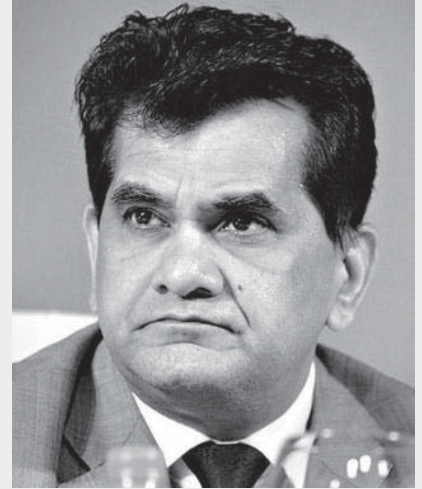


Smart Cities Need Smart People

India is in the process of building 100 smart cities and is adding many more to the list. What is 'smart' about a smart city has been a question on the minds of people who wonder how all this would translate into reality in the next three to five years.

Amitabh Kant, the CEO of Niti Ayog, which is spear-heading the smart cities project, is candid when he said: "You cannot have smart cities without smart people." He believes that only when all individuals become active participants in the transformation of their cities, huge investment in smart cities would be worthwhile.



Amitabh Kant, CEO, Niti Ayog

Addressing the 2016 World Sustainability Summit organized by The Energy & Resources Institute (TERI) in Delhi early October 2016, he said: **"Only when good governance become good politics, India can hope to achieve the 'quantum leap' in its urban spaces management."**

Unlike the West and China, whose cities are already built and are built with car as the central means of transport, India has the huge advantage of adopting public transport system which is less severe on the environment. Globally, 82% of the emissions are from urban spaces. "We cannot afford unplanned cities," he warned.

India has been very aggressive in the way it is going about its business of creating a new urban India. Many of the 50 metro rail projects are in several stages of completion. India has a very ambitious plan of building 175 gigawatts of producing renewable energy by 2022.

"Sustainability is about caring for future generations. The way we are going about, especially with the use of water, we are ruining our own generation." He was citing the abysmal way water is being managed in Punjab, Haryana and Uttar Pradesh.

He said without restructuring the education, health and nutrition sectors, India cannot hope to transform into a smart country.



TOP STORIES 2-6

'India is Very Serious About Climate Change'
Ashok Lavasa



CM Wins Major Award for Making Sikkim India's First Fully Organic State

New Standard for Green Agriculture

Want Green Tribunal in Every State
Lele

World Needs \$One Trillion a Year to Achieve Paris Agreement Goals



TOP NEWS 7-14

3 Indian Cos in Top 20 in Asia Corp Sustainability Ranking

Dr. Reddy's Joins DJSI

5 Firms Forced to Comply with HFC-23 Norms

Osram Lights Up the Idea of a Smart City

Interview – **Dr. Anil Gupta**
Indian Businesses Have No Hunger for Innovation 15



BookReview 17
Books Courses Events



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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India is Very Serious About Climate Change



Finance secretary Ashok Lavasa

Finance secretary Ashok Lavasa says his previous stints as aviation secretary and environment secretary has helped him form a sharp perspective about the on-going dialogue on India's sustainable development future. Speaking at the World Sustainability Development Summit 2016 organized by TERI early October, he emphatically said: "India is very serious in what it has to do."

He said the National Institution for Transforming India (NITI Ayog) is clued into the ongoing dialogues on world sustainability development goals. He said India believes it needs to act now.

Any project or initiative has the chances of success in India only if it adheres to the golden rule of – availability, accessibility and affordability. He said solar power has a massive potential for decentralizing power (unlike the big power stations).

He said India is one of the biggest green energy markets for the world to invest. "Global resources can solve problems, not global resolutions."

He said he is aware of the higher financial cost of renewable energy in India because of the hedging risk which is 6% while it is half that globally. The government is working on this along with the demand for credit enhancement which could bring down the cost of solar and wind power significantly.

One of the speakers observed that the cost of solar power in the Middle East was 3 cents/kwh while it is currently 7 to 8 cents in India. This is largely because of the higher cost of finance – which is about 11% on debt and 13% on equity. India's cost is likely to drop to 4 or 5 cents/kwh in the next four to five years.

In his previous stint as environment secretary, Lavasa had simplified procedures for environmental clearance and brought down the time for issuing clearances from around 600 days to 190 days. The environment ministry will now look up to him to be generous with funds for many of its projects.

A close-up portrait of Mr. Pawan Kumar Chamling, the Chief Minister of Sikkim. He is wearing dark-rimmed sunglasses and has a mustache. The background is blurred green foliage.

Sikkim First Fully Organic State CM Wins Major Leadership Award

The Chief Minister of Sikkim, **Mr. Pawan Kumar Chamling**, received the prestigious Sustainable Development Leadership Award 2016, for his contributions towards making Sikkim the first fully organic state in India. The award is instituted by TERI (The Energy Research Institute), Delhi.

Under the leadership of Mr. Chamling, the Sikkim government successfully implemented the Sikkim Organic Mission Project. The mission helped make organic seeds and manures widely available, helped farmers market their agricultural produce, and provided the farmers with advanced training in organic farming. Sharing his view on receiving the award, Mr. Chamling said “I am deeply touched and humbled by the Sustainable Development Leadership Award bestowed on me.

This award is a validation of our efforts towards protection and conservation of nature. It is recognition of our vision of sustainable development, which we have pursued with our programs and policies since the last 22 years, making it a priority for our government to ensure that development and environmental protection go hand in hand. Today, Sikkim is a frontrunner and a torchbearer in many spheres. I thank the people of Sikkim for their continued support and dedicate this award to them.”

Dr. José Manuel Durão Barroso, Former President of the European Commission & Former Prime Minister of Portugal; HE Mr. James Alix Michel, President of the Republic of Seychelles; HE Mr. Felipe Calderón Hinojosa, President of Mexico, have been some of the recipients of this prestigious award over the years.

The Summit is also an attempt to initiate discussions on methodologies to be adopted in order to envisage a plan to realize the Goals beyond 2015. The idea is to create a common platform for countries to identify opportunities for consensus and collaboration to balance the realities of ecosystem preservation with aspirations for a holistic economic development. The WSDS (World Sustainable Development Summit) has been the flagship conference of TERI since 2001. It is a global forum that seeks to provide long-term solutions to protect this planet. Held annually, WSDS is the only event of its kind in the world with participation by global stakeholders—multilateral and bilateral development organizations, governments, the corporate sector, non-governmental organizations, and academic and research institutions.



