Vol. 13 Issue 4

Alternative Energy Africa

SINCE 2008 2008-2020

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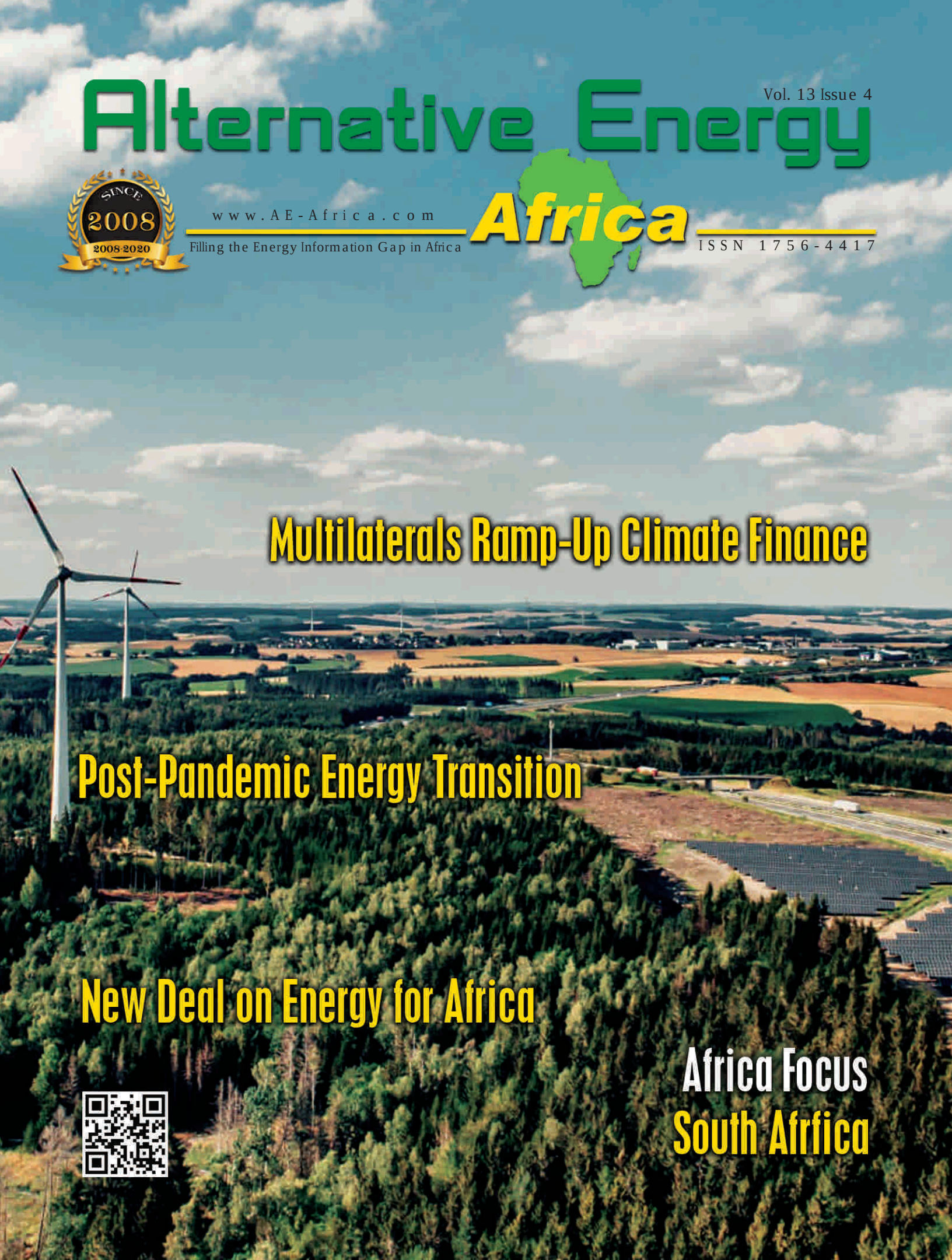
ISSN 1756-4417

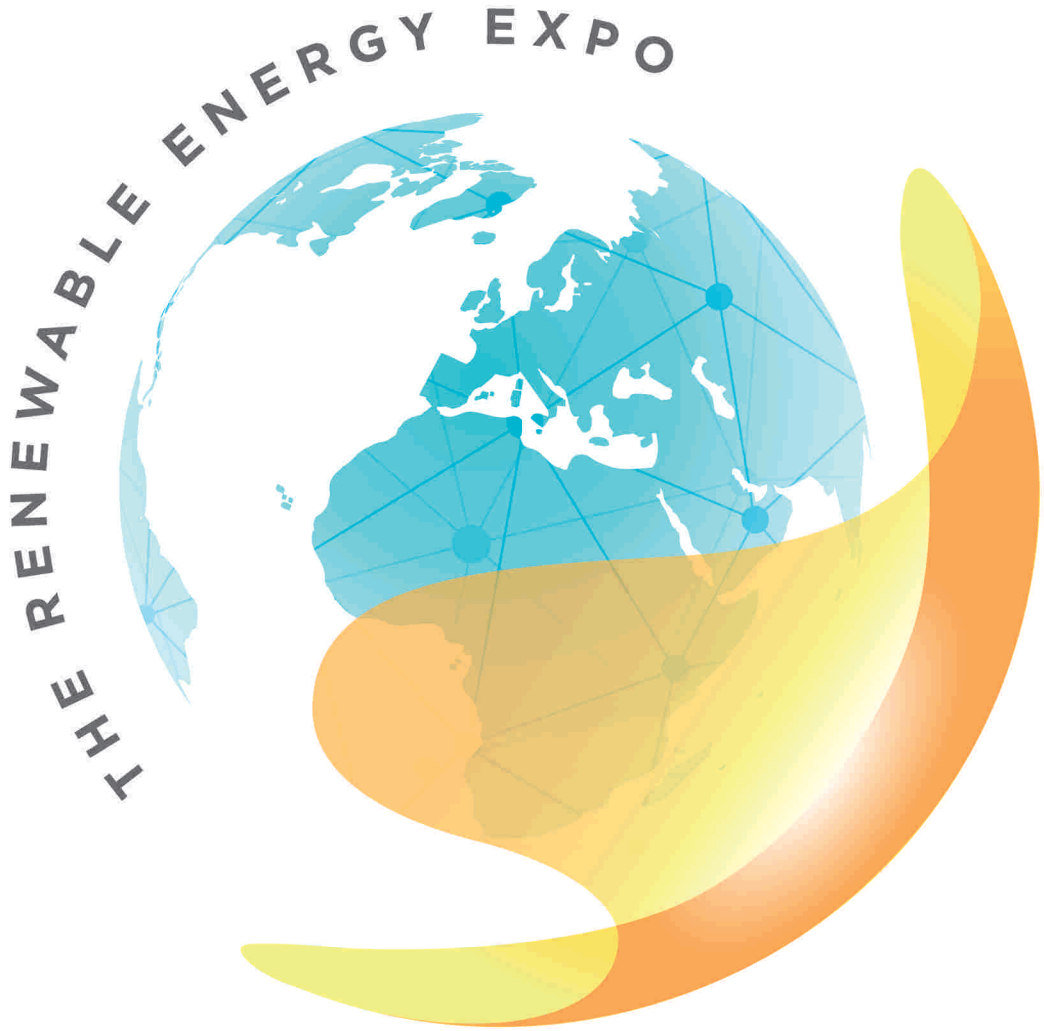


Multilaterals Ramp-Up Climate Finance

Post-Pandemic Energy Transition

New Deal on Energy for Africa

Africa Focus
South Afrfica



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BayWar.e. constructs hybrid solar-wind energy system

Source: BayWa r.e.

Publisher's Note

MESSAGE FROM THE PUBLISHER

Dianne Sutherland

Despite the pandemic, globally, renewable energy policies and projects continue to emerge while technology advancements also materialize. "Political will" plays a key role in this trend, especially that of the European Union while international development agencies and institutions play an important supporting role. If the upcoming election in the United States goes with the Democratic Party, you can expect a future President Biden to firmly put the US back in the climate mitigation game and renew its participation in many international treaties, as well as future agreements.

Although the Trump administration is not pro-sustainability when it comes to the environment, the United States has remained active in pushing forward its goals domestically, mainly as a mandate by its individual states and local governments which are setting sustainable, clean energy agendas as priorities. US governmental organizations, such as USAID utilizing its PowerAfrica program, still work outside US borders to assist the developing world in planning and attaining their sustainable development goals.

With a Biden presidency, American business will be empowered and incentivized to take new and bolder steps to reach Net Zero targets by no later than 2050 under his "Clean Energy Revolution" scheme. His plan will call for a "new technology focus" that can be exported around the world. Specifically, a Biden administration would "rally the rest of the world to meet the threat of climate change," stand with America's allies, stand up to adversaries, and make clear to world leaders the necessity of making climate mitigation a global partnership.

According to the published Biden plan, he will "not only recommit the United States to the Paris Agreement on climate change – he will go much further than that. He will lead an effort to get every major country to ramp up the ambition of their domestic climate targets. He will make sure those commitments are transparent and enforceable, and stop countries from cheating by using America's economic leverage and power of example." He would also look to fully integrate climate change into US foreign policy and national security strategies, as well as its approach to trade.

If Biden gets elected into office, this will obviously be good news for the global green energy sector. It will translate into more partnerships with, and investments into African nations. With the US election coming up on November 3, the world will be watching with anticipation to see if global relations will return to the pre-Trump era, or if there will be another four years of uncertainty on America's stance on climate change, and just about every other issue. Stay tuned!

In this issue, Scott Shemwell takes a closer look at the energy transition in a post-pandemic decade, while South Africa is the subject of our Africa Focus. Multilateral development banks are setting records in climate finance, be sure to check out the Markets & Policy section to learn more. As always, your comments and suggestions are welcome and can be sent to *info@AE-Africa.com*.

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DRC Launches 600-MW Kinshasa Solar City

The government of the Democratic Republic of Congo has launched the construction of a 600-MW solar photovoltaic (PV) plant in Menkao, a district located in Kinshasa. The construction of the Kinshasa Solar City project is being carried out by Sun Plus, a subsidiary of The Sandi Group, under a build–own–operate–transfer (BOOT) basis.

The electricity generated by the future Kinshasa Solar City power plant will be fed into the grid of the state-owned utility, National Electricity Company (SNEL). According to the authorities of the DRC, Snel will purchase 100% of the electricity produced by the solar power plant at a set rate of $0.095 per kWh as per a 25-year power purchase agreement (PPA) signed by the two entities.

The project was conceived by Sun Plus in partnership with the city of Kinshasa and SNEL. It is also expected to be extended to a capacity of 1,000 MWp in the near future. According to Dr. Rubar Sandi, the Managing Director of TSG, the project is to boost the economy of the country through the creation of jobs for the Congolese people during and after the construction works, as the TSG workforce represents only 10% of the necessary personnel.

Egypt Cancels West Nile PV Project

The state-owned Egyptian Electricity Transmission Company (EETC) has reportedly cancelled a tender for the construction of the 200-MW West Nile Solar Photovoltaic Power Plant. The facility was to be grid-connected and help the country diversify its energy mix.

This decision is reportedly due to low demand in the local market at this time. ACWA Power, Alcazar Energy, First Solar, Infinity Energy, Lekela Power, Masdar, Orascom Construction, and Tebia were among the 13 companies set to participate in the tender.

Nigeria Launches Off-Grid Solar Tender

The Nigerian Ministry of Power has launched a tender for the construction of several off-grid solar facilities and associated infrastructure projects to improve access to energy in underserved areas. The Ministry is looking for companies who will submit bids for the construction of several facilities in different states of Nigeria and is targeting off-grid suppliers.

The call for tenders includes a project for the construction of off-grid/on-grid renewable energy (solar) micro utility in Umuchiaka, Lowa Autonomous Community in Ihite, Uboma LGA, Imo State, and also in Bantage village in Wukarilga Taraba state as well as in Bayelsa state.

Separately, the tender calls for the supply of a 40-kw solar mini-grid in Benue state along with the provision and installation of a solar hybrid mini-grid supply in Benue state.

In Kaduna state, the tender calls for the provision of one 40 kWp solar PV mini-grid network in Gnami, Kaduna state and one 50 kWp solar PV mini-grid network in Pakau, Kaduna state. In Sokoto state, the government is looking for a 60 kWp solar PV interconnected mini-grid.

KenGen Considers Floating PV

Kenya Electricity Generating Company (KenGen), the state-held utility, is said to be considering the installation of floating solar energy facilities at three of its hydropower dams. A pre-feasibility study for floating solar PV will be conducted by Norwegian firm Multiconsult to assess the potential for installations at the Kamburu, Kiambere and Turkwell reservoirs.

