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NEWSLETTER

July 2022

APUA Celebrates Its 50th Congress in Dakar, Senegal

The 20th Association of Power Utilities of Africa (APUA) Congress and Exhibition took place from July 17 to 19, 2022 at the Abdou Diouf International Conference Center of Diamniadio in Dakar with one thousand of participants from 150 utilities, international organizations (CIGRE, IEC, IFDD, GSEF, GSEP, TSG, GEIDCO, the Bale Convention for Climate, AfDB) , one hundred of exhibiting companies from Africa, Europe, America and Asia)

The main theme of the 20th Congress was "The need for public service and the performance of African electricity companies". The following recommendations were made.

1. Sensitize African decision-makers and rulers for the acceleration and development of electricity markets at the African level through the construction of interconnection corridors and the progressive realization of the single electricity market in Africa with an African electricity network integrated, which would significantly reduce the cost of electricity on the continent and increase sustainability and energy security.

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2. Sensitize African decision-makers and rulers on the need to put in place an African energy policy integrating questions on new and renewable energies, nuclear power, offshore wind power, hydrogen as well as all related questions on the use electric vehicles and energy storage

3. Develop investment programs by seeking all kinds of financing by promoting "Public-Private" Partnerships. To do this, it is necessary to present a solid offer which must take into account certain indicators of performance and bankability of the sector. (Clear political framework, credibility of the company, good financial health, tariff reflecting investment costs, etc.)

4. Make Cyber Security a priority in the investments of African Electricity Companies, in order to ensure the security of information, electrical infrastructure and guarantee the supply of electricity. The training and organization of the actors must be taken into account in order to reduce the risks.

5. Create, at the level of Cyber Security, a platform for sharing information and experiences. This could be piloted at the level of ASEA or Energy Pools initially.

6. Sensitize the Managers of electricity companies to take into account skills shortages due to the low level of remuneration of technicians and engineers; which lead them to move towards other more attractive sectors of activity.

7. The General Secretariat of APUA, CI-Energies as well as the Ministry in charge of Energy of the Republic of Côte d'Ivoire will have to work for the completion of the Project to reopen the Inter-African School of Electricity (ESIE)

8. Take ownership of the skills building program of the African Network of Centers of Excellence in Electricity (ANCEE); and this from a good identification of training needs in order to have suitable training programs and also to work for the establishment of a credible post-evaluation evaluation to better measure the impact of ANCEE training.

9. Become more involved in exchanges at the international level on the design and development of standards applied to equipment, actions and infrastructure in the electricity sector, in particular through the International Electrotechnical Committee (IEC).

10. Further promote gender in jobs, functions and workstations within African Power Utilities.

11. Capitalize on feedback from the "Electricity for All Program (PEPT)" in the field of access to electricity for populations, drawing inspiration from the example of the Ivorian Electricity Company (CIE).

12. Strongly encourage all companies to continue their commitment to the digitization of services and suggest that companies increase "SOUTH-SOUTH exchanges" on their experiences.

During the event, the Memorandum of Understanding (MoU) on the Cooperation Partnership between Global Smart Energy Federation (GSEF) and Association of Power Utilities of Africa (APUA) was signed with the objective to launch the creation of a long-term partnership between APUA and GSEF, with a view to develop and implement cooperation programs between members. Ms. Valerie-Anne Lencznar, Honorary Ambassador of GSEF represented GSEF at the APUA Congress.

Contributed by Abel Tella, Director General, The Association of Power Utilities of Africa (APUA)

Global Stories on Smart Grid

Georgia Regulators approve Georgia Power's Plans to retire all Coal Plants by 2028 except for Plant Bowen

The IRP decision comes a week after the Georgia Supreme Court denied a petition from the Sierra Club to review the PSC's 2019 decision to allow the utility to charge their customers for coal ash pond closure costs

State regulators unanimously approved Georgia Power's 2022 Integrated Resources Plan, or IRP, on Thursday, which includes retiring all of its coal plants by 2028, with the exception of two units from Plant Bowen totaling nearly 1,600 MW. The Georgia Public Service Commission will re-evaluate Bowen Unit 1 and 2 in the next IRP, scheduled for 2025. As Georgia Power's fleet transitions from coal, regulators also approved 2.3 GW of solar to be procured by 2025 and nearly 2.4 GW of natural gas power purchase agreements, as proposed by the utility. While the approval of the three-year plan did not include the utility's cost recovery of coal ash clean-up costs, the environmental advocacy group Sierra Club said it seeks to address such concerns in Georgia Power's upcoming rate case.

