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Bidding war

Tariffs quoted in India's second onshore wind auction have continued to fall, and are now on par with new solar and coal-fired thermal power plants.

Action from Accra

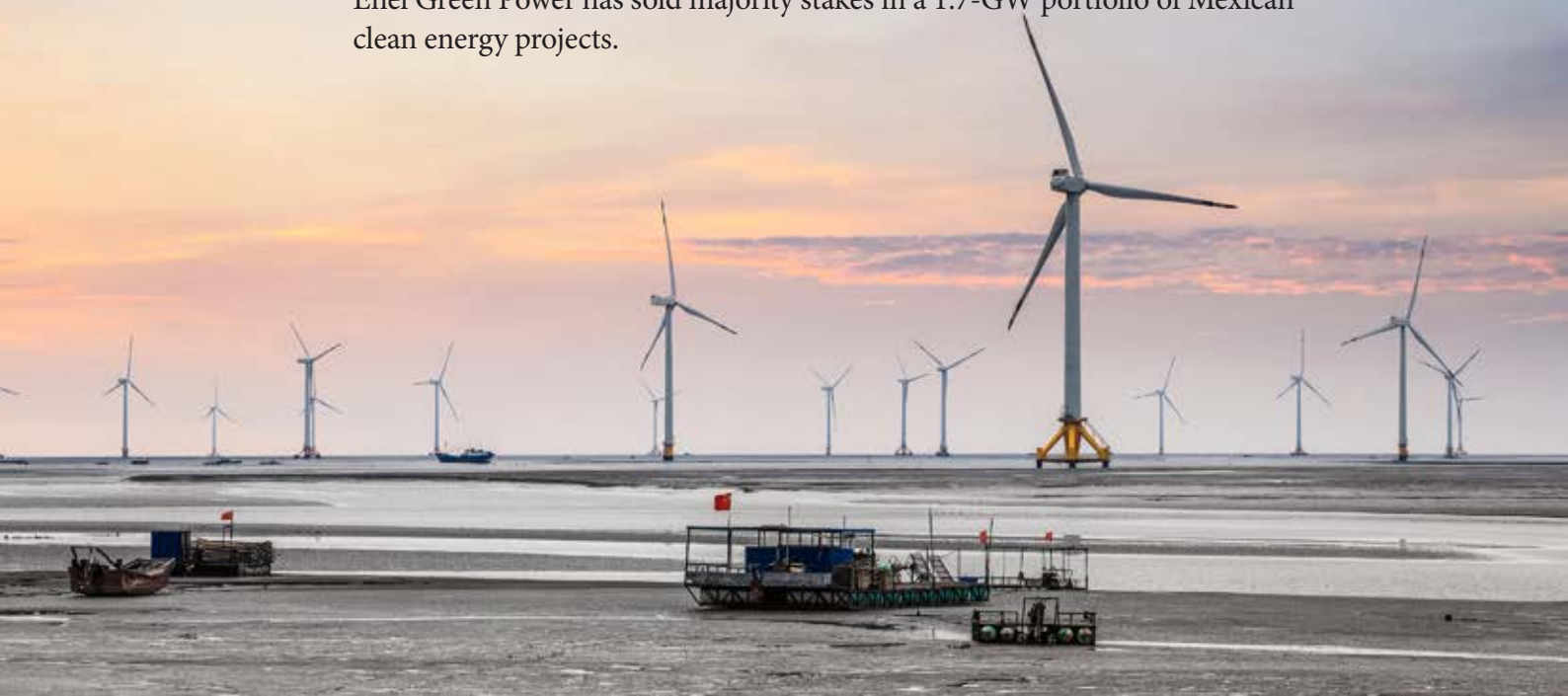
Ghana's new government is renegotiating renewables contracts in a bid to secure lower prices.

Cleaning house

The EPA has begun the process of repealing the Obama-era Clean Power Plan.

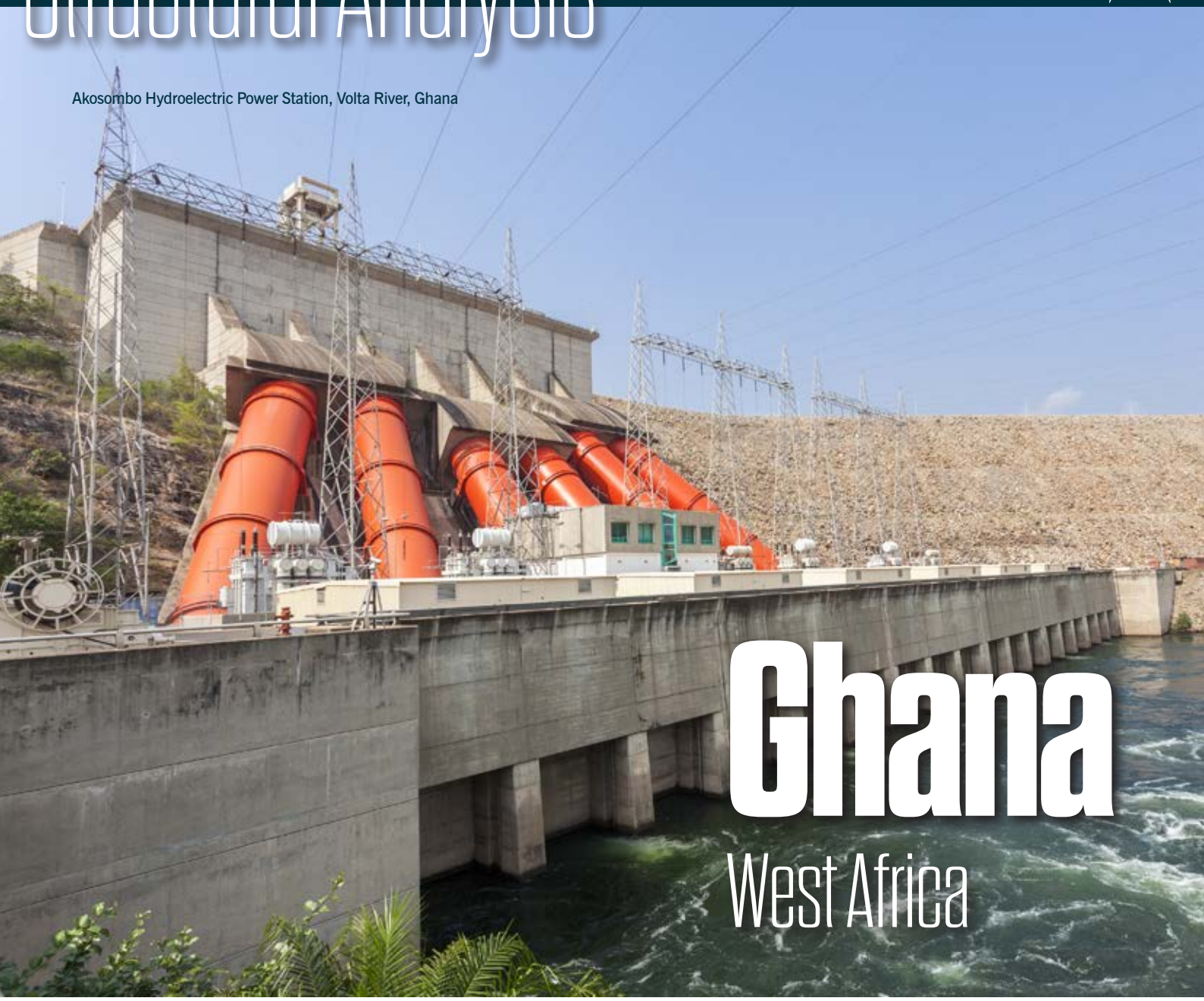
High stakes

Enel Green Power has sold majority stakes in a 1.7-GW portfolio of Mexican clean energy projects.



Power Market Forecast

Structural Analysis



Akosombo Hydroelectric Power Station, Volta River, Ghana

Ghana

West Africa

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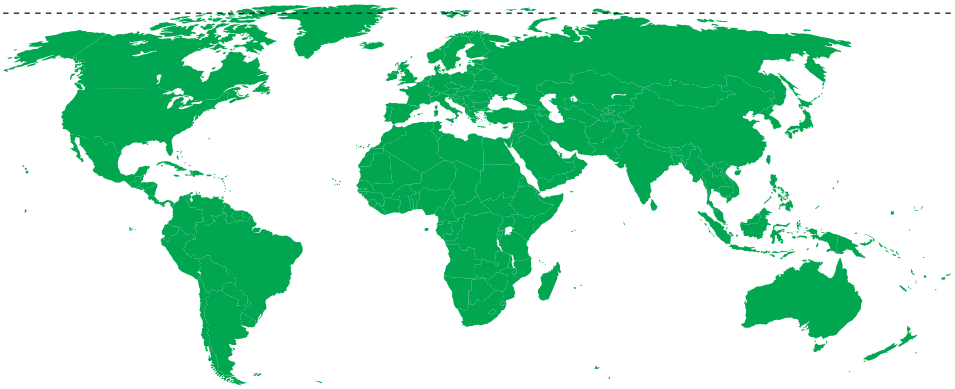


Have a question or comment? Contact the editor – Andrew Dykes (andrewd@newsbase.com)

India's second wind auction sees tariffs fall again

The second SECI wind auction has seen wind tariffs fall 25% to US$0.041 per kWh, but as Siddharth Srivastava **reports, questions are now being asked as to the sustainability of the trend**

ASIA

WHAT:
Bids have dropped again in India's second onshore wind auction.