New Standard For Sustainable Agriculture Certification

The 2017 SAN Standard is now available at www.san.ag and will come into force from July 2017

The Sustainable Agriculture Network (SAN) and the Rainforest Alliance have announced a newly revised certification standard, which encompasses existing best practices and recent innovations in sustainable agriculture. Built around the guiding principles of effective farm planning and management, protection of biodiversity and natural resources, and improved livelihoods, **the 2017 SAN Standard is designed to enable more producers to embark and then continually progress on their journey toward sustainable farming.**

The **2017 SAN Standard** aims to support farmers in advancing sustainable livelihoods, improving farm productivity, and becoming more resilient to climate change. Changes of note include the following:

- Climate-smart agricultural practices are built into the standard to help farmers address climate change risks. By emphasizing soil conservation, water-use efficiency and the conservation and restoration of natural ecosystems, farmers can reduce negative effects of extreme or erratic weather, especially irregular rainfall, changing temperatures, and related increased pest and disease attacks. These same practices also help reduce greenhouse gas emissions from agriculture.



- A key goal of the 2017 SAN Standard is to reduce forest conversion for agriculture, the leading cause of deforestation, especially in the tropics. Forest protection is mandatory for Rainforest Alliance Certified™ farms. The standard prohibits conversion of natural ecosystems after 2014, protecting both primary and secondary forests, as well as ecosystems such as wetlands and natural grasslands. Further, no destruction of ecosystems designated as “High Conservation Value” may have taken place after November 2005.
- One important innovation in the 2017 SAN Standard is its “Continuous Improvement Framework.” This framework defines three performance levels and requires time-bound investments and improvements related to water quality, waste management, soil conservation, working conditions, living wages, and other key elements of sustainability.
- Stricter requirements related to human rights issues cover worker housing, sanitation, and safety, as well as rigorous gender and child labor protections. The 2017 SAN Standard also includes mandatory requirements for farms to have effective ways for employees to make complaints and file grievances.
- The 2017 SAN Standard includes a substantially more rigorous framework for integrated pest management and the safe use of pesticides. **The 2017 SAN Lists for Pesticide Management prohibits the use of 150 substances in alignment with the World Health Organization (WHO)** and the Food & Agriculture Organization of United Nations (FAO) parameters. The document also includes 170 additional substances which are permitted only under rigorous controls that help reduce negative impacts on human health, aquatic life, and wildlife, including pollinators.

These 170 substances can be applied only under strict safety measures, such as restricting aerial fumigation in order to avoid contamination of natural ecosystems and to protect workers and bystanders, according to several conditions within the standard.

The Rainforest Alliance helped convene the Sustainable Agriculture Network in 1998. During its joint history the SAN and the Rainforest Alliance have certified more than one million small, medium, and large farms and farming cooperatives. Today about 3.5 million hectares (8.6 million acres) of farmland, growing 100 crops across 42 countries, are certified.

The 2017 SAN Standard results from an extensive revision process involving multiple stakeholders such as farmers, NGOs, companies, scientific and technical experts; a series of open public consultations; and field-testing in key regions. The new standard was developed according to the Code of Good Practice for Setting Social and Environmental Standards of the ISEAL Alliance, the global association for sustainability standards whose mission is to strengthen sustainability standards for the benefit of people and the environment.

Why Green Tribunal Is Needed in Every State

Sharachchandra Lele, fellow at the Ashoka Trust for Research in Ecology & Environment (ATREE), Bengaluru, believes green tribunals are needed in every state, if not in every district in India to improve governance and compliance of environment laws. Responding to a question at the third Sustainable Smart Cities conference in Bengaluru recently, he said a tribunal only at the centre is not enough to reduce litigation time.



“The average time taken to either acquit or penalize in a magistrate court is seven years. Public prosecutors are able to get only 15% convictions. Nobody has been jailed for pollution so far,” he said.

The first step for improving governance in a city, which aspires to become a smart city, is to ensure that the all provisions of the law and all sanctioned projects are in public domain. It will help property buyers to know well in advance whether the apartment complex has a sanction for sewage treatment plant.

Dr. Lele noted that it is far easier to manage domestic waste in a decentralized way rather than opt for a centralized system. “Treating black water and allowing gray water into the drainage system is a better system instead of mixing the two and letting them into the drainage system,” he said. This was needed because it is difficult for urban wastage infrastructure to catch up with the pace of growth of a city like Bangalore.



Polluted Vrishabhavathi River

Heavy Metal Baby Corns

The gross mismanagement of the Vrishabhavathi river system by the city authorities is resulting in people consuming baby corns and milk which have very high metal content like chromium, zinc, copper, lead, manganese and aluminum. This is due to effluent flow into the river from industries in the Peenya Industrial region in West Bangalore.

ATREE did an extensive field research over a year to show that industries in **Peenya were letting out harmful effluents during the night, which the authorities have denied. But they are not able to explain why baby**

corns grown around the region have high metal content.

“Although farmers are able to reap richer crop they are not aware that their crops are laden with heavy metals,” Dr. Lele said. Because of higher value, farmers have shifted from cultivating ragi and maize to corn and fodder for the dairy industry in recent years. In the near future, high technology like sensors that detect contamination levels would be helpful but that’s some way ahead.

World Needs \$ One Trillion a Year to Achieve Paris Agreement Goals

With the required number of countries ratifying The Paris Agreement, it is a clear signal that the transition to a low-carbon global economy is underway. The process to formally ratify the agreement was one of the fastest in history and highlights the urgency with which the global community is now working to tackle climate change.

Ceres estimates that the world must ratchet up global investment in clean energy by an additional \$1 trillion a year to achieve the Paris Agreement goals. “Global investment in clean energy is currently tracking at about \$300 to \$350 billion a year, which is far short of the Clean Trillion target we need to hit every year to avoid catastrophic climate warming,” according to a Ceres (ceres.org) statement.

Clean Trillion



In order to limit global warming to below 2°C and avoid the worst effects of climate change, the world needs to invest more than an additional \$1 trillion per year in clean energy through 2050 – the “Clean Trillion.” Reaching the Clean Trillion and putting the world on a path to climate stabilization will require shifting capital away from high carbon fossil fuels – the majority of which must remain in the ground – and into clean energy.

“Meeting the Clean Trillion goal will be a tremendous challenge, but

it is achievable if businesses, investors and policymakers join forces. Progress is being made toward increasing clean energy investment and reducing capital expenditures for fossil fuels, although there is an urgent need to increase the speed and scale of global clean energy transition.”

Mapping The Gap

The Ceres report notes that achieving the ‘Clean Trillion’ will require clean energy transition across all sectors, including electric power, buildings and transportation, among others. Ceres and Bloomberg New Energy Finance (BNEF) have teamed up to release **Mapping the Gap: The Road from Paris**, which seeks to underscore how the global transition to clean electric power can be financed. Findings include: (<https://www.ceres.org/issues/clean-trillion>)

- The global renewable energy investment opportunity in the electric sector is massive, at \$12.1 trillion over the next 25 years. Investment in clean power projects must grow rapidly.
- There is a \$5.2 trillion “gap” between the ramped up renewable energy investment that is projected under current scenarios and what is actually needed for the electric sector to meet its share of carbon emissions reductions needed to achieve the Clean Trillion.
- A world working to meet the goals of the Paris Climate Agreement (to limit temperature change to 2°C or below) means investment in new renewable power generation will increase 75% above business-as-usual.
- While the scale of this new investment opportunity is enormous, it is dwarfed by the capacity of global financial markets to unleash the needed investment capital, creating extensive new opportunities for commercial financiers, institutional investors and others.