Read More: https://bit.ly/3zAzggh

Senate Committee Probes FERC Regulation of Hydrogen, but Industry says Tax Credits are the Priority

FERC could already have the authority to regulate the construction of hydrogen pipelines that cross state lines under existing law, Richard Powers, a partner and head of the energy law group at Venable LLP, told the committee.

Members of the Senate Committee on Energy and Natural Resources showed interest in developing new, hydrogen-specific infrastructure as well as in converting existing natural gas pipelines to move hydrogen. Some Republican senators expressed concern that the Federal Energy Regulatory Commission would use any authority to regulate hydrogen to also curtail natural gas development. While an energy attorney testified that FERC may already have the authority to regulate hydrogen pipelines, other industry leaders said the most important thing Congress could do is create hydrogen-specific tax credits.

Read More: https://bit.ly/3deRE76

Central Delhi to Get 5000 EV Charging Points

Charge Point Operators of India (CPOS) has approved Joulepoints' proposal for setting up 5000 EV chargers in Central Delhi. The pilot project is expected to be completed by the end of this year. Joulepoint will be working with Alektrify to install these charging points at 2000 allotted locations for piloting under Ease of Doing Business (EoDB). The locations will include popular tourist destinations like Qutub Minar and Akshardham, shopping malls around the city like Select City Walk, Hotels like ITC Maratha, Taj Palace, Embassies in the city, IT Parks, Government offices, Apartments, Corporate Offices, Railway Stations and University Campuses and any other frequently visited areas.

Read more: https://bit.ly/3RPLLwV

Siemens Advanta Working on Smart Grid Transformation in Tunisia

The Government of Tunisia has hired a consortium of external partners to support a major renewable energy transformation. Siemens is one of the programme's main partners, with subsidiary Siemens Advanta in the lead for the transformation consulting side of the mandate. The Tunisian Electricity and Gas Company (known as STEG) is responsible for the transmission and distribution of electricity and natural gas to all corners of the country.

Read more: https://bit.ly/3ojLKE3

India Plans to Buy 50,000 Electric Buses to Curb Pollution

India is planning to buy electric buses worth $10-billion (approximately INR 1,000 crore) in an effort to transform public transport and curb air pollution. India, being home to some of the most polluted cities in the world, is pushing hard to reduce vehicular pollution using electric vehicles. The Convergence Energy Services Limited (CESL), a subsidiary of the Centre's Energy Efficiency Services Limited (EESL) is planning to float tender for these electric buses soon. CESL will focus on local manufacturing of electric buses as well as EV infrastructure as demands for electric vehicles keep growing in India.

Read more: https://bit.ly/3Os93WC

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Malawi's First Battery Energy Storage System & Solar Plant Get Guarantees

MIGA has issued guarantees of $24 million to JCM Golomoti UK Limited for equity and shareholder loan investments into Golomoti JCM Solar Corporation Limited for the development, construction and operation of a new 20MW solar photovoltaic plant in Malawi. The plant includes a battery energy storage system — the first in Malawi. The guarantees will extend over 20 years and protect JCM against the risks of transfer restriction and breach of contract.

Read More: https://bit.ly/3dc6HhP

Canadian Solar and Gresham House Announce Transaction for a Renewables and Battery Energy Storage Portfolio in the UK

Canadian Solar Inc. announced that it has completed the sale of two fully-permitted solar and battery energy storage projects in the UK to specialist alternative asset manager, Gresham House. The two projects comprise a collocated solar and battery energy storage project in Durham, with 50 MWp solar capacity and 38 MW (or 76 MWh) of battery energy storage, and a standalone solar project in Warwickshire of 28 MWp. Both parties aim to continue to prioritise collocated renewable projects, where the solar PV and battery energy storage plants are built together and share the same grid connection infrastructure.