WHY:
With few changes to equipment and finance costs, the primary cause seems to be increased competition.

WHAT NEXT:
The government has said it will install 5-6 GW of onshore wind per year, but concerns are growing that downward trends for tariff bids are unsustainable.

THE results of India's long-delayed second onshore wind auction are finally in, with tariffs dropping to yet another record low of 2.64 rupees (US$0.041) per kWh.

1,000 MW worth of contracts were offered by state-run Solar Energy Corporation of India (SECI), the body tasked with managing the auction process, and the aggressive bids offered to secure them cements the industry's paradigm change from a feed-in tariff (FiT) regime to a future of highly competitive auctions.

"Against 1,000 MW capacity SECI received 12 bids totalling 2,892 MW capacity, of which nine bids with a cumulative capacity of 2,142 MW were shortlisted for e-reverse auction," the Ministry of New and Renewable Energy (MNRE) said. "These wind projects are to be commissioned within 18 months from the date of issue of Letter of Award by SECI to successful bidders," it added.

ReNew Power Ventures and Orange Sironj Wind Power both bid the lowest rate of 2.64 rupees per kWh to win contracts for 250-MW and 200-MW projects. Inox Wind Infrastructure Services and Singapore-based Sembcorp Industries' Green Infra Wind Energy bid 2.65 rupees (US$0.041) per kWh to win 250 MW each, while Adani Green bid the same 2.65 rupees per kWh to win 50 MW.

Developers will sign 25-year, fixed price power purchase agreements (PPAs) with SECI, which will in turn sell power to distribution companies (locally known as discoms) in Uttar Pradesh, Bihar, Jharkhand, Assam and Goa.

Giving no quarter

Tariffs in the second round of auctions have dropped nearly 25% below the 3.46 rupees (US$0.053) per kWh achieved during the first 1-GW auction round held for wind projects by SECI in February. The winning prices are not exceptions made by a few entities, as bids placed by others including BLP Energy, global PE fund Actis LLP's Spring Energy, Hero Wind Energy and ReGen Powertech, were also low and under 3.46 rupees.

"These are unbelievable prices. One would have never imagined these kind of margins existed for the industry," tax advisor KPMG said in a note.

Both wind and solar tariffs in India are now distinctly cheaper than other greenfield sources, including coal-fired thermal power plants (TPPs), hydropower and nuclear. For comparison, tariffs from India's largest thermal generator, state-owned NTPC, average around 3.2 rupees (US$0.049) per kWh.

More surprisingly, the latest auction also means wind rates are now at parity with India's photovoltaic (PV) solar tariffs. Rates of 2.65 rupees per kWh were quoted in Gujarat last month, following a record-low 2.44 rupees (US$0.038) per kWh in May in Rajasthan.

Yet such steep declines may not be sustainable. Consultancy Bridge to India warned in a note: "We believe that the new wind tariffs are too aggressive. [The] fall in tariffs makes renewable power more attractive for consumers but is creating risks for investors and lenders. It also further increases dissonance risk for distribution companies (discoms), which had previously agreed to pay much higher feed-in-tariffs."

Risky business

Investor interest in India's wind energy sector has slowed down significantly in recent years, partly as a result of changing policy – the withdrawal and reinstatement of accelerated depreciation, for example – but also owing to the steep drop in solar tariffs and the surplus availability of output from TPPs. Wind capacity addition in FY2017-18 is expected to be a mere 1,000 MW or even less when compared with 5,300 MW in FY2016-17.

But two successful rounds of highly competitive auctions by SECI have underlined that momentum may pick up again. Wind developers know they need to stand on their feet and cannot rely on state support in the form of high FiTs. Ensuring that they can reach price parity with other sources of electricity – especially solar and thermal – is essential for wind generators to survive.

Ensuring lower tariffs is not just about beating other wind developers. Debt-strapped discoms, the main bulk buyers of electricity in India, are ▸▸

> "The fall in tariffs makes renewable power more attractive for consumers but is creating risks for investors and lenders.
>
> *Bridge to India*

Sembcorp wind farm in Rojwas, Madhya Pradesh. Sembcorp won 250 MW of capacity in the second wind auction, budding 2.65 rupees per kWh.

sensitive to cost and will opt for the cheapest power source available. Discoms are known to ignore policy diktats, even court orders, while negotiating PPAs. Discoms in states such as Tamil Nadu have gone so far as to cancel recent solar agreements in order to force developers to renegotiate tariffs perceived as too high.

What is interesting to note is that the sharp drop in wind tariffs has happened despite no visible or perceptible change in the cost of equipment production – the costs of debt finance and turbine plant prices, for example, have only declined marginally, yet there have been significant drops in quoted prices at auction. Although there has been an off-taker change from power trading company PTC India to SECI, which enjoys a better credit rating, this is not reason enough to explain the sharply lowered tariffs.

It would thus be safe to say that the increased competition from other sources of power has caused the bulk of the cuts.

Looking ahead, SECI has signalled its intention to auction 4,000 MW of wind by March 2018, inferring that two further 1,000-MW rounds could be held within months. In April, SECI managing director Ashvini Kumar said that the government could call for 5,000-6,000 MW of new wind capacity each year to meet its 60,000-MW target by 2022.

With so much capacity on offer, there will be no shortage of competition to secure ultra-low wind bids. The question now is at what point the market must inevitably bottom out, and how much more tariff reductions lenders and investors can stomach.

Battery support

From a wider perspective, India is performing well in terms of capacity addition and generation, in both the renewable and TPP sectors. Demand for electricity is set to grow in light of the government's commitment to provide electricity access for all, and Prime Minister Narendra Modi has recently launched the household electrification scheme 'Saubhagya', which is expected to create an additional power demand of 28,000 MW, helping the stressed power plants that are either idling or under-utilised.

The weak link in India's generation sector remains its transmission and distribution networks, which continue to affect all asset types. As the penetration of wind and solar increases these networks will need to be reinforced, potentially with the addition of storage infrastructure to help balance the intermittent supply of clean electricity across the country.

One silver lining is that the sharp decline in battery costs over the past five years is making battery-backed solar or wind projects viable. This week, president and global head of Finnish energy systems provider Wartsila, Javier Cavada, said that the company was looking to expand its presence in India as its biggest Asian market for battery storage solutions. "India has a huge potential for solar power and the government has taken up the biggest addition of solar power in the history of humankind. If they don't supplement it with storage, it will be a lost opportunity," Cavada said.

"India will have installed 100 GW of solar power in the next three years and if the country doesn't start installing storage to link that to the grid, transmission lines and households, then it is going to be total chaos," he added.❖

"The question now is at what point the market must inevitably bottom out, and how much more tariff reductions lenders and investors can stomach.

Ghana's green energy projects await sign-off

Ghana's renewable subsidy cuts may cause immediate concern, but in the long-term Accra plans to develop the sector at a sustainable pace and cost, writes Nicholas Newman

AFRICA

WHAT:
Ghana has started renegotiating downwards the subsidy levels for green power.

WHY:
Costs have ballooned and investors have called for a more transparent renewables policy.

WHAT NEXT:
The government wants renewable projects to account for 10% of supply by 2020.

SINCE taking office in January 2017, Ghanaian President Nana Akufo-Addo, alarmed that the country's dash for electricity risked swinging from power shortages to a power glut, has applied the brakes on the power procurement process.

Renewable projects were prominent among the dozens of contracts granted to developers in recent years as Ghana scrambled to overcome a chronic electricity shortage.

To the consternation of investors, the new government has begun the process of renegotiating downwards the subsidy levels for green power and delaying or even cancelling some projects.

Investors, for their part, have raised concerns over the inadequacy of tariffs, the poor investment environment and the limited availability of renewable technological capacity and experience.

To fulfil its ambitions, Ghana's Energy Commission is currently proposing the introduction of tax credits designed to encourage investment and purchases of solar, wind and biofuels so that renewables could contribute 10% of electricity production by 2020.

Dealing with dumsor

With 80% of Ghana's 30 million population having access to electricity, it ranks alongside South Africa, rather than sub- Saharan countries, where just 29% have access to reliable electricity, as is noted by former Minister for Power Kwabena Donkor.

Nevertheless, the country's inadequate electricity supply remains a constraint its economic growth. For instance, power cuts in 2015 are estimated to have cost the economy US$2.2 million per day, according to Ghana's Institute of Statistical, Social and Economic Research.

