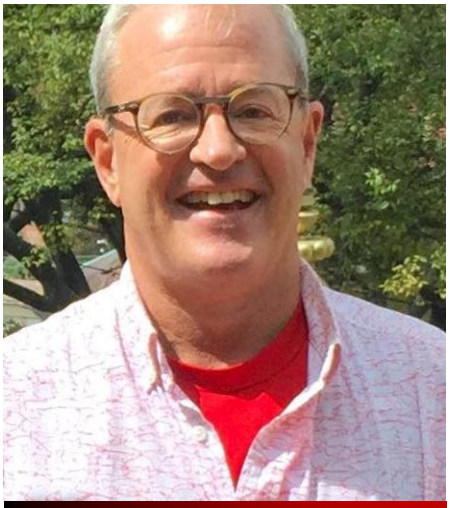
ISSUE 49 | DECEMBER 2018

ENERGY COMMUNIQUE

EDITORIAL

People involved in large infrastructure projects are always talking about the many types of risks that can derail an otherwise attractive large infrastructure project such as a hydropower plant (HPP). USAID's Nepal Hydropower Development Project (NHDP) believes that one of the biggest risks to timely, safe, and successful project completion is lack of capacity. Wherever that risk exists, whether in the private sector or in government, left unaddressed, it can slow down and even ruin a project's chance for success. For that reason, each year, NHDP dedicates a substantial portion of its time and resources to build the capacity of HPP—related public and private institutions.

While much of NHDP's work is transactional and policy oriented support to the Office of the Investment Board of Nepal, the Ministry of Energy, Water Resources and Irrigation, and the Nepal Electricity Authority, over the past three years, NHDP has conducted training government staffers and university students, including on-the-job training on transactional issues, modular training on specific substantive issues, advanced financial modeling training, a study tour to visit project sites and electricity sector stakeholders in Vietnam, a study tour to Delhi for government officials implementing Nepal's new Electricity Regulatory Commission (ERC), journalist training workshops in areas affected by Nepal's large hydropower projects, and workshops on local banking and insurance issues. Currently, the project is preparing other training opportunities including negotiation skills training and a HPP study tour to Laos. During the next two years, NHDP will focus the bulk of its resources to the training of ERC's commissioners and staffers, and to making the entity fully operational.



Mr. Robert Taylor
Chief of Party
Nepal Hydropower Development Project (NHDP)

INSIDE THIS ISSUE:

This capacity building has largely been for the benefit of government staffers — not private developers or lenders. The downside of this approach is that it builds capacity on one side of the table only — the government. That is not enough. Private sector developers and lenders must also be and lenders must also be aware of new developments and cultivate the same skills.

This all changed during the week of 26-30th November when NHDP joined forces with the Energy Development Council, Nepal Bankers' Association and the International Centre for Hydropower (ICH-Norway) to conduct a five-day seminar for bankers and HPP developers entitled "Hydropower Financing and Risk Management in Nepal". The event brought all three stakeholder groups--sponsors, lenders and government officials, together to consider various financing and risk management approaches. It also attracted more than 100 participants from Nepal, South Asia, and Africa. Master's Degree candidates from the Kathmandu University School of Law also participated in the EDC Workshop.

Throughout the seminar, ICH focused its efforts on Nepal's banking community, whose job it is to to conduct due diligence and risk assessment for HPP proposals prior to making any decisions on funding. For its part, NHDP sought to balance the international experiences of ICH with real—time developments in HPP structuring and financing, the allocation of local shares (a constitutional mandate), regional cross-border trade and framework agreement issued by the South Asian Association for Regional Cooperation (SAARC), and hydropower financing options. The seminar also gave the NHDP team an opportunity to highlight the ways that electricity sector regulation under ERC will affect the work of all sector stakeholders. Since the government's issuance of ERC's implementing regulations in September 2018, bankers are now required to be aware of the "new world" in which investments will be made, and the issues that they must address in their due diligence reports. Private investors also need to understand the new regulatory framework under which they will operate. The EDC seminar also provided an opportunity for the NHDP team to reconnect with a number of participants from previous workshops and to re-emphasize the commercial opportunities that exist for participants in Nepal's banking and insurance sectors who take advantage of the need for new markets to service a newly regulated sector.

