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10 Easy Steps to Bring Bangalore's Mojo Back

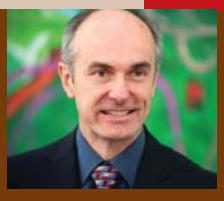
By Benedict Paramanand

The Indian Institute of Science has shown enough evidence that Bangalore is slipping and can become unliveable in the next five years. Should we start writing the obituary of the IT capital, knowledge capital, start-up capital, R&D capital of India? Will it become a ghost town in ten years?

Enough analysis and reports have gone into what is wrong and what can be done. Several bodies have been constituted with little impact. The government revived the once effective Bangalore Action Task Force which has the who's who of Bangalore in it. But the way the state government is going about, it doesn't look like it is serious. For instance, the Metropolitan Task Force (MPC), a constitutional body, is deliberately made defunct.

The politicians and state governments in Karnataka have used Bangalore as a sponge to soak out the wealth it has been creating since the last twenty years. Despite the politicians' and bureaucrats' greed and ineptness, the city's entrepreneurs have braved them but it looks like they are fed up.

The city has a last chance to rejuvenate itself. If it loses this one, it will be good bye to the dreams of a million people and that of the founders and the entrepreneurs who have made this city what it is today.



CII

Confederation of Indian Industry

Knowledge Partner

SN – IIMB Conclave

'Crafting India's Sustainability Growth Model', June 11, IIMB Campus

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Purpose: To excite Indian businesses, SMEs, executives and students about the immense business opportunity in not only adopting Sustainability as Strategy in their companies but also inspire them to the possibilities of a big market for innovative sustainability products and services.

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Information in this publication is drawn from a variety of sources, including published reports, interviews with practicing managers, academia and consultants. While doing so utmost importance is given to authenticity.

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Bangalore has reached a stage where only game-changing solutions can help reverse the trend. And these have to be implemented within one or two years. These could be:

- Start sub-urban railway system to decongest the city. Basic infrastructure is already there. Why the delay?
- Adopt massive urban forestry with native plants and trees
- Put all tenders on e-auction
- Incinerators for burning waste. Waste cannot be dumped any more
- Compulsory solar power on commercial and educational buildings
- A civil society body in each ward to monitor projects
- Major drive to recharge bore wells with rain water harvesting
- Make resident associations part of lake management
- Shift 50% of government departments to district headquarters
- No new permission for establishments employing more than 100 people within 20 sq kms radius of the city

Other useful measures which could help

a. Improve living conditions and salaries of police constables and corporation workers
b. Impose hefty fines on traffic offenders, lake encroachers
c. Actively engage schools and colleges in city management activities
d. Build pride in the city by making its history accessible and attractive

Major Steps That Could be the Game-changer

a. Directly elected Mayor every 3 years
b. Fixed tenure of officers for 3 years
c. Police and judicial reforms to make them independent and well funded
d. Strengthen Lokayukta with independent police force
e. Make government servants liable and accountable

These suggestions are certainly there on city managers'. What is needed, is a bolder and committed leadership.

The above changes may have to be forced on the government through available constitutional mechanisms and through pressure from civic bodies. Civil society has taken it lying down for too long. Bangalore's 'adjust madi' philosophy is its bane. It should now change to 'Jaldi Kelsa Madi' (work now).

IISc Report Shows Bangalore in a Worse State

All Or Nothing: Mobility issues in Bengaluru (By Ashwin Mahesh, www.saddahaq.com)

In a study that benchmarks five world cities on the urban sustainability index, Bengaluru and Mumbai have fared the worst. An analysis by the Indian Institute of Science (IISc) Bengaluru shows that on the urban sustainability index, Bengaluru (0.658) and Mumbai (0.590) have the least sustainable urban systems, followed by Shanghai (0.669) and London (0.771). Singapore (0.773) emerged as the most sustainable urban system.

"The low score for urban green spaces is one of the contributors for lowering the environmental sustainability index value. **Bengaluru has low sustainability scores for water pollution.** It needs to make targeted interventions," Balachandra Patil added.

"It intensifies traffic problems on commuting roads from a city's central location to suburban areas. So, it's important to study the rapid urban change that is likely to take place in developing countries that are least equipped with the means to invest in basic urban infrastructure, and are unable to provide vital economic opportunities for urban residents," Patil added. Dr. Patil is one of the key researchers and part of the department of management studies & centre for sustainable technologies at IISc.

One of the key concerns highlighted in the study for Bengaluru was **the manifold increase in the built-up area in the last 40 years** as a result of which the vegetation of the city has seen a sharp decline of 78%.

The city has lost 79% of its water bodies and 54% of lakes are encroached by illegal buildings. Almost 66% of lakes are polluted by sewage waste, 14% surrounded by slums and around 72% showed loss of catchment area, the report shows.

"Dumping of construction debris and sewage, and pollution from vehicular emissions remain the biggest concerns," the study said.

http://www.huffingtonpost.in/2016/05/03/iisc-bengaluru-mumbai_n_9828546.html

भारतीय प्रबंध संस्थान बेंगलूर
INDIAN INSTITUTE OF MANAGEMENT
BANGALORE

CCGC

Crafting India's Sustainability Growth Model

How Not To Copy China or the West

11 June - Saturday - Bengaluru – 9.30 AM – 2.00 PM
Venue – Management Development Centre IIM Bangalore

SustainabilityNext magazine and IIM Bangalore CCGC are happy to invite you to the first of its kind half-a-day conclave where thought leaders led by eminent environmental historian and author ***Dr. Ramachandra Guha*** *will attempt at* ***'Crafting India's Sustainability Growth Model - How Not to copy China or the West.'***

Why The Conclave

India urgently needs an indigenous sustainability model which can be in harmony with its economy, society and culture. Such an all-round or holistic growth model could help India evolve as a vibrant nation, if not a super power.

There's broad consensus that India CANNOT afford to follow the Western model of inequitable growth or the Chinese 'grow now, pay later' model. But there's not enough dialogue, debate or conversation about what India should do instead.

No one has a problem with rapid growth with equity. Do we know how to achieve this balance? Do we have an idea what will happen to India's eco-system if we grow between 8% and 10% and abolish poverty by 2030?

The governments – central and states – seem eager and serious about supporting clean energy and clean India. India's commitment at 2015 Paris Summit is laudable. How can we build on this momentum?

The effort should start NOW. Procrastination could result in India adopting a nasty cocktail of Chinese and the Western ways by default. The price India could pay could be very heavy.

Throughout our history, we have learnt from others while preserving our roots to forge ahead. Can we do this again now?

The conclave will address the following questions:

- What are the models of all-round growth that India could pursue?
- **How could India test and validate a few of these models by 2025?**
- What are the key barriers to overcome in enabling a shared vision or focus?
- How can India's culture and heritage be leveraged to craft such models?

Speakers & Program Schedule

9.30 to 10.00	**Registration & Networking Tea**	
10.10 to 10.30	How Ancient Indian Wisdom Applied to Modern Business can Shape India's Sustainable Future **Prof. Ram Nidumolu, Sustainability Expert & CEO Innovastrat.com**	
10.30 to 11.00	How Lessons Learnt From Akshaya Patra Can Help NGOs Contribute to India's Sustainability Model **Madhu Pandit Dasa, Chairman, Akshaya Patra**	
11.00 to 11.45	The Three Waves of Indian Environmentalism **Dr. Ramachandra Guha, Eminent Environmental Historian**	
11.45 to 12.00	**Tea-snack Break**	
12.00 to 1.30	**Panel Discussion & Open House**	
	Prof. P D Jose	**Panel Host** Professor of Corporate Strategy & Policy, IIM Bangalore
	Nagaraja Prakasam	**Impact Capital and Sustainability Model** Impact/Angel Investor
	Prof. Vasanthi Srinivasan	**Enabling People/Talent to Support the Model** Professor of Organizational Behaviour and HRM, IIM Bangalore
	Patrik Antoni	**MNC/IKEA View of the India Model** Country Head, Sustainability, IKEA India
	Santhosh Jayaram	**India model from a consultant's lens** Partner and Head Sustainability and CSR Advisory, KPMG
	Madanmohan Rao	**Role of Knowledge Management/Technology** Research Director, YourStory.com
1.30 to 1.45	**So, What's the Model – Participative Model Building - Host Prof. Ram Nidumolu**	

Academic Partner - IIM Bangalore
Presented By - SustainabilityNext
Media Partner - YourStory.com
Live Webcast Link - http://iimb.linkstreetlearning.com/sustainability/

Post Conclave Outreach

The models discussed at the conclave will be turned into a working paper and shared with Niti Aayog, relevant ministries, think tanks, universities, etc., after the conclave. Highlights and keynote summaries will be published in SustainabilityNext/and other media partner newsletters

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For full program sheet Log on to - http://sustainabilitynext.in/iimb-conclave-event/

About SustainabilityNext

SustainabilityNext is India's only e-magazine on the business of sustainability. It is edited and published by Benedict Paramanand, from Bangalore. *www.sustainabilitynext.in*

Free Entry on Registration

Republican Presidential Candidate Donald Trump speaks at Williston Basin Petroleum Conference, May 2016

How Trump's Climate Change Denial Could Hurt the World

Most people across the world are dreading the possibility of Donald Trump becoming the president of the United States of America and for good reason. His stand that the 'climate change talk is 'bullshit' and a 'liberal hoax' has become a joke.