In April 2017, Ghana produced 1.204 billion kWh of power and this was augmented by 17.98 million kWh of electricity imports from Cote d'Ivoire. However, actual output fell well short of the 1.338 billion kWh target set by the Electricity Supply Plan (ESP).

Lower than planned imports from Cote d'Ivoire and lower supply from the country's HPPs accounted for the 116.3 million kWh shortfall, causing scheduled power cuts – dubbed "dumsor" locally – which have led to street demonstrations.

20-MW PV plant near Winneba, Ghana.

Unusually for Africa, independent power producers (IPPs) provide half of all domestic power generation, with state agencies a close second at 49% and imports of electricity providing the remainder.

Shrinking output

The country's installed capacity of 2,930 MW is divided between thermal at 1,550 MW, of which, 890 MW is provided by IPPs, and 1,380 MW of hydropower, of which only 700 MW is currently available, reports Ghana's Energy Commission.

Over the past decade, domestic electricity output has suffered owing to intermittent supplies of Nigerian oil and gas for TPPs and low water levels at the country's dams.

Surprisingly, renewable energy accounts for just 1% of all installed capacity despite Ghana's rich wind and sun potential and the high debt burden from imports of crude to power the country's TPPs.

To meet future demand for electricity, government estimates envisage increasing electricity capacity to around 4,200 MW by 2026.

The Scaling Up Renewable Energy Programme (SREP) Plan for Ghana envisages that 10% of electricity production will come from solar, wind and biofuels by 2020, and that by 2030 solar capacity would reach 1,000 MW and wind 800 MW, from zero today.

▸▸

Projects

The government's aim to increase renewables' contribution to 10% cent by the end of the decade seems realistic given a wind potential of 300-500 MW and solar irradiation speeds of 4.5-6.0 kWh per square metre per day.

Construction on UK-based Blue Energy's US$400 million, 155-MW solar project at Nzema in western Ghana is due to start in December, having gained all the planning consents, environmental permits and regulatory approvals.

Equally important is a valid power purchase agreement, as well as a connection agreement, with the Ghana Grid company to connect at transmission voltage into the West African inter-connector.

Finance is being provided by a constellation of international lenders and Development Finance Institutions.

Once complete, the Nzema solar plant is expected to supply electricity to 100,000 homes and add 65 to Ghana's current generating capacity.

Nzema project director Douglas Coleman points out that unlike many other solar projects in Africa which rely on concentrated solar power, the Nzema plant will use photovoltaic (PV) technology which is more suited to the sun in Ghana.

The first grid-scale wind farm in West Africa is nearing completion in Ghana. The US$525 million, 225-MW Ayitepa wind farm project 60 km east of Accra signed a Grid Connection Agreement in September.

The project developers, Mainstream Renewable Power, an Irish-based renewable energy group, together with Swiss wind farm developer NEK Umwelttechnik, expect the development to meet at least 4% of Ghana's domestic electricity demand.

On a smaller scale, Ghana's Energy Commission is making available for purchase 200,000 500-Wsolar panels for home users. The panels each cost US$1,500.

One thing is clear, Ghana's pause for reflection and incipient reforms are a positive sign about the country's ambitions to develop its renewables sector.❖

POLICY

EU calls on Commission for more ambitious climate targets

EUROPE

THE European Parliament has called on the European Commission to set out an ambitious climate change target to cut the European Union's emissions to zero by 2050 and to strengthen its interim 2030 targets.

Ahead of next month's UN climate change conference in Bonn (COP23), MEPs also called on the bloc to increase its attempts to grow the green economy by the time of the 2018 meeting (COP24), which is set to be held in Katowice, Poland.

Signatories to the UN Framework Convention on Climate Change (UNFCCC) must outline their long-term strategies to tackle climate change by 2020 and lawmakers have called on the EU to lead the way by setting out at this year's get-together a 2050 zero-emissions strategy that is in line with the Paris Agreement's aim of limiting warming to "well below" 2°C.

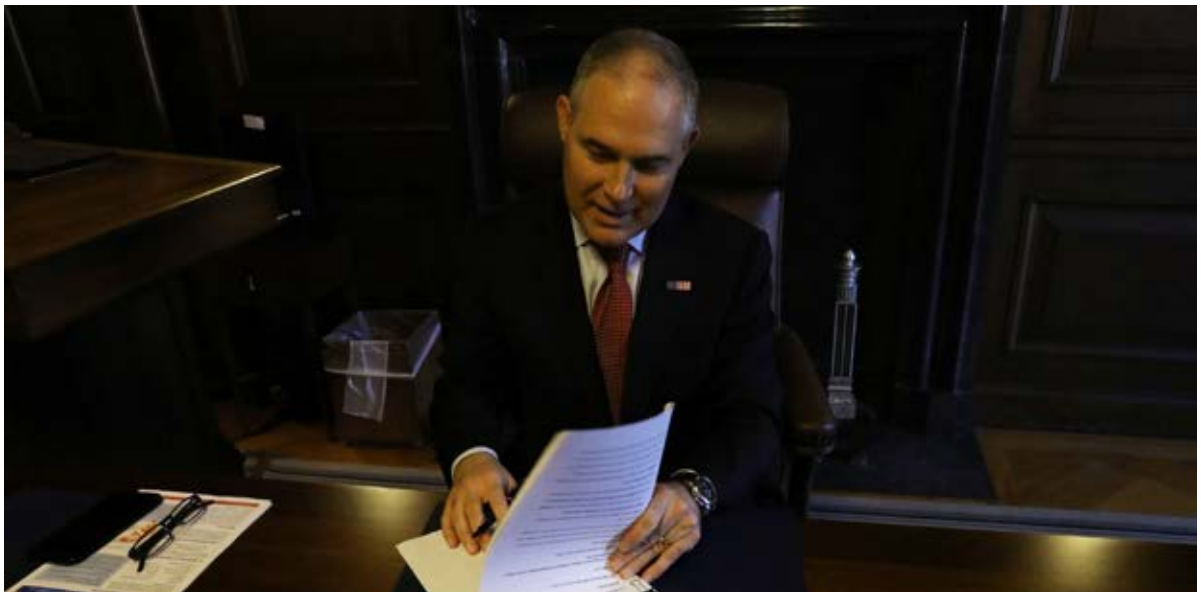
In addition, the Parliament called for climate change risks to be factored into investment decisions by private companies. Part of this would also be facilitated by the EC linking the EU Emissions Trading System (EU ETS), which is currently being reformed by the EU, to other carbon markets around the world. There are at present 18 carbon trading schemes around the world – the largest of which is the EU ETS itself – but it will lose that title when China launches its long-planned carbon cap-and-trade scheme later this year.

The call for stronger targets, just days before the UK government publishes its own Clean Growth Strategy, highlights the possibility that the UK may face tighter climate targets if the EU adopts them before the country leaves the bloc.

The EU has long been seen as the global leader in efforts to fight climate change but that has changed since the Paris Agreement, with other nations embracing the need to cut emissions, particularly key emerging markets such as China and India. Meanwhile, since the election of US President Donald Trump, the US has reversed much of the progress it made under Barack Obama, and has signalled its intention to withdraw from the agreement.

Unsurprisingly, the Parliamentarians condemned the decision and have applauded the subsequent fierce condemnation by other nations.

As ever, all eyes will be on Bonn at the beginning of November, for what could turn out to be a particularly fractious conference as these discussions come to a head.❖



EPA administrator Scott Pruitt signs Notice of Proposed Rulemaking proposing to repeal the Clean Power Plan.

EPA drafts rule to dismantle CPP

Announcement by administrator Scott Pruitt marks formal repeal of Obama-era policy

NORTH AMERICA

US Environmental Protection Agency administrator Scott Pruitt has unveiled a proposed rule that would end an Obama-era regulation designed to limit greenhouse gas emissions (GHGs) from the electricity sector.

Plans to rescind the previous administration's Clean Power Plan (CPP) – a policy which would have required each US State to reduce emissions and implement new renewable energy capacity – were unveiled by Pruitt at an October 10 event.

"We are committed to righting the wrongs of the Obama administration by cleaning the regulatory slate," he stated. "Any replacement rule will be done carefully, properly, and with humility, by listening to all those affected by the rule."

A leaked draft of the proposal, obtained by CNN and seen by *NewsBase Intelligence* (NBI), argues that the EPA overstepped in its enacting of the rule. The document adds: "Under the interpretation proposed in this notice, the CPP exceeds the EPA's statutory authority and would be repealed."

The main grounds for this come from an understanding of the so-called "best system of emission reduction" (BSER), which the current administration argues are "technological or operational measures that can be applied to or at a single source." It continues: "The CPP departed from this practice by instead setting carbon dioxide (CO2) emission guidelines for existing power plants that can only realistically be effected by measures that cannot be employed to, for, or at a particular source."

By essentially requiring generators to add new clean energy (or zero-emission) capacity, the EPA has overreached, it contests.