Read More: https://prn.to/3p0QLl2

Innergex brings online 9 MW/9 MWh First Standalone Battery Storage Project in France

Renewables developer Innergex has completed a battery energy storage system (BESS) project in France, using a BESS solution. Full commissioning has taken place of the 9 MW/9 MWh Tonnerre BESS at Joux-la-Ville, a small commune in the north-central French region of Bourgogne-Franche-Comté. The battery system has been built close to two existing Innergex wind farms, Yonne, built in 2016 with 44 MW gross generation capacity and 30.6 MW net capacity, and Yonne II, commissioned in 2021 with 6.9 MW gross and 4.8 MW net capacity. The plant will contribute to local grid stability and help maintain network security of supply.

Read More: https://bit.ly/3zAuDmH

Construction Begins in Brazil on World's Largest Green Hydrogen and Ammonia Plant

Brazilian chemical company Unigel started the construction of a green hydrogen plant in Bahia, in northeastern Brazil. The facility will be the country's first green hydrogen plant and the world's largest integrated green hydrogen and ammonia plant. The new plant will have an initial production capacity of 10,000 tons/year of green hydrogen and 60,000 tons/year of green ammonia. The USD 120 million (€ 117.6) project should begin commercial operations by the end of 2023. In the first phase of the project, Unigel installs three 20 MW standard electrolyzers from thyssenkrupp nucera, adding up to a total capacity of 60 MW.

Read More: https://bit.ly/3BqY3Gf

Blockchain Peer-to-Peer Energy Exchange Launches in UK

The initiative from Rebel Energy, a green energy supplier "rebelling" to end fuel poverty, and renewable peer-to-peer exchange developer UrbanChain, is supplying the homes with 100% traceable renewable energy from a combination of solar, wind and hydro assets in their specific localities. The 3,000 homes in the P2P exchange are spread across the UK, including in Scotland, Wales, Manchester, Birmingham, London and the southwest.

Read more: https://bit.ly/3RNwlct

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Member Updates

WELCOMING SMART GRID IRELAND

We are pleased to welcome back Smart Grid Ireland as a Regular Member of GSEF. SGI is an independent industry-led networking cluster influencing government and regulation, promoting good corporate citizenship, and actively driving technology solutions that accelerate the cultural and societal changes needed to achieve a digitalized, decentralized, and decarbonized energy network to improve the Island of Ireland's international competitiveness. SGI is contributing to the deployment of a highly decarbonized electricity grid on the island of Ireland by 2030 that meets the national policy targets.

Apart from leveraging the intellectual capital of smart energy stakeholders from around the world, the collaboration between GSEF & SGI will facilitate the expertise and experience in electric grid modernization to accelerate energy transition all around the world.

We believe that the joining of SGI to the GSEF family will be mutually rewarding and will contribute to a smarter and cleaner world.

For more information, you can visit www.smartgridireland.org

Registration Link - https://bit.ly/3HqZfKT

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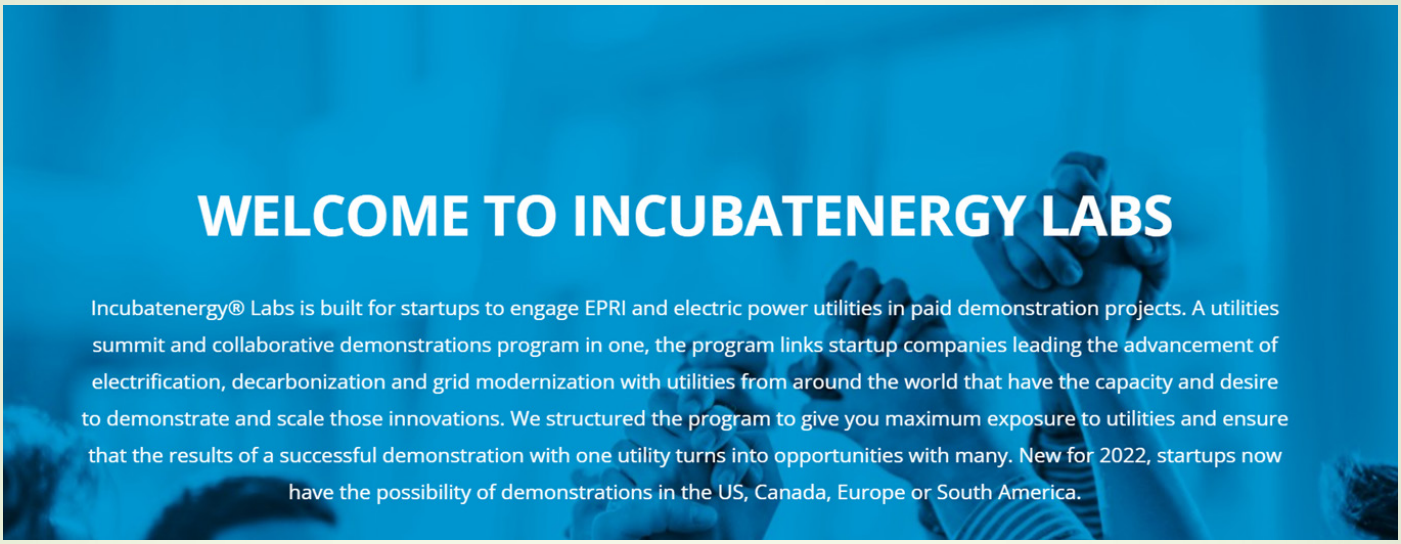
Member Updates