The study will be funded by the German development bank KfW. Multiconsult will look at the social, environmental and climate aspects and associated risks as well as review the power infrastructure at the sites, assess hydro turbine characteristics, operation of the reservoirs, water flow patterns and power evacuation in the grid, as well as provide recommendations about the integration of floating solar plant in hybrid operation with the existing infrastructure.

Kerui Rigs-Up for Ethiopia Geothermal Drilling

Chinese equipment and oil services company Kerui Petroleum said it has successfully lifted the derrick and substructure for the first 1500HP drilling rig at Ethiopia's Aluto-Langano Geothermal Energy Project.

Source: Kerui Petroleum

The completion of the first rigging up marks a milestone in the 70-MW geothermal energy project, which is part of the Ethiopian government's plans to expand geothermal energy generation in the coming few years, the Chinese firm said in a statement.

In February 2019, Kerui Petroleum, in partnership with KenGen, signed a contract with Ethiopia's state utility firm Ethiopian Electric Power (EEP). Under the contract, Kerui Petroleum is supplying two sets of 1500HP drilling rigs, personnel training, drilling operation and related technology transfer for the drilling initially of the 22 wells at Aluto-Langano.

The Aluto-Langano geothermal project's first exploration work began in 1981. The site already has a geothermal power plant that began operation in 1998 with a production capacity of 7.3 MW. The facility, however, has been closed since 2018 due to technical issues.

MCC Signs $450 Million Electrification Pact with Burkina Faso

The Millennium Challenge Corporation (MCC) has made a $450 million compact agreement with the Government of Burkina Faso which aims to address the country's main binding constraint to economic growth: access to affordable and reliable electricity.

Burkina Faso faces significant development challenges, and 43.7 percent of its population is considered poor. However, Burkina Faso also has one of Africa's fastest growing economies, with a 2019 GDP growth rate of six percent.

The compact focuses on three projects: The Strengthening Electricity Sector Effectiveness Project; the Cost-Effective and Reliable Electricity Supply Project; and the Grid Development and Access Project. Additionally, this compact will also support Burkina Faso's increased participation in regional power markets and the development of a potential MCC regional investment. MCC has increased flexibility to promote regional collaboration, trade, and economic growth through concurrent compacts designed to promote regional integration.

Elsewedy to Build High Voltage Substation in DRC

Elsewedy Electric announced that its subsidiary was awarded a contract by SNEL (Societe National D Electricite), the state utility of the Democratic Republic of Congo, to build a 220-15/6.6 kV high voltage distribution substation in the city of Kasumbalesa. The contract value is approximately $38.6 million.

According to a company statement, Elsewedy Electric's scope of work covers engineering, procurement and construction (EPC) of the entire project on a turnkey-basis; and should be completed within 18 months from the project's commencement date.

The company also said the project is strategic due to enabling efficient management of the flow of energy exchanged between the electricity grid of the Southern Africa Power Pool and that of the DRC; and improving energy exchanges and the measurement of this energy exchanged between the DRC and Zambia.

SustainSolar Connects Containerized Solar Mini-Grid in Malawi

SustainSolar, an off-grid supplier, announced that it has recently commissioned a 12-kWp containerized mini-grid in the village of Mthembanji in the Dedza district of Malawi. The solar photovoltaic system provides electricity to 60 households and small businesses in the village.

Source: SustainSolar

"Following Covid-19 related delays, July 2020 saw the successful commissioning and final testing of the first SustainCompact™ containerized solar generation unit as a mini-grid under the Rural EASE (Energy Access through Social Enterprise and Decentralization) project, funded by the Scottish Government in collaboration with University of Strathclyde in Glasgow and United Purpose, an international development and emergency relief organization headquartered in the UK," the company said in a release.

Bringing a stable and low carbon electricity provision to the previously unconnected village of Mthembanji, Dedza District, this mini-grid will be the first experience of wired household electricity and has potential for significant social and economic impact in the village.

The 12kW solar generation unit provides high-quality 220 V power for domestic and commercial use including lights, phone charging, TVs, fridges as well as other productive uses. Being the first of its kind in Malawi, the mini-grid is cheaper, quicker to implement and potentially more financially sustainable than larger capacity mini-grids currently deployed in the country. This new method of rural electrification also allows for more electricity and a higher impact than the solar home systems offered on the market.

Ignite Announces an Open International Tender for 300,000 Solar Home Systems

Ignite Power, a fast-growing Pan-African developer of vital infrastructure projects, announced it is executing projects across Africa, allowing people to enjoy electricity in their homes for the first time. Through distribution, financing, and deployment of solar home systems (SHS), all in the most affordable, sustainable, and reliable manner, Ignite is leading Africa into a more inclusive and sustainable future

Following recent successes, Ignite is expanding operations for further impact and increasing its product mix of solar home systems through a structured, formal procurement process of 300,000 SHS. The company is now looking to procure a large volume of systems to satisfy demand.

Koru-Soin Dam Construction to Begin in September

Construction work is set to begin on Kenya's Koru-Soin multipurpose dam on the River Nyando, in Kisumu in September this year. The dam will generate power at an associated 2 MW hydropower plant as well as address a number of water control needs.

Erick Okeyo, the chairperson of the National Water Harvesting Storage Authority (NWCPC) made the announcement after a stakeholders' meeting regarding the project. Mr. Okeyo said that tenders for the project have been closed for evaluation over the month of August after which the site will be handed over to the selected bidder to start the work.

The Koru-Soin multipurpose dam is designed to control flooding, supply water for domestic and industrial consumers in the city of Kisumu and surrounding towns, supply the existing irrigation schemes in Ahero and West Kano; and generate power at the associated 2 MW hydropower plant.

NUCAFE Sees its First Industrial Solar Power Plant in Uganda

The National Union of Coffee Agri business and Farm Enterprise (NUCAFE) has made a breakthrough to become the first coffee organization in East and Central Africa to commission an industrial-capacity solar power plant at its coffee processing factory outside the capital of Kampala.

This will facilitate production and export of the first of its kind, "Uganda Carbon Neutral Coffees." It will also save 241.3 tons of CO_2 emissions per annum from the atmosphere and planet earth. This has all been possible with support of aBi, NCF/NDF and NIRAS.

Source: NUCAFE Solar

A Ugandan firm, Village Energy, undertook the installation of the solar facility which consists of 442 panels capable of producing 172 kWp.

South Africa Invites Bidders for New Battery Energy Storage System

South African state utility Eskom has launched a tender for a battery energy storage system (BESS) with a minimum of 80MW/320MWh usable capacity at the Skaapvlei substation, in Vredendal, near its 100-MW Sere wind farm in the Western Cape.

A strict selection process will follow and the successful bidder will sign a contract to design, build and commission the storage facility within a period of seven and nine months. They will further operate and provide maintenance services for a period of five years.

The proposed project is a part of the Eskom Investment Support Project (EISP) and Eskom Renewables Support Project (ERSP), which are funded by the World Bank through its International Bank for Reconstruction and

Development (IBRD), in conjunction with the African Development Bank, and the New Development Bank. The cost of the BESS project to Eskom is around $415 million under the first phase of the EISP and the ERSP.

Senegal Introduces VAT Exemption for Solar Inputs

Senegal's Ministry of Energy announced the final signature of an adapted bill exempting VAT for "the production of renewable energies related to solar, wind and biogas energy." This latest decision is part of the governmental strategy which aims to achieve universal access to electricity in this West African country by 2025.

Currently, VAT for equipment and material inputs is 18%. The government hopes the new regulation will accelerate the electrification, particularly with solar, of rural areas in Senegal and spur investment.

At present, Senegal's electrification rate in rural areas is only about 43% while in urban areas it reaches up to 90%.

Waste-to-Energy Projects for ECOWAS Region

The ECOWAS Center for Renewable Energy and Energy Efficiency (ECREEE) is undertaking an initiative for projects that will focus on turning waste into energy for cities in the member countries of the Economic Community of West African States (ECOWAS).

In the ECOWAS Region, most countries face the challenges of municipal waste collection and disposal. While the municipalities continue facing the challenges of waste management, the urban populations however continue to grow and compound existing problems. The challenges of municipal waste management is characterized by the lack of adequate and sustainable infrastructural services. One of the services that is severely hampering the development of these expanding settlements is the unavailability of adequate energy services. This therefore results in inadequate energy services and hence rationing of the available resource through frequent power outages.

Other infrastructural services such as roads, water and telecommunication services are equally hampered by the expanding urban populations. The expanding urban populations contribute to the current waste management problems as well.

To address these problems, ECREEE wants to explore various waste management options that could generate energy from the 'waste'. In this context, ECREEE intends to select a maximum of 6 WTE projects from municipal waste from cities in ECOWAS member states to carry out pre-feasibility studies.

Norfund and Scatec Abandon Kenya's Rumuruti Solar Project

According to local reports, Norfund, the Norwegian state-owned investment vehicle and partner Scatec Solar have decided not to participate in the Rumuruti Solar Park project in Kenya.

Kenergy Renewables is the last remaining company still committed to the project. Kenergy already has a 20-year Power Purchase Agreement (PPA) with Kenya Power in place. The Rumuruti Solar Park, if developed, will produce 40 MW of clean solar energy and will span a 300-acre area, at a cost of around Sh6 billion.

Norfund cited a long development timeline as its reason for withdrawing. "Together with our partner Scatec Solar, we assessed the development timelines to be too long to warrant continued involvement in this project," said Norfund Executive Vice President for Clean Energy Mark Davis.

UKEF to Provide Funding for Sterilized Drinking Water via Solar Technology

UK Export Finance (UKEF) will provide a direct loan of £27 million to the Ghanaian government which will help UK-based Aqua Africa provide clean energy to sterilize drinking water for 225,000 people across the country. Aqua Africa will use solar powered technology to deliver 5 liters of water a day for less than a quarter of a penny.

Source: UKEF

Aqua Africa's Managing Director Philip Foster said: "We commend the tri-partnership approach between the government of Ghana, UKEF and the private sector in securing agreement for this vital social impact investment project that will provide access to clean water to over 225,000 Ghanaians, in support of Ghana's 'Water for All' policy aligned with the SDG agenda.

"We are looking forward to implementing this project and to developing the relationship that will deliver further projects that are planned to follow."

This funding by UKEF is part of a greater £140 million financing package to support UK exports to Ghana and help secure export opportunities for UK companies on major national infrastructure projects across the country.

Orbital Marine Decommissions Prototype Floating Tidal Turbine

Orbital Marine Power Ltd (Orbital), working with Thompsons of Prudhoe and Port of Blyth, have decommissioned their prototype 2MW SR2000 floating tidal turbine. Heavy lift specialists Mammoet managed the tandem lift of the 516-ton structure out of the water and onto the Blyth quayside in what was the port's largest heavy lift to date.

Orbital are reclaiming key components and elements of the turbine to carry out engineering inspections, with the remainder of the structure to be dismantled for recycling and disposal. The unit was towed from Orkney to the Northumberland facility by Leask Marine using the *C-Odyssey* vessel.

The final phase of the full-scale demonstration project follows a hugely successful test program which saw over 3,250 MWh of electricity generated by the SR2000 at the European Marine Energy Center (EMEC) in Orkney. Building on the success of the SR2000, Orbital are currently in the process of manufacturing their 2-MW O_2 turbine to replace the SR2000 at EMEC early next year. The O_2 incorporates key innovations and lessons from the SR2000 that, on a like-for-like basis, will enable a 35% improvement in yield at EMEC.

Source: Orbital Marine

Speaking about the end of the SR2000 program Andrew Scott, Orbital CEO, said: "The SR2000 was an industry break-through and its success is a testimony to the team who engineered, built and operated it. Not only did it validate the conceptual benefits of our floating tidal solution, but it re-set the performance bar for the sector. A truly outstanding platform for us to be building on with our new O_2 turbine. I would also like to thank Thompsons of Prudhoe and Port of Blyth for planning and executing the decommissioning of the SR2000 with precision and professionalism."

GE Wins Hybrid Renewables Project in UK

GE Renewable Energy announced that it has been selected by Wykes to deliver a 25-MW multiple hour duration Energy Storage Systems, to be integrated with Wykes' Solar PV plant at the Chelveston Renewable Energy Park, in the United Kingdom. The site currently operates with 60 MW of solar energy and 26 MW of wind energy, featuring GE's 2.85-MW onshore wind turbines. Wykes will use GE's Reservoir Energy Storage technology to add another 60 MW of solar capacity, for a total of 120 MW of solar and 146 MW from the park.

The Storage system will be the UK's first direct-DC-coupled Solar deployment where the solar panels and the batteries will share a common set of power conversion equipment. This will help improve the overall energy output of the solar-storage hybrid system while optimizing costs and increasing the overall system reliability and flexibility. This represents UK's first DC-Coupled Battery Energy Storage System (BESS) integrated with a solar plant.