It is unclear if and when Pruitt will propose a replacement to the CPP, but any measures would be sure to ease regulations of the fossil fuel industry – in particular the nation's ailing coal industry – a signature issue for the current Republican administration. Even so, Pruitt's move is sure to lead to years of court battles as Democrat-led states from New York to California balk at the ending of the carbon-cutting emissions plan.

Enacting the removal of the CPP is a flagship policy for the EPA chief, a climate-change sceptic who as attorney general of Oklahoma multiple times sued the agency he now leads. His view, when he was in Oklahoma, was that the EPA overstepped its statutory authority with the Clean Power Plan and that it was also based on a controversial assessment of costs and benefits.

"When you think about what that rule meant, it was about picking winners and losers. Regulatory power should not be used by any regulatory body to pick winners and losers… The past administration was using every bit of power and authority to use the EPA to pick winners and losers and how we generate electricity in this country. That's wrong," Pruitt told reporters this week.

The plan has already been stayed by the Supreme Court after opposition from conservative states. It is designed to slash CO2 emissions from the nation's 32% by 2030, compared with 2005 levels.

Although no replacement for the CPP has been suggested, Pruitt did offer a glimpse at the potential direction of renewables policy. The day before the announcement, at an appearance in coal-producing Kentucky, the administrator remarked: "I'd do away with" tax credits for wind and solar power. "I'd let them stand on their own and compete against coal and natural gas and other sources."❖

> "The past administration was using every bit of power and authority to use the EPA to pick winners and losers... That's wrong
>
> ***Scott Pruitt***
> *Administrator*
> *EPA*

AIIB, ADB forge joint Indian loan deal

ASIA

THE Chinese-led Asian Infrastructure Investment Bank (AIIB) and the Manila-based Asian Development Bank (ADB) are to co-finance a US$100 million loan to India to improve transmission networks and to expand the use of renewable energy.

The loan, recently approved by the AIIB board, involves co-financing of US$50 million from the ADB, Xinhua news agency reported.

"We are pleased that this first AIIB co-financed project in India will bring clean energy to more people and help the country achieve its ambitious renewable energy targets," said Priyantha Wijayatunga, director of ADB's energy division in its South Asia Department. "We look forward to broadening our partnership with AIIB in the coming years."

The two banks are funding grid infrastructure that will connect renewables projects in Tamil Nadu with the 400-kV long-distance transmission system.

The Indian project is the fourth co-financing by AIIB and ADB. The banks are also supporting the M4 expressway in Pakistan and a natural gas production and transmission project in Bangladesh. The third venture relates to a highway round the port city of Batumi, the second largest city of Georgia.

The AIIB has an authorised capital of US$100 billion. China is the biggest shareholder with over 26% of voting shares. India has the second largest rights, followed by Russia and Germany.

In September, ADB chief economist Yasuyuki Sawada said that the AIIB and ADB could co-operate to meet the huge investment gaps that exist.

He said that capital requirements for major infrastructure in the Asia and Pacific region stood at US$1.7 trillion per year, while the finance gap stood at over US$500 billion per year.

The ADB is already financing India's Green Energy Corridor projects, which seek to link states such as Tamil Nadu, Gujarat and Maharashtra, which are major renewables producers, with demand centres in major cities and industrial hubs.

The ADB has already extended two US$500 million loans to build and upgrade inter-regional grid systems between western and southern regions in order to help distribute wind and solar generation. ❖

Adani to spin out green IPP

ASIA

INDIAN conglomerate Adani Enterprises Ltd (AEL) has announced plans to de-merge its renewable energy business into new unit Adani Green Energy Ltd (AGEL), as part of an exercise to "simplify overall business structure."

After the demerger AGEL will be listed in the stock exchanges as an independent power producer (IPP) generating renewable energy.

"The transaction is expected to unlock the value of renewable power undertaking currently embedded in the value of AEL by eliminating [the] holding company discount and [by] providing financial flexibility for raising capital for [the] sustainable growth of renewable energy business," AEL said in a statement. "It may, however, be noted that [the] transaction may be completed earlier or later and the aforesaid period of first quarter of 2018 is only an indicative timeline and is subject to timely receipt of all applicable regulatory and statutory approvals."

AEL has a healthy renewable portfolio of 2,148 MW and operating capacity of 1,128 MW in India that will be passed on to AEGL. The operations of AGEL will include development of renewable projects, generation, trading and supply of solar and wind equipment.

The unit has already been aggressively bidding for wind and solar projects across India, winning 50 MW in the latest auction of 1 GW of wind power project contracts by state-run Solar Energy Corporation of India (SECI), in May this year.

It is a timely move by the Adani Group and should allow greater flexibility and independence in its renewables operations. There is also high investor interest in companies listing on India's primary market via initial public offerings (IPOs) or offloading existing shares via Offer for Sale (OFS).

Indeed, following the recent demonetisation which decimated the cash economy and the consequent crash of the real estate market, India's IPO and OFS market is buzzing with activity. Interest from retail and institutional investors is high in any new stock that has value and potential, and Indian firms and shareholders have already raised over US$8 billion via IPOs and OFS this calendar year.

Among the other companies looking at the IPO route include Acme Solar Holdings, another private solar power developer. Acme Solar is looking to raise US$335 million. Goldman Sachs-backed ReNew Power Ventures, active in both wind and solar power, is also working on a US$150 million IPO.

It is too early to predict whether AGEL will take the OFS route, but with a sizable portfolio and new contracts being won, investor interest is likely to be high. ❖

EGP sells 1.7 GW projects to Mexican, Canadian investors

MIDDLE EAST

Dominica Wind Farm, Mexico. Source: EGP

ENEL Green Power (EGP), the renewables-focused subsidiary of Italian utility Enel, has agreed a US$1.35 billion deal to sell a group of Mexican wind and solar power plants to investors in both Canada and Mexico.

EGP signed agreements to sell 80% of the share capital in a newly formed Mexican holding company to Canadian institutional investor Caisse de dépot et placement du Québec (CDPQ) and Mexican pension fund CKD Infraestructura México, Enel said in a statement.

The Mexican holding company owns 100% of the capital in eight special purpose vehicles (SPVs) that, in turn, own three operating renewables plants and a further five that are under construction. The eight plants have a total capacity of 1.7 GW, according to Enel.

Specifically, the portfolio consists of the 427-MW Villanueva I photovoltaic (PV) solar plant as well as the 327-MW Villanueva III and 238-MW Don José PV projects.

In terms of wind assets, the companies hold the 198-MW Amistad wind farm, as well as the 200-MW Dominica, 129-MW Palo Alto, 93-MW Salitrillos and 100-MW Vientos del Altiplano wind facilities.

The agreement represents a further step in the company's 'build, sell and operate' model (BOO) and will "foster the growth of our renewables footprint," said EGP head Antonio Cammisecra.

"The new model represents an opportunity for partners willing to invest in a large and diversified portfolio of projects in strategic areas, supported by long-term power purchase agreements [PPAs], with the plants developed, built and operated by Enel Green Power," said Cammisecra. The strategy enables EGP to gain access to additional resources, accelerating the company's growth, he added.

Mexico continues to be an important component of EGP's growth strategy, he confirmed. "We are enthusiastic about the opportunities offered by the Mexican renewables market and it is our intention to continue to invest in the country where EGP will play an active role by managing operating assets and developing new initiatives."

Under the terms of the agreements, EGP will continue to operate the plants and will also complete those that are still under construction.

As of January 2020, EGP will also be able to transfer additional projects to the holding company. As a result of those potential transfers, it will also be able to increase its interest in the holding company until it is the majority shareholder, Enel added.

Rome-based EGP has installed capacity totalling 11.2 GW in Latin America. In Mexico, it has 1,590 MW of installed clean energy capacity spread across 15 power plants. ❖

WIND

Baltics urged to expedite offshore build-out

EUROPE

THE European Forum for Renewable Energy Sources (EUFORES) has stepped up its lobbying of the Baltic States' governments to expedite their development of offshore wind.

EUFORES is a cross-party network of members of the European Parliament and the legislatures of individual EU member states.

EUFORES' president, Claude Turmes, who is also an MEP, signed a declaration in support of the development of wind power generating capacity in the Baltic Sea. "We are at a decisive moment of planning and deciding Europe's energy and climate policy for the years ahead," he said.

Turmes is an influential backer, having led some of Europe's key energy and climate policy reforms since 2000. The Baltic Sea Declaration on Offshore Wind was signed by officials from Estonia, Finland, Sweden, Denmark, Latvia, Lithuania, Germany and Poland. Its goal is to expand offshore wind power generating capacity across the Baltic region.

In addition to the EUFORES moves, the European wind energy association, WindEurope, has urged Estonia to lead the region in pursuing offshore wind power generation. The association's CEO, Giles Dickson, said the Estonian government, which currently holds the EU presidency, should aim to build up political momentum behind the development of offshore wind and replicate the advances in the field that have been made in the North Sea.