EPRI'S INCUBATENERGY LABS® NAMES 2022 COHORT DEMONSTRATION STARTUPS



Electric Power Research Institute's (EPRI) Incubatenergy® Labs program recently announced the 15 early-stage startup companies that will conduct 20 accelerated technology demonstrations and deployment projects advancing decarbonization, electrification, and grid modernization as part of the 2022 Incubatenergy Labs Cohort.

Incubatenergy Labs is built for startups to engage EPRI and energy companies in demonstration projects. The program connects companies leading the advancement of electrification, decarbonization, and grid modernization with energy stakeholders to demonstrate and scale those innovations. The selected projects fall under one of eight categories : a) Customer and Community Engagement b) Decarbonization and Sustainability c) E-Mobility d) Fixed Premise Electrification e) Intelligent, Predictive and Prescriptive Operations f) Customer and Community Resilience g) Wildfires and h) Workforces of the Future.

Companies were chosen from more than 150 international startups by a panel of energy stakeholders and EPRI representatives. The selected startups will spend 16 weeks working with energy company partners and EPRI subject matter expert advisors on demonstration technology projects.

Supporting utilities for this year's Cohort include American Electric Power, Ameren Corporation, Fortis Inc., Tennessee Valley Authority, Xcel Energy, Consolidated Edison Co. of New York, Enel, Entergy, FirstEnergy, Grupo Energía Bogotá, National Grid Partners, New York Power Authority, Pacific Gas and Electric, Portland General Electric, Salt River Project, Southern California Edison, and Vermont Electric Power Company.

EPRI's Artificial Intelligence initiative, AI.EPRI, also is supporting several of this year's projects.

Article contributed by Mark McGranaghan, EPRI Fellow, EPRI

GSEF Smart Grid Editorials

INFLATIONARY CRISIS AND IMPACT ON DECARBONIZATION

In the October 2021 GSEF Newsletter (just prior to the COP26 meeting), I wrote about big issues that still required unpacking to achieve Net Zero 2050. Not only has this not been done, but pressing global issues such as the Ukraine conflict, high inflation, energy supply imbalance and agriculture commodity shortages makes Net Zero 2050 unlikely. Here are the nuances.

Net Zero (in simple terms) means "we retrieve all the carbon emissions we put out" (personal, public, business, industry), by (1) using clean energy (renewables); (2) consuming less (conservation); (3) growing trees (carbon offset); (4) purchasing market offset credits (financial offset); and (5) storing CO2 (carbon capture). In most cases it would be all of the above. To make this viable, we need to get consensus on two large focus areas:

A. **Financial** - Economic impact, affordability and market mechanisms:

1. *Financial Reconciliation and Stranded Fossil Assets:* Global fossil energy assets are about US$ 2.5 trillion (3% of global GDP of US$ 84 trillion). New clean investments are projected at US$ 1.0 trillion (1.2% global GDP). Government's "unproductive" debt globally stands at US$ 15 trillion (17% global GDP). Developed nations have not made their US$ 100 billion annual contributions. Many governments also own fossil energy assets (hence reluctant to write-off). All these financial pieces need to be reconciled duly acknowledging that repurposing fossil assets is limited. What is the transition strategy for capital markets?