It doesn't matter on whom the joke is. If he becomes the president and dilutes American commitment to Paris Agreement signed in December 2015, it will be a huge setback to the fight to limit climate change impact, which several parts of the world, including the US, is already facing. The targets set at the Paris Summit may well have to be thrown out of the window.

It is strange that the Republican Party in the US is the only large political party in the world to be in denial of climate change. Most of the Republican Senators in the US Congress ensured that the US did not sign a binding treaty in Paris to cut its emissions but reluctantly made it a voluntary act.

Noam Chomsky, the famous MIT professor and a celebrated critic of the American foreign policy, says: "The US is giving an impression that it doesn't care. It is literally saying 'let's race to the precipice."

Senior Republican members of the Congress routinely indulge in wild conspiracy theories, alleging that all the evidence for climate change is the product of 'giant hoax.' perpetrated by thousands of scientists around the world.

Popular Economist Paul Krugman wrote in the New York Times on 4, Dec 2015: "The US Republicans are unique in refusing to accept that there is even a problem. Unfortunately, given the importance of the United States, the extremism of one party in one country has enormous global implications."

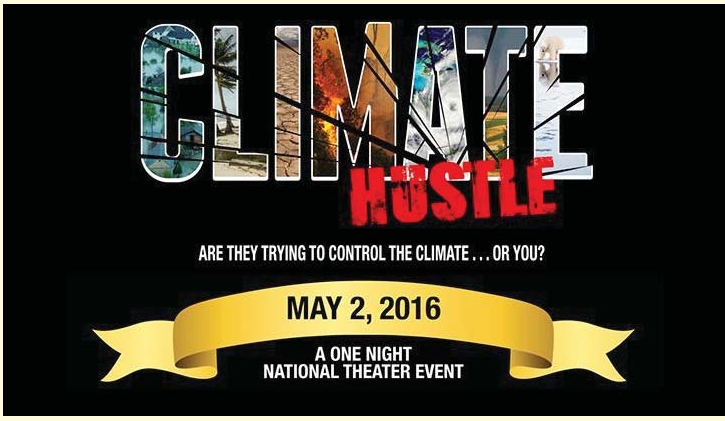
A frustrated President Obama has said that "Republican opposition to the Paris Accord and the denial of climate change itself will not be sustainable."

An unequivocal collusion of Republican Party's and business interests (read oil companies) has become apparent in deliberately orchestrating the denial of climate change implications. As President Obama said, Trump and his party are 'outliers' in the climate change game.

'Climate Hustle'

A new film titled 'Climate Hustle,' purports to expose climate change as a gigantic fraud. The publicity department for "Climate Hustle" assures the public that global warming is "an overheated environmental con job being used to push for increased government regulations and a new 'Green' energy agenda." This movie, we are told, "will tear the cover off of global warming hype."

How is it possible to deny such overwhelming evidence that global warming is real and humans contribute to it?



climatehustlemovie.com

Psychologists say at the core of climate change denial is the brain's confirmation bias – a natural tendency to seek and interpret facts in a way that confirms our pre-existing beliefs. "Nobody wants to be wrong, and that elicits confirmation bias, which is when we seek out information that confirms that we believe to be true," Dr. Robert Gifford, an environmental psychologist at the University of Victoria," told a columnist recently.

Others say they don't trust scientists, and listen instead to high-profile skeptics. Add to this equation a distrust of experts and scientists, a psychological phenomenon known as 'discredence, and you've got a recipe for denial. Mistrust of scientists is a growing issue — and for people who don't trust scientists, scientific evidence clearly doesn't carry much weight.

India and China may not be influenced by what happens to the US elections in 2016 on the climate change front. China has started, perhaps the boldest initiatives to cut back on emission of greenhouse gases.

This year's drought and its serious impact have got Indians very serious about finding long term solutions to dangers of climate.

Southern Company's Plant Bowen in Cartersville, Georgia is one of the biggest coal-fired plants in the country. (Source: www.techinsider.io)

Debate

Should India Manufacture Solar Panels?

By Benedict Paramanand

Vidya Mandir School in Chennai gets new solar power system (Source: www.www.eai.in)

It only seems logical but logic, guts or the lack of it, and market dynamics don't always go together. When you have a mammoth plan to generate 100 gigawatt of solar power by 2022, doesn't it make sense to manufacture as much equipment as possible locally? What happened to 'Make in India' slogan?

Of course, the credit goes to China for bringing the cost of solar panels so low that the cost of generating solar power is almost equal to cost of generating power from coal in 2016. It was double only five years ago and bound to fall further. The big question is – if India starts to manufacture solar panels will it be cost competitive? What could be the price differential between cost of local and global panels? How much of the higher cost can the government subsidize with the hope that in the medium and long term, price differential will be marginal? That's a question no one can answer now. If the Chinese solar panel prices come down even more, then should India still pursue its local manufacturing dreams?

Prime Minister's go-to man, Amitabh Kant, submitted his recommendation to the Government of India early 2016 about domestic solar panel manufacturing. Power Minister Piyush Goel said the proposal would soon be submitted for Cabinet's approval.

Unlike before, what has given Mr. Goel the confidence is access to finance from the coal cess the government imposed recently. He told CNBC TV18 recently that "he is hoping to develop at least 10 gigawatt of integrated manufacturing capacity – right from the silica wafers and chips and modules and cells and everything."

He is going to entice state governments to take on these projects in such as way that it would become a 'plug and play set up for manufacturers. The big issue is the cost of power that they will have to offer since this is a power-intense industry.

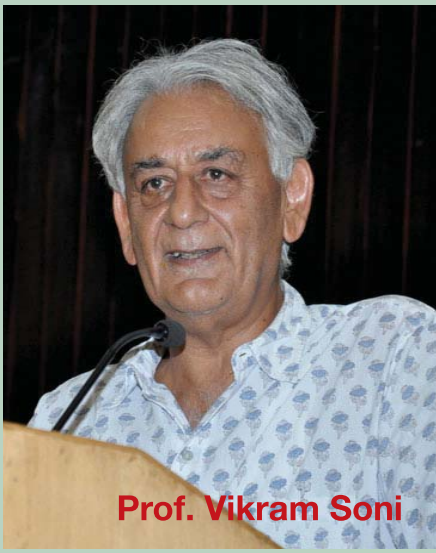
The minister is confident that he will achieve the 20,000 GW target by 2022, set by the UPA government, in 2017 itself and will gun for 100 GW during the same period. The solar panel debate is reminiscent of similar debate about manufacturing chips for electronic items for more than a decade now. Even here, China is the world's supplier and India feels it is going to be dependent even as its market size expands. The massive foreign exchange outgo to China as a result of these imports is a big worry.

Clearly, even if India takes up solar panel manufacturing by the time the facility comes up it will be three to five years. Even if it comes up, can the government force solar energy generators to use domestic panels? In an increasingly competitive world, it is difficult. But this is a silver bullet that any government has to bite at some point or reconcile to the reality that some countries have natural competitive advantage and some don't. Focus on what you are good at get the best price for what you are not. It has so far happened –why look at solar panels differently?

Debate

Amravati Can Be Both A Natural & A Smart City

By SN Team


Prof. Vikram Soni

Andhra Pradesh has a chance to show it cares and is different. With dynamic chief minister Chandrababu Naidu, it seems possible. Since the focus and the buzz is about smart cities, noted environmentalist and physicist **Prof. Vikram Soni** has appealed for **building a sustainable natural city at Amravati capital**. He said if the government protects the natural course of flood bank and flood plains; it could save Rs 600 crore on water supply to capital city per year.

Prof. Soni is reported to be in favour of natural instead of a smart city. The big question is – why can't it be both?


http://www.skyscrapercity.com/showthread.php?p=133211415

The environmentalist who conducted research on water conservation inspected Amaravati seed capital and river bank near capital along with social activist B Satyanarayana and capital region protection committee leader A Gandhi. He said that the government should not take up construction within 2.5 km from the flood bank to protect the floodplains, which helps water percolation and continuous supply of water even in times of drought.

He said that the government should develop parks and greenery within 2.5 km radius from the flood bank to develop a natural city and to bring down the temperature in capital city by 10 degrees.

The experts said severe drought conditions prevail throughout the country and there is a possibility for water emergency. With lack of drinking water, the State government should protect the environment and river course at Amaravati capital for continuous sustainability. He said Krishna floodplains from millions of years of flooding each year have deposited sand aquifers which are 3 km wide and 40 metres deep and 40 per cent of their volume is water. The river has enough surplus flow in the monsoon which amounts to 4 billion cubic metres.

