution is a strong risk factor for non-communicable diseases (NCDs) such as ischemic heart disease, stroke, chronic obstructive pulmonary disease, lung cancer, and acute lower respiratory infections in children.

WHO estimates that indoor air pollution was linked to 4.3 million deaths in 2012 in

households cooking over coal, wood and biomass stoves. Carlos Dora, WHO Coordinator for Public Health, Environmental and Social Determinants of Health, underscored that healthier strategies in the transport, energy, waste management and industrial sector will be "more economical in the long term due to health-care cost savings as well as climate gains."

The estimates are part of WHO's activities towards developing a roadmap for preventing diseases related to air pollution, which also include an WHO-hosted global platform on air quality and health, strengthened support to countries and cities, and the preparation of indoor air quality guidelines on household fuel combustion to be released later in 2014.

Waste to Energy Technologies for Faecal Sludge Management".

The details are now available at Susana (Sustainable Sanitation Alliance) at: http://www.susana.org/lang-en/library/library?view=ccbktypeitem&type=2&id=1938 .

Founded in 1999, Emergent Ventures (EVI) was established with the twin goal to accelerate action against climate change and foster sustainable development. EVI works with the governments, government supported institutions, international development organizations and industries in public and private sector on sustainable development issues.

EVI conducted techno-financial analysis for converting faecal sludge (FS) to energy using different technology options. The study was carried out under the aegis of Bill & Melinda Gates Foundation (BMGF).

The premise of the study was two-fold, one, that distributed system of faecal management is a better alternative to otherwise widely adopted networked sewer systems and that and two, faecal waste has energy value which could be utilized if converted to usable form.

The study focused on five technologies namely Gasification, Hydrothermal carbonization, Pyrolysis, Fermentation and Anaerobic digestion.

Ranking of these options were done based on financial returns from resource recovery (i.e. energy, compost, water, bio-diesel etc.). For this, financial plug and play (PnP) model for each option was developed.

A rapid market assessment was also conducted for testing market acceptability and price estimation for various FS derived products.

ExxonMobil Acknowledges Climate Change to Shareholders

The article is available at:

<u>http://www.renewableenergyworld.com/rea/blog/post/2014/03/exxonmobil-acknowledges-</u> <u>climate-change-to-shareholders?cmpid=WNL-Wednesday-March26-2014</u>.

Climate change is viewed as just one bullet point in a list of reasons why renewable energy makes sense: energy independence, grid stability through decentralized generation and resource depletion are also on that list.

However, in response to shareholder pressure, ExxonMobil, the largest oil and gas company in the U.S., has agreed to release a Carbon Asset Risk report by the end of the month. The Carbon Asset Risk report would purportedly describe how ExxonMobil assesses the risk of stranded assets

from climate change.

It's a look toward the future because today, with no carbon tax or real meaningful carbon regulations, ExxonMobil can continue the work that is doing exploiting oil reserves in deep, deep waters and through tar sands at great expense because it knows it will be able to sell that oil at a very high price. However, if stricter carbon regulations were in place, some of ExxonMobil's activities might not be economical, forcing the company to leave some of that oil and gas in the ground. Shareholders deserve to understand that risk.

ExxonMobil's agreement to release the Carbon Asset Risk report is in response to **pressure from Arjuna Capital, the sustainable wealth management platform of Baldwin Brothers Inc.**, and As You Sow, a non-profit promoting environmental corporate responsibility. As You Sow had proposed a shareholder resolution last year that requested information "on the Company's strategy to address the risk of stranded assets presented by global climate change, including analysis of long and short term financial and operational risks to the company."

According to a release by Arjuna and As You Sow:

World governments agree that if catastrophic warming over 2°C is to be avoided, no more than one-third of current proven carbon reserves can be burned. These reserves, currently on the balance sheets of the 200 largest coal, oil, and gas companies are valued at \$20 trillion. Yet, a recent Unburnable Carbon report calculates that in 2012 alone, **the 200 largest publicly traded fossil fuel companies collectively spent an estimated \$674 billion on finding and developing new reserves – reserves that cannot be utilized without breaking the world's carbon budget.**

The shareholder resolution, which was supported by almost 20 percent of voting shares representing over \$1 billion in assets, according to As You Sow, will be withdrawn as a result of ExxonMobil's announcement.