While the success of the conference and the progress of the sector over time is undoubted, this should not divert us from the significant issues that continue to limit electricity sector development in particular and the economic well-being of the nation's economy of the nation's economy in general. A short list of such issues would include:

- The lack of an infrastructure financing institution and the inability of local financing institutions to provide funding in significant amounts for large infrastructure projects.
- The lack of a mechanism to hedge foreign currency risks, a standard tool that supports FDI in many developing countries. While the Government has begun to address the issue, no mechanisms are yet in place.
- Mandates of Nepal's new constitution notwithstanding, the Government has not yet endorsed a policy or a mechanism that can be used by large hydropower projects to allocate hydropower shares to local, project affected populations and districts.
- The need for the Government to promulgate new

legislation to address the kinds planning issues that inevitably arise when planning for water usage among numerous water stakeholders including hydropower development under the nation's new federal structure.

- Unbundling the various functions of NEA to comply with the mandates of the new federal constitution and to improve sector regulation under Nepal's new Electricity Regulatory Commission (ERC).

- The need to need rapidly to make the ERC fully operational and to begin the arduous work of leading electricity sector reform under new regional frameworks. This will include developing mechanisms on this side of the border to implement the guidelines for cross-border trading of electricity, which has expanded the opportunities for FDI in Nepal's large hydropower sector.

EDC ACTIVITIES

Suntech MD & Energy China Visits EDC office

On 10th December, 2018, Suntech Chairperson & MD Mr. Shamsul Arefeen Shohel and Energy China, Director of South Asian Region, Ms. Jane Li visited EDC office. Present in this meeting were Mr. Sujit Acharya, Chairperson, EDC, Ms. Itnuma Subba, CEO, EDC.

During this meeting, ideas were shared on Suntech, Bangladesh's intent to work in Nepal and also Energy China in Nepal, and ways EDC can help. EDC also updated them about the present context in renewable energy and about EDC's activities & plans. They were enthusiastic to attend the launching ceremony of the book "Estimation of Hydropower Potential in Nepal" developed by EDC.

Courtesy Visit to German Ambassador

Mr. Sujit Acharya, Chairperson, EDC and Ms. Itnuma Subba, CEO, EDC paid a courtesy visit to H. E. Mr. Roland Schäfer on 11th December, 2018 at the Embassy. The ambassador shared the German's plan to get engaged in providing professional training in Nepal. He also shared the German Parliamentarian visit to Nepal and SEZ in Bhairahawa. Mr. Acharya expressed EDC's willingness to assist the embassy and enhance cooperation between the countries.

PwC visits EDC

Mr. Piyush Jha from PwC India met with Ms. Itnuma Subba, EDC to ask for EDC's assistance in finding a National Consultant who have worked in large hydropower projects (financial aspects).

Besides this, they also discussed about possible cooperation in the field of research studies.

EDC ACTIVITIES

Invitation to participate in "Industrial Training under CapSEM"

MSESSD Program, Department of Architecture, Institute of Engineering, Pulchowk, Lalitpur invited EDC to participate in "Industrial Training under CapSEM" held on 31st December, 2018. Mr. Dheeraj Raya, Business Development Officer, EDC attended this training. The training discussed on various areas such as "**Product Change and Value Chain Improvement", "Systems change / Improvement"** etc.

EDC welcomes its new members

Krishna Grill and Engineering Works Pvt. Ltd is a 30 years old company which was established by Krishnamani Rajbhandari. The goal of the new establishment was the fulfillment of the local demand of iron grill, gate, etc. During its establishment period, it was the only workshop in the Eastern Region of Nepal.

Today the company manufactures renewable energy equipment viz, solar water heater, solar cooker, solar dryer, windmill, wind turbine, micro hydro systems, steel structures, suspended and suspension bridges truss bridges etc.

NIC ASIA Bank has its antecedents in NIC Bank which was established on 21st July 1998. The Bank was rechristened as NIC ASIA Bank after the merger of NIC Bank with Bank of Asia Nepal on 30th June 2013. The Bank strongly believes in Meritocracy, Transparency, Professionalism, Team spirit and Service Excellence. These core values are internalized by all functions within the Bank and are reflected in all actions the Bank takes during the course of its business.

