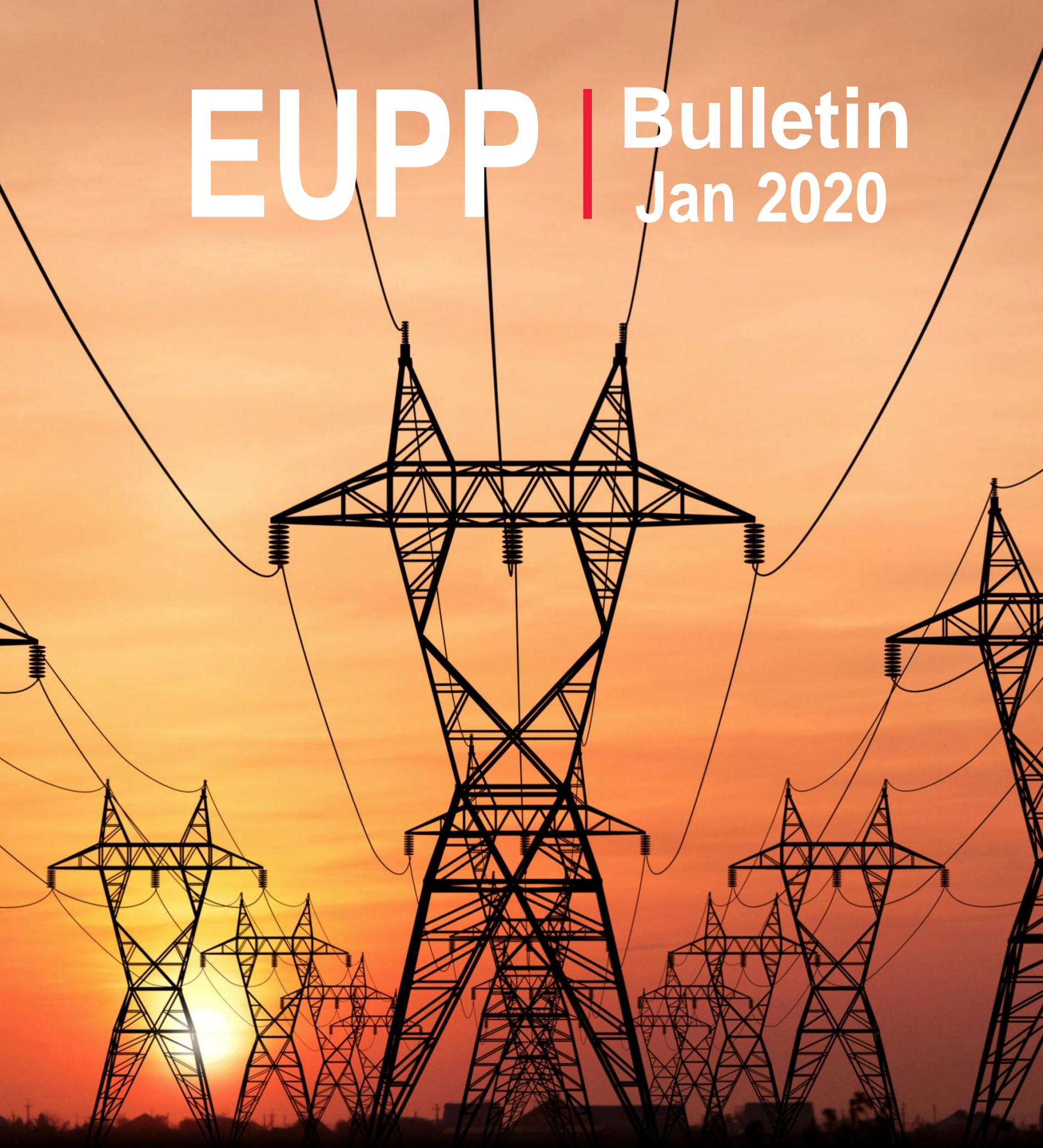


# EUPP | Bulletin

Jan 2020



**USAID**  
FROM THE AMERICAN PEOPLE

**USEA**  
United States Energy Association



# Letter from the Director

Welcome to the EUPP Bulletin, a publication of activities and success stories achieved by USEA's Energy Utility Partnership Program (EUPP), a partnership with the U.S. Agency for International Development (USAID).