Wipro Tops Asia Corporate Sustainability Ranking

Wipro Ltd, Infosys Ltd and Tech Mahindra are ranked among the top 20 companies in Asia on corporate sustainability in 2016. 15 Indian companies are among the top 100.

The Channel NewsAsia Sustainability Ranking identifies leading firms in corporate sustainability across ten key Asian economies. The index lists the Top 100 companies with the highest sustainability performance. It also highlights the overall Top 20 companies, and the Top 3 businesses per economy. Territories covered are China, Hong Kong, India, Indonesia, Japan, Malaysia, Philippines, Singapore, South Korea, Taiwan and Thailand.

Channel NewsAsia is an English language Asian television news channel, reporting on global developments, with Asian perspectives, and viewed across 26 Asian territories.

To produce the 2016 Channel NewsAsia Sustainability Ranking, CSR Asia and Channel NewsAsia partnered with leading ESG and corporate governance research provider, Sustainalytics, to assess each company's environmental, social and governance (ESG) performance.

The companies featured among the Top 100 were selected on the basis of their performance across a broad range of ESG indicators tracked in Sustainalytics' client interface portal, Global Access. These companies rank at the top of their respective industries in their region, in areas such as environmental initiatives, impact on local communities, treatment of employees and supply-chain management.

The Sustainability Ranking is based on available disclosure as of July 2016. Covering a diverse set of industries, the Top 100 companies must demonstrate strong public disclosure on company-wide ESG management and performance. Sustainalytics assesses the breadth and quality of a company's ESG disclosure, in part, by its level of involvement in key transparency initiatives such as the Global Reporting Initiative (GRI) and the Carbon Disclosure Project (CDP).

Wipro Ltd

Wipro acknowledges the implications of climate change and has identified various risks and opportunities that have the potential to have a material impact on its business in light of both regulatory developments and physical impacts of climate change. Its five year GHG mitigation strategy includes targets to reduce the energy intensity of its operations as well as implementation of mitigation programs including energy efficiency initiatives, renewable energy generation and procurement. Wipro commits to doubling its renewable energy procurement by 2020 with 20% of its operations in India being powered by renewable energy sources, a leading industry practice during FY2015.

Infosys Ltd., India, Technology

Infosys' data centres account for the bulk of the company's electricity consumption. Acknowledging the importance of managing its energy use and related GHG emissions, the company has set a target to reduce its carbon footprint by 50% by FY2018 and is increasing its use of renewable energy to meet this

goal, with more than 26% of its FY2016 electricity demand being met using renewable sources. Infosys has also been proactive in retrofitting older facilities in order to lower energy consumption and reports that such retrofits have a payback period of under three years and are expected to result in an energy optimization of nearly 30%.

Tech Mahindra Limited, India, Technology

Tech Mahindra has certain services such as SMART cities solutions, mobility, cloud based solutions, Micro Grid and Energy management services that help its customers manage their environmental and social impacts. These SMART Solutions are implemented in the areas such as Parking, Garbage and Building Energy Management and have the potential to cause up to 30% reduction in GHG emissions. With Indian government looking to create multiple smart cities across the country over the next decade, Tech Mahindra seems well placed to capitalize on opportunities arising from this regulatory push.

Mahindra Lifespaces

Mahindra Lifespace Developers Limited (MLDL) moved up to 28 on this year's list, up 28 places from last year's rank of 56, and was acknowledged for its performance in the areas of product sustainability and human capital development, among other factors. In 2016, Mahindra Lifespaces was also ranked No. 2 in Asia in the Diversified/Listed category of real estate companies, in the Global Real Estate Sustainability Benchmarking (GRESB) report. GRESB is a Netherlands headquartered, industry-driven organisation committed to assessing the sustainability performance of real estate portfolios around the globe.

Source: <http://sustainability-ranking.channelnewsasia.com>

Indian companies in Top 100 companies of the world

RANKING	COMPANY	SECTOR
1	Wipro Ltd.	Technology
7	Infosys Ltd.	Technology
13	Tech Mahindra Limited	Technology
22	Tata Consultancy Services Limited	Technology
27	ACC Limited	Materials
28	Mahindra Lifespace Developers Ltd.	Real Estate
33	Larsen & Toubro Ltd.	Industrials
36	HCL Technologies Ltd.	Technology
47	ABB India Limited	Industrials
54	Tata Chemicals Ltd.	Materials
59	Hindustan Unilever Ltd.	Household & Personal Products
62	Mahindra & Mahindra Ltd.	Transportation & Logistics
64	YES BANK Limited	Financials
69	GlaxoSmithKline Pharmaceuticals Ltd. (India)	Health Care
86	Hindustan Zinc Ltd.	Materials

Source: <http://sustainability-ranking.channelnewsasia.com/top20-2016.html>

Dr. Reddy's on Dow Jones Index

The Hyderabad-headquartered Dr. Reddy's Laboratories has been listed on the Dow Jones Sustainability Indices (DJSI) 2016 in the pharmaceuticals, biotechnology and life sciences industry group.

It is the only pharmaceutical company to be featured among the emerging economies and is the ninth among Indian companies.

The Dow Jones Sustainability World Index came into being in 1999. It is a leading index for ranking global companies on their corporate sustainability benchmark based on 22 criteria covering separate sectors. DJSI tracks leading sustainability-driven companies based on the analysis of financially relevant environmental, social and governance factors.



G.V. Prasad, Co-chairman & CEO, Dr. Reddy's Laboratories

Dr. Reddy's spokesperson noted that the company scored very high on product quality and recall management. It also did well on codes of business conduct and environmental management. It has been recognized for its corporate sustainability leadership.

G. V. Prasad, Co-chairman and CEO of Dr. Reddy's said: "Over the years, Dr. Reddy's has evolved into a global organization built on the foundation of responsible business practices. This has earned us the trust and respect of all the stake-holders we serve. I see our inclusion in the [Dow Jones Sustainability Indices](#) as another validation of our commitment to sustainability in all aspects of our business."

Expedite Outcomes

While most companies are still grappling with the nuances of publishing sustainability reports, DRL is focusing on speed to impact change. The leaders do believe that the world no longer has the luxury of time. "Intentions and actions are no longer enough. It's time we exhibit and expedite outcomes," Mr. Prasad is quoted in Dr. Reddy's Laboratories 2013-2015 Sustainability Report.