With the reservoir energy storage system Wykes have full flexibility for today's market circumstances and future market dynamics. It allows Wykes to fully optimize the energy they generate on site optimize their grid connection and flexibility to choose how and when the energy generated is used.

Vestas Secures 86-MW Order to Extend Wind Project in Finland

Vestas has secured an 86-MW order with German developer CPC Germania for the Lakiakangas III project located in Isojoki in the South Ostrobothnia region of Finland. The order includes the supply, installation and commissioning of 20 V150-4.2 MW wind turbines in 4.3-MW Power Optimised Mode as well as a 20-year Active Output Management 5000 (AOM 5000) service agreement. Turbine delivery is expected to be completed by the second half of 2021.

Vestas has worked closely with CPC Germania to develop the most cost-effective and competitive solution that was awarded in Finland's first technology neutral renewable energy auction in 2019. With this deal, Vestas reinforces its presence in Finland`s wind market, where it has installed roughly 400 wind turbines with a total capacity of almost 1.2 GW to date.

The Lakiakangas III order follows Vestas` contract wins for the Lakiakangas I and Lakiakangas II projects with CPC Germania. Both projects are already fully operational. While Lakiakangas I generates revenue under the Finnish feed-in tariff, the Lakiakangas II project is remunerated under the first Finnish PPA (power purchase agreement) with a third party – meaning it is realized without state subsidies.

Source: CPC Germania

Xodus Launches Major Floating Offshore Wind Study

Xodus Group has launched a three-year collaborative research project on the costs around floating offshore wind. The study, led by Xodus through the IDCORE program, is a collaborative partnership between the Universities of Edinburgh, Strathclyde and Exeter as well as the Scottish Association for Marine Science (SAMS). To enable the best industry outcomes, Xodus is issuing an open call to developers and technology suppliers to engage with the study from the outset.

The project will be key to ensuring floating wind can be a serious contender in the energy mix going forward and will result in a tool designed to assist in key decision making for floating offshore wind projects. It will also create guidance to assist with project finance decision making and to reduce uncertainties in floating offshore wind energy yield assessments.

Titled 'Improving the Bankability of Floating Offshore Wind Projects', the study will tackle the challenges and risks that project developers have in acquiring finance for floating wind projects and develop a methodology to use floating LIDAR data for bankable energy yield assessments. The study will explore the impacts of floating structures on modelling wind resource and incorporating the impact of met ocean conditions on site considerations.

Xodus is already invested in IDCORE, with two of its consultants having previously gained their doctorates through the scheme. With support from Xodus' technical team, the research will be carried out by Ben Smith, a graduate from University College London.

Azelio and ALEC Energy to Set-Up RE Energy Storage Site in Masdar City

Azelio will install a verification project in Abu Dhabi in Q3 2020 together with Masdar and Khalifa University. The purpose of the installation is to evaluate Azelio's energy storage technology for inclusion in the Masdar product portfolio for current and future renewable energy projects. An agreement has now been signed with ALEC Energy to set up the Azelio project site in Masdar city, Abu Dhabi.

The preparation for Azelio's energy storage installation in Abu Dhabi is progressing according to plan. The project has reached an important milestone in a signed agreement with ALEC Energy to prepare and set up the installation site. ALEC Energy is the award-winning solar business division of ALEC Engineering and Contracting L.L.C., part of the Investment Corporation of Dubai. Azelio and ALEC Energy recently signed a Memorandum of Understanding, covering a collaboration for over 49 MW installed capacity of Azelio's energy storage until 2025.

BayWar.e. Constructs Hybrid Solar-Wind Energy System

BayWar.e. has completed the construction of a 10 MWp solar park 50 km north of Bayreuth, Germany. The project was commissioned by a long-standing customer that manages the local property. The solar park is connected to the grid of a wind farm constructed in 2013 with an output of 24 MW, also implemented with the help of BayWar.e.

Source: BayWa r.e.

The main challenge for this innovative project was developing a design that guaranteed a high-capacity connection while simultaneously generating power from both wind and solar energy. Jan-Gerd Bayerköhler, Project Manager at BayWar.e. highlights these challenges: "Solar-wind hybrid projects continue to be in the minority in Germany and thus we have limited experience with such systems. That applies to developers as much as grid operators. Both sides must work closely together to ensure the success of such projects."

Although increased co-operation and manpower may be necessary for these kinds of hybrid systems, they actually prove to be very cost effective as they only require one connection to the grid. "We could only afford the solar park as we were able to use the existing connection to the wind farm," said Bayerköhler.

In addition to being cost effective, hybrid systems will also become more popular in the future due to the positive impacts on the electricity grid. The positive experiences taken from this project have led the customer and BayWar.e. to plan some additional extensions to the farm by up to 22 MWp.

Total and Macquarie to Develop 2GW Floating Offshore Wind Portfolio in South Korea

Total and Macquarie's Green Investment Group (GIG) have concluded a 50/50 partnership to develop a portfolio of five large floating offshore wind projects in South Korea with a potential cumulated capacity of more than 2 gigawatts (GW).

Located off the Eastern and Southern coasts of the country (Ulsan and South Jeolla Provinces), the projects have commenced with an on-site comprehensive wind data collection campaign.

The partners aim to launch construction of the first project of around 500 megawatts by the end of 2023.

With the announcement of the "Green New Deal" plan on July 14, South Korea has re-affirmed its strong ambitions to develop renewable energies which shall reach at least 20% of the power mix by 2030, including 12 GW of offshore wind capacities. The country has a significant potential for the development of a floating offshore wind segment benefiting from strong governmental support and a unique set of local competencies amongst which the extensive shipbuilding know-how and the country's ambitious R&D programs.

Subject to regulatory approvals and satisfaction of other conditions precedent, the partnership will become effective in the autumn of 2020.

Siemens Gamesa Wins 325-MW Onshore Wind Project in Texas

Siemens Gamesa Renewable Energy (SGRE) has been awarded two new onshore wind projects in the state of Texas with a total installed capacity of 325 MW. The projects include the supply of 65 SG 5.0-145 wind turbines and a multi-year service agreement.

Deliveries are expected to begin in the summer of 2021 with the two sites getting commissioned by the end of that year. This win takes Siemens Gamesa's total installed capacity close to 6 GW in Texas, strengthening its position as one of the top 3 Original Equipment Manufacturers (OEMs) in the state.

The SG 5.0-145 wind turbine from Siemens Gamesa has proven to be a very successful product in the U.S. Its new state-of-the-art control system with enhanced blade aerodynamics optimizes power generation.

It has a flexible power rating that ranges between a 4.0 to 5.0 rating, thereby providing a uniquely tailored solution that fits the specific site conditions. Its modular design allows for increased mechanical capacity and optimal adaptation to logistics and construction requirements, providing greater efficiency and a reduced levelized cost of energy (LCoE).

Aemetis Progresses Renewable Natural Gas Production Project

Aemetis, Inc. announced the completion of construction of the first two dairy digesters and four-mile pipeline for the production of renewable natural gas (RNG) to supply below-zero carbon intensity RNG to displace petroleum based natural gas used at the Keyes ethanol production facility in California. It will also provide fuel for trucks and buses.

Aemetis is currently commissioning Phase I of the Central Dairy Digester Project. After Phase I of the project is operational, construction will begin on the additional 15 dairies that have signed agreements with Aemetis and approximately 30 miles of private pipeline.

Source: Aemetis

GE to Scale Up Power Stability in Iraq

With growing demand for electricity, especially to meet the requirements during peak summer, the Government of Iraq is accelerating its focus on strengthening the nation's power infrastructure through two new agreements signed with GE.

A long-term partner committed to meeting the future electricity needs of the nation, GE signed the agreements, valued at over $1.2 billion, with the Iraqi Ministry of Electricity to execute the power sector projects that will secure a reliable power supply across the country.

Accordingly, GE Gas Power will undertake contracts valued at $500 million for the upgrade and maintenance of key power plants in the country, which are mission-critical to sustain the power supply of over 6,000 MW and scale up operational efficiency. Further, GE's Grid Solutions, having secured a contract valued at $727 million in a landmark agreement, will reinforce Iraq's transmission network and interconnection with the electricity grid of Jordan.

In addition to delivering the scope of services, GE will also work with multiple export credit agencies to facilitate the discussion of financing over $1 billion for the projects.

Siemens Gamesa Donates Vital Supplies to Support African Communities During COVID-19 Crisis

More than 100,000 beneficiaries in Africa heavily impacted by the crisis across Egypt, Morocco, South Africa and Kenya have benefitted from Siemens Gamesa's medical, food and sanitary product donations

Siemens Gamesa Renewable Energy (SGRE) has put in place several social responsibility programs to fight the consequences of the COVID-19 crisis. The company has launched a series of social impact projects to contribute to the fight against COVID-19 around the world, including a series of initiatives to help African nations impacted by the crisis. The initiatives included mainly food and sanitary product donations benefitting more than 100,000 individuals in Morocco, Egypt, South Africa, Kenya as well as Jordan in the Middle East.

The company's global campaign covered donations of €1 million worth of healthcare supplies and other relief to hospitals and communities with an allocated sum of €350,000 dedicated to African countries severely impacted by COVID-19. These donations are in addition to the company's pledge to match staff donations up to €1 million for the International Federation of Red Cross (IFRC) 'COVID 19 Emergency Appeal' campaign.

Source: SGRE

Medical equipment donation to a hospital in Ras Ghareb in Egypt

African governments and health authorities are striving to slow down the spread of COVID-19 that is sending shock waves through their health systems, economies, and societies. Many of Africa's healthcare and social systems are not prepared to handle the crisis, and extreme poverty affects 34% of the continent's population, which could lead to even worse effects. Difficulties will increase for those working in the informal sector, which makes up 80% of Africa's employed population.

The aid that Siemens Gamesa provided across the aforementioned African nations benefitted more than 100,000 individuals with the donations of food, sanitary product donations and warm clothing.

The specific donation campaigns included:

In Egypt, Siemens Gamesa is taking long-term actions such as providing medical equipment to Ras Ghareb Hospital that will not only benefit COVID-19 patients, but also provide the hospital with a set of permanent resources after the pandemic.

Through the company's SGRE Impact social commitment initiative which focused this year on alleviating the effects of COVID-19, food bags and sanitary products have been distributed alongside tree planting campaigns benefiting vulnerable rural households in Morocco, South Africa and Jordan. Another project targeted Kenya's Kakuma refugee camp and aimed to provide equal access to medical care and sanitary products, training courses on health and nutrition as well as water and community toilets for the 45,500 refugees.

Source: SGRE

Rapid Response for Midelt's rural communities in Morocco

In Tangier, where the first blade factory in Africa and Middle East is located, the company has provided €100,000 worth of temporary shelter benefitting local authorities in the region. The team has also organized a food and sanitary donation for 1,000 families lasting a month and a blood donation campaign where 35% of the workforce participated.

"We feel it is our responsibility to contribute where we can and help mitigate the effects of this crisis as much as possible. The team at Siemens Gamesa is very proud to work at a company that places value on community," said Sonia Adnane, Head of Communications and Public Affairs Africa. "We hope these acts of social commitment will lay the foundation for a greater spirit of community to support long-term sustainable development across the continent." AEA

By Scott M. Shemwell, D.B.A.
Managing Director
The Rapid Response Institute

Enter Renewable Energy

The Forthcoming Post Pandemic Decade

At the June 2020 Corporate Council on Africa's Leadership Forum regarding the Post-COVID economic recovery, one speaker, "stressed the importance for African countries to create a business environment that is conducive to innovation." Another spoke of the need to, "diversify from reliance on natural resources."

Moreover, major oil and gas organizations such as BP and Royal Dutch Shell are changing their business models reflecting the mature nature of petroleum extraction. By some metrics, revenue from the historic core crude oil commodities is no longer able to sustain profitability alone.

In 1993, the futurist Theodore Mod published a scholarly article depicting the life cycle and substitution of energy types as a function of maturity. This process is depicted in this graphic (*top of column 2*) right taken from almost 30 years ago. For clarity, we have superimposed the redline at year 2020.

One can make the case that the mature crude oil sector is now at a *generational inflection point*. If this hypothesis is correct, expect new investment and innovation to continue to grow for 'renewable' projects accompanied by a continued decline within the historic crude oil segment.