ExxonMobil's announcement is another clear indication that large corporations are taking notice of climate change and preparing for a low-carbon future. If ExxonMobil is ready to acknowledge that its oil and gas profits will be much less in the future, perhaps it will start to look more seriously at investing in renewable energy today.

"The largest companies in the world are taking a more active, aggressive role than ever in wanting to profit from clean energy," said Dallas Kachan in an interview earlier this year. Maybe sometime not too far away, we will all be taking our EVs to the ExxonMobil solar-powered electric vehicle charging stations. Wouldn't that be a shift?

What can other cities learn from Paris' response to urban smog?

The article is available at:

http://sustainablecitiescollective.com/node/234391?utm_source=scc_newsletter&utm_medium=e mail&utm_campaign=newsletter&inf_contact_key=d0bd71e8a9912449143c23269ebc9c98b6ce17 2af398008a09a5246131dfd9c8.

Paris is experiencing severe air pollution, prompting a rethink over how to tackle the problem, which is already yielding ideas from which other cities could benefit.

First Beijing, now Paris is choking. At the end of last week the threshold for particulate pollution in the French capital was exceeded for the fourth consecutive day, in Ile-de-France and thirty departments covering a large part of the North and the region Rhône-Alpes. According to the European Environment Agency (EEA) there were 147 micrograms of particulate matter (PM) per cubic meter of air in Paris compared with 114 in Brussels, 104 in Amsterdam, 81 in Berlin and 79.7 in London.

And pollution watchdog airqualitynow.eu said that air pollution topped is 100 maximum index, compared to 81 in London and 76 in Berlin. A lack of wind and unseasonably high temperatures were blamed. The pollution levels are not as high as experienced recently in many cities in China, but still exceed guidelines issued by the World Health Organization (WHO).

What air pollution are we talking about?

WHO says that the four air pollutants particularly dangerous to health are:

- fine particulate matter (PM10 and PM2.5);
- nitrogen dioxide (NO2);
- carbon monoxide (CO);
- Ozone (O3).

The fine particles are mostly emitted by traffic. They can cause chronic bronchitis, asthma, lung cancer, strokes, myocardial infection or placental problems. There are no regulations affecting PM2.5, which is more dangerous than PM10. Nitrogen oxides (NOx) form during combustion at high temperature and cause bronchitis, especially in asthmatics and children. Along with sulphur dioxide they help create acid rain. Carbon monoxide is a blood poison and can cause headaches, nausea, vomiting and dizziness.

Ozone is formed by a chemical reaction between automotive and industrial gases and ultraviolet sunshine. It can cause bronchial inflammation, respiratory problems and eye irritation.

What is Paris doing?

Two of the culprits for the air pollution are recent fiscal support favoring the use of diesel over gasoline in automobiles, and heavy private traffic in the capital.

Emergency measures

As a temporary measure the government is telling drivers to only drive in on alternate days: those with odd-numbered registration plates will be allowed to drive today, Monday, and those with even-numbered the following day, and so on until the problem eases.

While this is seemingly a sensible option, it has not succeeded very well in other cities where it has been tried. Operated over a longer term people will borrow each other's cars with appropriate number plates or buy a second vehicle to the same end.

Secondly, public transport has also to be made free of charge for four days from Friday, to encourage people to leave their cars behind.

However tradespeople and delivery vehicle drivers are complaining that they cannot run their businesses.

Longer term solutions

In an attempt to tackle air pollution incidents in the past, the authorities a while ago introduced bike and car sharing schemes which have since been emulated in other cities, such as London.

Electric vehicles and car sharing

Electric vehicles emit no pollution at their point of use. Any pollution happens at the power station, although since most of France's electricity is low carbon (nuclear), this provides benefits all round.

It's estimated that the 3000 Bluecars rented out in Paris replace the equivalent of 22,500 private vehicles on the city's streets and 164.5 million kilometers driven per year by polluting combustion engine vehicles.

Bike sharing

Vélib Velib bike rental Pariswas one of the first public bike sharing schemes in the world to be a instituted in a city. It now operates about 14,000 bicycles with 1230 bicycle stations across Paris and some surrounding municipalities. It's estimated that there are about 100,000 trips per day using the bicycles. The whole deal is sponsored by JCDecaux advertising corporation, in return for the city of Paris signing over the income from a substantial portion of on-street advertising hoardings.