The Bulletin highlights EUPP's work, but also upcoming RFPs, volunteer opportunities, and goals. USEA currently has partnerships in Colombia, Ethiopia, India, Kenya, Rwanda, Senegal, Tanzania and Uganda. USEA will continue to use the successful volunteer peer-to-peer approach to assist USAID partner utilities in improving their service and reliability.

EUPP is continuing its geothermal work in Kenya and Ethiopia and will focus on a broad range of issues in other countries including PSSE and system planning; asset management; coal flexibility; and, LNG, among others. EUPP will also begin a new U.S.-Asia Gas partnership and a Central Asia partnership in 2020.

USEA is excited to work with USAID and our volunteers to bring electric power to all. Here's to another great year.

Sincerely,

**Marjorie Jean-Pierre**

Director

Energy Utility Partnership Program

USEA

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# 2019

# Women in Energy

The Women in Energy series is a joint project between USEA and USAID to improve gender policies and promote women in energy. Every month we feature a woman who has shown exemplary leadership in the energy sector. These profiles can be found at [USEA.org](http://USEA.org) under “Women in Energy.”

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DIRECTOR  
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**Abigail Hopper**



PRESIDENT AND CEO  
SOLAR ENERGY INDUSTRIES  
ASSOCIATION (SEIA)

# COLOMBIA

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## Driving Private Sector Investment

Colombia's Ministry of Mines and Energy (MME) held Colombia's first successful variable renewable energy auction this past October. The newly awarded clean energy sellers will mobilize an estimated \$1.3 billion in private sector investment in Colombia's energy sector. The auction is part of the government's strategy to tackle current uncertainties about a potential power deficit in 2021 and 2022 in a sustainable manner. The average electricity price offered in the auction was about 30% lower than current average contracts, and the capacity of the eight winning bids totaled 2.25 GW.

The first auction was originally held in February 2019, but resulted in no awards due to antitrust requirements set to ensure sufficient competition. The Government then adopted measures recommended by USAID to ensure a successful second round. MME revised the auction rules, notably requiring all distribution utilities to purchase at least 10% renewable energy from the auction. This ensured stronger demand and higher purchase price offers. The 2,250 Megawatts (MW) of renewable energy awarded far exceeded the original goal of 1,500 MW. Applied Energy Services (AES), a USEA member, was awarded 255 MW of wind capacity, which will mobilize an estimated investment of \$230 million. The Ministry of Mining and Energy expects that by January 2022 at least 10% of power distributed by companies in the wholesale market will come from renewable sources.

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**Interested in EUPP Opportunities?**

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# EAST AFRICA GEOTHERMAL PARTNERSHIP

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Through the East Africa Geothermal Partnership (EAGP) USAID provided technical assistance to KenGen to improve geothermal reservoir modeling capabilities and drilling targeting accuracy at the Olkaria geothermal field. EAGP supported an evaluation of data accuracy, data collection and processing methods, and modeling practices for the 600+ MW geothermal field. A report provided key feedback to ensure the long-term viability of the

resource, which is expected to provide an additional 700+ MW in the next decade. Procedural changes suggested in the report allowed KenGen to double the frequency of tracer flow tests (TFT), which demonstrate the movement and temperature changes of the geothermal field. This will provide KenGen with twice as much data to include in reservoir models and increase the accuracy of the models to support evidence-based decision making.