The environmentalist said **if the government protects the flood plains it could save 40 million cubic metres of water which is enough to supply 150 litres of water per head to 8 lakh people per year which costs around Rs. 600 cr.**

He said once a self-sustaining water supply is developed by protecting the floodplains, it would help development of AP as it need not spend on water supply like other indian cities, where the governments are forced to supply drinking water.

Smart water, energy and transport infrastructure is possible if a city is being built new. After seeing the Chennai experience, no city would want to mess with the flood water plains. Hope AP learns from others' mistakes.

EY Ranks India 3rd in 'Renewable Energy Country Attractiveness Index'

Rank	Indicative movement on previous index[1]	Market	RECAI score	Technology-specific indices rankings							
				Onshore wind	Offshore wind	Solar PV	Solar CSP	Biomass	Geothermal	Small hydro	Marine
1	=	US	77.0	1	4	1	1	2	2	6	8
2	=	China	76.9	2	1	3	7	1	16	1	6
3	=	India	71.6	4	21	2	4	3	15	2	23
4	▲	Chile	70.4	6	20	7	3	18	6	4	20
5	▼	Germany	69.0	8	2	19	22*	12	8	22	26
6	▲	Brazil	67.5	3	19	5	10	8	30*	3	22
7	▲	Mexico	67.0	5	24	6	12	26	5	11	16
8	▼	France	66.7	9	9	9	19	10	17	21	5
9	▼	Canada	64.6	7	14	14	22*	20	19	7	4
10	▲	Australia	63.8	10	15	4	8	19	9	14	7

*Joint ranking [1] Due to the methodology refresh, the previous numeric ranking is not a comparable measurement, therefore an indication of the movement is provided only

www.solarquarter.com

Consultancy firm Ernst & Young has ranked India's renewable energy sector third in the Renewable Energy Country Attractiveness Index (RECAI) with China at second and the US on top. The so-called emerging markets now represent half the countries in the 40-strong index, including four African markets featuring in the top 30. Just a decade ago, only China and India were attractive enough to compete with more developed markets for investment. While the top three countries maintained their ranking, Chile, Brazil and Mexico climbed higher in the index to be ranked in the top 10 at the fourth, sixth and seventh, respectively. Germany at fifth and France at eighth fell in the latest ranking.

Kuljit Singh, partner (infrastructure practice) at EY, said: "The report demonstrates that low solar bids are not a phenomenon restricted to India, but countries such as Mexico and UAE have also been reporting very low solar bids. As is the case with India, wind continues to be at a pricing premium to solar in the rest of the world, but both these technologies are racing towards grid parity, which may lead to not-so-desirable consequences for traditional utility business models."

India's position is thanks to the strong focus of the government on renewable energy as well as timely implementation of renewable energy projects. The report also suggests that with **the growing number of jurisdictions contracting utility-scale renewable energy through competitive auction processes, renewable energy is increasingly proving its mettle against conventional energy generation.**

Renewable energy auctions in India, South Africa and Peru saw bids that fossil generators would struggle to match. "The falling cost of renewables and their growing ability to challenge and displace fossil fuel generation without subsidy, once long-term power purchase agreements (PPAs) from creditworthy counterparties, are an option in any market," EY said.

The index ranks 40 markets on the attractiveness of their renewable energy investment and deployment opportunities, based on a number of macro, energy market and technology-specific indicators.

Report – PricewaterhouseCoopers (PwC)

Hydropower Can Provide Sustainable Energy Security to India

According to a recent report by PwC, hydropower development in India can play a crucial role in the country's sustainable energy security if sites for new installed capacity -- among other things -- are accessible, stable and affordable.

Brindavan Gardens (KRS-Krishna Raja Sagar Dam)
(Source: www.mysore.nic.in)

The report titled **'Hydropower@Crossroads,'** indicates that **nearly 75% of India's total potential is concentrated in the north and northeast. But, only about 7% of potential has been tapped. Major hindrances to development include technical issues, land acquisition, infrastructure and financing.**

The report also said that in order to successfully increase project development, the government needs to streamline licensing processes, create a sustainable business environment through fiscal incentives, develop new financing avenues and enable states to build supporting infrastructure.

The **2016 National Tariff Policy**

- Underlines the norms for ancillary services;
- Authorizes CERC to introduce norms and framework for ancillary services necessary to support grid operation, including the method of how to share operational costs; and
- Provides exemption from competitive bidding until 2022.

Link to the report - http://www.pwc.in/publications/2016/hydropower-at-crossroads-pwc-assocham-report.html

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Santiago Metro To Run on Solar

Santiago metro, Chile,
subway system, renewable energy
(Source: inhabitat.com)

The Metro of Santiago, Chile, will be the first public transport system to run mostly on solar energy, after a new agreement signed with Total and SunPower. It has signed the power purchase agreement for the supply of 300 GWh annually of clean solar energy for its public transport network.

This should make the Metro of Santiago the world's first public transport system to run mostly on solar energy, which is good news for the system's 2.2 million daily passengers.

Akshaya Patra Wins Nikkei Asia Award

Nikkei Asia has conferred its 2016 award on The Akshaya Patra Foundation for its contributions to the field of economic and business innovation. Madhu Pandit Dasa, Chairman of the foundation received the honour at the award ceremony of Nikkei Asia Prize on May 29 in Tokyo. The winners were awarded three million yen each along with a certificate by Naotoshi Okada, President, CEO of Nikkei Inc. The ceremony was followed by a conference on 'Future of Asia' the next day where Japanese Prime Minister Shinz Abe spoke.

Award ceremony held in Tokyo on Sunday, 29th May, 2016. Sri Madhu Pandit Dasa, Chairman of The Akshaya Patra Foundation, received the award.
https://www.iskconbangalore.org/akshaya-patra-wins-nikkei-asia-prizes-japan/

Mr. Dasa said he was accepting the award on behalf of "our movement and for the benefit of those 1.5 million children whose lives has changed because of a wholesome meal day after day." He said: "people are not powerless to change this dire situation. We can unleash the force of compassion in the hearts of the rich to share their wealth, at least to meet the basic needs of humanity. It is only by promoting and awakening this virtue of compassion, and turning it into action in human society, that we can make this world more inclusive, equitable and sustainable."

Nikkei Asia Prize, an annual award, is instituted to recognise outstanding achievements contributing to sustainable development and for a better future of Asia. Since 1996, Nikkei Inc., one of the largest media corporations in Japan, has been presenting the award to honour people in Asia who have made significant contribution in one of the three areas: Economic Business and Innovation; Science, Technology and Environment; and Culture and Community. Nikkei Inc. established these awards in 1996 in commemoration of the company's 120th anniversary.

Mr. Dasa designed the first centralised kitchen of Akshaya Patra to provide mid-day meals to underserved children in the government schools of Bengaluru's rural district during July 2000. Under his inspiring leadership and commitment, the organisation is gearing up to feed five million children by 2020. It has grown from serving 1500 to 1.5 million children in 16 years, becoming the world's largest NGO-run school lunch programme. It recently served its 2 billionth meal.

He set up a robust governance model that has made Akshaya Patra a hallmark of transparency and accountability. Akshaya Patra is the only NGO to win the 'Institute of Chartered Accountants of India (ICAI) Gold Shield Award for Excellence in Financial Reporting five times in a row'. Mr. Dasa is an M.Tech in Civil Engineering from IIT-Mumbai.

TERI and Mahindra Lifespaces to Establish Center of Excellence for Sustainable Habitats

To address energy & resource challenges faced by the Indian housing sector

The Energy and Resources Institute (TERI) and Mahindra Lifespaces announced the creation of a Center of Excellence (CoE) focused on improving energy efficiency in India's residential buildings sector. The **'Mahindra TERI CoE for Sustainable Habitats'** – as this Center will be known - will evaluate both traditional and innovative technologies and alternative materials customised for the Indian buildings sector and climate zones. The Center will bring the much needed informed validated knowledge about better performing materials and ways to use the ample daylight available, that will greatly help to mainstream greener buildings in the country.

Dr. Ajay Mathur, Director General, TERI & Anita Arjundas, Managing Director, Mahindra Lifespace Developers Ltd. announce the establishment of the Mahindra TERI CoE for Sustainable Habitats

Key focus areas of the CoE will include energy and water efficiency and use of low cost green materials. Another important intended outcome of the research efforts of the CoE will be to address the existing gap in available statistical datasets relevant to the Indian residential buildings sector. The research output from the CoE will be disseminated to multiple stakeholder communities via conferences, workshops, academic courses, reports, journal archives and webinars, amongst other mediums. Wider industry participation and contribution will be sought to increase capacity and reach. The CoE will be located at TERI's Gual Pahari campus near Gurgaon, initially with a five-year horizon, with research initiatives split into modules based on priority and scale.