Electric buses

Looking into the future, another idea to prevent recurrence of the smog problem is to convert the entire bus fleet in Paris to electricity by 2025, according to Pierre Mongin, CEO of RATP in an interview with Le Monde newspaper last week. He cited "a strong demand for solution to pollution-neutral transport" from Parisians. He gave the example of London, where a certain number of buses have already been converted to hybrid (diesel-electric).

Increasing electric vehicle ownership

Another solution is to extend ownership of electrical vehicles. This is already happening, with the cooperation of local authorities and mayors. France is already the largest market for electric vehicles in Europe. Since launching a plan to develop electric and hybrid vehicles in October 2009 many city councils and local authorities have become involved in promoting it.

The policy has boosted the French auto manufacturing industry, with Renault selling the largest number of electric vehicles in Europe (6,000 cars during the first half of 2013), ahead of Nissan (5,500 cars) and Smart (1,500 cars). In 2013, electric and hybrid vehicles reached 3.1% of all passenger cars sold in France, up 50% on the previous year, with 8,779 electric passenger cars registered.

Towards cleaner air

Air pollution incidents like the one happening in Paris now cause economic damage as well as poor health and early mortality. That France is doing well in tackling the problem is evidenced by the fact that other cities and nations are taking up its ideas.

INDIA Energy Security Scenarios, 2047

The article is available at: <u>http://indiaenergy.gov.in/implication_energy.php</u> .

The guiding principle of the India Energy Security Scenarios, 2047 (IESS, 2047) is energy security, viewed as reduced import dependency for India in the years between now and 2047.

The IESS, 2047 generates information as to what percentage of the total primary energy supply (as per the pathway chosen by the user), will be met by imports. Hence, while the tool segregates the demand for energy by sectors, and the supply numbers by sources, it also generates energy import numbers by source, and aggregates the same to offer total energy imports under different scenarios.

As the scenarios generated for different sectors are linear (either rising or falling, as the case may be), the graphic representation of the data sets is simple and easily understandable even by non-energy experts.

A detailed examination of the tool will reveal how changes in choices of energy demand and supply, yielding different levels of energy import, can help a planner to decide the sector(s), in which interventions can be more effective to meet the desired policy objectives. Since the tool also offers fuel-wise data (some consuming sectors use specific fuels), it is also possible to see which demand sectors should be influenced through suitable policy measures, to curb consumption of the imported fuels. Hence, it is a handy tool to use for those interested in understanding the energy security dimensions of the country.

Once the user chooses his pathway, he/she can witness the effect of the same on the percentage import dependence of the country on the homepage of the web tool, both in terms of total import dependence and segregation by fuel imports.

The user can also go to the energy security section of the web tool to delve deeper into the energy security implications of his chosen pathway. The IESS, 2047, enables the user to see the impact his choices make on the percentage of fossil fuel imported in the country, the subsequent impact on India's import bill and a comparison in terms of absolute numbers between India's domestic and imported fuel proportion.

Having seen how the IESS, 2047 works in providing import related information, we need to understand the algorithm in the Calculator. Once the user has created the demand for energy (specified fuels and electricity) by opting different choices in the demand sectors, he is then required to choose the supply pathways.

The volume of fossil fuel imports is dependent on the levels of production of domestic sources of energy and electricity, compared to demand. The algorithm in the IESS, 2047 automatically does the gap filling by imports. Hence, the user has to calibrate either the demand (by lowering the demand of the sector dependent on imported fuel – through technology/behavior change), or ramp up domestic production.

He could also shift the supply mix – produce more electricity from RE rather than fossil fuels. Hence, the dynamic results/impact of user choices, depicted on the import dependency graphs is very handy in guiding the user to influence his energy pathway to improve import dependency scenario.

If the user has inadvertently/consciously opted for higher levels of energy supply (as compared to the demand), the Calculator will generate the surplus energy volume and indicate the same on the screen in the web tool. In this case, there might be a situation of India importing fuel, and also exporting it either as primary energy (coal or gas etc.) or electricity at the same time.