2. *Affordable Carbon Pricing and Fuel Mandates:* Carbon levies currently at US$ 18-35/ton is projected to rise to US$ 100/ton by 2030. The open market price currently is just US$ 8-11/ton. Large emitters call for such levies to fall to US$ 60/ton beyond 2030 to ensure business continuity. Net Zero does not mean zero carbon fuel use but rather less consumption. A carbon market must offer choices for "net residual" offset (avoid, reduce, offset). Removal costs are not linear (last 10% removal is more expensive than first 10%). High carbon levies will not reduce consumption in the transport and shipping sectors and will require alternative fuel mandates (EV, hydrogen). What would be a good policy reconciliation?

B. **Technology** - Efficacy and permanence for sustaining net-zero beyond 2050:

1. *CO2 Removal/Sequestration:* Large emissions at source (>10,000 ppm) offer efficient capture as opposed to a more diluted form after its atmospheric release (400 ppm). In a 1.5 deg C scenario, additional direct-air capture (DAC) will be needed to remove prior CO2 accumulation. However, DAC should not become "business as usual" for large emitters. They need to focus on greener production methods. No clarity yet.

2. *All Carbon Sequestrations and Carbon Credits are not equal:* Terrestrial, biosphere and geosphere sequestration are not equally effective. Trees and soil return CO2 back eventually. Geosphere storing is more permanent but expensive. Carbon-avoidance offsets (growing trees) is not zero sum (one emits, the other does not, so net carbon increase), whereas carbon-removal offset is carbon neutral (one emits and the other removes). Clear and prescribed policy distinction is needed.

The COP26 deliberations were ineffective in addressing these pressing issues. Most developed nations backtracked on their earlier promises while a few developing nations made better specific commitments. None advocated that given varying levels of affordability and enforcement, these efforts are best served when focused closer to the local communities i.e., (a) what should be the consumer's net-zero effort (financial/commodity use); (b) how will tally and enforcement mechanism work given unequal clean-fuel resources and removal technologies; and (c) what will the new green mobility and energy roadmaps look like. In most cases, this is not national but regional.

Within months of the COP26 meeting, two major events (a) the Ukraine-Russia conflict and (b) global inflation, shook the world and now holds the attention of all governments. This is resulting in several immediate reactions:

1. *The Ukraine-Russia conflict is forcing nations to rethink fuel and food security.* Importing/trading vast quantities of fuel and agricultural related supplies (especially during troubling times), now appears as a triple-whammy (high cost, erratic supply, foreign exchange burden). This energy and agricultural commodity imbalance are resulting in high prices of almost everything else.

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2. *Stagflation is sticky and difficult to manage (lessons from 1970s/1980s).* If not contained quickly, it could take up to 5-7 years to restore economic normalcy. Aggressive interest rates hikes risk a recession in weaker section of the economy. Global interest rate differential is already causing currency swings. Developing countries have limited fiscal/monetary bandwidth and hence more vulnerable.

3. *Lower energy prices are key to alleviating inflationary pain.* High electricity, natural gas, diesel, and gasoline prices push up costs of all consumer goods and services. Efforts to increase global oil and gas supplies (to lower prices) have been unsuccessful. This is resulting in countries exploiting their domestic "dirty" fuels (like coal) towards electricity production and industrial thermal applications.

Managing this severe inflation will come at the expense of delayed decarbonization. The setback could be 7-10 years. It is disappointing to many NGOs. The bitter reality is that governments are already redirecting budgeted expenditures away towards meeting shortages and price hikes. Only "in-flight" decarbonization projects are moving forward. An over-zealous decarbonization investment now poses additional risk of "bad inflation" (unnecessary cost-rise) without any improvements in the underlying economy.

Dependency on foreign oil and gas imports above 25% is not strategic even during normal times (let alone during conflicts). Foreign imports always have potential for price volatility. Notwithstanding current climate change impacts, oil and gas deprived countries with abundant domestic coal (India, China, Indonesia, South Africa, Poland, erstwhile CIS nations) must turn to producing their own domestic synfuels (and even hydrogen) from coal/ biomass/ agriculture gasification. Charcoal-like briquettes can also be made from biomass. While synfuels (not hydrogen) will emit CO2, they are cleaner burning. At one time, USA, UK and Australia produced synfuels from coal till natural gas exploration became viable. *Domestic fuels enable countries to set domestic prices without external hard currency pressures. The higher domestic fuel price can always be offset by the price of sovereignty*