EDC ACTIVITIES

New Year 2019 Greetings from Energy Development Council (EDC)

EDC ACTIVITIES

TenderNotice.com.np

Tender, Bids and Notices related to Hydro and Energy segmants in Nepal

Month : December 2018

S.No.	Notice Publisher	Description	Published Date	Notice Category	Product Service
1	Tamakoshi Jalvidyut Company Limited, Tamakoshi V Hydroelectric Project, Thapathali, Kathmandu	Amendment Notice	12/31/2018	Amendment Notice	Other Product/ Services
2	Pan Himalaya Energy Pvt. Ltd.	Design, Manufacturing, Fabrication, Assembling and Testing at Supplier's Works and Supply, Transportation, Handling, Storage, Insurance, Erection, Testing and Commissioning of Double Circuit Transmission Lines	12/31/2018	Tender	Electronics/ Electric Utilities
3	Pan Himalaya Energy Pvt. Ltd.	Design, Manufacturing, Fabrication, Assembling and Testing at Supplier's Works and Supply, Transportation, Handling, Storage, Insurance, Erection, Testing and Commissioning of Double Circuit Transmission Lines	12/30/2018	Tender	Electronics/ Electric Utilities
4	Swet Ganga Hydropower and Construction Limited, Kathmandu	Check Survey, Design, Supply, Manufacturing, Delivery, Erection/Installation and Testing and Commissioning of 132 kV Single Circuit Transmission Line Works of Hydropower Project	12/26/2018	Pre-Qualification	Electronics/ Electric Utilities
5	Tamakoshi Jalvidyut Company Limited, Tamakoshi V Hydroelectric Project, Thapathali, Kathmandu	Civil and Hydro Mechanical Works, Electromechanical, Transmission Line, and Infrastructure Works, and Implementation of Environmental and Social Management Plans, Technical Assistance and Other Consulting Services		Tender	Other Product/ Services

EDC ACTIVITIES

6	Lower Erkhuwa Hydro Power Company Pvt. Ltd., New Baneshwor, Kathmandu	Undertaking the Preparation of Detail Design for the Civil Works of Hydropower Project	12/20/2018	Quotation	Other Product/ Services
7	Madhya Bhotekoshi Jalavidyut Company Limited, Middle Bhotekoshi Hydroelectric Project, Sindhupalchowk	Construction of School Building, Health Post, Agriculture Building, Maintenance of Temple and Access Road	12/19/2018	Tender	Construction/ Building
8	Swet Ganga Hydropower and Construction Limited, Kathmandu	Check Survey, Supply, Manufacturing, Delivery, Erection/Installation and Testing and Commissioning of Transmission Line	12/18/2018	Pre-Qualification	Consulting
9	Remit Hydro Limited, Babarmahal, Kathmandu	Supply and Delivery of Double Cab Pickup	12/9/2018	Tender	Automotive / Vehicles
10	Sindhujwala Hydropower Limited	Construction of Hydro Electric Projects in Engineering, Procurement and Construction Model	12/6/2018	Expression Of Interest	Construction/ Building
11	Suri Khola Hydropower Pvt. Ltd., Tripureshwor, Kathmandu	Extension of Bid Submission Deadline of Electro-Mechanical Works	12/6/2018	Time Extension	Other Product/ Services
12	Swet Ganga Hydropower and Construction Limited, Kathmandu	Check Survey, Design, Supply, Manufacturing, Delivery, Erection/Installation and Testing and Commissioning of Transmission Line Works	12/4/2018	Pre-Qualification	Electronics/ Electric Utilities

EDC MEMBERS PROJECT UPDATES

Saral Urja Nepal

Congratulations Saral Urja Nepal! Saral Urja is building the 2 MW Parasi plant in partnership with Hansraj Hulaschand, under an SPV (SB power) formed specially for this purpose. SB power will develop the plant and operate it.

SunFarmer

Jumla, one of the remotest hilly districts of Nepal, is popular for its luscious apples and the indigenous Marshi rice. SunFarmer installed Solar Water Pumps Irrigation System for SEDA Nepal helping the local farmers in Dhaulapani, Jumla to reap benefits from reliable water throughout the year and lessen their dependency on rainfall.

Gham Power

Ghampower successfully conducted 'Women in solar' project in Chitwan district with an objective to involve women in solar system and reduce the unemployment problem in the country along with empowering women. In total, they trained six female and four male volunteers of Kamalari group. They also installed a 2.88 KWp of solar system at Chitwan wooden tower. This project was supported by GRID Alternatives.

Cosmic & AEPC

A contract has been signed between Cosmic Electrical Engineering Associates Pvt. Ltd. and Alternative Energy Promotion Centre under South Asia Sub regional Economic Cooperation Power System Expansion Project funded by ADB under mission Rural Electrification to electrify 2654 rural households at Mugu district of Nepal.