The EUFORES declaration that was handed over to Estonia's government covers several aspects of regional co-operation in the Baltics. It identifies the need to establish stable and clear legal frameworks, whilst also urging better co-operation on spatial planning and grid connection. ▸▸

A first step towards achieving these objectives is to ensure that governments draft clear national energy climate plans that spell out the volumes of offshore wind that they intend to deploy post-2020.

Growth trajectory

WindEurope recently published a new analysis of wind power scenarios for the Baltic Sea up to 2030. The group said that the region could become the second largest for offshore wind in the world, with the potential for capacity to expand from the 1.5 GW that is installed today to around 9 GW by 2030.

Signs of the pace picking up are already apparent. Estonian wind developer Nelja Energia recently announced it was moving forward with plans to build the country's first offshore wind farm near the island of Hiiumaa. It is anticipated to comprise of 100-160 wind turbines with an aggregate capacity of 700-1,100 MW. And Tuuliki Kasonen, general manager of the Estonian Wind Power Association (EWPA), told *NewsBase Intelligence* (NBI) a second site had also been identified for a new wind farm.

"One of them, [the site] near Hiiumaa, is at an advanced stage and the other, in the southwest, is through environmental impact evaluation. We hope to have the first installations [generating power] by 2020," she said.

Construction of Hiiumaa wind farm is scheduled to start in the second half of 2018, with commissioning slated for 2020.

Yet while Tallinn makes progress, Lithuania's prospects appear more muted. Aleksandras Paulauskas, president of Lithuania's Association of Wind Energy Producers (LVEA), told NBI: "We cannot expect a breakthrough in the field until 2020, by which stage the amendments to the Law on Renewables Energy are due to be passed."

He said political pressure had delayed the deployment of offshore wind in the country. "[The amendments] were supposed to go into effect in 2016, but were put off owing to the severe competition among different lobbying groups," he said.

Paulauskas said that three Lithuanian companies had cleared the regulatory hurdles to begin work on offshore wind projects, but he said there was a lack of political will to get them off the ground. The government is currently heavily focused on developing gas-fired power capacity that uses LNG imported via Klaipeda as feedstock, which he said "has created unfair conditions to clean energy sources." ❖

> "WindEurope says the region has the potential to expand capacity from 1.5 GW today to around 9 GW by 2030

SOLAR

Guinea-Bissau receives US$45m solar loan

AFRICA

THE West African Development Bank (BOAD) has granted Guinea-Bissau a US$45 million loan to build 22 MW of solar projects in a bid to boost the country's electricity output.

BOAD chairman Christian Adovelande approved the loan for partial funding of a large solar PV plant in Bissau, which is the country's main commercial hub, while there will be mini solar facilities in Gabu and Canchungo.

Guinea Bissau's government will use proceeds of the loan to construct a 20-MW solar plant at Bissau and two 1-MW facilities at Gabu and Canchungo.

"The implementation of this project will provide 500,000 people with access to energy, reduce greenhouse gas by 24,100 tonnes and alleviate housework through the installation of mills and multi-purpose platforms and better safe water supply," said Togo based BOAD without disclosing further details.

Solar energy use, according to Renewable Energy & Energy Efficiency Partnership (REEEP) is minimal despite Guinea Bissau receiving over 3,000 sunshine hours per year.

"The legal framework in support of extending renewable energies is weak, but there are plans to increase solar use by about 2% of total energy consumption," said REEEP. Guinea Bissau has a population of 1.75 million.

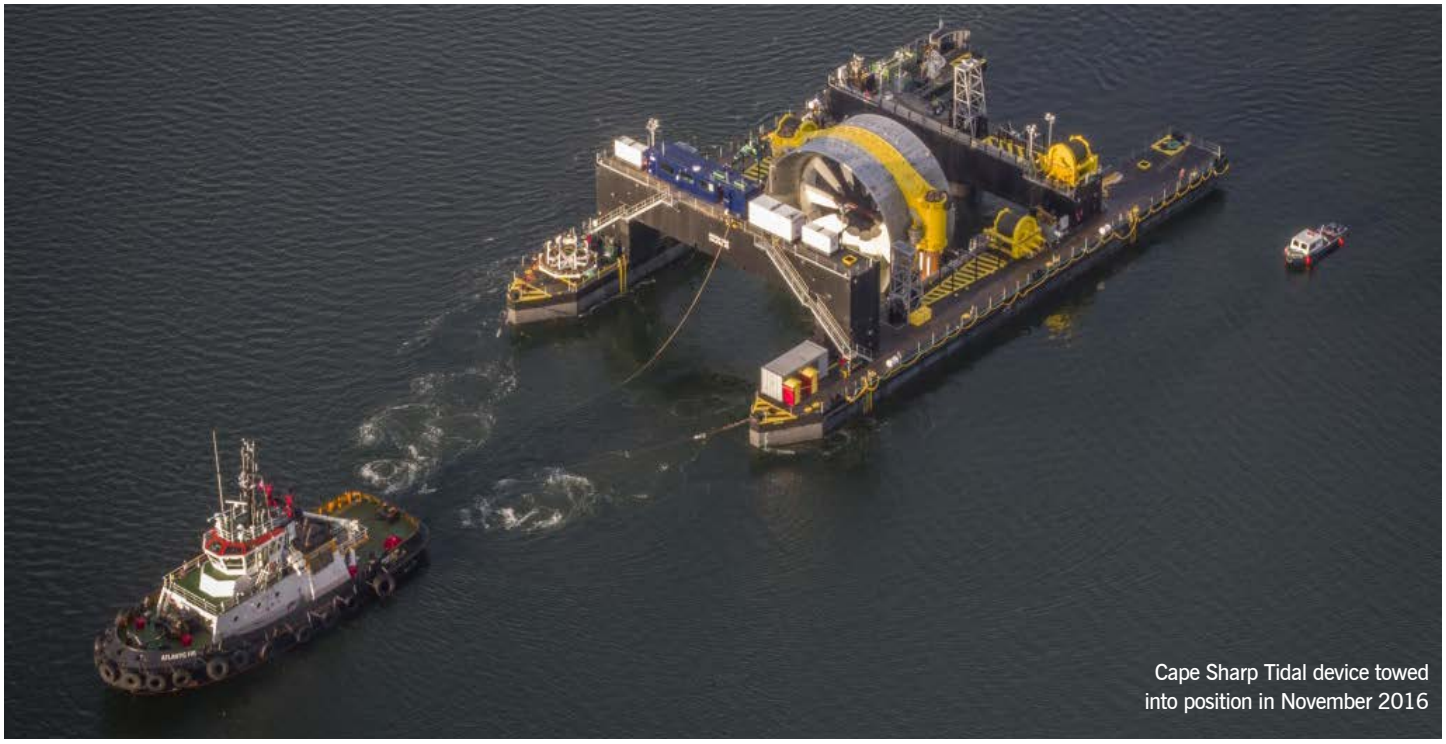
The Geba river and its main tributary the Corubal are estimated to have 184 MW of hydro potential. However, hydro is still not an important source of energy.

The coast of Guinea-Bissau experiences high tidal range values, making this a commercially viable energy resource. The highest mean annual tidal amplitude of 3.4 metres recorded at Porto Gole, on the banks of Rio Geba, and could generate 50 MW of electricity.

In 2015, the government and Adriel's Wave Electricity Renewable Power Ocean (WERPO) agreed to create a joint venture to build a 500-MW wave energy project.

JA Delmas of France in August 2017 won an international tender to construct a 1-MW thermal TPP in Bor on the outskirts of Bissau.

Construction of the 15-MW TPP, financed by a US$28.7 million loan from the West African Development Bank, will take about 18 months. ❖



Cape Sharp Tidal device towed into position in November 2016

Nova Scotia considers expanding Fundy tidal permits

NORTH AMERICA

NOVA Scotia's regional government is considering a bill that would open the whole of the Bay of Fundy to 10 MW of tidal demonstration capacity, from projects of up to 5 MW apiece.

The bill has only just been introduced, and has not yet been passed, but its chances of becoming law are high. Bill 29's sponsor in the legislature is the province's powerful Energy Minister, Geoff MacLellan.

The Bay of Fundy, on the Atlantic coast of Canada, has the highest tidal range in the world, and developers and energy proponents have been eyeing this potential for some time. Currently, only the Minas Passage – one part of the bay – is open for business to tidal turbine companies, but updated legislation would allow permitting anywhere in the region.

The bill would give companies "a new pathway to develop these turbines" in the bay, said MacLellan. Under the legislation, permits would initially last for five years, but could be extended to 18 years. Turbines that can generate 2 MW-plus of electricity would require a formal environmental assessment. Smaller ones might not, reported CBC News.

"This will foster innovation by allowing industry to asses new, lower cost devices without long-term commitments," MacLellan added, quoted in local media. "Anything that's going to be considered, obviously the environmental assessment has to be spot on. We're not doing any damage to the environment just to develop tidal."