"Buildings are experiencing unprecedented growth in India, leading to increased energy demand and consumption. Extensive research is needed to enable energy efficiency in buildings, and the 'Mahindra TERI CoE for Sustainable Habitats' aims to evaluate innovative technologies tailored to the Indian consumer and climate, and available in the form of easy-to-use tools to the Indian building industry. We are delighted that Mahindra Lifespaces has come forth to support the establishment of this Center that will benefit the entire industry," said **Dr. Ajay Mathur, Director General, TERI.**

"The significance of energy efficiency in the Indian buildings sector has been highlighted over the last few years; however, there remains substantial potential for further advancements in knowledge assimilation and technology adoption that can benefit the industry and consequently, ensure a sustainable future for India's urban areas. With its firm conviction that efficient utilization of energy and natural resources is crucial to drive urban development in the right direction, TERI is appropriately placed to drive this agenda and we are happy to support the establishment of the CoE," said **Anita Arjundas, Managing Director, Mahindra Lifespace Developers Limited.**

At present, the buildings sector accounts for 30% of overall electricity consumption in the country, of which almost 72% is consumed by the residential sector. Studies have indicated that the average household will likely consume five times more electricity in 2020 than it did in 2000. Thus, the buildings sector in India offers huge potential for energy conservation, making initiatives such as the **Mahindra TERI CoE for Sustainable Habitats** the need of the hour.

The Energy and Resources Institute is an independent, not-for-profit research institute focused on energy, environment and sustainable development and devoted to efficient and sustainable use of natural resources. Since its inception in 1974, TERI has emerged as an institution of excellence for its path-breaking research, and is a global brand widely respected by political leaders, policy makers, corporate entities as well as the civil society at large. http://www.teriin.org/

Mahindra SEZ (Source: www.phuleraplots.in)

Mahindra Lifespace Developers Ltd., the real estate and infrastructure development business of the $16.9 billion Mahindra Group, is a leader and pioneer in sustainable urban development, through the creation of residential and integrated large format developments across nine Indian cities - Mumbai, Pune, Nagpur, Gurgaon, Faridabad, Jaipur, Chennai, Hyderabad and Bengaluru. The Company's residential & commercial development footprint includes over 1.20 million sq.m (12.94 million sq ft) of completed projects and over 0.88 million sq. m. (9.44 million sq. ft.) of ongoing and forthcoming projects.

Mahindra Lifespaces has pioneered the concept of an integrated business city through 'Mahindra World City' developments in Chennai and Jaipur; built on the philosophy of 'Livelihood-Living-Life', these developments span 1796 hectares (4,437 acres), house over 125 global and Indian companies and serve to drive economic growth and community development. In addition, Mahindra Lifespaces enables access to quality housing at affordable prices via its brand 'Happinest'.

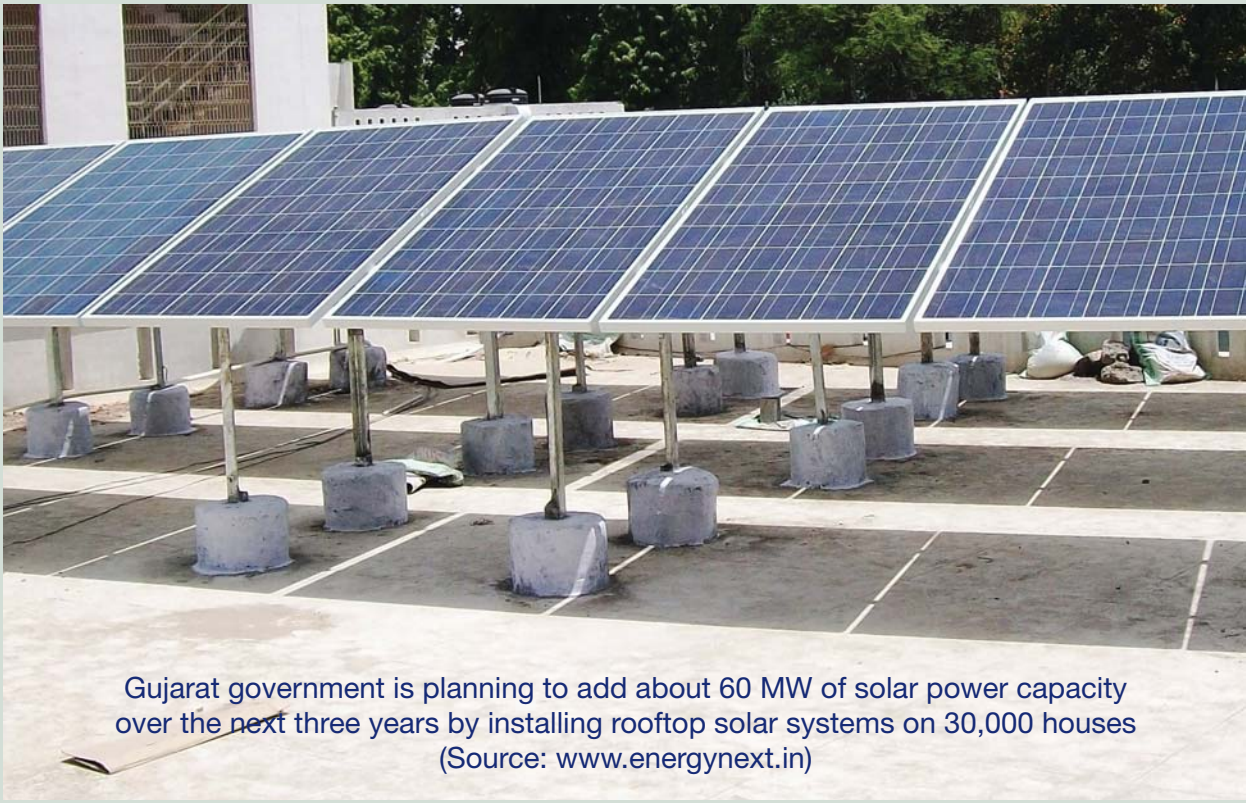
A pioneer of the green homes movement in India, Mahindra Lifespaces is the first Indian real estate company to have voluntarily released its triple bottom-line focused, externally assured Sustainability Report based on the GRI (Global Reporting Initiative) framework. In 2015, Mahindra Lifespaces has been recognized as Regional Sector Leader in Asia, in its category, by the Global Real Estate Sustainability Benchmark (GRESB) for the second year in a row.

www.mahindralifespaces.com; www.mahindraworldcity.com

India's Grid Connected Rooftop Solar Program

World Bank Approves $625 Million

The World Bank Board approved a $625 million loan to support the Government of India's program to generate electricity from widespread installation of rooftop solar photo-voltaic (PV). The Board also approved a co-financing loan of $120 million on concessional terms and a $5 million grant from Climate Investment Fund's (CIF) Clean Technology Fund.



Gujarat government is planning to add about 60 MW of solar power capacity over the next three years by installing rooftop solar systems on 30,000 houses (Source: www.energynext.in)

The project will **finance the installation of at least 400 MW of Grid Connected Roof top Solar Photovoltaic (GRPV) across India.** These solar PV installations will provide clean, renewable energy, and reduce greenhouse gas emissions by displacing thermal generation. The project will also **strengthen the capacity of key institutions, and support the development of the overall solar PV market.**

The project will be implemented by the State Bank of India (SBI). SBI will on-lend funds to solar PV developers/ aggregators and end-users, who wish to invest in mainly commercial and industrial rooftop PV systems. Financing will be provided to those with sound technical capacity, relevant experience, and creditworthiness as per SBI standards.

Despite energy shortages, and the high cost of backup supply, rooftop solar PV systems have not yet become widespread in India. This is primarily due to the lack of adequate financing, unfamiliar technology and low consumer awareness. Until now, those that wanted to install solar rooftop PV systems had to pay the full cost up-front. The total capacity of rooftop solar, therefore, remains low.

Aided by government policy and declining costs, rooftop solar has the potential to transform the energy sector. The overall potential demand for rooftop solar is estimated at about 124,000 MW.

Axis Bank Raises $500 Million From Green Bonds

Axis Bank raised $500 million from global investors by selling its maiden green bonds. “The encouraging response to our successful green bond issuance, attractively priced, is reflective of the realisation and recognition of the global need to encourage and support eco-friendly sustainable development,” the **bank’s Deputy Managing Director V Srinivasan** said.

The bank is fourth domestic lender to have used this avenue of resource mobilisation. The first such sale was by Yes Bank, which had raised Rs 1,000 crore through a rupee-denominated green bond issue last February. IDBI Bank and Exim Bank also hit the market with such an issue. The money raised from such instruments has to be committed for financing green projects.

This is the first ‘labelled climate bond initiative’ certified bond issued by a bank from Asia and also the first Indian green bond to be listed on the London Stock Exchange.