NEPAL'S SCENARIO

India relaxes cross-border power trading guideline

Move opens the way for Nepal to export surplus electricity to Bangladesh via Indian transmission lines

India for the first time has given explicit recognition to the tripartite arrangement in cross-border trading of electricity, paving the way for Nepal to export surplus electricity to Bangladesh via Indian transmission lines.

Introducing new guidelines on cross-border trading of electricity, the Indian Power Ministry included a provision under which two countries having a bilateral agreement with the Indian government can trade electricity between them through Indian power lines after entering into agreement with the Indian government owned-Central Transmission Utility.

"Provided that in case of tripartite agreements, the cross border trade of electricity across India shall be allowed under the overall framework of bilateral agreements signed between the Government of India and the Government of respective neighbouring countries of the participating entities," recently issued Guidelines on Cross Border Trade Import/Export of Electricity say.

"Where tripartite agreement is signed for transaction across India, the participating entities shall sign a transmission agreement with the Central Transmission Utility of India to obtain transmission corridor access."

While issuing guidelines on cross-border electricity trade for the first time in 2017, the Indian Power Ministry had failed to recognise a possible trilateral arrangement among two countries and India.

But the recently introduced guidelines by India after withdrawing the old one issued in 2017, according to the experts, provide an opportunity to its neighbouring countries—Bangladesh and Nepal—to trade electricity between them via Indian territory.

"This will foster power trade between Nepal and Bangladesh, giving opportunity to the former to export surplus electricity that it is on the track to generate within a few years," said Semanta Dahal, a lawyer who is advising the government

of Nepal on different infrastructure projects.

Energy Ministry officials also welcomed the latest guidelines, saying the new one is more progressive and that it has opened plenty of avenues for the development of hydropower sector in Nepal.

"These guidelines are more progressive than the earlier one issued by the Indian government," said Dinesh Kumar Ghimire, joint secretary at the Energy Ministry. "The new guidelines were introduced along with the spirit of the Power Trade Agreement (PTA) signed between Nepal and India in 2014 which requires both countries to allow non-discriminatory access to cross-border electricity market."

The Indian government has also removed the discriminatory provision included in the older guidelines, under which Nepali-based hydropower projects which are owned by the Indian government or have a majority Indian share were only allowed to export power to India.

As per the older guidelines, only Nepali-based companies wholly owned by the Indian government or the public sector or private companies with a 51 percent or more Indian stake and companies owned or controlled by the Nepal government were allowed to sell power to India.

Other companies wishing to sell power to India were required obtain the approval of the designated authority on a case-by-case basis.

The provision was discouraging to foreign investors and private Nepali power developers planning to build export-oriented hydropower projects with an eye on the Indian market.

"The severe qualification criteria linked to equity ownership for participating entities has been relaxed albeit each time an approval from designated authority has to be obtained which is not certain," said Dahal. "The approval for export could be refused if the designated authority is not satisfied with equity ownership or Indian government does not concur as per the new guidelines. This leaves some room for discretion."

Dahal also cautioned that the guidelines lack precision and that most of the matter contained therein will have to be further clarified in the regulations to be issued by Central Electricity Authority (CEA) or Central Electricity Regulatory Commission (CERC) of the India.

Source: http://kathmandupost.ekantipur.com/ampnews/2018-12-23/india-relaxes-cross-border-power-trading-guidelines.html

Government to buy 300 electric buses for Kathmandu Valley

The government has decided to buy 300 electric buses for Kathmandu valley. Speaking at the regular weekly press meet on Thursday, Minister for Communication and Information Technology and spokesperson of government Gokul Baskota, while giving information of the cabinet decision held on December 21 and 24, said that these buses will be purchased by the government itself and will come in operation in the valley.

Minister Baskota said these buses will help in minimizing the air pollution of the valley and as well as will reduce the ongoing traffic congestion of the city. He believed that this move from the government will motivate people to use public transport and look for the options to use electric vehicles.

Likewise, the government has recommended five joint secretaries namely Ganesh Dhakal (Thailand), Mani Bhattarai (Switzerland), Bhrigu Dhungana (Canada), Dipak Adhikari (France) and Durga Bhandari (Kuwait) from Ministry of Foreign Affairs (MoFA) as ambassadors.

Meanwhile, the government has recalled three Nepali envoys appointed by erstwhile Sher Bahadur Deuba-led government. The government has recalled Arjun Jung Bahadur Singh (South Korea), Bharat Bahadur Rayamajhi (Spain) and Dr Chop Lal Bhushal (Bangladesh) and has given 21 days to come back.