The calculator does not predict the user preference and adjust the export of energy with imports on its own. It will, however, let the user know of this anomalous situation, and expect a calibration of the energy pathway choices to minimize generation of electricity, or change the fuel mix in favor of domestic sources (ramp up domestic production of fossil fuels/RE). He could also reduce demand in those sectors which are dependent on imported fuels.

Hence, in the energy security feature of the IESS, 2047 the user may have to interpret the import dependence graph in the light of the export situation which may have developed simultaneously. It may, however, be added that as the south Asian electricity grid matures, there may be a situation of India having a large electricity export market, or even using inter-connectors to balance the grid, as is seen in Europe.

As mentioned earlier, the Tool provides energy consumption data by fuel and electricity. The user gets to choose how the electricity is supplied – which source. Therefore, the IESS, 2047 is unique in providing information on energy security in the overall context of all supply sources. In India,

while we do get individual fuel wise import dependence data, but seldom on an overall basis. This Tool informs the user of the likely contribution of different fuels in the overall imports – one can see the role of coal, petroleum and gas individually, as well as on the overall basis. The future scenarios of energy import bill are another value – add of this Tool, which is derived using IEA estimates of future prices (until 2035 and extrapolated thereafter).

The varying prices of fuels in the long term as per the estimates, (gas is expected by some to get cheaper as compared to oil) helps the user to see which fuel is likely to be more onerous on the country's FE bill.

The Tool can also inform the user of the impact of demand choices on the energy security. Hence, for the first time for India, we can evaluate the impact of shifts in passenger/freight transport pattern or in cooking sectors, on energy import bill. Finally, this feature juxtaposes energy efficiency and renewable energy on one framework, for the user to evaluate the impact of policies on the former (the demand side choices are more around technology), vis-à-vis RE (on the Supply side) on import dependency.

Finally, it may be added that the IESS, 2047 is an integrated exercise between energy demand and supply sectors on one hand, and energy security, balancing, energy flows, emissions, land etc. on the other. The Calculator has been developed to offer user-friendly interface on all the above accounts by generating graphs, which change dynamically as the user changes his choices.

As India has large import dependence in the energy sector, it calls for concerted action not merely on supply side, but equally on demand side.

How India is building Asia's largest secure forest?".

A landmark effort by the Indian state of Karnataka to connect isolated protected forests could lead to the building of Asia's largest unbroken forest.

The article is available at: <u>http://www.bbc.com/news/world-asia-india-26478430</u>.

- ✓ Since 2012, the southern state of Karnataka has declared nearly 2,600 sq. km (1,000 sq. miles) of forests as protected areas, linking a series of national parks, tiger reserves and sanctuaries.
- ✓ Protected areas cover nearly 5% of India's land mass and come under strict legal protection that makes conversion of land for non-forestry purposes difficult. Tiger reserves and national parks do not allow human settlements.
- ✓ Karnataka has already built three unbroken forest landscapes spread over more than one million hectares along the Western Ghats, a mountain range that runs along the western coast of India. It is also a UNESCO World Heritage site and one of the eight hottest biological hotspots of the world.
- ✓ In southern Karnataka, the missing links in the Bannerghatta-Nagarhole landscape have been bridged to achieve an unbroken stretch of 7,050 sq. km that includes adjoining protected areas in the neighboring states of Tamil Nadu and Kerala.
- ✓ In central Karnataka, the Kudremukh-Aghanashini landscape across 1,716 sq. km has been made contiguous.
- ✓ In the north, expanding the Anshi-Bhimghad landscape has linked a forest stretch of 2,242 sq. km in Goa and Karnataka.
- ✓ Experts say habitat fragmentation is a major threat to wildlife conservation. Contiguous forest landscapes allow gene flow and increase colonization probability, thereby reducing the risk of local extinction. Interconnected

forests also offer a better chance of adaptation and survival when wild animals shift habitats to cope with the impact of climate change.