However, there is a silver lining in all this delay and if attempted strategically, could keep the decarbonization agenda still alive. *It lies in our efforts to make (a) existing energy assets climate resilient within reasonable affordability and (b) working towards seasonal storage of green energy (akin to fuel stockpiles)*. Both of these are a perquisite to sustained decarbonization and national energy security. Even if governments do not invest today due to pressing circumstances, such policies would allow for unfettered private sector investments. Four specific areas come to mind, (a) promoting hydrogen/ammonia value-chain as a viable long-term seasonal storage; (b) making existing energy assets (particularly last mile) weather-resilient through digitalization and limited physical upgrades; and (c) aggressively writing off government owned old and inefficient fossil assets. All these choices support current economic relief and yet support longer term decarbonization vision.

It is argued that climate change inaction today will push up future social economic costs (estimated 6-8% of global GDP for a 2 deg C temp rise scenario) and will continue to play havoc in the meantime (US$ 2.4 trillion economic loss this past decade). True, but hyper-inflation affects everybody causing structural imbalances and social unrest. It is the dragon that needs to be slayed. This decarbonization timeline setback must be utilized to better articulate practical and cost-effective decarbonization plans to the people. Citizens need to see themselves in the solution (how, what, where, when) as opposed to earshot scientific or political debate. Practical implementation in the local communities must be the focus of all such discussions.

So, let's hope Net Zero 2055+ (delayed from 2050) crystalizes operational and community mechanics. But the loud messaging for now must be on containing this inflation and not decarbonization.

Article contributed by Ravi Seethapathy, GSEF Ambassador for Americas

Smart Grid Events

28th August - 02nd September, 2022 : CIGRE Session
https://session.cigre.org/

14th - 15th September 2022 : MENA GRID EVOLUTION SUMMIT
https://www.nispana.com/ges/

20th -22nd September, 2022: Enlit Asia 2022
https://www.enlit-asia.com/live-event/

21st -23rd September 2022: 13th Clean Energy Ministerial, Pittsburg, USA
https://gceaf.org/

21st -24th September 2022: 17th IAEE EU Energy Conference
https://globalenergyprize.org/en/2022/04/11/17th-iaee-european-energy-conference/

22nd September, 2022: World Energy Storage Day (WESD)
https://energystorageday.org/

17th-21st October, 2022: IEC 61850 Week 2022 Cardiff UK
https://www.smartgrid-forums.com/iec-61850-week

24th-27th October, 2022: 25th World Energy Congress
https://bit.ly/3y04r3X

25th -28th October, 2022: 15th Singapore International Energy Week (SIEW)
https://www.siew.gov.sg/

26th - 27th October, 2022: Future of the Grid
Sands Expo & Convention Centre, Singapore
https://bit.ly/3HjmDde

26th - 27th October, 2022: Asian Downstream Summit (ADS) & ARTC
https://asiandownstreaminsights.com/events/asian-downstream-summit/

29th November - 1st December 2022: Enlit Europe Frankfurt, Germany
https://www.enlit-europe.com/

01st - 4th March, 2023: India Smart Utility Week 2023
http://isgw.in/

22nd – 23rd March 2023: Enlit Australia
https://enlit-australia.com/

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GSEF at a glance

Charter Members

Think Smart Grids

India Smart Grid Forum

Korea Smart Grid Association (KSGA)

Prakarsa Jaringan Cerdas Indonesia (PJCI)

GridWise Alliance

Regular Members

Smart Grid Mexico

Japan Smart Community Alliance

Smart Grid Ireland

Utility Members

Electricity Generating Authority of Thailand (EGAT)

Electricity Supply Commission of South Africa (ESKOM)

EDM Mozambique

Tenaga Nasional Berhad (TNB) Malaysia

European Distribution System Operators (E.DSO)

Botswana Power Corporation

Associate Members

Green Business Certification Inc.

Florence School of Regulation (FSR)

Energy BlockChain Consortium

Caribbean Electric Utility Services Corporation

Electric Power Research Institute

Current Working Groups

- Blockchain for Utilities
- Regulatory Changes or Regulatory Reforms for the post Covid Digital Utility
- AI and Analytics for Utilities

Working Groups in Pipeline

- Green Recovery Playbook for Utilities

Contact us for more information.

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