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## UPCOMING ACTIVITIES

East Africa Regional Power Trading Workshop – January  
NELSAP/EAPP Load Flow Modeling Training – January  
Rwanda Technical Meetings on Black Start Plan – January  
World Utility Summit – January  
Central Asia Partnership Scoping Mission – February  
Kenya Simulation Training – February  
Kenya Geothermal Technical Assessment – March  
Asia Gas Partnership Launch – March



## Improving KenGen's Community Engagement Strategy Through Strategic Partnerships

Earlier this year, the largest power producing company in East Africa – Kenya Electricity Generating Company (KenGen) – unveiled its community engagement strategy which was developed in partnership with USEA, Power Africa, Contact Energy of New Zealand and community members. The strategy will steer the organization's engagement with communities across the country and is part of its business sustainability strategy. Under the framework, KenGen has adopted a values-based approach geared towards managing expectations of community members and creating awareness about what KenGen is able to deliver.

The company anticipates this strategy will lead to increased growth based on return on investment, improved risk mitigation, faster project implementation, reduced direct project costs, as well as enhanced social benefits for local communities and greater business resilience.

Energy Cabinet Secretary, Hon. Charles Keter, praised KenGen's move, saying they are committed to deepening engagement with communities. "This initiative to put in place a forward-thinking, values-based community engagement strategy is in line with global best practice," he said. Eng. Isaac Kiva from Ministry of Energy read his speech on Secretary Keter's behalf.

KenGen Managing Director and CEO, Mrs. Rebecca Miano, said the company was undertaking substantial energy projects and needed to work closely with communities to deliver on the projects.

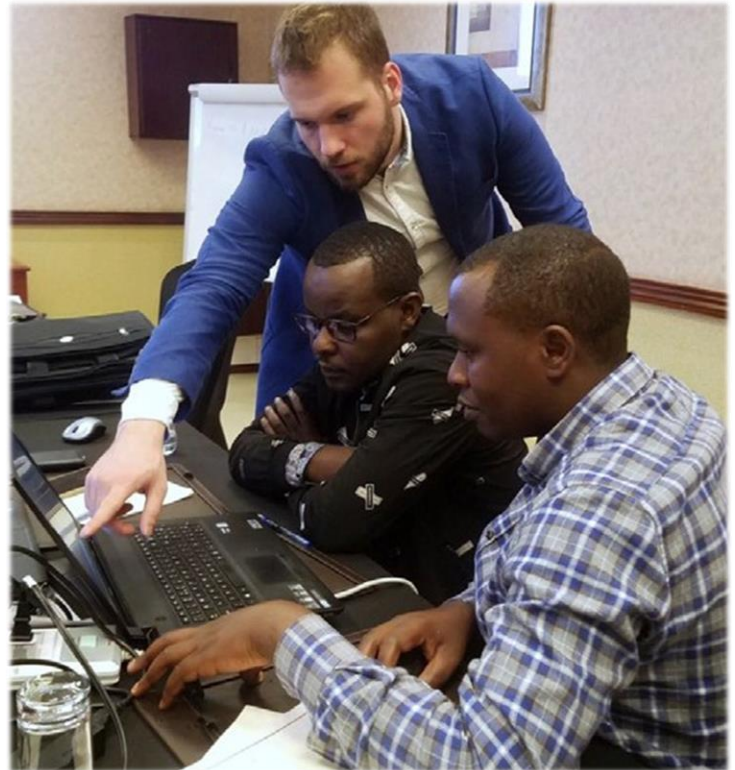
"As an organization, we have seen community expectations change over time, meaning we must always adjust the way we relate with them to fit into the dynamic environment in which we operate. It is also important to point out that there is a growing need for communities to have a greater voice in the priorities and decisions that affect them," she added.



## Improving Frequency and Voltage Controls

The electrical energy sector in Rwanda is undergoing a process of reform to enhance the grid's operational performance because of several network outages. The Rwanda Energy Group (REG) is forecasting additional electrical generation capacity from several projects including methane gas, hydropower, and peat to power. The addition of this new generation will require further network modeling to determine the effect on the electrical grid and identify improvements required to maintain grid system stability.