- None of these concerns has stopped the Indian government from dragging its feet over implementing the recommendations of an expert panel to safeguard the Western Ghats. But Karnataka has on its own secured much of this biological treasure trove.
- ✓ Given the exclusionist conservation model of the Indian state, local communities usually fear losing their traditional rights when a forest is brought under legal protection. But the state forest department officials say they have been treading cautiously.
- ✓ Nagarhole A series of national parks, tiger reserves and sanctuaries has been linked from the beginning, explains former forest official BK Singh who initiated the expansion process, it was made clear that all existing rights of the people would continue.
- ✓ "The protected area expansion covered only reserve forests where people's rights were already settled. Even in those areas, we did not force our decisions on people," says Vinay Luthra, Principal Chief Conservator of Forests, Karnataka.
- ✓ Not even a single village has been relocated for this expansion and the focus was on protecting biodiversity-rich forests and key wildlife corridors from invasive development such as heavy industries, mining or dams.
- ✓ Since 2012, nearly 1,700 sq.km was added to three national parks and five wildlife sanctuaries and another 906 sq. km was notified as a new sanctuary.
- ✓ Besides supporting wildlife, these expanded protected areas also serve as watersheds and support 15 rivers. The state forest department hit some roadblocks in Bhadra tiger reserve and Pushpagiri wildlife sanctuary.
- ✓ Nagarhole national park National parks like Nagarhole in Karnataka have been added to protected areas. A spate of small hydro-power projects, for example, threatened to block the elephant corridors and spoil the natural water systems in and around Pushpagiri wildlife sanctuary.
- ✓ In April 2013, the Karnataka government informed the High Court that no new mini-hydel project would be permitted in the Western Ghats region and also set an example by cancelling the land leases granted to two ongoing projects. Yet, an unbroken Bangalore-Goa landscape may remain just a dream.
- ✓ It is possible to link the southern and the central Karnataka forest landscapes into a contiguous protected area spread over 15,000 sq.km in Karnataka, Tamil Nadu and Kerala. That by itself will probably be Asia's largest unbroken protected area network.

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.

Bid to mainstream DRR, CCA in development planning

The article is available at: <u>http://www.dailypioneer.com/state-editions/ranchi/bid-to-mainstream-</u><u>drr-cca-in-development-planning.html</u>.

The land which is known for its minerals has also been awarded for its agricultural production under enhancing institutional and community resilience towards disasters amenities and climate change.

Government of India (GOI) and United Nations Development Programme (UNDP) project on "Enhancing Institutional and Community Resilience to Disasters and Climate Changes (2013-2017)" is being implemented in ten states including Jharkhand.

One of the key components of the project is mainstreaming Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA) in development planning. However, it has been recognized that the process of mainstreaming DRR and CCA into development planning is impeded due to lack of appropriate tools and methodologies.

With a view to address risk reduction concerns and to facilitate mainstreaming of DRR and CCA in various departmental sectors a workshop on mainstreaming of DRR and CCA was organized in the state capital to orient the participants about it and to increase their level of knowledge and understanding on processes, tools and methodology for integrating DRR and CCA components in the identified sectors and ongoing major flagship programmes.

Speaking on the occasion, Principal Secretary of Disaster Management Arun Kumar Singh said, "The Government of Jharkhand has already initiated the process and has developed a work plan which includes organizing series of consultations, workshops and meetings expert line departments, institutions and stakeholders for mainstreaming DRR and CCA in the existing programmes as a result of which our state was able to bag the award of producing highest agricultural product. However there are some loop holes which need to be address."

National Coordinator of UNDP Arun Sahdeo who gave a detail presentation on the project said, "We are planning to open a Jharkhand institute of disaster management in Dhanbad shortly. People will seek information on mining disaster management in it. Moreover Palamu and Garhwa districts have been chosen for change in its pattern of crops, deviation from rice cultivation to cash crops and pulses. Besides, we also plan to train all doctors and paramedical to handle emergencies on large scale".

African Countries Share Knowledge on GHG Inventories, Forest Monitoring Systems

The article is available at: <u>http://forests-l.iisd.org/news/african-countries-share-knowledge-on-ghg-inventories-forest-monitoring-systems/</u>.

The UN-REDD Programme and the UN Development Programme's (UNDP) Low Emission Capacity Building Programme (LECBP), in partnership with the Zambian Ministry of Lands, Natural Resources and Environmental Protection, convened a workshop to discuss **building capacities for national forest monitoring systems for REDD+ and national greenhouse gas (GHG) inventory systems in African countries.**

While a robust inventory requires accurate data, effective institutional arrangements and transparent reporting standards, data collection is often fragmented across agencies or inconsistent in many African countries.