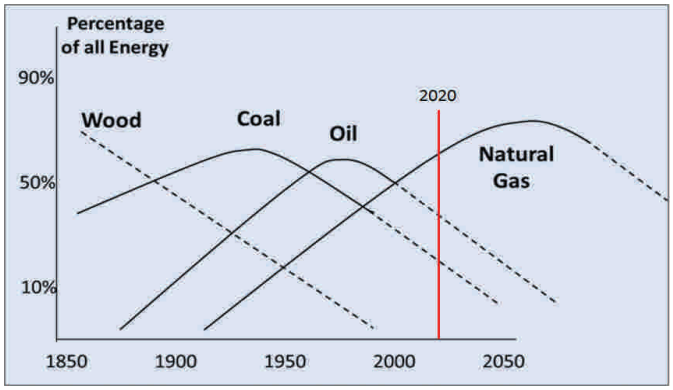
Like Big Oil, others in the liquids resource business must change as well. Note, that according to Modis, the prospects for natural gas remain favorable.

Digital Transformation

"*The digital oil field is getting more digital and less oil***."** Paraphrased from a senior executive interviewed for our *Roadmap to Enterprise Optimization* study published in 2004, it appears now this statement is even more applicable.

The Industry Value Chain as well as organizational Supply Chains are undergoing *digitalization* – digitalizing business processes. Moreover, this broad use of information technologies is enabling new players to enter with potentially disruptive consequences.

For example, in July the technology juggernaut Tesla surpassed Toyota in market capitalization despite manufacturing significantly fewer vehicles. Now Tesla is the most valuable automobile producer in the world. Not bad for a 17-year-old company!



Traditional players may not remain at the forefront of the petroleum sector either. Equity markets are seen as leading indicators portending the future and they are speaking.

Since 1928 ExxonMobil and its predecessors have been in the Dow Jones Industrial Average. Effective August 31 of this year it was dropped from that index and replaced by the software giant, Salesforce.com.

Interestingly, organizations such as Microsoft, Google, Emerson, Siemens and others continue to grow in the petroleum sector. Operators and traditional Energy Service providers remain floundering.

Navigating the Path

No one will be immune to this economic Creative Destruction. The route is strewn with potholes, missing manhole covers and dead ends. There is also a great deal of hype and hope regarding the opportunity to meaningfully reduce dependence on petroleum; supplanting with green renewable resources. Likewise, while renewables may have hit *critical mass* as with all disruptive change there will also be Winners and Losers.

Regions, countries, organizations and individuals will all be impacted. The degree will be a function of their readiness and adaptability to change. Louis Pasteur's famous quote, "Chance favors the prepared mind, and opportunity favors the bold" is as relevant today as it was in 1854!

Readers may remember he was also the father of the Germ Theory of Disease in the late 1800s. Perhaps his sage advice can help guide us today in other ways as well.

New technologies have been over-hyped for decades; maybe even longer. Magic elixirs often peddled by modern day snake oil sales representatives. Decisions and change management processes based on emotion will most like fair badly. *Caveat emptor* is still the best defense.

Energy remains vital to global economies. Renewables are claiming their role and may even become dominant. The road may be rough but, "Chance favors the prepared …"

Successful Transformation

If the petroleum industry is at or near an inflection point, all constituents must adapt or be left behind. But is this true? Oil will most likely be a key resource for decades to come and time will tell. Again, "Chance …"

So, does the oil commodity continue to offer a viable business model? The short answer is yes, but like coal before it, the opportunities and its role may continuously diminish or at least change. Remember, John Rockefeller's Standard Oil originally sold kerosene before the arrival of the horseless carriage.

Renewable Energy CAPEX Assessment Model

Passive wind energy is an attractive alternative in areas which have consistent wind patterns. For example, engineers can lay out a wind mill field and calculate an output of over 6 million kWh per year or enough power for 1,500 western-style households. Sounds attractive and is often pitched as basically free once installed.

Technology Romance must be met with Fiscal Realities however. There is a large body of knowledge regarding new technology project management methods and associated risk mitigation processes. The Project Management Institute (PMI) is a great source of information on this subject.

Inherently, renewable energy is geographically fixed. For example, solar panels, windmills and other immobile assets require infrastructure delivery systems to get the power generated to market. This must all be factored into a viable project plan.

There are also the usual concerns such as power availability, quality and often higher cost than traditional carbon sources (or at least that perception) that management must address with the stakeholder base. Economics will decide whether an energy solution is advanced forward or not.

Project Framework Model

The National Renewable Energy Laboratory published *A Framework for Project Development in the Renewable Energy Sector* which is available online. There are two major aspects of this model:

- Project Assessment and Communication of the Value Proposition – BEPTC
- Project Seven Core Delivery areas – SROPTTC

This model is consistent with generally accepted project management practices and incorporates risk mitigation processes as well. Briefly,

BEPTC

This is project assessment consisting of the analysis of all data necessary to successfully build and operate a new renewable energy build. This should include options and risk analysis incorporating these five elements.

Baseline – Fundamental project validation
Economics – Energy economics from the Life-Cycle perspective
Policy – Alignment with government policy environments at all levels
Technology – Portfolio of technologies required, i.e., IT, engineering, etc.
Consensus – Stakeholder agreement (so-called *Buy In*)
Finally, project analysis must be expressed in financial terms such as Net Present Value (NPV) before CAPEX or Capital Expenditure approval. In other words:
Technology enablement decisions must be translated into the 'Language of Business.' This is the vernacular of the economic buyer, aka final decision-making authority! Project managers and technologists must understand and incorporate this metric if their project is to be sanctioned.

> *"Site, Resource, and Off-Take are the core elements of project development. Together they create value that promotes further investment. Securing these three elements by contract is a significant milestone for a project developer."*

SROPTTC

These seven elements of the framework are the foundation of a commercial project. It provides decision-makers and implementors with the methodology and timely information they require. A major driver is the management of risk during new energy initiatives.

Site – Facilities selection and assessment processes
Resource – Understanding of the renewable resource supporting energy output, i.e. wind, solar, etc.
Off-Take – Likely customer base perhaps using Power Purchase Agreements (PPA)
Permits – All necessary regulatory permitting
Technology – All engineering stages including documentation
Team – Qualified Multi-Functional groups capable of Delivering all Tasks.
Capital – Financial Resources

Effectively, these are the Delivery components for the project. Sometimes different nomenclature is used by project managers, but the intent is the same. On the Critical Path.

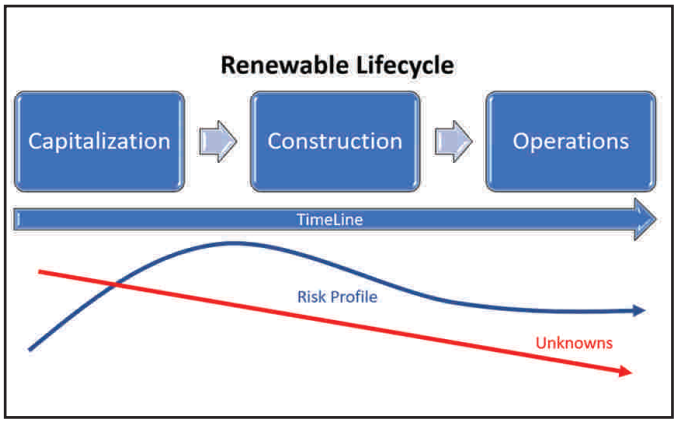
In summary, this Framework provides organizations with the methodology, processes and tools necessary to develop successful renewable energy projects.

Lifecycle Model

A renewable energy investment will follow a similar path to that of any asset intensive investment. Following project approval and

capitalization, the facility is constructed and certified for operations. Operations with associated OPEX (and CAPEX upgrades) will continue until the unit is decommissioned.

The risk mitigation strategy must also reflect the lifecycle stage. During the design phase, new build risks rise to the highest level as do the *Unknowns* or those potential negative impacts we cannot yet foresee. As the 'new' becomes mature both risk and unknowns diminish. Risk mitigation strategies must reflect the current life cycle stage.



As noted, while a renewable energy project may be new for many, it follows standard project and risk mitigation methodologies and processes. At the fundamental level, how is an offshore Wind Farm any different from an FPSO or Tension Leg Platform? This model works for all renewable CAPEX including Solar, Bio, Hydro and others.

Career Planning

Covid-19 has cast major uncertainty on the global petroleum markets. Some say the worst it has ever been. Unfortunately, as of this writing the end game for the pandemic is not known.

However, as in the above model 'Unknowns" decrease as a process matures. The GOOD news; likely, this will happen with this virus as well.

Now is the time to prepare and position oneself for the 'post pandemic decade' in energy. The *basket of energy* includes all sources and opportunities will be available in every segment. However, as discussed herein, some may be better than others.

From Pasteur's perspective, those who have made a career in the 'patch' as well as other segments of the petroleum value chain are well prepared to 'boldly go' forward to new opportunities. So, seize the moment!

Talent Pool

The petroleum sector requires both talented professionals, i.e., engineers, management, accountants, etc. as well as a skilled workforce (welders, truck drivers, pipefitters, etc.). The renewable sector will need to draw on the sum total of this capability as well.

Renewables will provide new career opportunities for those who may be made redundant by the traditional petroleum sector. So as the saying goes, "one door closes and another opens." According to the International Renewable Energy Agency, "Employment remains limited in Africa, but the potential for off-grid jobs is high, particularly as energy access improves and domestic supply chain capacities are developed."

As US politicians like to say, "We are going to retrain coal and oil workers to write software." We all know that will not happen. However, a logical transition is to build on existing skills regardless of what stage an individual is on her or his career path.

Personal Action Plan

This writer has been in the upstream sector since the mid-1970s. While I cannot say I have seen it all, I have seen a lot. Every downturn has resulted in changes. Some dramatic and some incremental.

When things are horrible, Lessons Learned in 40+ years include:

- Assess and focus on your strengths. That, that you know how to do and do well.
- Don't worry about weakness. So what? We all have them.
- Where is your passion? What do you really want to do that adds value?
- Develop a Plan and Go for It!

Renewable energy has a place in today's world and will likely increase its market share going forward. In some ways such as project management, risk mitigation and ROI assessment it is no different than historic carbon-based projects. This allows for a transition; not an abandonment of the existing processes.

Disruptive forces have always been with us. Pasteur's wisdom is a 'go by' for us all.

The virus will pass and opportunities in energy will abound. After all, even Tesla needs energy to charge the batteries.

Finally, the US EPA has a web page; *Renewable Energy Project Development Resource Directory*. If you are involved in a renewable energy project, you might check it out.

About the Author

Dr. Scott M. Shemwell, Managing Director of The Rapid Response Institute is an acknowledged authority and thought leader in field operations and risk management. He has over 35 years in the energy sector leading turnaround and transformation processes for global S&P 500 organizations as well as start-up and professional service firms. He had been directly involved in over $5 billion acquisition and divestitures as well as the management of significant projects and business units. He is the author of six books and for over a decade, he and his firm have helped clients adapt to the dramatic changes impacting global energy and heavy industry sectors. www.theRRinstitute.com Additional information on this subject is available on the RRI Critical Mass blog available on this website. AEA

Climate Financing by Leading Multilateral Development Banks Tops $61.6 Billion

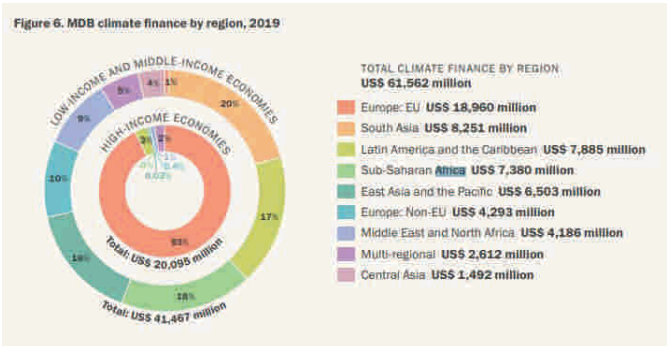
Climate financing by seven of the world's largest multilateral development banks (MDBs) totaled $61.6 billion in 2019, of which $41.5 billion (67%) was in low- and middle-income economies, according to the 2019 Joint Report on Multilateral Development Banks' Climate Finance.

This Joint Report on Multilateral Development Banks Climate Finance is an annual collaborative effort to make public MDB climate finance figures, together with a clear explanation of the methodologies for tracking this finance. This joint report, alongside the MDBs publication of climate finance statistics on their respective corporate media, are intended to track progress in relation to climate finance targets such as those announced around COP21, and the greater ambition pledged in 2019.

The study expands the scope of reporting for the first time to all countries with multilateral development bank operations. It now provides data on MDB climate finance commitments beyond those directed solely at developing and emerging economies, but with the focus remaining on low- and middle-income countries.