Thus far, one grid-connected, in-stream tidal system has been installed in the Minas Passage, an area estimated to hold 7,000 MW of tidal potential. The 2-MW device is operated by the Cape Sharp Tidal Venture under the auspices of the Fundy Ocean Research Centre for Energy (FORCE). Power is sold at a favourable feed-in tariff (FiT) rate, covering the 4 MW of total power output at C$0.53 (US$0.42) per kWh over a period of 15 years.

Fishermen have objected to the development but have so far been unsuccessful in their efforts to have it removed. A second 2-MW device is scheduled to be installed later this year.

Several other companies have been interested in installing tidal turbines in the bay but have not yet been authorised to do so. In 2015, Minas Energy, Black Rock Tidal Power, Atlantis Operations Canada, DP Marine Energy and Cape Sharp were granted FiT approval for projects of 4-5 MW. The latest bill could open the door to two more sizeable projects, of 2.5 MW apiece.

"The Bay of Fundy is recognised as the place for tidal energy development in the world and there's both small-scale opportunities and large-scale, so I think it just creates that market for them," said Elisa Obermann of Marine Renewables Canada.❖

> "The Minas Passage alone is estimated to hold 7,000 MW of tidal potential.

Batteries to support doubling of renewable capacity, says IRENA

GLOBAL

THE International Renewable Energy Agency (IRENA) believes developments in the renewables sector could lead to a 17-fold increase in globally installed battery storage capacity by 2030.

In a recent analysis for the G20, IRENA found that more than 80% of all global electricity could potentially derive from renewable sources by 2050, with photovoltaic (PV) solar and wind power accounting for 52% of total electricity generation. But it has always been clear that energy storage will be central to the success of that energy transition.

The agency's report, "Electricity Storage and Renewables: Costs and Markets to 2030," sought to assess the use of stationary (non-electric-vehicle [EV]) electricity storage in all its forms between now and 2030. It concluded that capacity could triple in a best-case scenario: if countries around the world double their share of renewables in the electricity system.

IRENA estimates that global stationary electricity storage capacity in mid-2017 is around 176 GW, but the bulk of this (around 96%) is in the form of pumped-hydro storage (PHS). Other technologies include thermal storage (3.3 GW), batteries (1.9 GW) and other mechanical storage (1.6 GW).

While batteries currently play a relatively minor role, IRENA sees them as a key technology in any transition to a sustainable energy system. Battery systems can boost the potential of variable renewable electricity, by storing surplus solar and wind energy and releasing it later when generation capacity falls – either in grid-scale or small domestic applications.

They also offer a range of other benefits, from frequency response and reserve capacity to the upgrading of mini-grids.

> "Falling costs could push global stationary battery storage capacity to 175 GW in 2030

Cheaper charging

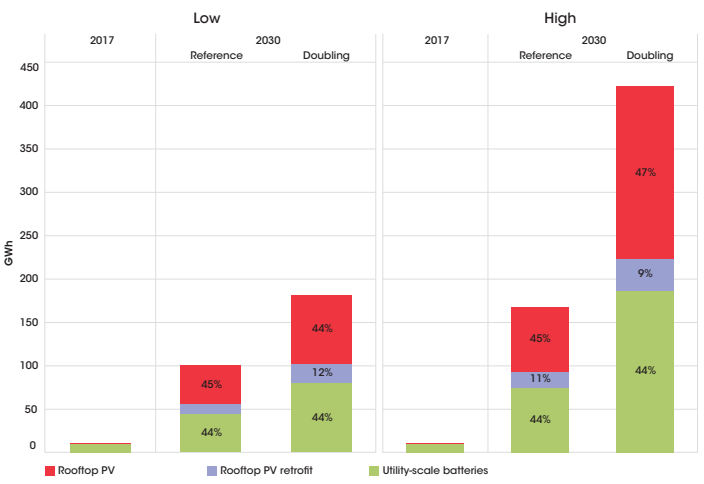
One particular driver of battery storage is the falling costs of cells. From 2010 to the end of 2016, IRENA said the cost of lithium-ion (Li-ion) batteries decreased by as much as 73% for electric vehicle (EV) transport applications. And while Li-ion batteries in stationary applications have a higher installed cost, the report found that the costs of small-scale battery system installation in Germany had shrunk by a comparable 60% between late 2014 and mid-2017.

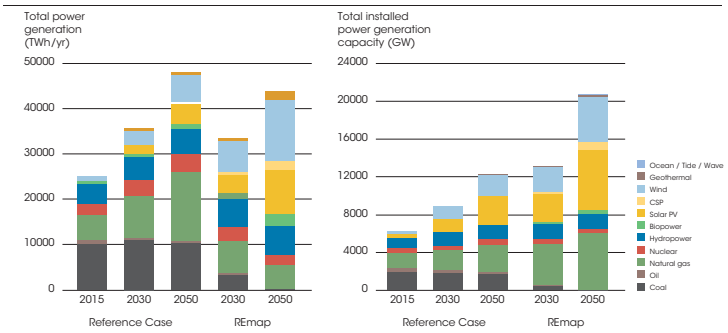
Battery storage systems also offer enormous future cost reduction potential. By 2030, IRENA believes, installed costs could drop another 50 to 66%, driven by the optimisation of manufacturing facilities and reduced use of materials. Battery lifetimes and performance will also improve, bringing Li-ion battery costs for stationary applications to below US$200 per kWh by 2030 for installed systems, the report estimates.

Other battery storage technologies also offer large cost reduction potential. High temperature sodium-sulphur batteries could see their costs decline by up to 60%, while the total installed cost of "flow batteries" could potentially fall by two-thirds.

IRENA calculates that these developments could push installed global stationary battery storage capacity to 175 GW in 2030. Although its total capacity is also set to rise by 2030, the share of PHS could decrease to around 50% as batteries and other storage technologies take on a greater role. In its best-case scenario, total electricity storage could grow to almost 3,000 GW by 2050, although EVs would still account for the bulk of this total.

What is made most clear, however, is that batteries are already part of the new energy system. As the authors explain: "It is essential to note that storage now competes with other sources of flexibility to meet the needs of the electricity system of the future within efforts to decarbonise the electricity sector as a whole."❖





(Top) Storage capacity growth by type, 2017-2030. Source: IRENA

(Below) Generation capacity and total electricity generation by technology in reference and REMap scenarios. Source: IRENA

AFRICA

JICA funds solar power plant in Hurghada with US$60 million

The Japanese International Co-operation Agency (JICA) has approved funding a solar power plant in Hurghada for US$60 million after the project was halted for over two years. Mohamed El Khayat, the chairperson of the New and Renewable Energy Authority (NREA), said that contracting took place with an advisor of the project to establish a solar power plant of 20 MW capacity. The tender will be offered for Arab and international companies to launch the project mid next year. The executive regulations will be completed in February.

He explained that the JICA has completed the project's feasibility study and provided a US$1.5-million grant to place equipment in the plant's location with the aim of measuring the solar emissions to be sure about the project's feasibility during different times of the year and calculate the expected production at the implementation. Part of the financing is allocated for developing the centres of NREA.

The plant is considered the fifth of its kind after El Koraymat plant of 20-MW capacity, Kom Ombo of 200 MW, Hurghada of 20 MW with total 280 MW of capacity.

A source in the Ministry of Electricity revealed that there were negotiations with the JICA that focus on technical co-operation to benefit from the Japanese technology especially in coal-fired electricity generation plants. With the last exchange of expertise being the visit of an Egyptian delegation to Tokyo. The delegation is composed of representatives of the Egyptian Electricity Holding Company, the Ministry of Electricity and the Environmental Affairs agency, with the aim of benefiting from the Japanese experience in the field.

DAILY NEWS EGYPT (EGYPT), October 10, 2017

Ethiopia to generate 250 MW of solar energy

Ethiopian Electric Power (EEP) has initiated an attempt to generate 250 MW of electric power from solar energy. Last week, the EEP floated a bid to hire a contractor to undertake the construction of the project. The project will be financed by the World Bank (WB). The tender will be opened on November 21, 2017.

Ethiopia is one of the countries that have potential to produce solar energy due to its proximity to the equator, as the World Bank indicates. This will be the second time when EEP moves forward to erect a solar power generating plant in the country. Currently, it is reviewing the documents of five bidders to select the main contractor for the realisation of the project in Methara.

In Ethiopia, only 8% of the rural population gets electricity, while 90% of the urban population have access to it, according to the Central Statistical Agency (CSA). Currently, the country generates 4,238 MW of power from water, diesel, geothermal energy and wind.

ADDIS FORTUNE (ETHIOPIA), October 8, 2017

Senegalese solar startup Oolu raises US$3.2 million of funding

Senegalese solar startup Oolu has secured a US$3.2-million Series A funding round, which will support its growth and strategy as it seeks to address the energy needs of more than 150 million people lacking access to electricity in West Africa. Founded in 2015, Oolu provides in-home solar kits composed of three adjustable lights and two USB plugs, powered by a battery that holds a charge for up to six hours with maximum output.