“Axis Bank is a long standing and distinguished equity issuer on London Stock Exchange and has been an instrumental partner in the IFC’s masala bond programme devoted to developing infrastructure in India,”
LSE Chief Executive **Nikhil Rathi** was quoted in *Business Standard*.

Coca-Cola Europe Nears 2020 Sustainability Target

Coca-Cola Enterprises (CCE), which covers bottling, distribution and marketing in eight countries and territories in Western Europe, issued its Corporate Responsibility & Sustainability Report 2015-2016, **announcing substantive cuts in packaging and water use as well as a 40 % reduction in the company’s carbon footprint.** The report also noted CCE’s steady progress towards its 2020 targets.

In the report, **CCE said it reduced its water use ratio to 1.35 per litre of product, down 17 % since 2007** and that it continues to develop pathways for compliance tothe company’s Sustainable Agriculture Guiding Principles for its key agricultural ingredients.

“It is clear that sustainability is not something which can be seen as separate to business strategy, or as optional,” said John Brock, Chairman and Chief Executive Officer at Coca-Cola Enterprises. “We must continue making long-term sustainable decisions, which support wider society and the environment in partnership with our customers, our employees and our shareowners.”

By 2020, CCE plans to reduce the carbon footprint in its core business operations by 50 %; ensure that 40% of the PET it uses is recycled and/or from renewable materials; and source 40% of its energy from renewable or low-carbon sources.

Read the full report at https://www.cokecce.com/system/file_resources/426/2015-2016_CRS_Report.pdf
http://www.greenretaildecisions.com/news/2016/05/19/coca-cola-enterprises-nears-2020-sustainability-targets-

Kellogg's Kashi Helps Boost Organic Farming

www.yeoldejournalist.com

The rise of organic farming is analogous to the clean-energy revolution: As is the case with renewables, organic products' growth is rapid, but it still comprises only a tiny segment of the overall market. Part of the problem is that for many smaller farmers, who operate on thin margins, the organic certification process is time-consuming and expensive. Organizations such as California Certified Organic Farmers (CCOF) say they are trying to make the transition to organic more cost-effective, but the process involved is still lengthy one.

One challenge for the organics movement is the development of a certification, acceptable to both consumers and farmers, which recognizes the switch from conventional farming methods to those that finally allow for that coveted "organic" certification. CCOF operates a certified transitional farming program that **recognizes farmers' efforts to go organic during that three-year transition period.** But the fact that it is difficult to even find these labels on products demonstrates the lack of traction such certification has with consumers and retailers.

Sales of organics keep increasing, up to $39 billion in 2014, a 10-fold increase from two decades earlier. Nevertheless, while the agriculture sector recognizes transitional ingredients, consumers often overlook them while farmers struggle financially during that three-year window. Kellogg subsidiary Kashi, the cereal and snack bar maker that has found success landing its products on shelves in many supermarket chains, is trying to solve this conundrum. **Kashi has announced a partnership with Quality Assurance International (QAI) and South Dakota-based Hesco to launch a "certified transitional" standard to recognize "organics in training."**

"Farmers face steep barriers to converting to organic – including financial uncertainty during the three-year transition period required to be eligible for USDA Organic certification," said Nicole Nestojko, senior director of supply chain and sustainability at Kashi."During those three years, farmers have to make big investments – from purchasing fertilizers allowed in organic farming, to developing new farm business plans and making capital investments in infrastructure like on-farm storage. Those expenses start from day one, but farmers cannot sell crops at organic prices until at least three years later.

"[The Certified Transitional standard] creates a market where consumers can choose to directly support farmers looking to make this conversion. Kashi is the first company to offer a Certified Transitional product."

Kashi says it has already started incorporating wheat grown on farmland in transition to organic within one of its products. A varietal of red winter wheat is the mainstay of a dark chocolate-flavored wheat biscuit cereal that will be available soon. Kashi claims at least two farmers grew transitional wheat for this product. The company insists that the overarching goal is to boost financial support for farmers who have committed to growing organic crops, so that acreage for organic crops surges past that current 1-percent ratio of total farmland.

http://www.triplepundit.com/2016/05/kashi-launches-transitional-ag-protocol-boost-organic-farming/#

Corporate Renewable Energy Buyers' Alliance Formed in US

Four non-governmental organizations have formed the Renewable Energy Buyers Alliance (REBA), a new coalition to empower multinational companies to transform electricity systems with renewable energy. REBA **aims to help facilitate and deploy 60 gigawatts (GWs) of new corporate renewable energy in the United States by 2025.**

Could The U.S. Switch To 100% Renewable Energy? (Source: www. solarindustrymag.com)

REBA is led by BSR (Business for Social Responsibility), Rocky Mountain Institute, World Resources Institute and World Wildlife Fund. Over 60 companies are members of one or more of REBA's initiatives.

REBA facilitates solutions among customers, renewable energy suppliers, utilities, and policy makers to overcome market barriers and drive collaboration among all parties. Each of the four organizations that make up the coalition addresses the needs of U.S. businesses looking to secure renewable energy by:

- Aggregating corporate purchasing demand, articulating business needs to the market, and working with utilities to develop solutions that better serve corporate buyers through World Resources Institute and World Wildlife Fund's Renewable Energy Buyers' Principles;
- Developing the ecosystem of solutions providers, scaling renewable energy developments, and helping companies execute their renewable energy strategies through Rocky Mountain Institute's Business Renewables Center; and
- Increasing companies use of renewable energy to power data centers by collaborating with power providers, utilities, and policymakers through BSR's Future of Internet Power.

"We're proud to be part of the REBA network and the movement to accelerate the transition to renewable energy," said **Brian Janous,** director of energy strategy at Microsoft. "We are committed not only to increasing our purchase of green power, but also to working with new partners to bring even more renewable energy onto the grid where we do business."

"REBA provides the platform for companies to use their collective influence to signal market demand for renewables, and the coalition also gives businesses the resources to set and achieve ambitious renewable energy goals – whether it be infrastructure at their own headquarters or space leased in an energy intensive data center," said **Eric Olson,** senior vice president, BSR.

"The extremely competitive and stable prices of wind and solar energy offer a tremendous value proposition for businesses in terms of economics and sustainability," said **Michael Polsky,** founder, president and CEO, Invenergy.

"As the largest US companies began setting ever more ambitious climate and renewable energy goals for business reasons, they realized their views weren't being heard in the marketplace of utilities, utility regulators and renewable energy providers," said **Marty Spitzer,** director, US climate and renewable energy policy at World Wildlife Fund. "REBA provides these buyers with a voice and creates a collaborative platform to scale renewable energy solutions that meet the needs of buyers, developers, utilities and regulators."

"There is real potential to expand renewable energy affordably when customers, utilities and developers collaborate. REBA allows us all to be more effective in a complex and rapidly changing sector," said **Letha Tawney,** director of utility innovation at World Resources Institute. "We see innovative deals emerging between these players that unlock real value for everyone on the grid."

"In 2015, we found out that companies signed more than 3 GWs of renewable energy purchases, tripling from 2014," said **HervéTouati,** managing director, Rocky Mountain Institute. "More companies want to power their operations with renewable energy, but navigating the path to renewables is harder than it should be. REBA works across buyers, intermediaries, and developers to provide solutions and tools to meet rapidly growing corporate demand."

"We need to develop more new sources of renewable energy, and we need to make it easier for companies of all kinds to use renewable energy," said **Bill Weihl,** director of sustainability at Facebook. "We know from our experience with initiatives like the Open Compute Project that openness and collaboration help everyone move faster, and we're excited to work with the other founding members of REBA to help green the grid. Together we will all have a much greater impact."

http://www.wri.org/news/2016/05/release-renewable-energy-buyers-alliance-forms-power-corporate-movement-renewable

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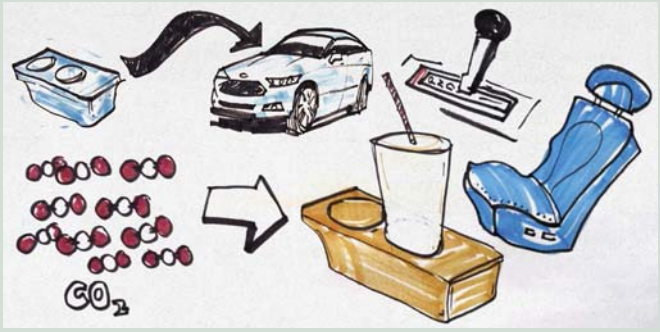
Ford to Use Captured CO_2 to Develop Foam and Plastic

Ford Motor Company is the first automaker to formulate and test new foam and plastic components using carbon dioxide as feedstock. Researchers expect to see the new biomaterials in Ford production vehicles within five years.



Preserving Mother Earth: Ford First Automaker to Use Captured CO_2 to Develop Foam and Plastic for Vehicles (Source: www.businesswire.com)

Formulated with up to 50% CO_2-based polyols, the foam is showing promise as it meets rigorous automotive test standards. It could be employed in seating and underhood applications, **potentially reducing petroleum use by more than 600 million pounds annually**– enough to fill nearly 35,000 American homes. CO_2-derived foam will further reduce the use of fossil fuels in Ford vehicles and increase the presence of sustainable foam in the automaker's global lineup.