Emphasizing the need for speed, the report observes that: "Climate change is no more a forecast. It's a glaring truth....The need for a cohesive triple bottom line approach is not just important but urgent... We believe that impatience is a virtue."

“It's now or never, adapt or perish,” Chairman Satish Reddy is quoted in the report.

DRL is redesigning its packaging to minimize carbon footprint; while choosing to use the sea route to transport its products. Its key focus is on stringent vendor audits through which it has blacklisted several of them. This will have a ripple effect as it would help clean up the vendor part of the supply chain for going green.

India Forces 5 Refrigerator Companies to Destroy HFC-23

In a major development in the ongoing negotiations in Kigali, Rwanda to phase down hydro-fluorocarbons (HFCs), the Indian government has unveiled a domestic legislation that mandates control on the emissions of trifluoro-methane (HFC-23), which is a super greenhouse gas.

HFC-23 is released as a by-product during the manufacturing of a commonly used refrigerant gas, chloro-difluoromethane (HCFC-22). The global warming potential of HFC-23 is 14,800 times more than that of CO₂, making it an extremely potent greenhouse gas.

The legislation requires five Indian companies which manufacture HCFC-22 to capture and then incinerate HFC-23 so that its release into the atmosphere is eliminated. This will potentially avoid emissions of HFC-23 equivalent to 100 million tonne of CO₂ over the next 15 years.



Godrej Complies

Godrej Appliances, one of India's leading players in the home appliances segment, welcomed the finalization by more than 100 countries of an amendment to the Montreal Protocol in Kigali, Rwanda. This amendment will enable this 1987 ozone-protecting agreement to phase-out the use of Hydrofluorocarbons (HFCs), a class of gases that are several thousand times more damaging than carbon dioxide.

The company says it has set a number of benchmarks for the industry including the launch of the first green refrigerator in India (2002), the first 5 star range of DC refrigerators (2008), first green AC in the world (2012), the first green refrigerator with 6 Star Performance (2012), India's first ACs with 7-star performance and the Greenest Inverter ACs in India.

A Centre for Science & Environment (CSE) report notes that the five Indian companies, along with 19 other companies which are mainly in China, have received funds and set up incinerators under the Clean Development Mechanism (CDM) of the United Nations Framework Convention on Climate Change (UNFCCC). During 2007-2013, they destroyed the gas and sold the carbon credits to developed countries under CDM. For every tonne of HFC-23 destroyed, they earned 14,800 carbon credits which translated into billions of dollars. Once the CDM mechanism was discontinued, these companies had no incentives to destroy HFC-23.

Since the collapse of the CDM market, the levels of HFC-23 in the atmosphere have increased. This indicates that HCFC-22 industries continue to emit HFC-23. Estimates show that in the business-as-usual scenario, all the HCFC-22 manufacturing units in the world will release more than 2 billion tonne of CO₂ equivalent of HFC-23 into the atmosphere by 2020. Most of this release will happen in China. However, the domestic legislation of India now ensures that the Indian companies will operate the incinerators and destroy HFC-23.

“Asking for money to destroy HFC-23, when these companies have made so much money from it in the past, is unfair. By enacting a law to make it mandatory for the companies to destroy HFCs, India has shown leadership in dealing with HFC issue. Other developing countries should also follow suit,” said a CSE official.

Whitenife Introduces World's Largest Ethical Gifting Catalogue

Whitenife, a leading player in 'ethical gifting' space, says it has curated the world's largest catalogue with 750+ eco-friendly and socially impacting gifts. The price ranges from ₹6 to ₹35,000. The company works with more than 65 brands & NGOs including WWF, Akanksha Foundation, Conserve India.

When gifting choices are getting fewer even though the size of the corporate gifting industry is around ₹1300 crore, opting for green and cause-related products is becoming cool. Since

Sonia Agarwal, CEO & Founder Whitenife

gifting is part of brand engagement, organizations are beginning to invest their time in finding the right connect. For example, Sonia Agarwal, founder of the company says: "Regular paraffin wax candles are petroleum based and give out toxic gases just like a car exhaust. Our vegetable wax candles not only come in exotic flavors but also are beneficial for health."

For example, Whitenife's **MC2 pocket-squares, scarves** and paintings offer an accurate representation of the universe, captured by NASA's Hubble telescope. 5% of the proceeds from the same are donated towards space scholarship programs.

"The trend of sustainability will be crucial in the coming decades, and the gifting industry is shaping accordingly. 'Gifts that keep on Giving', with the vision of letting gifts multiply itself, to strengthen relationships, conserve the environment, empower communities and repay as a positive ROI," says Ms. Agarwal.

Ms. Agarwal is also a co-founder of educational start-up – Freshmentors and serves on the board of textile giant – Donear Industries Ltd.

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Osram Lights Up the Idea of a Smart City

Source: Infineon.com

From now, no one can get lost in a huge multiplex or a parking lot. Where GPS and Wi-Fi cannot reach, Osram will use light around you to help you connect with the network outside. And when you are in a shopping mall, you may get instant discount on the product you could be staring at to your phone.

“Osram Einstone is the building block in the lighting technology to link the real world and the digital world right where you are. The lighting installation realizes location-based services (Apps), generates customer value at the exact location, supports the efficiency of employees, provides location-based marketing tools and offers analytics for logistics requirements,” states a company note.

Naveen Tumula, director, product marketing at Osram APAC says: “Energy saving is not the only thing a consumer is looking for. The next few years will not only be about energy saving, but about user experience.” Speaking at the third Smart Cities Conference in Bangalore recently he said: “Einstone’s service system is similar to a satellite communication technology. It generates a local GPS signal and enables location based services, like a navigation system.”

Osram, based in Munich, is a global leader in light with a 110 year history. The portfolio ranges from high-tech applications based on semiconductor technology, such as infrared or laser lighting, to smart and connected lighting solutions in buildings and cities. It employs around 33,000 employees worldwide at the end of fiscal 2015 (September 30) and generated revenue of almost €5.6 billion.

Adaptive Lighting

A recent German research alliance has developed smart, high resolution LED headlights, which takes adaptive forward lighting to a new dimension. The project partners are Daimler, Fraunhofer, Hella and Infineon.

The company statement states that “both headlights contain three LED light sources, each with 1,024 individually controllable light points (pixels). This means that the headlight can be adapted very precisely to suit the respective traffic situation to ensure optimum light conditions at all times without dazzling other drivers. The light can be adapted to take account of every conceivable bend in the road so that there are no dark peripheral areas. In addition, with the aid of sensors in the vehicle, the surroundings can be analyzed in order to illuminate oncoming traffic.

This allows the driver to see these vehicles more clearly. At the same time, the beam of light does not shine on the heads of oncoming drivers, which means they’re not dazzled. As a result, such shifting headlights no longer have to be dimmed on country roads.”