This year the report combines data from the African Development Bank, the Asian Development Bank (ADB), the European Bank for Reconstruction and Development (EBRD), the European Investment Bank (EIB), the Inter-American Development Bank Group (IDB Group), the World Bank Group (WBG) and – for the first time – the Islamic Development Bank (IsDB), which joined the working group in October 2017. In 2019, the Asian Infrastructure Investment Bank (AIIB) also joined MDB working groups, and its data is presented separately within the current report.

Figure 6. MDB climate finance by region, 2019



Source: MDB Climate Finance Partnership

The 2019 report shows that $46.6 billion, or 76% of total financing for the year, was devoted to climate change mitigation investments that aim to reduce harmful greenhouse gas emissions and slow down global warming. Of this, 59% went to low- and middle-income economies.

The remaining $15 billion, or 24%, was invested in adaptation efforts to help countries build resilience to the mounting impacts of climate change, including worsening droughts, extreme flooding and rising sea levels. Ninety-three percent of this finance was directed at low- and middle-income economies.

Additional climate funds channeled through MDBs, such as the Climate Investment Funds (CIF), the Global Environment Facility (GEF) Trust Fund, the Global Energy Efficiency and Renewable Energy Fund (GEEREF), the European Union's funds for Climate Action, and the Green Climate Fund (GCF), play an important role in boosting MDB climate financing.

In 2019, the MDBs report a further $102.7 billion in net climate co-finance – investments from the public and private sector – taking the total of climate activity financed in the year to $164.3 billion.

The MDBs have reported on climate finance since 2011, based on a jointly developed methodology for climate finance tracking.

The 2019 edition of the Joint Report on MDBs' Climate Finance is published in the midst of the COVID-19 pandemic, which has caused significant social and economic disruption, temporarily reducing global carbon emissions to 2006 levels.

Dr. Anthony Nyong, Director of Climate Change and Green Growth at the African Development Bank, noted: "Our investments that contribute to the goals of the Paris Agreement continue to grow. The climate finance provided by the Bank increased from $3.2 billion in 2018 to $3.5 billion in 2019 – representing 35% of total project approvals worth $10.2 billion." The largest climate finance investments were made in the energy, agriculture and transport sectors.

Importantly, the Bank exceeded its target of achieving parity between adaptation and mitigation finance by allocating 55% of its climate finance resources to adaptation and 45% to mitigation, whereas globally more than 70% of climate finance is allocated to mitigation. More global efforts are needed to build climate change resilience and adaptation in Africa.

"As African economies face the devastating impacts of the COVID-19 pandemic, slacking action or redirecting financial resources from climate change will further compound these impacts in a diverse and complex manner," Dr. Nyong cautioned.

To download the full report, visit *www.publications.iadb.org.* AEA

By Dr. Kevin Kariuki
African Development Bank

Our Journey to Electrify the Continent Five Years of the New Deal on Energy for Africa

Five years into the African Development Bank's ambitious New Deal on Energy for Africa (NDEA), the Bank's investments are set to provide electricity access to around 13 million people and deliver about 55,000 km of distribution lines, and 6,700 km of transmission lines, of which 3,200 km are for regional interconnections.

The NDEA called for a substantial increase in investments to realize the Bank's High 5 priority to "Light Up and Power Africa," which aims to mobilize finance and expertise to expand access to reliable, sustainable energy for more than 200 million Africans through investments in power generation, inter-connections, transmission and distribution. This effort is critical to unlocking Africa's vast economic potential, enabling the growth of value-adding industries and services, and, most importantly, unleashing the ingenuity of the continent's 1.3 billion people.

The strategy was grounded in the recognition that partnerships are central to its success. In collaboration with African countries, the Bank's interventions have ranged from setting up the right enabling policy environment, supporting utilities, to increasing the number of bankable energy projects. Additionally, the Bank is accelerating major regional projects and driving integration through the Program for Infrastructure Development in Africa, whilst also supporting bottom-of-the-pyramid energy access programs.

Priority was given to investments in low-carbon technologies, set to contribute to over 2 GW of additional generation capacity by harnessing the large, hydro, solar, geothermal and wind resources of the continent. Yet this is only the beginning, as much of the work to date has been centered on setting up the right frameworks to mobilize different partners and alternative forms of capital to tackle the various challenges in the sector at country, sub-regional and regional levels.

Indeed, mobilizing partnerships and rolling out countrywide energy transformation are continuous works in progress. In 2019, as testament to the Bank's efforts in enhancing dialogue and consensus, the G5 Heads of State endorsed the Bank's Desert to Power initiative, intended to build the world's largest solar zone across the Sahel by adding up to 10 GW of solar generation capacity through public and private interventions. The Yeleen Solar Program in Burkina Faso – the first of dozens of similar projects expected to flourish across the Sahel region – will provide energy to 150,000 households in rural areas through solar mini-grids and solar home systems, and an additional 52 MW of grid-connected solar generation, enough to power 30,000 new households.

> Over the past five years, the Bank's interventions reached $1.5 billion in private sector operations, corresponding to **1.7 GW additional** generation capacity through independent power producers.

Achieving the objectives of the New Deal on Energy for Africa will require a significant increase in private sector investments. The Bank catalyzes more private investments into independent power producers and off-grid projects through partnerships with project developers, commercial banks, private equity funds, institutional investors and other development finance institutions. Over the past five years, the Bank's interventions reached $1.5 billion in private sector operations, corresponding to 1.7 GW additional generation capacity through independent power producers.

In addition to mobilizing concessional resources through bilateral and multilateral sources – notably from the European Union, Green Climate Fund and Climate Investment Funds – the Bank hosts the Sustainable Energy Fund for Africa (SEFA), one of the largest multi-donor technical assistance and concessional capital funds in the continent, designed to catalyze private sector participation in renewable energy.

In 2019, the Bank converted SEFA into a special trust fund to widen its interventions into green mini-grids to accelerate energy access to underserved populations; green baseload to support clean generation capacity; and energy efficiency to optimize energy systems and reduce energy intensity. SEFA is expected to contribute to the electrification of more than 7 million households by 2030.

The AfDB has assisted with numerous interconnection projects to improve regional power infrastructure

The Bank is also actively supporting the mobilization of commercial capital through blended finance solutions. The Facility for Energy Inclusion, which was operationalized in 2019, is a $500 million investment platform organized around two funds – off-grid and on-grid – to provide flexible debt products, including in local currency, to emerging business models in the small-scale renewable energy space. The Facility for Energy Inclusion will contribute to more than 3 million new connections by 2030.

To enhance institutional performance and improve the enabling conditions to attract much needed investments, the Bank has also implemented initiatives such as the Electricity Regulatory Index to monitor and benchmark regulatory performance against best practices, the Sustainable Utilities Transformation Agenda, to build sustainable utilities and energy institutions, and the Africa Energy Portal to provide accurate, up-to-date data on Africa's energy sector.

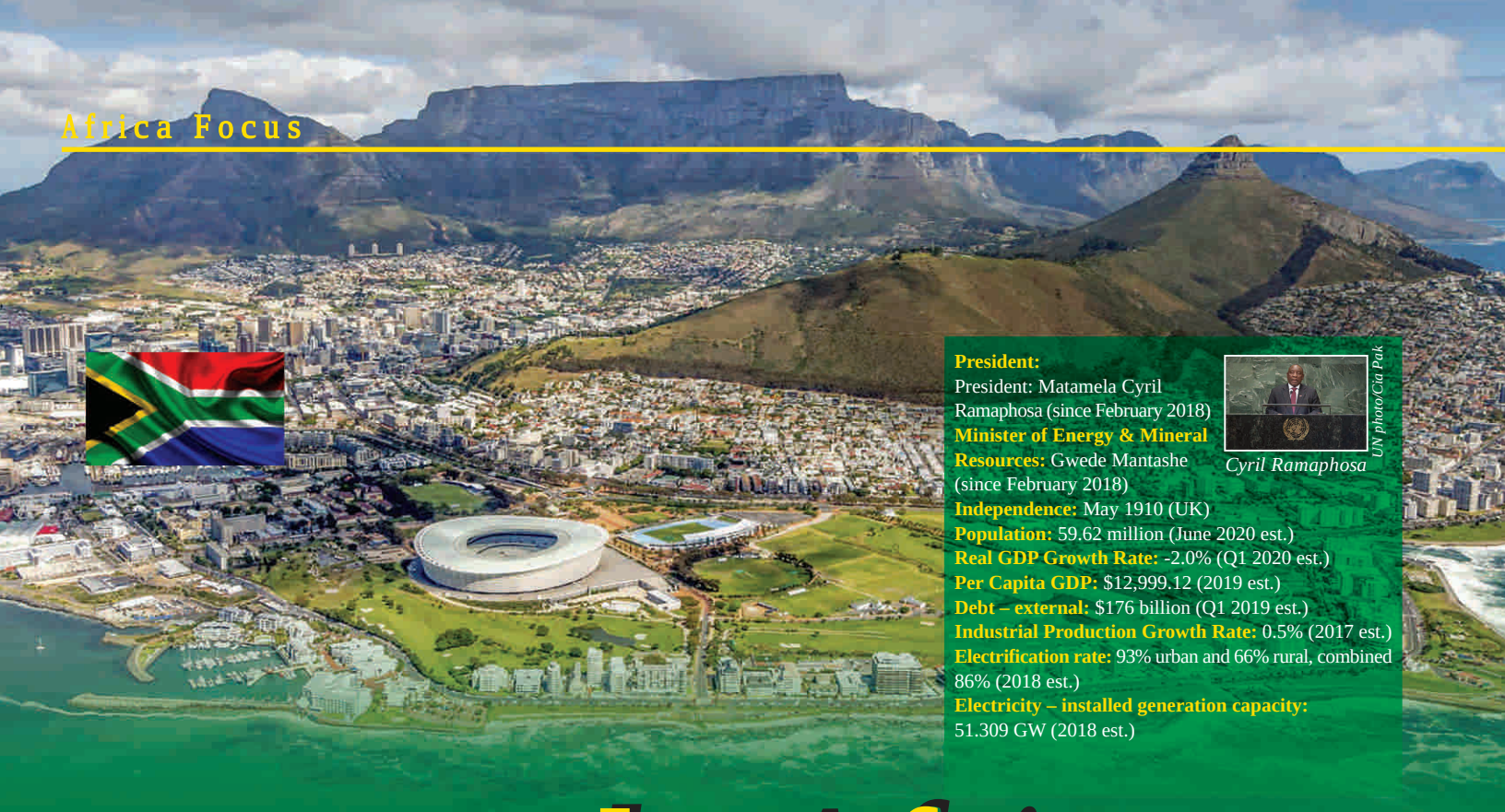
In 2019, the African Development Bank reported that an additional 96 million African households had gained access to electricity between 2015 and 2019, with countries like Rwanda on track to achieve universal access by 2025. Despite this encouraging progress, close to 600 million Africans still lack electricity access and achieving universal access goals under SDG7 still requires greater and swifter efforts to meet the demands of Africa's growing population.

Addressing electricity access remains a costly enterprise, with the International Energy Agency placing the price tag at around $120 billion annually through 2040, four times higher than current levels (*http://bit.ly/37TlIfS*).

While our direct financial contribution is modest by comparison, we are confident that its judicious application to catalytic power projects, innovative financial structures, sector reform processes and acceleration of decentralized solutions will get us far in our mission. AEA

About the Author

Dr. Kevin Kariuki is the Vice President, Power, Energy, Climate Change & Green Growth, at African Development Bank. The African Development Bank Group is Africa's premier development finance institution. It comprises three distinct entities: the African Development Bank (AfDB), the African Development Fund (ADF) and the Nigeria Trust Fund (NTF). On the ground in 41 African countries with an external office in Japan, the Bank contributes to the economic development and the social progress of its 54 regional member states.



President:
President: Matamela Cyril Ramaphosa (since February 2018)
Minister of Energy & Mineral Resources: Gwede Mantashe (since February 2018)
Independence: May 1910 (UK)
Population: 59.62 million (June 2020 est.)
Real GDP Growth Rate: -2.0% (Q1 2020 est.)
Per Capita GDP: $12,999.12 (2019 est.)
Debt – external: $176 billion (Q1 2019 est.)
Industrial Production Growth Rate: 0.5% (2017 est.)
Electrification rate: 93% urban and 66% rural, combined 86% (2018 est.)
Electricity – installed generation capacity: 51.309 GW (2018 est.)

Cyril Ramaphosa

UN photo/Cia Pak

South Africa

Politics & Economy

South Africa was one of the continent's first colonized nations to 'officially' receive its independence from the yoke of colonialism. Unfortunately, this did not mean native South Africans were totally free and the transition to a truly free nation took decades to achieve. To say the country experienced racial strife from the outset of independence would be putting it mildly.