Thus, the workshop aimed to address challenges in building inventories and bridge gaps in data collection. National GHG inventories are a key part of reporting obligations by countries under the UN Framework Convention on Climate Change (UNFCCC).

Over 85 participants from 20 countries in Africa and the Arab States attended the workshop, which took place from 25-27 February 2014, in Livingstone, Zambia.

The event focused on, inter alia:

- Common understandings and important linkages between LECBP and the UN-REDD Programme
- Raising awareness of UNFCCC decisions on measurement, reporting, and verification (MRV) and biennial update reports
- Available tools for GHG reporting
- Institutional arrangements
- Quality assurance and control
- Archiving
- Remote sensing
- Forest inventories
- Land classification

In addition, the workshop fostered cooperation across agencies, programmes and individuals, and countries were encouraged to share their experiences, network and build partnerships.

The workshop also aimed to:

- Build capacity for future reporting schemes
- Enhance both the quality and flow of information obtained, to enable decision makers to make informed policy choices regarding climate change mitigation actions.

India's subsidy scheme for de-centralized solar to stay subdued in 2014-15 as well

The article has been obtained from INDIA SOLAR WEEKLY MARKET UPDATE, March 18th, 2014 released by Bridge to India, New Delhi. You can subscribe to the newsletter through:

http://www.bridgetoindia.com/ .

Last financial year (April 2013- March 2014), the Ministry of New and Renewable Energy (MNRE) had received a budgetary allocation of INR 15.2 billion (USD 250 million) for various renewable energy programs.

However, there was a mid-term course correction due to India's high current account deficit situation and the actual disbursement ended up to be only INR 4.4 billion (USD 72 million) which caused the subsidy disbursements for rooftop solar to come to a grinding halt and resulted in many EPC companies (channel partners) shelving their rooftop solar plans as no new project sanctions were being provided.

Now, in February 2014, as the outgoing Indian government announced its interim budget ahead of the elections due next month, the talks about the budgetary allocation for giga-watt scale projects dominated the news. However, what people missed was the fact that the funds allocated to the MNRE have been cut significantly again.

For the upcoming financial year (April 2014 to March 2015), the finance ministry has taken the actual disbursements from last year as a standard and set the disbursement target for the MNRE at just INR 4.26 billion (USD 70 million). This means that new approvals under the subsidy based rooftop solar market are unlikely to be re-initiated.

Many EPC and project development companies whose business model depended on the central rooftop subsidy scheme have been the worst hit. Even though new project approvals came to a halt last year itself, companies were told that the financial crunch would soon be resolved and the market will take off again. However, this is not likely to be the case.

Various state policies such as Kerala, Tamil Nadu, Andhra Pradesh and Uttarakhand have recently announced their rooftop solar policies. All these policies depend on the MNRE funds for a part of their incentives. In that context, the lower budgetary allocations might lead to some of these policies also getting shelved. Overall, this is likely to have a negative impact on the rooftop solar market in India in the short term.

To look at the positive side of things, the rooftop subsidy scheme has more or less been taken over by the bidding based rooftop allocations being carried out by the Solar Energy Corporation of India (SECI). Three phases of the scheme have already resulted in an allocation of around 25 MW of rooftop solar capacity. New allocations for a capacity of 50 MW this year are being planned.

Also, several state governments have also announced their net-metering policies that are expected to increase non-subsidized adoption of solar power in some parts of the country where the commercial and industrial tariffs are comparatively high. With parity fast approaching for various power consumers in India and the 'subsidy overhang' having receded, **it might be better for the MNRE to announce an end to the capital subsidy mechanism rather than allowing the market to deteriorate further because of false hope.**

Instead, MNRE should focus on working with states to ensure better regulations for interconnectivity that will allow a smoother adoption in the parity driven market.

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: <u>http://www.cseindia.org/node/1701</u>

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): <u>http://cseindia.org/agenda2013/index.htm</u>; The Brink (print) : <u>http://cseindia.org/agenda2013/the brink.pdf</u> 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

Shifting cultivation, locally called 'Jhum', is a widely practiced system of crop cultivation among the indigenous communities of Northeast India. Some amount of vegetation is cleared and burnt to create manure for the crops, earning it the name 'slash and burn' but the families that practice this also have a way of nurturing the trees that comprise their land.