Osram & Sustainability

Osram joined the **Dow Jones Sustainability Index** since September 2014. It is considered among the best ten percent in the “Electrical Components & Equipment” industry.

It is part of the **FTSE4Good Index Series** which is designed to measure the performance of companies demonstrating strong Environmental, Social and Governance (ESG) practices. Transparent management and clearly-defined ESG criteria make FTSE4Good indices suitable tools to be used by a wide variety of market participants when creating or assessing responsible investment products. It offers a framework for corporate engagement and stewardship.

It joined the **UN Global Compact** since 2005. UNGC is a call to companies to align strategies and operations with universal principles on human rights, labor, environment and anti-corruption, and take actions that advance societal goals.

Osram's off-Grid Lighting



In 2008 the first OSRAM O-Hub was inaugurated in Mbita, on the shore of Lake Victoria in Kenya. Since then its services have been expanding from pure lighting to mobile charging to water purification. All power required for the respective services of the O-Hub is delivered by photovoltaic panels. Nearly 15 kilowatt peak power (kWp) is installed on the present hubs, providing CO₂-free energy.



Indian Businesses Have No Hunger for Innovation

Prof. Anil K. Gupta has spent the last three decades in discovering hundreds of local knowledge and innovations that could solve most of not only India's but global problems

in a sustainable way. Excerpts of his chat with **Benedict Paramanand** on the sidelines of the Bangalore Business Literature Festival held at IIM Bangalore on September 17, 2016

Myth that Indians cannot work together

The Honeybee Network has so far filed 800 patents but has spent only a negligible amount in doing so. How? This is the story of how lawyers and scientists offered their services for free because they believed in the larger cause of enabling India's grassroots innovation as a viable proposition.

Says Dr. Gupta: "We spent only Rs. 15,000 on filing each patent. Lawyers usually charge Rs. Two lakhs. This is a paradigm shift. Lawyers believe that intellectual property can reside with common people as well, not just with big corporations. Even scientists who are working with us are not charging for their time. They do almost 200 validations a year. The scientists are both from public and private labs."

Dr. Gupta says the success of the Honey Bee Network (HBN) has burst the myth that Indians cannot work for collective goals. He says: "We have perpetuated this myth to legitimize our self-seeking behavior."

This is a brilliant example of how natural, social, ethical and intellectual capital can be converted to financial capital.

Techpedia.sristi.org

This portal has Information about 190,000 engineering projects, from 600 institutions and 5,000 students. The irony is : "This country has never tracked them. If you did, you will get to see how our young minds are trying to solve their problem. SMEs can look at it to solve some of their problems."

Dr. Gupta says nearly 15% of these projects can fly in the market.

Some examples

- It's surprising that cars don't have a spot on the axel where jacks can be fitted so that repairs can happen easily. Three students made a bracket that works and now this can be used for repairing cars easily. No big car company has come up with such a solution.

- Refrigerators produce heat even up to 70 degrees. No manufacturer has come up with an option to capture this heat. One engineer has used a system to capture this heat to warm food.
- At Jawaharlal Nehru University of Advanced Research in IISC campus we gave an award to a student this year for this project. The student found that cancerous cells have more sodium ions and normal cells have more potassium ions. When light is passed through cells cancerous cells with high sodium light up while when it passes through normal cells it does not light up. Using this heuristic, a student could detect breast cancer at an early stage.



SAAL - Organic Vegetables,
Solar Powerd Fly Catcher,
Savayur, Madurai.

SAAL: Sustainable Agro ALliance, with a goal of encouraging farmers in Sevayur, Madurai area to grow organic vegetables as rain is scarce and growing paddy becomes tougher. Connecting farmers with consumers with the support of the agri-preneurs is the goal.

“All these innovations are not ‘jugaad’. Jugaad is a make-shift function.”

‘India is a country of prototypes’

Through HBN, the above projects are published and put out in public domain. “We publish but unfortunately we are not able to convert them into a product. So, some of the students go abroad and get it into a product but no-one will know that the idea emanated from an Indian and in India.”

“More MNCs have come to us in the last three years to take some of our innovations to market; Indian companies hardly come to us. Indian companies have no hunger for innovation.”

“We talk of open innovation today, how many Indian companies are willing to acknowledge innovations with proper agreements, intellectual properties of people?”

Dr. Gupta wants India to offer attractive fiscal and financial support mechanism to support local manufacturers for adapting local innovations to local conditions. India is what it is not for lack of credible ideas, but lack of hunger among manufacturers.”

The good news is that current central government has come out with a plan to generate 10 lakh ideas each year from schools. Two ideas from each school will be picked up for exploration.

This new program did away with the old science model projects where most students used to purchase a model in the market and claim it as their own. Governments used to spend some ₹200 crore on this. The same money can now be spent more purposefully.



Prof. Anil Gupta (right) with Dr. Ramachandra Guha (left) at the Bangalore Biz Litfest 2016
conversing about 'Grassroots Innovation'

Priceless Wisdom of the Common People

Large scale distress among Indian farmers resulting in hundreds of them committing suicides each year is blamed primarily on their financial plight. A closer look into why they get into such a situation, Prof. Anil K. Gupta reveals in his book 'Grassroots Innovation: Minds on the Margin are not Marginal Minds', is because they are not aware, or they have not been made aware of native and frugal solutions that already exist in India.

One such solution is the use of herbicides or in the case of cotton crop, planting of ladies finger plants on the boundaries, can be used effectively to fight pests. Farmers spend a lot of money, borrowed from money lenders, to purchase chemical pesticides, which is one of the main reasons for their debt.

“There is nothing more tragic than to have somebody ending one’s life just because the public extension system and private actors would not share extremely affordable innovations. When an innovation is not only frugal but also sustainable, its lack of diffusion automatically indicates something fundamentally amiss in public policy and the world of public institutions.”

The central theme of Prof. Gupta’s book is this – how incorporating native knowledge into public policy, its large-scale awareness and implementation could save the country a lot of anguish and money. The

challenge for a long time has been collation of such knowledge and disseminating them in an easy and effective way. To some extent that problem is being addressed by the Honey Bee Network, which he co-founded in the 1990s.

Key insights

India has a huge number of largely knowledge rich but economically poor people. Late management guru C. K. Prahalad had said that ‘Indians may be poor, but they are not backward.’ The paradox is that conventional on-farm research has been neglecting the farmers’ wisdom and had no place in institutional research planning.

He writes: “The entire literature on knowledge management seems to have missed the crux of the knowledge economy, i.e., how we reciprocate the generosity of those who share their ideas with us without much expectation of return. **Should those who share such ideas remain poor or should they receive the benefits yielded through such communication?** It is our belief in the network that a more symmetrical relationship between formal and informal sectors will eventually empower, enrich and inspire both.”