Europeans began migrating in the mid-1600s. Racial conflict between the white minority and the black majority led to apartheid being instituted in 1948 by the National Party and an enactment of apartheid laws made racial discrimination the main institution in the country. This gave birth to some of Africa's most known activists of the 20th century like Bishop Desmond Tutu and Nelson Mandela. It was these men, and many others, who led a bitter struggle to end apartheid. The apartheid laws began to be repealed or abolished in 1990, bringing about the inauguration of Nelson Mandela as South Africa's first black president in 1994. Today the country's politics are dominated by the African National Congress (ANC). Mandela was followed by fellow ANC party member Thabo Mbeki as president. Mbeki was one of the executive faces of the South African government from 1994 with his two terms as president lasting from 1999 to 2008.

Mbeki was followed by his former vice president Jacob Zuma who succeeded him in the presidential office, despite charges of corruption against him and his administration, as well as his personal life making the news on a regular basis. In August 2017 the South African president narrowly survived his sixth vote of no confidence from the country's parliament, although his luck eventually ran out. In February 2018 Zuma finally resigned after defying orders from the ANC to leave office on the eve of another no-confidence vote in parliament. Cyril Ramaphosa was elected by parliament as the next president and remains in office today.

Ramaphosa's road so far has not been an easy one as he inherited a struggling economy, a divided party, and endemic corruption. The May 2019 general elections gave the ANC and Ramaphosa additional time to tackle corruption and boost South Africa's economy. As long as the public does not become disillusioned as they were with his predecessor, Ramaphosa does have the opportunity to make a difference. The high unemployment rate is at the top of the agenda along with reforming the ANC as voters have become increasingly disenchanted with the *status quo*, as voter turn-out has shown in recent elections.

President Ramaphosa has put in place a number of stimulus measures including an extension of the employee tax incentive through 2029, an allocation of R600 million to support rural entrepreneurs, and another R600 million allocated to the clothing and textile sectors.

He also has cited changes made to visa regulations for tourists and highly skilled professionals, and the creation of industrial parks as evidence of his government's efforts to secure economic growth and deal with unemployment.

The COVID-19 pandemic has also placed a heavy burden on the country which relies heavily on tourism. In addition, the government

implemented a lock-down on March 27. 2020 which has had negative economic implications for the country as it relies on its exports for hard currency. The country's GDP has taken a tough hit with recent analysis by the UNDP stating it could shrink 8% this year. The report stated: "The assessment, which will inform policy and program responses, projects South Africa's economy will recover slowly through 2024, with some 54 percent of households that have been pushed out of formal jobs at risk of falling into poverty. A return to pre-2019 economic activity may require at least five years without major, far-reaching interventions."

Renewable Energy Sector

Despite the challenges South Africa faces in meeting domestic power demand, it does have one of the most developed renewable energy sectors on the continent and boasts numerous wind and solar farms, online and supplying the grid. The government in late 2019 approved the revised Integrated Resource Plan (IRP, 2010-2030) which addresses long-term planning for electricity generation and infrastructure. In short, it aims to ensure energy security, meet environmental commitments, minimize costs, and expand access to affordable energy. The 2019 IRP is also designed to diversify the energy mix and meet the country's Nationally Determined Contributions (NDC) pledge.

Currently, South Africa's power output is at about 39 GW. The new IRP sets measurable targets for increasing the renewable energy mix from the current estimate of 11% to 41% by 2030 while also aiming to reduce the share of fossil fuels from 80% to around 50%. Hydropower, solar and wind energy are the main focus of the scheme as the government looks to add 4,600 MW of hydropower, 8,288 MW of solar PV, 600 MW of concentrating solar power (CSP) and 17,742 MW from wind.

The country also plans to restructure state utility Eskom which has long been operating at a loss. Last October, government said it would split up Eskom into three units to include a generation arm, along with transmission and distribution arms. Authorities believe they can accomplish this by 2022.

According to November 2018 estimates, South Africa had around 51,309 MW of installed capacity and 5,568 MW in the project pipeline. The country brought a few important projects online from H2 2019 through August 2020 and has also seen a few projects get underway.

Wind Projects

In November, Enel, through its renewable subsidiary Enel Green Power RSA (EGP RSA), began construction of its Karusa and Soetwater wind farms, with an installed capacity of 140 MW each. The plants, which are both located in the Karoo Hoogland District, Northern Cape province, are expected to be completed by the end of 2021. Karusa and Soetwater will involve an investment of over 200 million euros each.

Enel is building five wind projects in South Africa, for a total installed capacity of around 700 MW in the country. Karusa and Soetwater are the fourth and fifth wind projects Enel Green Power has started building in South Africa since the beginning of 2019, in line with its investment program in the country. The other projects, with an installed capacity of 140 MW each, are Nxuba and Oyster Bay in the Eastern Cape, as well as Garob in the Northern Cape. All five projects were awarded to Enel in Round 4 of the South African government's Renewable Energy Independent Power Producer Procurement Program (REIPPPP).

Source: Enel Green Power

Karusa Wind

Once fully operational, Karusa and Soetwater are each expected to generate over 585 GWh annually, each avoiding the annual emission of around 611,000 tonnes of CO_2 into the atmosphere. The wind farms will be supported by a 20-year power supply agreement with the South African energy utility Eskom, in line with the government's Independent Power Producer (IPP) program.

During the construction phase of Karusa and Soetwater, EGP RSA is expected to utilize state-of-the-art tools and practices such as advanced digital platforms and software solutions that will monitor and remotely support all site activities and plant commissioning, digital tools to perform quality controls on site and smart tracking of wind turbine components. These processes and tools are aimed at enabling swifter, more accurate and reliable data collection, improving the quality of construction and facilitating communication between on-site and off-site teams. Furthermore, EGP RSA is committed to employing local staff as well as hiring local contractors in the construction process, with the aim to promote meaningful socio-economic and enterprise development.

Fast-forward to August 2020, and the country saw the first wind turbine of Goldwind Excelsior Wind Farm successfully connected to the grid. Excelsior Wind Farm is located in Western Cape, the southernmost point of the African continent. With Goldwind as EPC contractor, the Excelsior Wind Farm will continuously deliver green and clean energy to the South African grid in the future.

This project also falls under the REIPPPP, with a design capacity of 32.5 MW, using 13 suits of Goldwind 2.5-MW PMDD smart wind turbines. Goldwind Africa, a subsidiary of Goldwind, is responsible for the overall engineering, procurement and construction (EPC) of the project. The wind farm is constructed by Goldwind's local partners in South Africa. The project creates a large number of job opportunities

for the local community and makes contributions to the development of local business.

Meanwhile, the 120-MW Golden Valley wind farm is the second EPC project of Goldwind in South Africa. This wind farm is now under construction and is planned to connect to the local grid in February 2021. The development is comprised of 48 2.5-MW Goldwind turbines, a substation and 6.7 km of 132kV overhead lines. Current works on-site include the installation of turbines and electrical works.

Solar Projects

BioTherm Energy is working toward completion of its two utility-scale solar plants – Aggeneys & Konkoonsies-II – located 35 km apart in the Northern Cape. The two solar plants will add a collective 132 MW to South Africa's generation capacity and are expected to produce enough energy to power approximately 110,000 households every single year. Both plants will be operated by BioTherm Energy for a period of 20 years under a power purchase agreement signed between the IPP and Eskom. They are expected to be commissioned in early Q4. The facilities provide temporary employment to over 1,000 residents.

Source: SOLA

Konkoonsies solar plant

The Bokamoso solar PV plant is also under construction with commissioning imminent. This PV plant, at 68 MWp, is owned by a consortium formed by the Ideas Fund (managed by Old Mutual), Reatile Solar Power, Phakwe Solar, Business Venture Investments and the Cicada Community Trust. The facility began construction in 2018 and is made up of 236,580 panels installed over a 150-hectare site. Once complete, Bokamos will produce 177,660 MWh of electricity per year.

Scatec Solar and partners in February saw grid connection and reached commercial operation for 86 MW of the 258 MW solar power complex in Upington. The 86 MW facility, known as Sirius, is expected to produce 217 GWh and will lead to the abatement of more than 180,000 tonnes of CO_2 emissions annually.

The three projects in Upington were awarded in April 2015 in the fourth bidding round under the REIPPP. Scatec Solar owns 42%, Norfund holds 18%, the surrounding Community of Upington 5% and H1 Holdings, a South African Black investor holds the remaining 35% of the equity. The two remaining solar plants totaling 172 MW are expected to reach commercial operation within the next few months.

Small scale solar projects also have a role to play and the country's energy giant Sasol in August invited interested bidders to participate in a Request for Proposals (RFPs) process for the development of two embedded 10-MW solar PV facilities at its operations – one in Secunda, Mpumalanga and another in Sasolburg, Free State – as part of its response to climate change.

The RFPs are a first step towards Sasol realizing its commitment and objective to eventually building infrastructure to supply 10 MW of power to each of Sasol's operations. The successful bidder(s) will be expected to design, finance, construct, operate, maintain and own the solar PV facilities and their associated connection at their own cost. The successful Bidder(s) will supply electricity from the Solar PV facilities as IPP(s) to Sasol as part of a long-term PPA.

Hyprop Investments has gone big in commercial rooftop solar and has plans to have 66% of its South African Shopping Mall portfolio fitted with panels. The roll-out of solar throughout most of the portfolio will also mitigate the risk of continuous, rising electricity costs for the company. Hyprop's first implementation at Clearwater Mall proved highly successful and generates 2.91 MW of power at peak. This project was completed in three phases and the electrical power generated by the solar system is fed back into the center grid and consumed in total. The company is planning a fourth phase which it will implement after the necessary approval by NERSA.

Hyprop is currently busy with an installation at Rosebank Mall, Woodlands, Atterbury Value Mart, Hyde Park Corner and The Glen. The work on these buildings are divided into two phases with additional solar to be installed at Clearwater Mall as part of phase four.

Source: Hyprop

Rooftop solar at Hyprop shopping malls

Battery Storage Project

Eskom has launched a tender this summer for a battery energy storage system (BESS) with a minimum of 80MW/320MWh usable capacity at the Skaapvlei substation, in Vredendal, near its 100-MW Sere wind farm in the Western Cape. The proposed project is a part of the Eskom Investment Support Project (EISP) and Eskom Renewables Support Project (ERSP), which are funded by the World Bank through its International Bank for Reconstruction and Development (IBRD), in conjunction with the African Development Bank, and the New Development Bank.

The cost of the BESS project to Eskom is around $415 million under the first phase of the EISP and the ERSP. AEA

Ivorian Green Cluster of SMEs names AfDB a 2020 Green Champion

The Green Cluster of SMEs in Côte d'Ivoire has awarded the African Development Bank a prize for the best technical and financial partner committed to promoting the green economy and supporting small and medium-sized enterprises (SMEs) toward a low-carbon transition.

Source: AfDB

The prize was awarded on July 30 at the Green Awards, an initiative launched in 2019 under the sponsorship of the Ivorian Minister of the Environment and Sustainable Development Prof. Joseph Seka Seka, with support from the country's Minister of Trade, Industry and Promotion of Small and Medium-sized Enterprises, Félix Miézan Anoblé.

Despite the onset of the COVID-19 pandemic, the Green Cluster organized a follow-up event, which recognized the continuing importance of sustainable development, the green economy, and other measures to fight climate change.

The Green Awards represent one pillar of the "Green Days" that were held virtually in Abidjan from 28 to 30 July. The other pillars are Green Talks, and a Green Marketplace. The Green Awards acknowledge and honor the actors that have made a significant contribution to the development of green SMEs and the emergence of a sustainable low-carbon green economy resilient to climate change.

New AfDB Executive Appointment

The African Development Bank Group announced the appointment of David J. Simpson as the Director, Compliance Review and Mediation Unit (CRMU/BCRM), effective from the first of September. Simpson, a Canadian national, brings to the Bank over 25 years of broad-based experience in accountability innovations, collaborative governance, grievance mechanisms, sustainability standards, stakeholder engagement and social compliance auditing & assurance – working with public, private and civil society sector organizations.

He served as the Interim Head of the Project Complaint Mechanism at the European Bank for Reconstruction and Development (EBRD) and was also an adviser to the Independent Accountability Mechanism (IAM) Network, on behalf of the World Bank Inspection Panel, the Office of the Compliance Advisor Ombudsman (CAO), MICI, the independent consultation and investigation mechanism of the IDB, and the Complaints Mechanism of the European Investment Bank.

SGRE Makes Three New Key Appointments

Siemens Gamesa Renewable Energy announced three key appointments to its leadership team, with Beatriz Puente joining as Chief Financial Officer, while Lars Bondo Krogsgaard and Juan Gutiérrez were appointed as CEOs of the Onshore and Service business units respectively.