For nearly two decades, researchers have worked successfully to develop sustainable materials for Ford products. **Soybeans are turned into seat foam; kenaf is used in door bolsters; recycled T-shirts and denim go into carpeting; and recycled plastic bottles become seat fabric.**

Ford began working with several companies, suppliers and universities in 2013 to find applications for captured CO_2. Among them is Novomer – a New York-based company that utilizes carbon dioxide captured from manufacturing plants to produce innovative materials. Through a system of conversions, Novomer produces a polymer than can be formulated into a variety of materials including foam and plastic that are easily recyclable.

Shell Creates Green Energy Division To Invest In Wind Power

Shell, Europe's largest oil company, has established a separate division, New Energies, to invest in renewable and low-carbon power. The move emerged days after experts at Chatham House warned international oil companies they must transform their business or face a "short, brutal" end within 10 years.

Shell's new division brings together its existing hydrogen, biofuels and electrical activities but will also be used as a base for a new drive into wind power. With $1.7bn of capital investment currently attached to it and annual capital expenditure of $200m, New Energies will be run alongside the Integrated Gas division, *The Guardian* reported.

Shell is playing down the importance of New Energies for fear it will be written off as a "greenwash" exercise by environmentalists, but said the company believes the new business could become very big – although not for a decade or more. It is unlikely Greenpeace and others will be impressed by New Energies, given that the division's annual spending level is less than 1% of the total $30bn Shell pumps into oil and gas. Shell had announced it would be **bidding in a partnership to build two windfarms off the Dutch coast that will be big enough to power 825,000 households.**

Shell already holds interests in nine other wind projects in North America and Europe, although spending on wind, solar and hydrogen projects was suspended by former chief executive Jeroen van der Veer in 2009. A substantial solar operation had been largely sold off three years before that.

The Guardian quoted Paul Stevens, a fellow at the Chatham House think tank, who said in a research paper that the oil majors were no longer fit for purpose – hit by low crude prices, tightening climate change regulations and wrong-headed strategies. He argued that **the only way forward for the companies lay in diversifying into green energy, drastically reducing their operations or consolidating through mega-mergers.**

"The prognosis for the IOCs [international oil companies] was already grim before governments became serious about climate change and the oil price collapsed … their old business model is dying," said Stevens, a visiting professor at University College London.

Heathrow & Gatwick World's Most Sustainable Airports


heathrow airport MHE030 (vizts.com)

Two airports in London, **Heathrow** and **Gatwick**, earned multiple certifications to the **Carbon Trust Standard** for their exceptional environmental performance. Heathrow has become the first airport in the world (and only the fifth organization in the world) to simultaneously hold four certifications, while Gatwick is now one of only a handful of organizations to hold triple certification.

The Carbon Trust Standard is a world-recognized independent certification awarded for progress in environmental performance across two year periods. The Carbon Trust added its Standard for Waste and Standard for Water in 2013 and its supply chain certification in 2015, alongside that for carbon. Those awarded this spring are based on corporate performance between January 2014 through December 2015.

Heathrow Airport, the busiest airport in the United Kingdom, was recognized for reducing its carbon emissions by 5%, reducing its overall water use by 3.9% and 3.1 % per passenger, and reducing its waste by 3.1% per passenger. **Heathrow is the first airport and fifth organization in the world to receive the Standard for Supply Chain.**

The airport's top 20 suppliers account for 76% of its total supply chain carbon emissions. To influence these and its other suppliers, the company established the Heathrow Sustainability Partnership, a forum to deliver practical solutions such as the airport's Energy Code of Practice.

Heathrow Airport has succeeded **switching 70,000 lights across the airport to LEDs, retiring its old terminal 1 along with its out-of-date toilet and pipe systems, and composting 1,800 tonnes of food waste.**

To build on its progress this year, Heathrow released new guidelines for its food and beverage retailers to help reach sustainability targets, and revealed plans for a web portal aimed at consolidating freight loads to decrease the amount of trucks generating emissions around the airport.

CaseStudy - Pradhan Mantri Gram Sadak Yojana

Citizen Monitoring of Infrastructure – Experiences from a project on PMGSY Roads

Sound infrastructure is a necessity as it impacts many other sectors in making it crucial for national development. The nature of infrastructure is such that all development projects involve huge amount of money. An engineer once joked that the hardest part of his job was to count the zeros in such project budgets.

India's villages, home to two-third of the country's population, remain largely disconnected without all-weather roads even as late as 2000. The Pradhan Mantri Gram Sadak Yojana (PMGSY) was launched to redress this with an object to provide an all-weather access to around 1.7 lakh hitherto disconnected habitations. The National Rural Road Development Agency (NRRDA) was created to oversee the implementation of the scheme under which 4,27,399 km of roads have been constructed till date **(Source: Official PMGSY information portal)** with a spending of Rs. 11,74,86,05,25,000. In rural areas, a road is much more than a tool for transportation; it is a lifeline that spells the difference between life and death. A road decides whether crops reach market on time or whether a woman in labour reaches the hospital on time.

Context

To bring in citizen monitoring into a complex sector such as infrastructure, Public Affairs Centre initiated a project on infrastructure monitoring of PMGSY roads in partnership with the World Bank and NRRDA in 2005. PMGSY roads were an ideal place to start, considering the dispersed nature of the project (making monitoring harder) and criticality of a rural road. A citizen friendly toolkit was developed that could be used by anyone with minimal training to test the parameters of a road. PAC initiated the process in Tamil Nadu and later in Karnataka and Orissa. The tools were tested on the field and the process was modified accordingly.

Process of Laying Plastic Roads (Source: tce.edu)

The process was then implemented on select roads in Rajasthan, Meghalaya and Jharkhand. With further improvements to the process, citizen monitoring is currently used in seven states. The process has evolved over the years and currently involves identifying volunteers through organisations with a presence at grass root level in states, training them, collecting the report on roads through them and presenting the findings to NRRDA and the various State Rural Road Development Agencies (SRRDAs) who thereafter act on the findings.

A second round of monitoring is also undertaken to study the changes or improvements that have been made on these roads. At the end of the process meetings are held in each state bringing together the government, contractors, civil society and citizens to share the findings of two rounds of citizen monitoring.

Throughout the process, a sense of ownership is instilled among villagers towards their village roads and a 'buy-in' is created among the villagers regarding their role in monitoring the construction and maintenance of 'their' roads. Awareness is also created regarding avenues for grievance redressal, putting up posters, screening of documentary films and Gram Sabhas. The larger objective is to fine tune and put in place a robust and sustainable process that could be implemented across the nation using the residents of a village to continuously monitor their own roads.

Policy Impact

A success of the programme has been that the implementing government agency has been in partnership with PAC in the pilot stage and owing to the success of the pilot projects, the government is considering a policy shift to include the citizen monitoring component within the PMGSY guidelines. PAC firmly believes that the right knowledge in the right places can do wonders. A policy change should not limit itself to inputs from intellectuals but should also be based on evidence from the grass root level.

The pilot study has identified instances where contractors have taken up and completed roadworks that were idle for months, trained volunteers were contacted by villagers from the neighbouring villages to monitor the roads , engineers from implementing agencies came with project proposals and provided reasons as to why some work was inappropriate and what action had been initiated and the volunteers have been instilled with a confidence that their voice matters and that they can create change. Citizen monitoring is an idea whose time has come.

(The author Sebin Nidhiri is a Program Officer with the Citizen Action Support Group in PAC that is working on Citizen Monitoring of PMGSY roads. He tweets at @sebinbn)

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Obituary

Sir David MacKay

Climate Change Fighter Through Numbers, Not Adjectives

At 48, **David MacKay** can easily be called a super achiever. In 1999, he invented Dasher, a keyboard-free text-inputting program that uses a predictive language model to allow users to write efficiently using eye movements, head movements or even breathing.

He contributed to the development of low density parity check codes. LDPC codes are now employed in varied applications such as computer disk drives, mobile phone networks, digital broadcasting and Wi-Fi, ubiquitous but essential components of our modern world.

But Sir Mackay is famous for his book **'Sustainable Energy — Without the Hot Air'** published in 2008. Bill Gates praised it as "one of the best books on energy that has been written". Within two years it had sold 40,000 copies. The book's free digital version is reported to have been downloaded nearly half a million times. (download for free @ www.withouthotair.com).

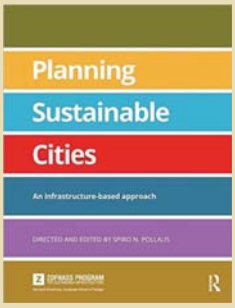
This book has earned Sir David MacKay, who died of stomach cancer in April 2016, cult status in the field of climate change and the future of energy. A mathematician at heart, his book cut through the chaff and argued for energy consumption management/transformation using hardcore numbers. His famous quote is - "We need numbers, not adjectives," to compare the energy realities of everything from solar power to air travel to vegetarianism.