Source: https://myrepublica.nagariknetwork.com/news/govt-to-buy-300-electric-buses-for-kathmandu-valley/

Nepal, India agree to sign much awaited 'energy-banking' deal

Nepal and India have agreed to ink the much awaited 'energy banking' deal, which will ensure uninterrupted exchange of power between the two countries.

The 13th meeting of the Power Exchange Committee (PEC) held in New Delhi, India on Wednesday has agreed to seal the Nepal-India energy banking deal. The draft of this agreement is expected to be approved by the energy secretary-level joint steering committee meeting scheduled for January.

Nepal had long been demanding the energy banking deal with India in a bid to ensure that the country is able to export its surplus electricity to India, especially during monsoon and import power from the southern neighbour when necessary. The energy banking mechanism allows Nepal to export power to India amid surplus generation and import the same amount of power when necessary.

Following the agreement at this level, Kulman Ghising, managing director of Nepal Electricity Authority (NEA) and the leader of Nepal's delegation at the PEC meeting, said that energy banking agreement between Nepal and India will prove crucial to enhance bilateral energy trade.

The PEC meeting has also agreed on the draft guideline of the energy banking mechanism that incorporates methodology and structure of energy banking.

"The agreement has been forged on the guideline prepared for energy banking and will be implemented following approval from the secretary-level joint steering committee

meeting," said Ghising, adding that the decision to ink the energy banking deal with India is a 'milestone achievement' in the history of Nepal's hydropower industry.

Meanwhile, NEA Spokesperson Prabal Adhikari, informed that Nepal also proposed for an 'energy book' for the first five to seven years with India and India was positive in this regard. "Nepal will book for energy in the first five to seven years as it will take almost four years to construct the transmission line. The model of the investment mechanism will be finalised by the joint steering committee meeting," said Adhikari.

Currently, NEA has been purchasing electricity from India on a need basis from Bihar, Uttar Pradesh and Uttarakhand under the 'purchase and pay' mechanism.

Source: https://thehimalayantimes.com/business/nepal-india-agree-to-sign-much-awaitedenergy-banking-deal/

GLOBAL PERSPECTIVE

India & France Sign MoU for Collaboration to Boost use of Electric Vehicle

The Union Cabinet was on Monday apprised of a Memorandum of Understanding (MoU) with France that seeks to support the governments ambitious plan for the deployment of electrical vehicles by maximizing solar mobility and minimising its grid impact. The MoU was signed between the Solar Energy Corporation of India Ltd (SECI), India and Commissariat à lenergie atomique et aux energies alternatives (CEA) -- French state-owned research entity, and BlueStorage SAS, a French company.

An official release said that the MoU was signed in three originals each in Hindi, English and French.

The objective of the MoU is to define the modalities of discussions about future collaboration in a pilot project to provide SECI an e-vehicle charging station with embedded batteries, powered by solar panels and optimised connection to the grid. The release said that the MoU seeks to support "Indian governments ambitious plan for the deployment of electrical vehicles by maximising solar mobility and minimising its grid impact".

Source:https://auto.ndtv.com/news/india-and-france-sign-mou-for-collaboration-to-boost-use-of-electric-vehicles-1964605/amp

The Story of Sustainability in 2018: "We have about 12 years left"

Every year, I look for important themes in sustainability that will have lasting impact on society, from glaring evidence of global megatrends to inspiring stories of corporate action. The year 2018 brought extreme change — in weather and environmental ecosystems, in political winds and power, and in the expectations of business. It also brought incredible clarity about the scale of our challenges and opportunities. So let's start with the big picture before moving to some corporate success stories.

The world's scientists sound a final alarm on climate

We have about 12 years left. That's the clear message from a monumental study from the Intergovernmental Panel on Climate Change (IPCC). To avoid *some* of the most devastating impacts of climate change, the world must slash carbon emissions by 45% by 2030, and *completely* decarbonize by 2050 (while, in the meantime, emissions are still rising).

The IPCC looked at the difference between the world "only" warming two degrees Celsius (3.8°F) — the agreed upon goal at global climate summits in Copenhagen and Paris — or holding warming to just 1.5 degrees. Even the latter, they say, will require a monumental effort "unprecedented in terms of scale." We face serious problems either way, but every half degree matters a great deal in human, planetary, and economic losses.