Beatriz Puente will join Siemens Gamesa on December 1 from NH Hotels where she has served as Executive Managing Director Finance & Administration since 2015. Prior to that Puente spent more than two years as CFO of Aena, the airport group which she prepared for a successful IPO in 2015. Puente, a Spanish national, will be based in Madrid. Thomas Spannring will continue in his role as interim CFO until Puente joins Siemens Gamesa.

Lars Bondo Krogsgaard has enjoyed a distinguished 18-year career in the wind industry, during which he spent periods as CEO of Nordex Acciona and co-CEO of MHI Vestas. Earlier in his career, Krogsgaard spent more than four years with Siemens Wind Power, where he served as CEO for the EMEA region. Krogsgaard, who is Danish, will join Siemens Gamesa on November 1 and be based in the company´s Bilbao headquarters. Alfonso Faubel, the current CEO of Onshore is to leave Siemens Gamesa, and Andreas Nauen will take direct control of the Business Unit until November.

Juan Gutiérrez is to take over as CEO of the Service Business Unit, replacing Mark Albenze who will be retiring after almost 28 years with Siemens Gamesa and Siemens AG. Gutiérrez has been working in the energy industry with Siemens companies since 2005, with the last 12 years in the wind sector. He has experienced many roles in the Americas region including Senior Vice President of Latin America at Siemens Wind Power and most recently CEO of Service for the Americas region in Siemens Gamesa. Gutiérrez, a Colombian national, will be based in Orlando, Florida and will assume his new role from August 15.

Shell Contributes $1.7 Million to Support Energy Access in Africa and India

Shell has granted $1.7 million to six companies providing electricity in India, Kenya, Nigeria, Sierra Leone, Tanzania, and Uganda to support customers in financial difficulty because of the pandemic.

Source dlight

Shell's grants to d.light, PowerGen, Husk Power Systems, Orb Energy and SolarNow will help their customers pay for electricity for up to six months, and contribute to the installation of solar power systems in hospitals and schools. Shell is a minority investor in these companies. The grants will also support customers of RVE.SOL, a company that Shell partners with to deliver social investment programs providing access to energy in east Africa. Through these companies' existing customer networks, Shell's grants will reach up to 700,000 people.

In Kenya, Uganda, Tanzania and Nigeria, Shell's grants to d.light, Husk Power Systems, PowerGen, SolarNow and RVE.SOL are subsidizing the energy bills of more than 110,000 households under heightened financial pressure because of the COVID-19 pandemic.

In Kenya, Sierra Leone and India, PowerGen, SolarNow and Orb Energy are installing solar power systems in more than 30 hospitals and community institutions, including orphanages and schools, free of charge or at discounted rates. A World Health Organization review found that in 11 sub-Saharan countries, only 28% of health facilities and 34% of hospitals had reliable access to electricity.

TDB and AFD Sign Credit Line to Finance Green Infrastructure in Africa

On August 14, Eastern and Southern African Trade and Development Bank (TDB) and the French Development Agency (AFD} signed a $150 million credit line agreement aimed at financing climate infrastructure projects in Africa. The agreement was signed by Admassu Tadesse president and chief executive of TDB, and Ghislain de Valon, director of AFD Kenya.

The non-sovereign loan's objective is to strengthen TDB in its role as a leading regional bank for green finance in the region it serves in Eastern and Southern Africa. The facility will increase the supply of climate finance from TDB, directly contributing to the achievement of the objectives outlined in the nationally determined contributions (NDCs) of TDB member countries in climate change mitigation and adaptation, and in line with Sustainable Development Goals investments and project objectives in the countries where it operates.

Most of the facility (80%) will be dedicated to the financing of eligible climate projects, according to streamlined International Development Finance Club (IDFC) and Multilateral Development Banks (MDB) accorded principles, namely projects that promote efforts to reduce or limit greenhouse gas (GHG) emissions or enhance GHG sequestration, or support adaptation projects and sectoral activities.

The remaining 20% aims to respond with more flexibility to TDB's long-term resource requirements for project funding activities. It will allow for the funding of projects which are compatible with the 2015 Paris Agreement and contribute to SDGs, in other sectors such as telecommunications, health or education.

Thermal Energy Partners and Schlumberger New Energy Announce Creation of STEP Energy

Thermal Energy Partners (TEP) announced, along with Schlumberger New Energy, the finalization of an agreement that creates STEP Energy, a geothermal project development company. STEP Energy will combine Thermal Energy Partners' experience in project development and risk mitigation to advance geothermal power projects with Schlumberger's subsurface and drilling expertise.

"We are thrilled with this partnership. STEP Energy will focus on quickly reaching our first milestone of 100 MW of geothermal capacity. The combined experience and expertise in drilling, reservoir identification and assessment and project execution provide an unequalled opportunity for the success of the new company," said Bruce Cutright, chief executive officer, TEP.

"STEP Energy will create a unique opportunity to de-risk and optimize the development of geothermal power projects, reduce costs and compress schedules. This will unlock the full potential of geothermal power generation globally," said Dan Pfeffer, president, TEP.

ENERGY+ Secures Funding from Cordaid, VentureBuilder and USADF

Energy+, a Malian off-grid solar company, has secured financing from a consortium of international financing partners, among which is Cordaid Investment Management, to help close the electricity gap in Mali.

Energy+ recently announced it has received more than $1 million in commitments from a consortium of financing partners. The funding includes equity and fully funded enterprise development services (EDS) from VentureBuilder, which led the round, debt from Cordaid Investment Management, and grant financing from the United States African Development Foundation (USADF).

Mali is one of the most populous nations in West Africa, with 60 percent of its 20 million people still living without access to modern electricity services. The financing package will enable Energy+ to scale its off-grid business throughout the country through the expansion of its pay-as-you-go and cash sales offerings via its retail network.

The financing secured from VentureBuilder, Cordaid and USADF arrives at a critical stage for Energy+, which is well-positioned to leverage its deep experience in Mali to navigate the challenges presented by the COVID-19 pandemic while also delivering life-changing electricity services to underserved areas of the country.

Pay-as-you-go

"In countries such as ours, pay-as-you-go is the best way to bring quality solar home systems to off-grid areas because it makes energy access easy and affordable. With the help of VentureBuilder, Cordaid and USADF, we will be in a position to transition, in a strategic manner, from a producer of small electrical batteries to a large scale distributor of high-quality solar products," said Simballa Sylla, CEO of Energy+.

"Energy+ brings a powerful combination of remarkable execution capability alongside decades of market experience," says Dan Murphy, Managing Director of VentureBuilder. "With our financing and advisory support, we're confident the Energy+ team is well-positioned to mitigate the downside risks associated with the COVID-19 pandemic and to blend their unique local market knowledge with international good practice."

Jobs and clean energy

Hann Verheijen, Managing Director of Cordaid Investment Management: "Energy+ is an exciting addition to our growing Malian SME portfolio. Energy+ will create jobs and bring clean energy where it is most needed, and the experienced promoters have shown that they can deliver despite a very challenging market. We look forward to a long-term partnership with Energy+ to finance their continuing growth, and in doing so meet our social impact ambitions in Mali and the region,"

C.D. Glin, President and CEO of USADF: "We are proud to support Energy+ alongside VentureBuilder and Cordaid. Our investment in Energy+ is aligned with USADF's mandate to support African off-grid energy enterprises to help them grow, overcome the many hurdles they may face as entrepreneurs, and reach underserved communities in Africa. In Mali, as part of our efforts in the region through USADF's Sahel-Horn Off-grid Energy Challenge, we look forward to helping Energy+ increase access to electricity and support the digitization of the off-grid sector through pay-as-go systems."

Bboxx Launches the New bPower20 Product

Bboxx, a next generation utility that manufactures, distributes and finances decentralized solar powered systems in developing countries, has launched the bPower20 product, to make solar energy more accessible at scale.

Source: Bboxx

Designed for customers who are at the beginning of the energy ladder, the new bPower20 product has been created to power rural households and micro-businesses. Bboxx's research identified a gap in the market to better serve the significant proportion of the population in the developing world with lower energy requirements, but who still demand a superior customer experience and the provision of reliable, high quality electricity. The product will be rolled out initially in key markets Togo, Rwanda, Kenya, and the Democratic Republic of Congo, with further markets lined up for 2021.

The bPower20 is a high-performance energy solution, designed for a great customer experience at a low lifetime cost. The affordable product comes with a 20W solar panel and daily usage of up to 51 Wh (watt hours). The new lithium battery technology has higher energy density with the capability to store more energy. It is optimized to last longer, increasing the service life up to six years.

It has an interactive screen enabling customers to communicate seamlessly with Bboxx's teams through Bboxx Pulse® – Bboxx's comprehensive management platform. Leveraging IoT (Internet of Things) technology, this ensures efficient remote management and monitoring of globally distributed Solar Home Systems (SHSs). As with Bboxx's other SHSs, the bPower20 is available on a pay-as-you-go basis via mobile money. The launch also showcases new eco-friendly packaging, made from recycled paper and widely recyclable.

This latest affordable product will help Bboxx sustainably reach a wider segment of the global market, where demand for essential energy has been strong throughout the global pandemic. The benefits of clean energy go beyond energy itself as shown by Bboxx contributing to UN Sustainable Development Goal (SDG) 7 – affordable and clean energy for all – but also 10 other UN SDGs. Notably, the company's SHSs have supported over 87,000 people to undertake more economic activities, positively impacted over 337,000 school-aged children, and off-set more than 460,000 metric tons of CO_2 equivalent.

2020 marks a milestone year for Bboxx as it celebrates its 10th year in business, having transformed over one million lives through access to energy. The company also recently announced the launch of its new global brand as it invests in the next phase of its growth journey, and Bboxx's new brand is integrated into the bPower20 product.

Christopher Baker-Brian, Co-Founder and MD of Product Division at Bboxx, commented: "At Bboxx we have always been driven by our mission to end energy poverty globally. Using a decade of experience and learning, we have now developed an even more affordable, reliable, sustainable, and higher performing product. The launch of the bPower20 will play a vital role in helping to achieve this mission by improving the lives of millions of customers in the future.

"Thanks to the hard work of our teams around the world, this latest development will enhance the operations of our retail businesses globally and will help us reach our ambitious goals, as we embark on the next phase of our growth trajectory. As we continue to transform lives and unlock potential through access to energy, our technology will make an important contribution in the green economic recovery as we seek to build back better and help meet the UN Sustainable Development Goals."

Siemens Energy Launches its First Megawatt Green Hydrogen Production Project in China

Siemens Energy and Beijing Green Hydrogen Technology Development Co., Ltd., a subsidiary of China Power International Development Ltd. (China Power), signed an agreement on providing a hydrogen production system for a hydrogen fueling station. Located in Yanqing District, Beijing, one of the three main competition areas for a major sporting event in 2022, the green hydrogen production solution provided by Siemens Energy will help guarantee the hydrogen supply for the public transportation during and after the event. The megawatt green hydrogen production solution is the first of its kind to be built by Siemens Energy in China. The project is expected to be delivered in May 2021.

In September 2019, Siemens signed a Memorandum of Understanding on cooperation in green hydrogen development and comprehensive utilization with State Power Investment Corporation Limited (SPIC), which is the ultimate controlling shareholder of China Power. The hydrogen production project is the result of a close partnership between the two companies. The two sides also plan to further expand their cooperation on green hydrogen projects.

"The decarbonization of the energy systems is a challenge that every country must face. Siemens Energy is the company that can provide its customers with significant support in this process – no matter if they are states or companies. Promoting the application and development of renewable hydrogen is of great significance for China to build a modern and cleaner energy system," said Christian Bruch, CEO of Siemens Energy. "Together with our partner SPIC, we are making an important contribution to tackling climate change and reducing carbon emissions."

"SPIC is committed to working together with Siemens Energy to continue our cooperation in the field of clean energy and to leverage the complementary advantages of both parties. Together we will contribute to the development of clean energy in order to cope with climate change together," said Qian Zhimin, Chairman of SPIC.

Siemens Energy is helping its customers achieve their decarbonization goals by building infrastructure for Power-to-X and making a global contribution to cross-sector decarbonization. Siemens Energy offers all core technologies for a long-term CO_2-free energy supply – from power and heat generation by renewable energies or gas-fired power plants, to power transmission and distribution, to efficient electrolyzer solutions for hydrogen production.

Electrolyzers use electricity to split water into its components oxygen and hydrogen. The hydrogen produced only in this way is called green if the electricity used comes exclusively from a renewable source, i.e. from wind farms, solar plants, hydro or geothermal power plants. As the core equipment of the hydrogen integrated energy station, Siemens Energy's PEM (Proton Exchange Membrane) electrolyzer system Silyzer 200 can produce high-quality hydrogen at industrial scale. In addition, the hydrogen production system responds quickly, the start-up time under pressure is less than one minute, and it can be directly coupled with renewable energy. In order to meet customer needs of saving space and being flexible, Siemens Energy has adapted its hydrogen production system into a customized solution, which is also its first skid-mounted megawatt green hydrogen production system in China.