Since 2008, a lot has happened to the world of energy. Even though the price of fossil fuel is at one of its lowest, since the last year or so, and may stay that way for another year, there is no visible let up in the momentum on building substantial capacity of renewable energy all over the world, especially in China and India.

There's still lot to be done – especially distribution of renewable energy and also making fossil fuels like coal more clean. The more we apply real numbers to solve the impending energy and climate crisis, the better off we could be. That would be our real tribute to Sir MacKay.

- By Benedict Paramanand

BOOKSHELF



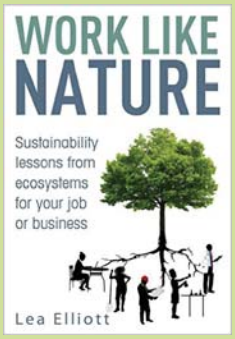
Planning Sustainable Cities: An infrastructure-based approach

by Spiro N. Pollalis, Routledge, May 2016

Planning Sustainable Cities: An infrastructure-based approach provides an analytical framework for urban sustainability, focusing on the services and performance of infrastructure systems.

The book approaches infrastructure as a series of systems that function in synergy and are directly linked with urban planning. This method streamlines and guides the planning process, while still highlighting detail, each infrastructure system is decoded in four "system levels". The levels organize the processes, highlight connections between entities and decode the high-level planning and decision making process affecting infrastructure. For each system level strategic objectives of planning are determined.

The objectives correspond to the five focus areas of the Zofnass program: Quality of life, Natural World, Climate and Risk, Resource Allocation, Leadership. Developed through the Zofnass Program at the Harvard Graduate School of Design, this approach integrates the key infrastructure systems of Energy, Landscape, Transportation, Waste, Water, Information and Food and explores their synergies through land use planning, engineering, economics and policy. The size and complexity of infrastructure systems means that multiple stakeholders facing their own challenges and agendas are involved in planning; this book creates a common, collaborative platform between public authorities, planners, and engineers. It is an essential resource for those seeking Envision Sustainability Professionals accreditation.



Work Like Nature: Sustainability lessons from ecosystems for your job or business

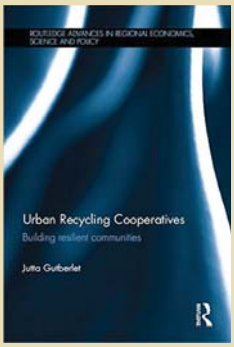
by Lea Elliott, Naturehood, June 2016

Do you want to take action at work that will benefit you, your job and your community as much as it helps the environment? Lea Elliott's Work Like Nature presents lessons from nature to help you make sense of sustainability and start making a difference.

These ecosystem ideas are illustrated through inspiring stories from Vancouver-area green innovators. See how these bright thinkers from a variety of disciplines work like nature to benefit the environment and, surprisingly, to win at their job or business.

You'll see how a city secures its energy needs, a community designs a dynamic waterfront, and an entrepreneur protects our oceans. You'll also discover how a diversity of flowers growing in a blueberry field fortifies our food supply, how turning manure into renewable natural gas can in fact protect our water, and how views of nature make us healthier. Exercises and examples in each chapter will help you apply these lessons to your own work.

By simply looking outside, you can gain insights to help you protect the environment, grow the green economy, build resilient communities and do work you're proud of.



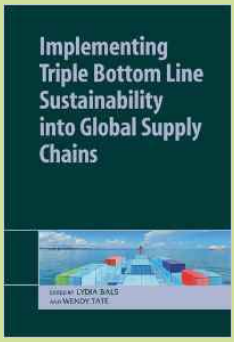
Urban Recycling Cooperatives: Building resilient communities (Routledge Advances in Regional Economics, Science and Policy)

by Jutta Gutberle, Routledge, May 2016

Solid waste is a major urban challenge worldwide and decisions over which technologies or methods to apply can have beneficial or detrimental long-term consequences. Inappropriate management of solid waste can lead to damaging environmental impacts, particularly in the megacities of the Global South.

Urban Recycling Cooperatives explores the multiple narratives and interdisciplinary nature of waste studies, drawing attention to the pressing social, economic and environmental challenges related to waste management. The book asks questions such as: how do we define waste and our relation to it; who is involved in dealing with waste; and what power interactions become manifest over issues of accessing and managing waste? In recent years informal cooperatives have emerged, devoted to recycling household and business waste before reclassifying it and redirecting it to the authorities. Hence, these workers are able to reclaim significant amounts of natural resources and thus contribute to the saving of resources and lessened waste management expenditures.

With particular reference to the Brazilian megalopolis of São Paulo, this book describes this paradigm shift in the general understanding of waste as unwanted discard towards the recognition of waste as a resource that must be recovered for reuse or recycling. It would be of interest to students and policy makers working in international development and waste management.



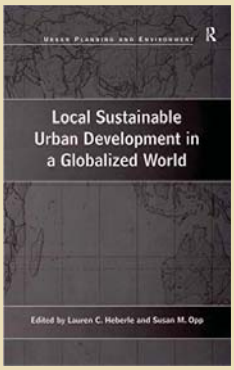
Implementing Triple Bottom Line Sustainability into Global Supply Chains

by Lydia Bals and Wendy Tate, Greenleaf Publishing, May 2016

The global sustainability challenge is urgent, tremendous and increasing. From an ecological perspective, the current worldwide resource footprint requires approximately 1.5 planets to sustain existing life, while the social impact of ever-growing resource use disproportionately affects the world's poor - the 3 billion people living on less than $2.50 a day, as they struggle to acquire what is needed to survive. The serious ecological and social challenges we face in trying to establish global sustainable supply chains must not be underestimated, yet so far research has largely ignored the social dimension in favour of the environmental and economic.

So how can we develop business strategies that move away from a primary economic focus and give equal weight to people, planet and profit? How can we create sustainable supply chains that take a true triple-bottom-line approach?

Implementing Triple Bottom Line Sustainability into Global Supply Chains features innovative research, highlighting new cases, approaches and concepts in how to successfully implement sustainability - covering economic, ecological and social dimensions - into global supply chains. This book is a must-read for any academic researching in sustainable supply chain management, procurement or business strategy, and for business leaders seeking cases that will inform a critical step forward for CSR programmes.



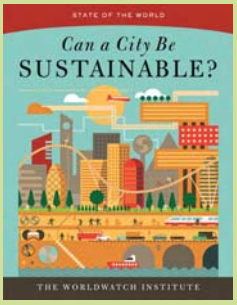
Local Sustainable Urban Development in a Globalized World (Urban Planning and Environment)

by Susan M. Opp, Lauren C. Heberle, Routledge, May 2016

'Sustainable development' is a key issue of concern to urban planners across the globe. How it is defined, implemented and measured at the local level remains highly contested and subject to a wide range of external cultural, political and economic pressures. Bringing together leading experts from North America, Europe, the Middle East and SE Asia, this book provides a timely overview of the various methods for understanding and implementing sustainable practices at local levels. I

In doing so, they present the wide range of local action alternatives available to planners that may be pursued in spite of the constraints generated by globalization processes and highlight the array of public policy options that could reduce the external pressures shaping the possible local alternatives.

The book argues that, while local planners and local authorities are willing to act, many are unaware of the range of options available to them. In bringing together these case studies, not only diverse in geographic terms, but also reflecting very different levels of income, general population education, cultural norms, legal systems and government structures, it points out innovations and examples of best practice.



Can a City Be Sustainable? (State of the World)

by The Worldwatch Institute, Island Press, May 2016

Cities are the world's future. Today, more than half of the global population—3.7 billion people—are urban dwellers, and that number is expected to double by 2050. There is no question that cities are growing; the only debate is over how they will grow. Will we invest in the physical and social infrastructure necessary for livable, equitable, and sustainable cities? In the latest edition of State of the World, the flagship publication of the Worldwatch Institute, experts from around the globe examine the core principles of sustainable urbanism and profile cities that are putting them into practice.

State of the World first puts our current moment in context, tracing cities in the arc of human history. It also examines the basic structural elements of every city: materials and fuels; people and economics; and biodiversity. In part two, professionals working on some of the world's most inventive urban sustainability projects share their first-hand experience.

Success stories come from places as diverse as Ahmedabad, India; Freiburg, Germany; and Shanghai, China. In many cases, local people are acting to improve their cities, even when national efforts are stalled. Parts three and four examine cross-cutting issues that affect the success of all cities. Topics range from the nitty-gritty of handling waste and developing public transportation to civic participation and navigating dysfunctional government.

Throughout, readers discover the most pressing challenges facing communities and the most promising solutions currently being developed. The result is a snapshot of cities today and a vision for global urban sustainability tomorrow.