He says there are four teachers we can learn from – Teachers within, teachers among peers, the teacher in Nature and the teacher among common people. “These four teachers influence and help forge an open persona, of an individual who is willing to learn to from the community at large.”

India’s New Vision

Prof. Gupta urges Indian not to be “afraid of accepting unorthodox innovations.” This can happen only when research organizations are redesigned, governance systems restructured. The vision requires **“building of bridges between the formal and informal systems of science, technology, manufacturing, services, agriculture, and rural and urban development.”**

This book has a vast spread – includes rich insights about education, learning, about ethics, authenticity and much more. It is a must read for business executives who may be inspired to move out of their cabins and do the dirt rounds across the country. Who knows their next big product can come out an insight of a village boy.

The stories around ‘shodyatras’ is a treat. Students at the Indian Institute of Management Ahmedabad, who get to go for these walkathons, are the luckier lot. Other business schools should incorporate serious interaction with rural communities as part of their curriculum.

Although the book is an easy read, it could have been edited more tightly. The book could have done with fewer pages without losing any of its punch. The concept of frugal could have applied here as well.

Being a teacher, Prof. Gupta doesn’t let anyone go without listing key takeaways. The book ends with highly insightful takeaways – a treasure in itself.

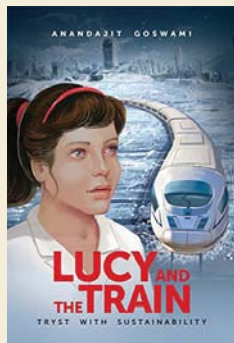
Resources

techpedia.sristi.org

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BOOKSHELF



Lucy and the Train: Tryst with Sustainability

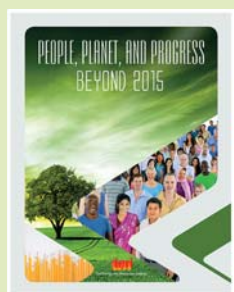
By Anandajit Goswami, TERI Publication, November 2016

Lucy and the Train is a journey of the self that leads to sustainability. Narrating the conflict within self, surroundings, and imagination, it captures the symbolism expressed by René Descartes through his words “I think therefore I am”. The story takes the reader on a surreal journey of sustainability by weaving a complex yet beautiful tapestry of human mind, relationships, and environment.

Lucy boards a train after drinking a magic potion. But she is destined for the journey even before her birth. Every compartment poses a new challenge and an impending threat to the survival of life on Earth. Life is possible, only if she successfully reaches the first compartment and overcomes her nemesis. In this journey, Lucy has to surpass innumerable obstacles and when she finally meets...it is for her to decide the future of humanity!

Anandajit Goswami is a Fellow with the Green Growth and Resource Efficiency Division of The Energy and Resources Institute (TERI), Associate Faculty with Department of Policy Studies, TERI University and has been working with TERI since 2004.

He has co-authored a book titled “Sustainability Science for Social, Economic and Environmental Development” and has co-edited a title – “Economic Modelling, Analysis and Policy for Sustainability”

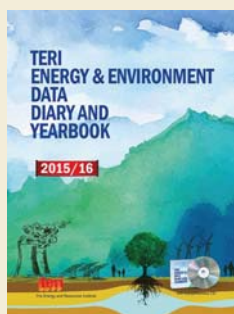


People, Planet, and Progress Beyond 2015

TERI Publication, November 2016

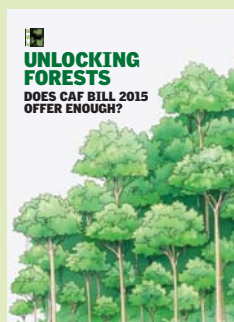
Second in the series of TERI’s annual flagship publication on global sustainable development, People, Planet and Progress Beyond 2015 examines six critical issues of the Planet (climate change, ozone layer depletion, loss of biodiversity, desertification, unsustainable use of natural resources, and environmental pollution) and six crucial issues of the People (food security and safety, health and well-being, education and learning, sustainable habitat, energy for all, and social justice and equity), reviews the Progress made by various regions and countries of the world on each of these issues, and analyses the challenges and opportunities ahead, particularly in the contexts of post-2015 global development agendas, ushered by the Paris Climate Agreement, UN Sustainable Development Goals, and Sendai Framework for Disaster Risk Reduction.

The analysis is supported by primary data from authentic sources on a wide range of indicators that make the volume an invaluable resource material on contemporary discourses on global development.



TERI Energy and Environment Data Diary and Yearbook (TEDDY) 2015/16 (UPDATED EDITION)

TERI Energy & Environment Data Diary and Yearbook (TEDDY) is an annual publication brought out by The Energy and Resources Institute (TERI) since 1986. It is the only comprehensive energy and environment yearbook in India which provides updated information on the energy supply sectors (coal and lignite, petroleum and natural gas, power, and renewable energysources), energy demand sectors (agriculture, industry, transport, residential, and commercial sectors), and environment (local and global). The publication also provides a review of the government policies that have implications for these sectors of the Indian economy. Each edition of TEDDY contains India's commercial energy balances for the last four years that provide comprehensive information on energy flows within different sectors of the economy and how they have been changing over time.



UNLOCKING FORESTS: Does CAF Bill 2015 offer enough?

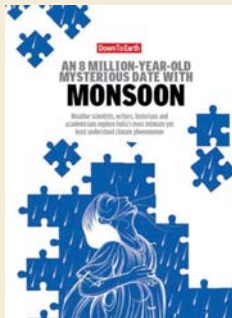
By Ajay Kumar Saxena, Centre for Science & Environment Publication, 2016

The Ministry of Environment, Forest and Climate Change (MoEF&CC) has been entrusted with preserving and improving the forest wealth of the country in the interest of its citizens and national ecological security. The rising demand for forestland for non-forestry purposes, such as mining, hydropower and infrastructure development, has caused MoEF&CC to divert millions of hectares of rich forests. In order to reduce forest cover losses, the Supreme Court of India directed the Central government in 2002 to constitute the Compensatory Afforestation Fund Management and Planning Authority (CAMPA).

As a temporary arrangement, the Ad hoc CAMPA was constituted in 2006 to utilize CAMPA funds by taking up afforestation and conservation activities as a way of compensating for forestland diversions for non-forest uses.

Despite the Supreme Court's direction in 2002 to create a Compensatory Afforestation Fund (CAF), in which all the monies received from user agencies towards compensatory afforestation, net present value, catchment area treatment plan etc. were required to be deposited, such monies continue to be deposited in the Ad hoc CAMPA. Evidently, the money so accrued was haphazardly spent partially by the governments, as pointed out in CAG Report (21 of 2013), while a major chunk of these funds lie idle in various accounts opened in banks for the purpose. In view of the accumulation of massive wealth, to the tune of Rs 42,000 crore, the Centre is now contemplating unlocking this money by creating national and state-level CAFs under public accounts of India by enacting the CAF Bill 2015.