For a low monthly fee, paid through mobile money, the Y Combinator-incubated Oolu installs the system and performs any necessary maintenance, including free battery replacements and system upgrades. The US$3.2-million funding round was led by Persistent Energy Capital (PEC), and was joined by Y Combinator (YC) and other seed investors. Oolu will use the money to further invest in its current operations in Senegal and Mali, and expand into a third market in 2018.

"This fundraise is an important milestone, and a further boost for us at a very exciting time for the company where we see real and significant opportunities in the West African markets," said Dan Rosa, co-founder and CEO of Oolu. "Today's announcement gives us great confidence that we are on the right track in pursuing our goal of becoming the leading energy and financial services provider in West Africa. We're delighted to have the support of quality investors like PEC and Y Combinator, and we look forward to working closely with them as we continue to grow the business."

DISRUPT AFRICA, October 9, 2017

ASIA

EIB partners with International Solar Alliance, confirms 800 million euros for India

The European Investment Bank (EIB) has agreed a new partnership with the International Solar Alliance to mobilise finance to develop and deploy affordable solar energy in solar rich countries. The EIB also confirmed plans to provide a record 800 million euros for renewable energy investment across India. ▸▸

The Joint Declaration was formally exchanged by Andrew McDowell, EIB Vice-president and India at the 14th India – European Union summit. The ceremony was attended by Narendra Modi, Prime Minister of India, Donald Tusk, President of the European Council and Jean-Claude Juncker, President of the European Commission, and other senior political representatives from India and the European Union.

Under the agreement the EIB, one of the world's largest lenders for renewables energy and the world's largest international public bank, will work with the International Solar Alliance to mobilise financing for development and deployment of affordable solar energy in ISA member countries. The ISA is a global grouping of 121 countries and financial institutions established to harness solar energy. It was jointly launched by Indian Prime Minister Modi and French President Hollande at the COP 21 Paris climate conference.

The EIB also confirmed than an expected 800 million euros backing for small scale renewable energy projects across India had already been signed and approved in 2017, representing the EIB's largest ever support for energy investment in Asia.

EIB, October 6, 2017

Operations launched at Mongolia's Tsetsii Wind Farm

Clean Energy Asia, together with its shareholders Newcom and SB Energy Corp. of the SoftBank Group, announced that its 50-MW Tsetsii Wind Farm located in the Gobi desert started commercial operations, three months ahead of the previously scheduled launch date of December 2017.

Mongolia has a power-supply capacity of 1130MW, consisting of 88% coal, 6% diesel, 6% renewable energy, and 2% hydropower sources (according to the Department of Energy, Mongolia, 2015). While being the world's eighth country most susceptible to climate change (according to Germanwatch's "Global Climate Risk Index 2014"), electricity supply-demand balanced with its economic growth is an urgent issue for Mongolia.

Accordingly, Mongolia is a country that particularly requires safe and secure power sources such as renewable energy. The State Great Khural approved a national power policy in 2015 that sets Mongolia's mid-to-long term target and plan for 2015-2030 in the energy sector. The policy aims to increase the power generation share of renewable energy to 20% by 2020 and to 30% by 2030, and it stipulates the promotion of investment in the energy industry in co-operation with international financial institutions and donor countries, utilizing the abundant wind and solar resources in the Gobi region. Mongolia is the first country to sign a memorandum with Japan on the Joint Crediting Mechanism (JCM) to reduce greenhouse gas emissions and this project was eligible for JCM application through Japan's Ministry of Trade, Economy and Industry (METI) at the feasibility study stage.

This wind farm project is the first dollar-denominated project finance debt transaction by JICA through its Private Sector Investment Finance scheme in the renewable energy field, and also marks the first power generation business in Mongolia for SB Energy and the SoftBank Group.

Estimated annual power generation in its first year is approx. 200,000,000 kWh.

SB ENERGY (UK), October 6, 2017

EGE Haina to build new wind farm

The Haina Electricity Generating Company (Ege Haina) has been one of the companies that has always advocated for the generation of renewable energy through the projects it carries out. Last Thursday, Ege Haina formally started construction in the Barahona province of the Larimar 2 wind farm, whose investment exceeds US$100 million, explained Ege Haina president Edgar Pichardo.

Danich Medina, Pichardo highlighted the importance of this fourth wind farm, which is expected to be operational by the end of 2018, during the first stage, which was attended by the President of the Republic. "The beginning of the construction of Larimar 2 is a clear example of the commitment made by EGE Haina more than a decade ago to develop wind technology as a fundamental resource for the balance and sustainability of the Dominican electricity sector.

When Larimar 2 is ready to operate, by the end of next year, EGE Haina will have delivered 175 MW to the Dominican Republic with an investment in four parks of over US$400 million, "he said. Edgar Pichardo said that this park will increase national wind capacity by 36%, which will consolidate the country's leadership in wind generation in the Caribbean, "and the purpose of Ege Haina is to continue working so that this capacity will continue to increase in the future," he claimed.

Larimar 2 will have 14 Vestas V-117 wind turbines, each 150 metres high, which will be the most powerful in the region and will have an installed capacity of 48.3 MW.

EGE HAINA (DOMINICAN REPUBLIC), October 9, 2017

Equis Commissions 13.8-MW Solar Project in Aomori Prefecture, Japan

Equis Energy (Equis), Asia?Pacific's largest renewable energy IPP, has commenced selling power on a 13.8 MW solar project in Noheji town in Aomori Prefecture, Japan.

In Japan, Equis owns 40 projects comprising 0.9 GW and has a further 1.3 GW under development. At its regional headquarters in Tokyo and local offices in Shichinohe, Kasama and Fukushima, Equis employs over 60 professionals well?versed in development, design, project management and investment.


Tsetsii Wind Farm

Adam Ballin, Representative Director, said, "Japan's commitment to renewable energy has broad popular support across the nation, and Equis has forged especially strong ties to the community in the Aomori area, where we have a portfolio of 10 operational and under?construction solar projectsthat have an energy generation capacity of over 170 MW. Not only do these projects provide low?cost clean energy, but also they allow us to offer jobs to the community." The Noheji project will generate 33,925 MWh of energy per annum.

EQUIS (SINGAPORE), October 9, 2017

Sunray bags solar energy deal

The Energy Department granted Sunray Power Inc. the service contract to develop a 100-MW solar project at Clark Green City in Bamban, Tarlac. Sunray, an energy company which is 75% owned by Menlo Renewable Energy Corp., a wholly-owned subsidiary of MRC Allied Inc., signed the solar energy service contract.

"In the service contract, the government authorises SPI to explore, develop, and utilise solar energy resources within the designated area for a period of 25 years," MRC Allied said in a disclosure to the stock exchange.

MRC Allied has been expanding its renewable energy portfolio through a series of acquisitions. MRC Allied recently acquired a 15% stake in Leyte-based solar power producer Sulu Electric Power and Light Philippines for 255 million Philippine pesos. The company also executed a memorandum of understanding with Uni Solar Inc. to develop solar energy projects in the country.

MANILA STANDARD (PHILIPPINES), October 10 2017

AUSTRALASIA

Australian Chief Scientist makes last ditch plea for clean energy target

Australia's Chief Scientist, Alan Finkel, has made a last-ditch plea to save the proposed clean energy target, even as the Turnbull government signalled it will reject the proposal by the end of the year. South Australian premier Jay Weatherill responded to the apparent standstill, saying the states should "bypass the federal government and provide investment certainty for the electricity sector" by adopting their own target.

The Turnbull government asked Dr. Finkel to review Australia's electricity market to set a policy path that would ensure reliability in the electricity system while also providing clear policy settings to drive investment in generation – something the business community has been demanding. But in the face of strong opposition from sections of the Coalition backbench to the clean energy target, the Turnbull government delayed any decision on the target while adopting the other 49 recommendations in the Finkel review.

Now, it appears all but certain the target is dead in the water. The expectation is that by the end of the year, an alternative policy proposal that will focus on energy affordability and reliability – and removes incentives for renewable energy – will be brought by Energy and Environment Minister Josh Frydenberg to the cabinet and party room for approval.

That proposal could be put forward as soon as next week, when Parliament returns, though government insiders said that was unlikely at this stage. Finkel said his proposal offered a mechanism to solve the energy crisis and was still needed, while arguing that going back to coal was not the answer as Australia was making the transition away from fossil fuel energy.

SYDNEY MORNING HERALD (AUSTRALIA), October 10, 2017

Chief Scientist Alan Finkel

EUROPE

UK government confirms up to GBP557 million for new renewables

Energy Minister Richard Harrington has confirmed that up to GBP557 million will be made available for less established renewable electricity projects as part of the government's Clean Growth Strategy, to drive economic growth and clean up the energy system. Since 1990, the UK's emissions are down by more than a third while the economy has grown by two-thirds. Low carbon generation provided more than half (52%) of the country's electricity this summer, according to National Grid, while PwC analysis shows the UK decarbonising faster than any other G20 nation.