It wasn't just the IPCC that told a stark story. Thirteen U.S. government agencies issued the U.S. National Climate Assessment, which concluded that climate change could knock at least 10% off of GDP. Other studies tell us that sea level rise is going to be worse than we thought, Antarctica is melting three times faster than a decade ago, and Greenland is losing ice quickly as well. If both those ice sheets go, sea level rise could reach 200-plus feet, resulting in utter devastation, including the loss of the entire Atlantic seaboard (Boston, New York, D.C., etc.), all of Florida, London, Stockholm, Denmark, Paraguay, and land now inhabited by more than 1 billion Asians).

All of this suggests that business must dramatically change how it operates: companies will need to push well past their comfort zones from areas like politics and policy to engaging consumers to how they make investment decisions.

Entire towns are wiped off the map by extreme weather

This year the weather devastation around the world got, in the words of one colleague, "biblical." The town of Paradise, California, was effectively eliminated by wildfires (that, yes, are made worse by climate change), killing at

Source: https://hbr.org/2018/12/the-story-of-sustainability-in-2018-we-have-about-12-years-left

at least 85 people. Most houses in Mexico Beach, Florida, were destroyed by Hurricane Michael. Unprecedented rains and damage from Hurricane Florence slammed North Carolina and temporarily turned a major highway into a river. Typhoon Mangkhut ravaged the Philippines and parts of China, killing dozens of people. Incredible heat blanketed four continents this summer, with records falling across Europe and Asia. Venezuela's last glacier is disappearing. Finally, Capetown, South Africa, is essentially out of water due in part to drought — the city nearly shut off all the taps this year, but has held off "Day Zero" through ongoing restrictions and aggressive citizen action.

The consequences of these extremes are not theoretical. What is the economic cost to an area with no water, or one that's under water, or burned to the ground? In the U.S. alone, it was $306 billion in 2017, shattering records.

Coral is dying, insects are disappearing, and the fate of major ecosystems looks dim

The world's top coral expert confirms that at 2 degrees of warming, all coral will die. This will destroy a critical part of an ocean system that provides protein to hundreds of millions of people, helps blunt coastal storm surges, and supports the livelihoods of people working in fishing and tourism.

And it's not just coral: there's the death of pacific kelp forests, radical declines in insect populations, and continuing population drops in all mammals and bees.

How does this all connect to business? For some sectors, it's obvious: the food and agriculture industry will have have trouble feeding us without pollinators, and tourism takes a big hit without coral and other wildlife. But more broadly, society will not thrive in a world where entire pillars of planetary support are collapsing. And if society can't thrive, neither can business.

The U.S. environmental protection system continues being dismantled ... from within

The EPA and Department of Interior are reversing years of protections for air, water, and land. In 2018, the Trump administration has opened up offshore waters and rolled back safety rules for drilling, greatly weakened the voice of science in policy, reduced focus on children's health, and moved to make it easier to build dirty coal plants.

The big question now is whether businesses will push back and go down a cleaner path on their own. It's easy to see why multinationals might as they face pressure from sub-national regions — California Gov. Jerry Brown held a Global Climate Action Summit which produced many aggressive climate goes from cities and state, for example. Gov. Brown also signed aggressive new laws committing to carbon-free electricity statewide by 2045 and requiring solar on all new homes. So even if U.S. action sputters, governors and mayors who influence local and regional business conditions will be pushing the clean economy and pro-climate agendas.

In pointed contrast to the U.S., the EU backed a proposal to strike no new trade deals with countries not in the Paris climate accord (i.e., only the U.S.), France will shut coal plants by 2021, India just cancelled plans for big coal plants, and China banned 500 inefficient models of cars.

A prominent leader retires, but new leaders step up

For nearly a decade, no business leader has done more to

Source: https://hbr.org/2018/12/the-story-of-sustainability-in-2018-we-have-about-12-years-left

bring sustainability into the business mainstream than Paul Polman, Unilever's outgoing CEO (Full disclosure: I've worked with Unilever). His depth of understanding of our biggest global, social, and environmental challenges, and his commitment to use business as a way to tackle them, has been unparalleled. But it wasn't just talk. The company also grew throughout Polman's tenure and the stock outperformed peers and the FTSE index. Luckily, there are other corporate leaders who are stepping up, including Danone's Emmanuel Faber.