Accordingly, EUPP supported the development of simulation models necessary to study new power plant integration. These studies will help REG perform current state network stability analyses and recommend mitigation measures to overcome existing network instabilities that began after the commissioning of several power plants between 2013-2016.



*EKC consultant, Bogdan Lutovac, explains voltage modeling techniques to EUCL engineers*

Additionally, EUPP supported an analysis of the existing system operation procedures in REG's subsidiary, the Energy Utility Corporation Limited (EUCL), for voltage and frequency controls. This analysis, along with system enhancement suggestions, will allow EUCL to optimize and efficiently control system frequency. This extended project has further enhanced EUCL's capacity for integrating renewable energy power plants and expanded capacity for network modeling and analysis.



*Site visit to Rwamagana Solar Plant to perform analyses of the existing system operation procedures*



# SOUTH ASIA REGIONAL INITIATIVE FOR ENERGY INTEGRATION—SARI/EI

India is playing a major role in facilitating grid interconnections with Nepal, Bhutan, Bangladesh, and Sri Lanka for effective utilization of regional resources. A synchronous grid in the region helps expand access to low cost electricity sources, diversify electricity supply, balance variable renewable energy, and strengthen grid reliability and resiliency.

In August, EUPP held a three-day workshop that brought together participants from Bangladesh, Bhutan, Nepal, and Sri Lanka to educate them on the steps and strategies to synchronize their grid with India's. Speakers presented case studies on interconnections in the Gulf Cooperation Council Interconnection Authority, the European Network of Transmission System Operators for Electricity (ENTSO-E), and the Ukraine-Moldova interconnection to ENTSO-E.

The workshop also included a site visit to Power System Operation Corporation Limited's (POSOCO) Northern Regional Load Despatch Centre in New Delhi. This site visit allowed the participants to learn more about POSOCO's role in system operation and their plan to increase Automatic Generation Control (AGC) throughout their generation fleet to reduce the overall system costs. After the workshop, a survey revealed most of the participants (85%) considered "economic interchange" as the main driver for a synchronous connection, and 57% believe that the Bangladesh, Bhutan, India, Nepal subregion will become completely synchronous in "10 years or less". This synchronization will decrease energy costs in addition to increasing cross-border energy trade and competition.



*Site visit to POSOCO's Northern Regional Load Despatch Centre in New Delhi, India*



# UGANDA

## Certifying UEGCL Employees in Asset Management

The Government of Uganda has an aggressive target of increasing energy access from 22% to 80% by 2040. To support this ambitious goal, the Uganda Electricity Generation Company Limited (UEGCL) will create new jobs and must provide human capacity training to manage new generation assets efficiently, such as their new hydropower dams: Isimba and Karuma.

EUPP provided a five-day certification training on asset management in accordance with the Institute of Asset Management and the ISO 55000 standard. By the end of an intense week of training, all 15 UEGCL participants passed the Institute of Asset Management's Certification Exam and have become certified in Asset Management. This has led UEGCL to create a team of asset managers who will implement a strategic asset management plan for the whole organization.



USAID/Uganda's Oscar Ankunda and UEGCL CEO, Dr. Mutikanga award certification to EUCL employee

As a result of this training, UEGCL is more equipped to prioritize its assets and make data-driven decisions based on information gathered in asset management practices. These decisions will cascade down to the operational level where preventive maintenance plans and replacement/ refurbishment schedules can be made accordingly. The organization is also better prepared to

plan and forecast budgets for the different assets to ensure profitability and financial growth throughout the life cycle of assets. By supporting Uganda's journey to self-reliance, UEGCL can now recognize and manage the risks involved in asset failures and therefore define level of service across the different assets and set up systems to monitor performance to ensure sustainable use of physical resources.



Group photo of Asset Management Certification Training in Kampala, Uganda

# Meet the Team

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**Ashley Ndir**



**Deputy Program  
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