While the CAF Bill, 2015 is a progressive move to streamline the CAMPA process and utilize the massive funds accrued for afforestation activities, there are several inherent threats and opportunities involved. We find that the CAF Bill in its present shape does not address many issues in the Indian forest sector, such as involvement of communities in afforestation and monitoring of compensatory afforestation to ensure survival, forest rights and synergies with other forestry programmes. It is important that the government urgently addresses these issues in the context of our renewed climate change commitments and need to increase productivity and livelihood opportunities in the forestry sector.



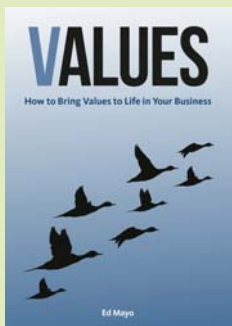
An 8-million-year-old Mysterious Date with Monsoon

Sunita Narain, CSE, August 2016

Weather scientists, writers, historians and academicians explore India's most intimate yet least understood climate phenomenon. Weather scientists, writers, historians and academicians explore India's most intimate yet least understood climate phenomenon.

Have you ever been intrigued by the monsoon, a weather phenomenon that has an impact on our food, health, life and livelihood. Or how it is changing over time and what will be the ramifications? For answers to such questions and more, download your copy of the monsoon book.

The book is currently available in an interactive pdf version that can be downloaded from this page. For kindle version (epub), please contact rchandran@cseindia.org



Values: How to Bring Values to Life in Your Business

by Ed Mayo, Greenleaf Publishing, October 2016

“Never has there been a greater need for this excellent practical guide to the benefits - and pitfalls - of embracing and living the right values in commercial life.”

Brian Groom, former Business Editor, Financial Times

What matters to us? One way of answering that question is through the lens of values, which have a powerful influence on our attitudes and behaviours. Yet it can be difficult for businesses to realise the true potential of values, which is to engage staff, customers and suppliers in an emotional way that touches on their own core motivations.

Drawing on a range of case studies worldwide, this short guide reveals how to make a success of values. By unpacking what we mean by values and ethics and setting out a series of practical approaches, Ed Mayo presents how values can become a natural part of commercial life. The book identifies the pitfalls and the potential of bringing values into the heart of an organisation, from a bank that responds to an ethical crisis through to a fast-growing worker co-operative founded on the values of equality.

There is no one right or wrong set of values, but there is power and potential in making the most of the values that are right for the business you are in. By reading this book, you will find out more about the business that you are, and the business that you could be.

ED MAYO is Secretary General at Co-operatives UK which develops and promotes member-owned enterprises. He is the co-author of Co-operative Advantage, as well as previous books on marketing, banking and micro-finance.