But climate isn't the only area where we're seeing bold stances. Societal issues more broadly made headlines, too. The New York Times declared 2018 year that "CEO activism has become the new normal," with prominent voices like Salesforce's Marc Benioff leading the way. Other notable moments include Nike making Colin Kaepernick — the man who led NFL player protests about police violence against African Americans — the face of its 30th anniversary "Just Do It" campaign (sales rose quickly). Under pressure from survivors of school mass shootings, Dick's Sporting Goods stopped selling assault weapons, and other companies cut ties to the powerful National Rifle Association. Kroger celebrated a year of its "End Hunger" initiative. Unilever threatened to pull its substantial ad dollars from Facebook and Google if they didn't police "fake news and toxic content." One hundred U.S. CEOs urged action on controversial immigration issues. And more than 100 U.S. companies gave employees time off to vote.

Danone becomes the world's largest B Corporation

A "B Corp" certification requires answering an intensive set of questions on environmental, social, and governance issues. But most importantly, it commits a company to create value for allstakeholders (customers, employees, communities, and so on), *not* just shareholders.

French consumer products giant Danone has now put 30% of its brands and businesses through the certification process and says that "companies are fundamentally challenged as to whose interests they really serve." Becoming a B Corp is arguably is a direct statement about whose interests it values most, and it's and fascinating frontal attack on the dominance of shareholder capitalism.

More investors are viewing climate and sustainability as core value issues

Something is shifting in finance. Vanguard wants CEOs to be a force for good. Mark Carney, Governor of the Bank of England, said that "70% of [UK] banks, who normally have a shorter horizon, are viewing climate as a financial risk—not a CSR one." Larry Fink, CEO of Blackrock, the world's largest asset owner, encouraged longer-term thinking about environmental, social, and governance issues in a strongly-worded letter to large-company CEOs.

Anecdotally, I've talked to leaders at big banks who are now thinking differently about purpose and systemic risk. And in a quieter move, a major real estate investor in Miami began pulling money out of coastal assets to avoid risk of sea level rise. Watch this space.

The clean technology explosion continues and accelerates

Three big clean tech themes wowed me this year.

1) Renewables keep getting cheaper. According to Lazard's annual analysis of the cost of building new power plants, renewables are now the cheapest. And another global analysis showed that new wind and solar are cheaper than one-third of the coal already on the grid — and will be cheaper than 96% of existing plants by 2030).

Source: https://hbr.org/2018/12/the-story-of-sustainability-in-2018-we-have-about-12-years-left

2) Corporate buying of clean energy keeps rising. By the end of just the first half of 2018, businesses bought more clean energy than they did in 2017. Companies like Owens Corning (disclosure: a client of mine) are buying enough green energy to pitch their products as cleanly manufactured(which they started doing in late 2017).

3) Electric vehicles are exploding, and it's not just small vehicles: even container ships are going electric. UPS bought its first EV delivery vehicles at price parity to combustion engines, and China is adding nearly 10,000 electric buses to the roads — equal to the size of London's entire bus fleet – every five weeks.stakeholders (customers, employees, communities, and so on), *not* just shareholders.

China rejects the world's trash

For years, the U.S. had a great deal: When container ships arrived from China with goods, we sent them back filled with our recyclable paper and glass. But starting January 1, 2018, China stopped accepting our trash. The ripples of this move are unpredictable and still moving through the system, but in some regions, materials piled up and prices for recycled content plummeted. In a business world trying to go "circular" (i.e., find a use for everything and eliminate waste), it was a wake-up call about how much waste we still produce.

The battle against single-use plastic heats up, starting (somewhat oddly) with straws

Sometimes weird things hit a tipping point. For a combination of reasons, including a viral video showing a turtle with a straw stuck in its nose, companies waged war on straws this year. Marriott, McDonald's, Starbucks, Burger King, and the city of Seattle, among others, all banned or are phasing out straws. It was a very small part of a larger conversation about "single-use plastics," most notably plastic bags, which IKEA and Taiwan are banning as well.

Raising the bar for suppliers

The greening of the supply chain is a perennial story, but there are some noteworthy recent actions. Apple created a $300 million fund to help suppliers in China build more solar, and also partnered with Alcoa and Rio Tinto to develop a better smelting process to make carbon-free aluminum. On the labor side of the supply chain equation, PepsiCo and Nestle cut ties with a palm oil supplier over human rights abuses and Coca-Cola said it would work with the U.S. State Department to use blockchain to fight forced labor.