Rolls-Royce Launches Power Lab to Drive Future Technologies

Rolls-Royce, with its Power Systems business, has set up a new organizational unit 'Power Lab' to focus on innovative and net-zero carbon drive and energy solutions. The Power Lab will concentrate on the development of cutting-edge technologies for the marine and infrastructure sectors, with a strong emphasis on fuel cell systems and the production and deployment of synthetic fuels.

One of the new technologies on the Power Lab's agenda involves producing and deploying fuels based on renewable energies (Power-to-X). "Synthetic fuels can support the net-zero carbon operation of both today's existing drive and energy systems and those of the future, in addition to enabling the storage of renewables-based energies. We believe in this technology and are keen to endorse its development in collaborations and research projects," explained Dr Arne Schneemann, responsible for pre-development in the Power Lab team.

Dr Daniel Chatterjee oversees Technology Management and Regulatory Affairs in the Power Lab and also drives the company's Green and High-Tech Program. "We're emphasizing improved efficiencies, alternative fuels, electrification, digitalization and integrated system solutions to continually enhance the eco-friendliness of our drive and energy systems and bring them closer to their CO_2 neutrality," he said.

The Power Lab has also set its sights on the use of fuel cells in power generation and marine propulsion. "In terms of overall efficiency, the fuel cell is the undisputed front-runner and on top of that generates ultra-low to zero emissions," said Dr Philippe Gorse, whose team is responsible for conceptual work on the fuel cell in the Power Lab. "That makes it a highly attractive option for contributing to the decarbonization of drive systems and power generation."

Through its Power Systems business, Rolls-Royce is also cooperating with Daimler Truck AG on developing carbon-neutral fuel cell systems for supplying emergency power to mission-critical applications such as data centers and for covering peak loads. Since the end of last year, the partnership has been looking at taking fuel cell modules used in automobile production to create a demonstrator that will contribute to the power requirement of Rolls-Royce facilities in Friedrichshafen. This will support a further partnership's aim of using fuel cell modules in development for driving commercial vehicles for other applications such as stationary power plants.

Solar Ewaste Challenge Developing Applications for Batteries Discarded in West Africa

Sustainable management of solar e-waste is an emerging priority for the off-grid solar sector. Many industry leaders have explored potential e-waste management solutions including through product repair and preventive maintenance while others have deployed pilots – yet these efforts remain nascent and under-resourced.

Source: Solar Ewaste

In 2019, the Global LEAP Awards launched the Solar E-Waste Challenge to identify innovations in e-waste management for the off-grid sector. The Challenge, supported by USAID and UK Aid, identified eight solar distributors and recyling companies in five countries across sub-Saharan Africa to receive up to $200,000 in grant funding. The Awardees are currently implementing projects focused on collection and take-back, informal sector engagement, recycling, repair and refurbishment for off-grid solar e-waste.

The second Global LEAP Solar E-Waste Challenge, supported by USAID, made $1.2 million in grant funding available to support the research and development of more sustainable solar home system and battery technologies for the off-grid solar sector in sub-Saharan Africa. The four Awardees are implementing projects to extend product and/or component lifespan; enhance product repairability and recyclability; facilitate refurbishment, reuse or repurposing; or reduce rare metal and hazardous material composition.

Another Coup in Mali

President Ibrahim Boubacar Keita was ousted in a bloodless military coup in Mali in August, after being detained at gunpoint and being forced to resign and dissolve parliament. The Malian soldiers responsible for the coup have promised to organize new elections.

A spokesman for the mutinous soldiers, who have dubbed themselves the National Committee for the Salvation of the People, is led by Colonel Major Ismael Wagué, who stated "With you, standing as one, we can restore this country to its former greatness," while also announcing that borders were closed and that a curfew would go into effect.

Anti-government demonstrators, who want to see the end of France's influence in the country, celebrated in the streets of Bamako, the capital, while regional and international partners condemned the coup, fearing the president's departure could further destabilize the country that is faced with an ongoing insurgency.

Wague called on Mali's civil society and political movements to participate in the political transition. "Our country is sinking into chaos, anarchy and insecurity mostly due to the fault of the people who are in charge of its destiny," he said in a statement broadcast on state-owned television. "We are not keen on power, but we are keen on the stability of the country, which will allow us to organize general elections to allow Mali to equip itself with strong institutions within the reasonable time limit."

Equatorial Guinea Dismisses Cabinet to Implement Changes for a Sustainable Future

The Government of Equatorial Guinea has decided to restructure its ministerial cabinet in order to accelerate the implementation of economic and structural measures currently under way. In an August 14 statement, the Government of Equatorial Guinea stated that it is obliged to take strict measures to mitigate the effects of a severe economic downturn and forestall political and social instability.

The government says that after the recent crisis, it is estimated that its Gross Domestic Product would fall by about 6% in 2020, compared to an initial forecast of a 1.6% drop. In a more pessimistic scenario, it said they could see a fall in GDP of between 8% and 9%, which although a significant deterioration would be well below the levels of many developed and developing economies that estimate negative double-digit growth rates.

Militants Occupy Port near Mozambique LNG Site

The port of Mocimboa da Praia was captured by terrorists in the early morning hours on August 12, according to a report on the Moz24Horas website. The report said militants occupied this vital port in gas-rich northern Mozambique following days of attacks claimed by an ISIS-affiliated group, according to military sources and local media.

This is the third time militants have seized the port, which was planned to be a key logistical piece for the $23 billion natural-gas project being developed by French major Total.

Since 2017, attacks have intensified in the north of the country resulting in more than 1,000 lives lost. Mozambique's defense forces (FDS) are working to eradicate the militant group but says they are using local populations as shields.

Rahamaniyya CEO Sentenced to 10 Month Jail Term by UK Court

A UK court has sentenced the CEO of Rahamaniyya Oil and Gas Limited, Abdulrahman Bashir, to a 10-month jail sentence after he was found guilty of breaching multiple orders of the court in a pending lawsuit initiated by Sahara Energy Resources Limited.

In previous court mandates in February, Bashir was ordered to comply with several orders including the release of 6.4 metric tons of oil to Sahara Energy Resource from its Lagos terminal. Bashir breached those orders by failing to allow Rahamaniyya Oil and Gas Ltd to release the oil from the terminal.

The court, in its sentencing, did say that Bashir's sentence could be reduced to six months if he complies with the previously breached order. The judge in the case also handed down a fine of £500,000 to the company.

Tripartite Talks on Ethiopia's Hydropower Dam Stall Again

Egypt's government announced in early August that it would withdraw from the latest round of Nile dam talks to hold internal consultations. The statement by the Egyptian Ministry of Water said that its decision to withdraw from the latest round of tripartite negotiations with Sudan and Ethiopia comes after Addis Ababa proposed a new draft of filling guidelines.

Egypt's delay will allow for internal consultations regarding the dam to be built on the Blue Nile from where Egypt draws 90% of its fresh water. Egypt fears Ethiopia's planned Grand Ethiopian Renaissance Dam (GERD) project will lead to upstream water shortages.

"Egypt and Sudan demanded meetings be suspended for internal consultations on the Ethiopian proposal, which contravenes what was agreed upon during the African Union summit," the Ministry statement said. Egypt has called on the United States to help mediate the talks.

UNSMIL Statement on the Latest Developments in Libya

According to UNSMIL, Libya is witnessing a dramatic turn of events that underlines the urgent need to return to a full and inclusive political process that will meet the aspirations of the Libyan people for representative government, dignity, and peace. UNSMIL urged calm, the application of the rule of law and the preservation of the rights of all citizens to peacefully express their views.

Across Libya, UNSMIL is registering an increase in reports of human rights violations, including

arbitrary arrests and detention, restrictions placed on freedom of movement and expression, as well as on the right of peaceful assembly and protest. In Tripoli, UNSMIL remains concerned about the excessive use of force against demonstrators as well as the arbitrary arrest of a number of civilians. UNSMIL is also concerned about reports of on-going human rights violations and abuses in Sirte, including the killing of one civilian, the arbitrary arrest of several others, and the illegal forced entry into private properties.

The prolific use of hate speech and incitement to violence appears designed to further divide Libyans, increase polarization and tear at the country's social fabric at the expense of a Libyan-Libyan solution.

African Union Commission Inaugurates AfCFTA Permanent Secretariat in Ghana

In an August ceremony to commission the permanent secretariat of the African Continental Free Trade Area (AfCFTA), Ghana's President Nana Akufo-Addo and Moussa Faki Mahamat,

chairperson of the AU Commission, reiterated the importance of the body to the continent's economic transformation agenda.

"The economic integration of Africa will lay strong foundations for an Africa beyond aid. Africa's new sense of urgency and aspiration of true self-reliance will be amply demonstrated by today's ceremony," Akufo-Addo said.

Ghana was selected as the venue for the headquarters by African leaders during a Summit of AU Heads of states in Niamey in July last year, to launch the implementation phase of the agreement, which is expected to spur regional trade among member countries. Currently, 54 states have signed on to AfCFTA, out of which 28 have ratified.

President Akufo-Addo appealed to member states that have not ratified to do so before the next AU summit in December, "to pave the way for the smooth commencement of trading from 1 January 2021."

The COVID-19 pandemic has heightened the importance of the success of the AfCFTA, the Ghanaian president said. "The destruction of global supply chains has reinforced the necessity for closer integration amongst us so that we can boost our mutual self-sufficiency, strengthen our economies and reduce our dependence on external sources," he said.

AfCFTA, the world's largest free trade area, has the potential to transform the continent with its potential market of 1.2 billion people and combined GDP of around $3 trillion across the 54-member states of the AU. Mahamat said the opening of the secretariat marked a milestone in the vision of Africa's founding fathers for continental integration.

6th Africa Mini Grids Summit

15-17 September 2020 | Nairobi, Kenya

Advancing Successful Mini Grid & Solar Home Systems in Africa

"ESMAP Estimates that Achieving Universal Access by 2030 will Require the Construction of more than 210,000 Mini Grids, mostly Solar Hybrids, Connecting 490 Million People at an Investment Cost of almost $220 Billion Dollars."

In Africa, mini grids have been identified as a key platform to address critical electrification shortages. Creating successful mini grid ecosystems beyond pilot projects is now the focus of African governments facing severe shortages especially for their off-grid populations. Tanzania, Kenya, Uganda, Nigeria, and Ghana are just some of the countries with frameworks and supportive policies to expand energy access through mini grids. Foundations, donors and organizations are stepping-up their financial support for mini grids as momentum gears-up towards universal energy access by 2030.

Africa has the largest share of planned mini grids. World Bank data shows that more than 4,000 mini grids are currently being planned. The two largest markets for planned mini grids in Africa are Senegal and Nigeria – these two countries alone account for about 2,000 of the 4,000 planned mini grids in Africa.

We invite you to join us in Nairobi at the 6th Africa Mini Grids Summit to network, share and learn from governments, regulators, utilities, investors, project developers, financiers, donor agencies, and technology and solutions providers. Get the latest updates on country programs and business cases for mini grids in Africa. Analyse the building blocks and mechanics behind various implementation models and gain insights on how to overcome the pain points still plaguing the industry.

Government officers, international experts, private sector players and investors will come together to share insights and solutions, discuss case studies, and engage in robust panel debates on how to scale-up successful mini grid projects in Africa.

Do not miss the Field Visit to the Oloika Mini Grid Project in Kajiado County, Kenya

This enriching site visit to a live mini grid project will enable participants to understand first-hand the social, technical, economic and humanitarian benefits of this project and how it was executed.

The project is joint-funded by Energy for Development (e4D), who provided the generation costs, and the Rural Electrification Authority (REA), Kenya, who provided the civil work and distribution grid.

The 2020 Agenda includes the Industry's Most-pressing Topics:

- COUNTRY PLATFORMS & UPDATES: Learn from the Wide Range of Developmental Experiences and Challenges in Kenya, Tanzania, Ethiopia, Zambia, Nigeria, Uganda, Ghana, Rwanda and Sierra Leone
- SCALING-UP MINI GRIDS: Innovative Financing Structures and Key Issues in bringing Mini Grids To-scale
- DEVELOPERS' FORUM: Ongoing Mini Grids Projects plus New and Emerging Developments
- RESEARCHERS' FORUM: Overcoming Barriers through Innovation
- LARGE-SCALE PROGRAMMES: Kenya KOSAP Programme, DFID Green Mini Grids Support Platforms, GMG Facility Kenya
- PANEL DISCUSSIONS: Making Mini Grids Commercially Sustainable

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