Courses - Degree/Diploma

M.A. in Ecology, Environment & Sustainable Development

Tata Institute of Social Sciences

http://campus.tiss.edu/guwahati/programs/master-degree-programmes/ma-ecology-environment-and-sustainable-development

Master of Business Administration in Natural Resource Management & Sustainable Development

Amity School of Natural Resources & Sustainable Development

www.amity.edu/asnrsd

Science and Management for Sustainable Living

www.bhoomicollege.org

Post Graduate Diploma Course in Sustainable Development (PGDM-SD)

http://bimtech.ac.in/

M.Sc. in Sustainable Development - Distance learning Course + information

The Global Open University

http://nagaland.net.in/

Post-Graduate Certificate in Sustainable Enterprise

Indian Institute for Sustainable Enterprise

http://theiise.net/pgcertinse.html

Postgraduate in Sustainability Management

Silver Bright Institute of Management

http://www.htcampus.com/college/silver-bright-institute-management-sbim

Post Graduate Diploma in Sustainability (Distance learning)

Chhattisgarh University

http://www.cguniversity.com/

Post Graduate Diploma

IGNOU- Indira Gandhi National Open University

http://www.ignou.ac.in/

MBA in Environmental Science

School of Management & Infrastructure and Development Studies

http://www.minds-india.org/

Master of Architecture (Sustainable Architecture)

Bharati Vidyapeeth Deemed University

http://www.bharatividyapeeth.edu/Campuses/Pune/default.aspx

MBA and MA in Sustainability Management

TERI University

http://www.teriuniversity.ac.in/

M Tech, MSc Environmental Science

Thapar University

http://www.thapar.edu/

PG Diploma

Entrepreneurship Development Institute of India

http://www.ediindia.org/

M Tech in Environmental Engineering

The National Institute Of Technology, Tiruchirappalli

http://www.nitt.edu/home/

Advanced Diploma in Bio Degradable & Solid Waste

Vellalar College for Women

http://www.vellalar.com/Arts/carrer-oriented-programmes.php

PhD in Environmental Science

Gauhati University

http://www.gauhati.ac.in/

MSc in Environmental Science

Dr Babasaheb Ambedkar Marathawada University

http://www.bamu.net/dept/environment/

Advanced Diploma in Energy

Vidya Prasarak Mandals Polytechnic

http://www.vpmthane.org/polywebnew/courses.html

BSc in Environmental Science

University of Calicut

http://www.universityofcalicut.info/

PhD in Environmental Science

Punjab University

http://puchd.ac.in/

MSc in Environmental Science

Bharathiar University

http://www.b-u.ac.in/

MA in Environmental Economics (Distance Learning Course)

Annamalai University

http://www.annamalaiuniversity.ac.in/

PhD in Environmental Bio-Technology & Solid Waste Management School of Environmental Sciences

Jawaharlal Nehru University

http://www.jnu.ac.in/main.asp?sendval=SchoolOfEnvironmentalSciences

MBA in Energy & Environmental Science

Symbiosis Institute of International Business

http://www.siib.ac.in/programmes.aspx

Send Names & Details About Courses Related With Sustainability To uma@managementnext.com

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- Structured/Trade Finance Managers
- Projects Managers
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- Investor Relations

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- Natural gas E&P
- Gas/LNG trade, shipping, transmission, distribution
- Government agencies
- Gas based power generation
- Gas/LNG related project finance, asset management, hedge funds, equity/fixed income
- Petrochemical
- Gas pipeline and high pressure transportation

Course Highlights

- Global gas/LNG market and market structure
- Current gas/LNG trading activities in Europe, USA, Asia Pacific, Africa, Atlantic and Middle East region
- Principles and formulation of gas/LNG Sales and Purchase Agreement (GSPA/SPA) and Gas Transportation Agreement (GTA)
- Contract terminology and construction - operational, commercial and legal basis of gas, LNG and Gas Transportation Contracts
- Gas/LNG pricing strategy and price indexation in a competitive gas market
- Contract negotiation - best practice techniques

Key Learning Objectives

- Background knowledge to facilitate gas/LNG sourcing decisions
- Understanding current trends of the gas organisation structure
- Knowledge of the underlying reasons for gas contract terms and conditions
- Sufficient knowledge enabling construction of gas, LNG and gas transportation contracts
- Expertise for contract negotiation
- Techniques of gas/LNG pricing in a competitive market
- Understanding of operation of trading hubs, spot and arbitrage
- Knowledge of transportation tariff determination methodologies

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Course Highlights

- Global and local legal and commercial framework in Asia, Middle East, Africa, Europe and the CIS
- Contract negotiation best practices
- Tips on contractual risk mitigation
- Contract financing and project structuring
- Contractor relationship management
- Clause-by-clause discussion based on an actual contract precedent

Key Learning Objectives

UNDERSTAND the current finance market for EPC contracts
MANAGE legal risks and environment for EPC contracts in the region
DISCOVER alternative procurement options for projects and the risks and opportunities associated with these options
DISTINGUISH new and effective contract negotiation strategies
ANALYSE the types of claims that may be made under EPC contracts and develop strategies to manage these claims
GAIN INSIGHTS into the best current dispute resolution options and the risks and costs associated with each option

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- Qatar Petroleum

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- KBC Bank NV

"Interesting explanation of every clause of the contract (i.e. the thorough assessment of an EPC contract)."
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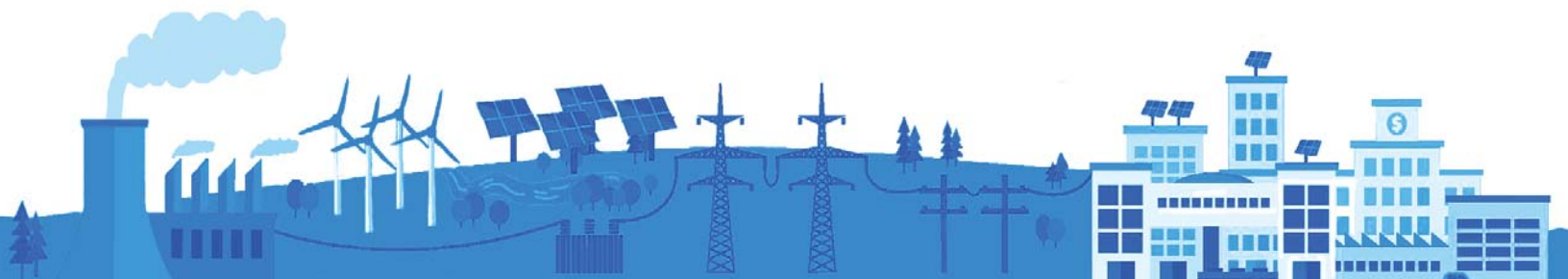

Events

Conference on Defence Manufacturing Technologies, Theme: Defence Indigenization - Window of Opportunities
3rd June 2016: 0930 Hrs - Hotel Crowne Plaza, Chennai
Contact: k.s.johnson@cii.in

IRCA UK Approved ISO 22000:2005 Food Safety Management Systems (FSMS) Lead Auditor Training Program (5 Day Event)
June 06, 2016, FICCI, New Delhi
Contact: mritunjay.kumar@ficci.com

2nd CleanTech Summit
10 June 2016, Hotel Radisson, Noida
Contact: rohin.agarwal@cii.in

SOLBIZZ – "Understanding Solar Business"
11-12 June 2016, MGIRED, Bangalore
http://www.s-sparq.com/solar_workshop.php?edit_id=7

International Conference on Water Management
17th June 2016, Hotel Hilton, Chennai, INDIA
http://cii.in/EventsDetails.aspx

Training Programme on Warehouse, Risk, Safety & Ergonomics
27-28 June 2016, Pune
Contact: t.pramila@cii.in

2 days Conference on "Agri Supply Chain 2016"
23 & 24 June, 2016, The Lalit Mumbai,
Sahar Airport Road, Andheri East, Mumbai
Contact: riyaz.jaffer@cii.in

Three days conference on "E2E Trimodal Supply Chain - Tackling Future"
27, 28 & 29 July 2016, Crown Plaza, Gurgaon
Contact: cii.ice@cii.in

Strategic Workforce Planning
15 - 18 August 2016, Johannesburg
Contact: http://www.infocusinternational.com/workforce

Project Financial Modelling
22 - 25 August 2016, Singapore
http://infocusinternational.com/financialmodelling
Contact: reanne@infocusinternational.com

Power Purchase Agreement (PPA)
30 August - 2 September 2016, Johannesburg
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Succession Planning, Performance Management, and ROI on Training & Development
10 – 13 October 2016, Johannesburg
http://www.infocusinternational.com/successionplan/

Indian Conference on Life Cycle Management (ILCM) 2016
17-18 October 2016, Federation House, Tansen Marg, New Delhi
http://indialca.com/upcoming-events.html, ilcm@ficci.com

PowerWeek
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