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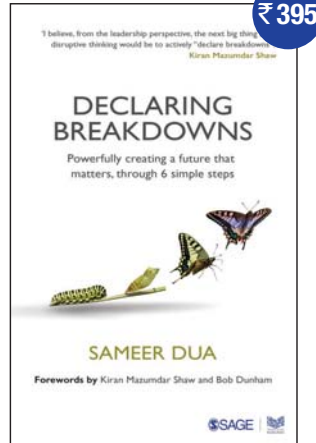
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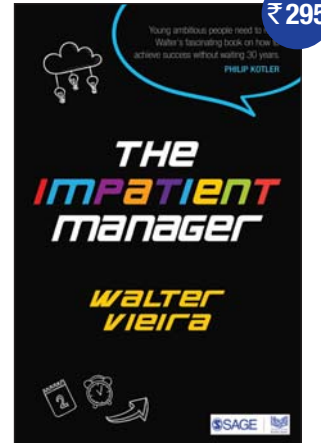
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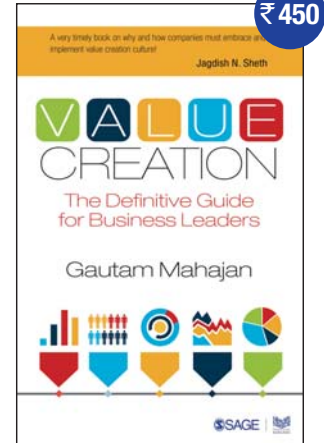
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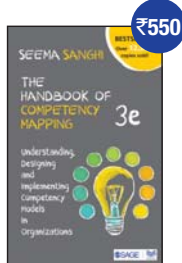
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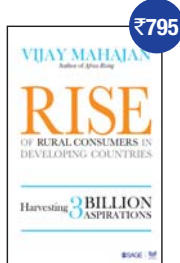
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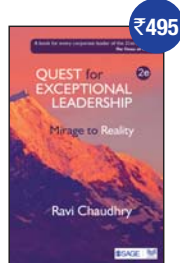
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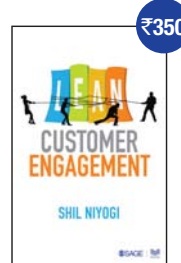
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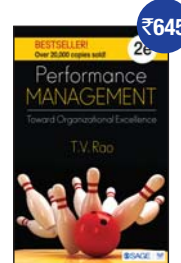
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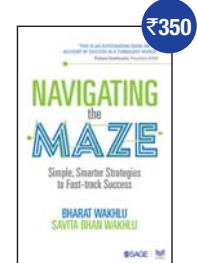
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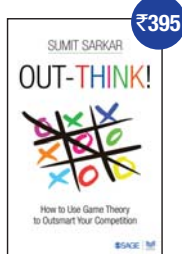
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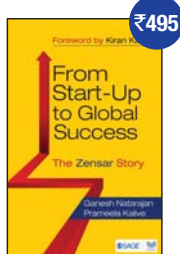
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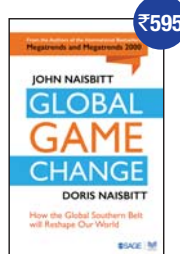
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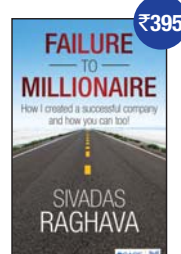
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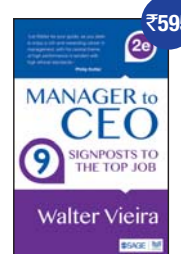
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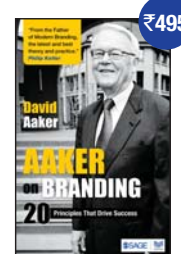
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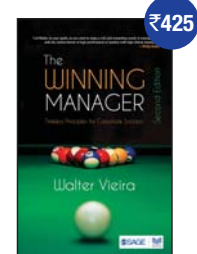
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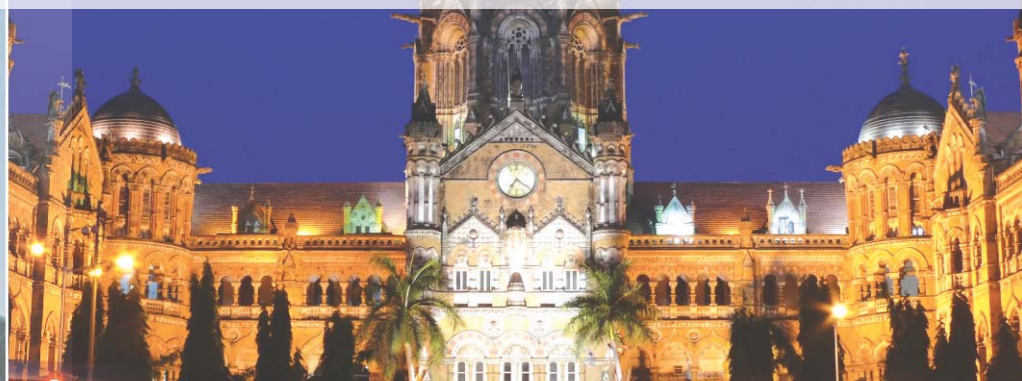
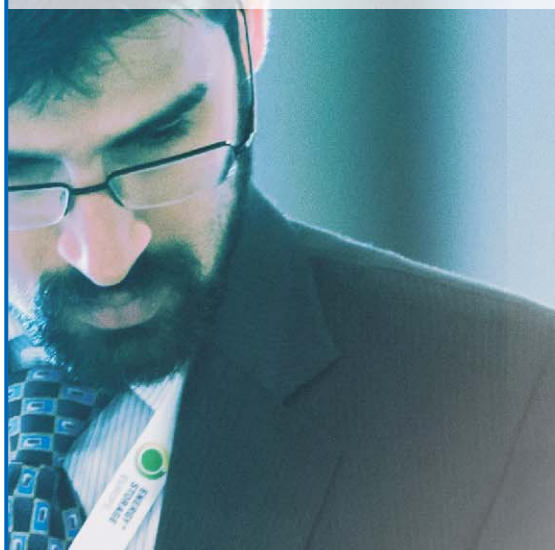
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- Global gas/LNG market and market structure
- Current gas/LNG trading activities in Europe, USA, Asia Pacific, Africa, Atlantic and Middle East region
- Principles and formulation of gas/LNG Sales and Purchase Agreement (GSPA/SPA) and Gas Transportation 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
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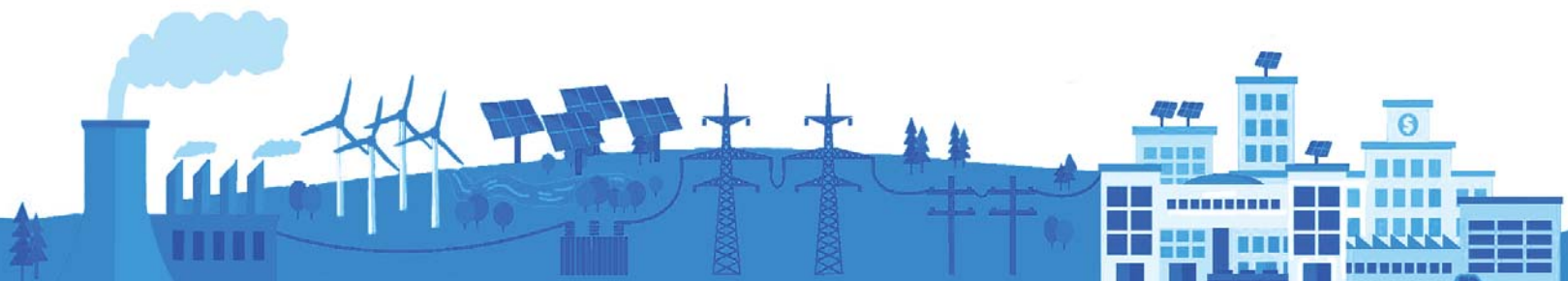
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October 26, 2016, Mercure Hyderabad KCP
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BSR Conference 2016

November 1 - 3, 2016, New York, United States
<http://bsr16.org/>

EICC Responsible Electronics 2016

November 7 - 9, 2016, Santa Clara, United States
https://eicc.swoogo.com/eicc_re16/17437

International Training Programme on Water Sensitive Urban Design and Planning

November 7 - 10, 2016, Cape Town, South Africa
sudhirp@wrc.org.za

Book Release 'Not in My Backyard: Solid Waste Management in Indian Cities'

November 7, 2016, Patna, Bihar
sudhirp@wrc.org.za

PowerWeek

7 - 11 November 2016, Singapore
<http://www.power-week.com/>

Sustainable Futures: Research, Policy & Practice

November 8, 2016, London, United Kingdom
<http://www.eventbrite.co.uk/>

Water SDGs and Future Water Management Symposium

November 8, 2016, London, United Kingdom
<http://www.eventbrite.co.uk/>

REtopia "Democratizing Renewable Energy"

11-12 November 2016, New Delhi
<http://retopia.co.in/>

Training Programme on Corporate Social Responsibility – Planning and Implementation

November 14 - 16, 2016, New Delhi
digvijay@cseindia.org

Training programme on Corporate Social Responsibility – Planning and Implementation

November 17 - 19, 2016, New Delhi
vikrant@cseindia.org

CSE's short-term EIA training programme Understanding Eia: From Screening to Decision Making

November 21 - 25, 2016, New Delhi
digvijay@cseindia.org

Parivartan Sustainability Leadership Awards

November 24, 2016, New Delhi
www.parivartanawards.in

New Research in Military History

November 26, 2016, London
<http://www.eventbrite.co.uk/>

Intergas

November 28 - 29, 2016, Nice
<http://www.gassummit.org/info@bamics.eu>

How to Benefit from Data in Digital Age

November 29 - December 01, 2016, New Delhi
kiran@cseindia.org

Training Programme on Social Impact Assessment

December 12 - 16, 2016, New Delhi
digvijay@cseindia.org

International Training Programme on Water Sensitive Urban Design and Planning

January 16 - 20, 2017, Nairobi, Kenya
wamiti@kewi.or.ke

PRID Sustainability Research Conference

January 19, 2017, London, UK
<http://www.eventbrite.co.uk/>

ATREE@20 International Conference

24-25 January 2017
J N Tata Auditorium, Indian Institute of Science, Bangalore

International Training Programme on Water Sensitive Urban Design and Planning

January 23 - 26, 2017, Pretoria, South Africa.
wamiti@kewi.or.ke

Green Events & Innovations 2017

March 07, 2017, London, UK
<http://www.eventbrite.co.uk/>

Send Your Events Plan to - ganesh.keerthi@gmail.com