Government approaches to manage Jhum cultivation have invariably tried to replace it with settled agriculture. Has this approach worked well or has it just opened a new can of worms for

the communities? In the wake of climate change, does Jhum farming offer new ways of adaptation to the challenges posed by it? Watch the video to know more about the Jhum system of cultivation and how government interventions have fared in the region. It is available at: http://www.indiawaterportal.org/articles/shifting-cultivation-changing-climate

3R concept, plastic bag free areas and zero waste wards for SUNYA cities

SUNYA cities have busy carrying out numerous activities, such as working towards zero waste wards and plastic bag free areas, spreading awareness on the 3R principle and much more. Reviewing the activities of the past year and planning for the current one was the focus of the fourth partner meeting of SUNYA-Towards Zero Waste in South Asia, organized by Coimbatore City Municipal Corporation (CCMC) and ICLEI South Asia from 18-20 February 2014 in Coimbatore, India.

In addition to national and international delegates, the meeting was an opportunity to invite community representatives from Ward number 23 of Coimbatore Corporation, where a SUNYA pilot project demonstration is in progress and to felicitate them for their active role in implementing the zero waste model advocated by the project. The sanitation department workers of CCMC (Coimbatore City Municipal Corporation) were also given a chance to share their experiences on implementing door to door segregation initiatives in Ward 23 and on their involvement in ensuring recycling of all recyclable material collected from this ward, with support from local NGOs and other businesses.

Gaining an edge by the ICLEI South Asia – ITDP India engagement

Recognizing the commonalities, ICLEI South Asia has been engaging with the Institute for Transportation Development and Policy India (ITDP) to assist Indian cities in Tamil Nadu in preparing sustainable transport proposals and budgeting them to be implemented in one and five year terms. ICLEI South Asia and ITDP India joined forces to strengthen support to Coimbatore, Madurai, Trichy, Salem and Tiruppur, to help them understand their mobility issues at city level, and to provide continuous advice in preparation of transport proposals that gradually resolve them.

Through this engagement, cities have undertaken numerous activities and commendable achievements have been brought to light. As a next step, a set of transportation surveys will be undertaken in each of the 5 cities to determine the needs of the proposed transportation plans.

What does "Resource Efficiency" mean to cities? Results from a Global City Survey

10 South Asian cities from Nepal, Bangladesh, Bhutan and India, were amongst the 98 across 38 countries and 7 regions that participated in the Global City Survey on Resource-Efficiency in Cities carried out by ICLEI and UNEP, a step towards providing a status assessment on how cities perceive "resource efficiency" within their responsibilities, and identifying eventual gaps and city needs in this regard.

The survey was part of a comprehensive review for the UNEP-led Global Initiative for Resource Efficient Cities (GI-REC) to determine how cities understand "resource efficiency" within their responsibilities and scope of action, and what their priorities and needs are for improving their resource efficiency.

Vacancies

Please refer to the ICIMOD website for the Terms of reference for each vacancy announcement. Applicants are requested to apply online through <u>ICIMOD's Online Application System</u>.

The details of vacancies and the last date for applications are given below:

- Livelihood Specialist: Conservation and Development: Apply before 16 April 2014
- <u>Regional Programme Manager: Himalayan University Consortium</u>; Apply before 22 April 2014
- <u>Tourism Specialist</u>; Apply before 15 April 2014
- Livelihood Specialist: Innovative Livelihood Options; Apply before 9 April 2014
- Programme Coordinator Kailash Sacred Landscape Conservation and Development Initiative/Senior Natural Resource Management Specialist; Apply before 16 April 2014
- Programme Coordinator: Adaptation to Change; Apply before 13 April 2014

Selected Reading

ICLEI South Asia March Newsletter

http://southasia.iclei.org/fileadmin/user_upload/documents/March2014.html

Urban LEDS India Newsletter

http://southasia.iclei.org/fileadmin/user_upload/documents/Newsletter_January_2014.pdf

AdoptIUWM Newsletter

http://southasia.iclei.org/fileadmin/user_upload/FINAL_NEWSLETTER_IUWM_REVISED.pdf

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 : <u>se-clmt@solutionexchange-un.net.in</u>

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