Meatless options grow plentiful

Given the way most cattle is currently raised, one of the most effective things an individual can do to reduce her carbon footprint is eat less meat. The options to do so are growing, and the rise of products made from non-animal proteins has been remarkable. The Impossible Burger, Beyond Meat, and other brands have made believers out of skeptics (they taste great) and are, as the Wall Street Journal put it, "overrunning grocery meat cases." In another fascinating move, tech company WeWork went meat-free in its offices and even stopped reimbursing employees on business trips for meat meals.

Source: https://hbr.org/2018/12/the-story-of-sustainability-in-2018-we-have-about-12-years-left

Delhi Unveils Draft Policy for Group and Virtual Net Metering for Rooftop Solar

DERC has issued a draft framework for group net metering and virtual net metering

The Delhi Electricity Regulatory Commission (DERC) has issued Draft Guidelines to implement a group net-metering and a virtual net-metering framework under the Delhi Solar Policy 2016.

The draft is up for comments, suggestions and objections up to January 10, 2019.

According to the draft, the purpose of this group net-metering framework is to help maximize the utilization of rooftop space for solar energy generation for consumers with multiple buildings and service connections.

The draft states that virtual net-metering will be an arrangement for consumers who do not have a suitable roof for installing a solar power generating system, but want access to a solar net-metering facility. With virtual net metering, consumers can own a part of a collectively-owned solar power generating system. All energy produced by such a solar system will be fed into the grid through an energy meter and the exported energy as recorded by that meter will be credited to the electricity bill of each participating consumer based on beneficial ownership.

Highlights

- In the initial phase, the group and virtual net-metering framework will be made available for government entities.

- The Annual settlement rate will be governed as per the provisions of DERC (Net Metering for Renewable Energy) Regulations, 2014.
- For group or virtual net-metering, consumers must apply to the distribution company (DISCOM) with a fee of ₹1,000 (~$14).
- If the capacity of group or virtual net-metered solar project is more than the sanctioned load of the premises of the consumer on which solar the project is installed, the consumer will pay the differential amount of state load dispatch charges.
- Smart meters will be installed at the generation point and the cost will be borne by the DISCOMs.
- Under group or virtual net metering, The DISCOM will

Source: https://mercomindia.com/derc-draft-policy-virtual-net-metering/

show, separately, the energy units exported, the energy units imported, the net energy units billed, and the energy units carried forward (if any) to the consumer in their bill for the respective billing period of the consumers.

- At the end of each financial year, any net energy credits, which remain unadjusted, will be paid by the DISCOM to the consumer as per the rates fixed by DERC.

- Under virtual net metering, there is no restriction on intra DISCOM or inter DISCOM transfer of surplus energy per the Delhi Solar Policy, 2016. In case of inter DISCOM transfer of power due to physical location of either of generation unit or consumer in different DISCOM area, normative distribution losses on account of transfer of power will be borne by the consumer.

Once final, these regulations may help the DISCOMs in Delhi meet solar renewable purchase obligation (RPO) targets and spur the rooftop solar market. Net metering has been a challenge that has prevented the growth of rooftop solar in India. If implemented correctly, group and virtual net metering could be a model for other cities to follow. However, not all cities are under as much pressure as Delhi which is one of the most polluted cities in the world.

In March 2017, the state government of Delhi released the Delhi Solar Policy 2016, applicable for the four-year period 2016-2020. The policy applies to any solar energy generating system with a capacity of 1 kW or more in Delhi.

Of late, the Delhi government has given a push to the region's solar capacity addition with the help of innovative policies and incentives for the consumers.

The government recently approved the Mukhyamantri Solar Power Program to give the necessary and required impetus to solar power and its adoption in Delhi. This program will apply to domestic (residential) sector consumers in Delhi.

In July 2018, the Arvind Kejriwal-led Aam Aadmi Party (AAP) government had announced its plan to launch a Solar Rooftop Demand Aggregation Program for domestic customers in the nation's capital.

Source: https://mercomindia.com/derc-draft-policy-virtual-net-metering/

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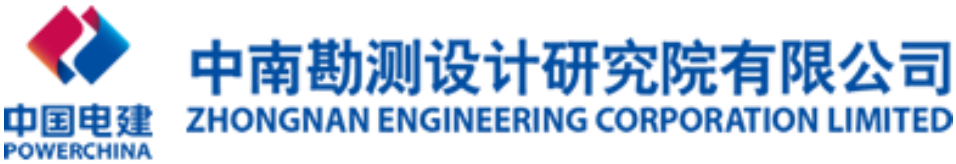

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