The Clean Growth Strategy, which will be published this week, will build on this success and ensure Britain remains a global leader in the move towards a low carbon economy. It will ensure the whole country can benefit from new technologies, jobs and businesses that are good for consumers, the environment and the economy.

As part of the strategy, developers will compete for up to GBP557 million of funding in Contracts for Difference auctions, which drive down energy costs for consumers and increase business confidence. The latest auction saw the cost of new offshore wind fall by 50% compared to the first auction held in 2015 and resulted in over 3 GW of new generation which could power 3.6 million homes.

The next Contracts for Difference auction is planned for spring 2019.

GOV.UK (UK), October 11 2017

Microsoft, GE sign agreement on new wind-storage project in Ireland

Microsoft announced a new wind energy agreement in Ireland. The company is entering into a 15-year power purchase agreement (PPA) with GE to purchase 100%

of the wind energy from its new, 37-MW Tullahennel wind farm in County Kerry, Ireland. The agreement will help support the growing demand for Microsoft Cloud services from Ireland. As part of the deal, Microsoft also signed an agreement with Dublin-based energy trading company ElectroRoute; it will provide energy trading services to Microsoft.

In addition to producing energy, the project will produce valuable data on energy storage. Each turbine will have an integrated battery; Microsoft and GE will test how these batteries can be used to capture and store excess energy, and then provide it back to the grid as needed.

Microsoft is also acquiring an Irish energy supply license from GE. The supply license will benefit both Microsoft and the Irish power grid, as it allows the company the flexibility to easily grow and invest in renewable energy in Ireland over time. ElectroRoute will act as trading service provider for the supply company. Once operational, the new wind project will bring Microsoft's total global direct procurement in renewable energy projects to almost 600 MWs.

MICROSOFT (US), October 9, 2017

Statkraft sells 50% share in Triton Knoll offshore wind to innogy

Statkraft and innogy have completed an agreement under which innogy has acquired Statkraft's 50% share in the offshore wind project, Triton Knoll. The sale is in line with Statkraft's strategy to exit offshore wind.

Triton Knoll is an offshore wind project with a planned installed capacity of 860 MW, successfully developed through a joint venture by innogy and Statkraft. On September 11, 2017, the project was awarded a Contract for Difference (CfD) by the UK government in the latest auction round to support renewable energy projects.

In December 2015 Statkraft announced that it would make no new investments in offshore wind, and in March 2017 sold its 25% shareholding in the Dogger Bank projects. In April this year, Statkraft transferred the operatorship of Sheringham Shoal Offshore Wind Farm to Statoil and is currently exploring opportunities to divest its shares in Sheringham Shoal Offshore Wind Farm and Dudgeon Offshore Wind Farm. While the company divests offshore wind assets, Statkraft focusses on growth in renewables like hydropower, onshore wind, solar, district heating and other new renewable energy technologies.

Statkraft has been committed to ensuring a successful future for Triton Knoll and with the acquisition of Statkraft's share; innogy has become its sole owner as well as manager of the project. Both sides have agreed to maintain confidentiality regarding the purchase price.

STATKRAFT (NORWAY), October 10, 2017

BayWa r.e. acquires wind portfolio and business of Future Energy

BayWa r.e., a global renewable energy developer, wholesaler, service supplier and energy solutions provider, has acquired the business and project pipeline of Victorian-based renewable energy developer, Future Energy.

The acquisition of Future Energy marks the first investment into the Australian onshore wind sector for BayWa r.e. and further cement the company's position in the country's growing renewable energy sector.

Since being established in 2004, Future Energy has successfully developed multiple wind projects. Existing employees will become part of BayWa r.e. and will be complemented by new hires as BayWa r.e.'s Australian business continues to expand.

Director of BayWa r.e. Australia Pty, Katy Hogg, said: "Our first investment in the onshore wind market in Australia is a really important step in consolidating our business model across Solar & Wind Projects, PV Trade and Operations Management Services. Greater scale and project diversity bring benefits for our investors, PPA customers and funding partners.

"We expect to be exporting electricity from the first few wind projects by the end of 2018, with a view to acquiring, developing and implementing additional projects across Australia in the coming years".

BAYWA (GERMANY), October 11, 2017

Siemens Gamesa wins significant service extension contract

Siemens Gamesa Renewable Energy is announcing the renewal of its contract to service the Greater Gabbard wind farm, located off the east coast of the UK. The five-year contract is for the provision of operation and maintenance for the 504-MW wind farm, until 2022.

Greater Gabbard Offshore Wind Farm Ltd (GGOWL), the owners of the wind farm, have contracted Siemens Gamesa to provide scheduled servicing, troubleshooting and technical support to the 140 SWT-3.6-107 turbines installed at the site. The GBP 1.6 billion site itself lays 23 km off the Suffolk coast, and was opened by the then Energy Minister, Michael Fallon MP in August 2013.

These extensions bring the number of individual turbines monitored in real-time by the Service business of Siemens Gamesa in the UK and Ireland to well in excess of 3,200 at over 128 wind farms (onshore and offshore), with an output capacity of approximately 9.5 GW. This, combined with advances in predictive diagnostics, have made servicing and maintenance a data-driven process, rather than at scheduled periods. These innovations have helped the company preserve the reliability it is well known for, while delivering efficiency gains to the customer.

SIEMENS GAMESA (SPAIN), October 6, 2017

Total Solar and SunPower successful in French tender

On the occasion of the second call for tenders for buildings and small carports, Total Solar, in partnership with the Groupe Carre, was awarded 70 projects totalling the capacity of more than 32 MW, or 22% of the allocated capacity.

"This success follows on from those under previous calls for tenders, especially for own consumption and large carports. We see rooftop solutions as particularly suitable for the development of solar power in France : fast-track deployment, land protection, distributed power production and own consumption," emphasises senior vice-president of renewables Julien Pouget.

SunPower will provide more than 500 MW of its SunPower E-Series and X-Series solar panels. "SunPower leads the French market in 2017," comments president of gas, renewables and power Philippe Sauquet. "This reflects their customers' appreciation of the quality, efficiency and competitiveness of SunPower's solar systems."

TOTAL (FRANCE), October 12 2017

Geothermal plant gears for November launch

Hungary's first combined geothermal heat and power plant in Tura, in Pest County northeast of Budapest, is currently in the commissioning phase, with the official start of operation planned for November, according to reports.

According to information released by Singapore-based geothermal developer KS

Orka, the combined heat and power plant will have 7 MW thermal heating and 3 MW power capacities.

KS Orka plans to build up a portfolio of power plants in Southeast Europe with a total of 280 MW thermal heating and 100 MW power capacities before the end of 2021.

Based on Icelandic technology, the project was given a capital injection by the HIPA, and subsequently, KS Orka purchased a 51% share from the Hungarian developers.

According to the HIPA report, the Turawell geothermal project is a heat and electricity cogeneration plant which uses geothermal fluid gained from wells to produce electricity and to help heating greenhouses and nearby real estate in an environmentally friendly way. At the end of the cycle, the fluid is pressed back into the geothermal reservoir, enabling the production of environmentally friendly heating and electricity.

The technology comes from Iceland, where the heating of buildings is 90% solved through similar technology, and where 99% of power generation is based on renewable energy sources.

KS Orka revealed in May that the project company had signed an agreement on financing the facility with Erste Bank Hungary.

BUDAPEST BUSINESS JOURNAL (HUNGARY), October 10, 2017

Ancala Partners and Green Highland Renewables commission GBP 13.6 million hydro scheme

Ancala Partners, the independent mid-market infrastructure investment manager, has now commissioned or acquired 11 investment projects through its portfolio company Green Highland Renewables ('GHR') with the completion of its latest hydro scheme at Loch Eilde Mor in the Highlands, Scotland.

The GBP 13.6 million scheme, situated at Kinlochleven, is a high head run-of-river scheme with a 2-MW triple-jet Pelton turbine. The project has the highest energy generation of all GHR projects to date and gives GHR storage capacity due to the loch-fed nature of the project.

The projects completed with GHR so far have a total capacity of 16 MW, which is sufficient to power 20,000 homes.

Ancala believes the UK hydro sector offers the potential to deliver attractive, low-volatility returns. It invested in GHR as a platform to execute a consolidation and development strategy within the sector and has since been proactively implementing this approach. Since Ancala invested in GHR in April 2015, the company has experienced significant growth, which has included the development of nine hydro schemes and the acquisition of a further two hydro sites.

ANCALA (UK), October 6, 2017

Construction at Loch Eilde Mor

LATIN AMERICA

USTDA advances wind power generation in Jamaica

The US Trade and Development Agency has awarded a grant to the Petroleum Corporation of Jamaica (PCJ) supporting the development of an offshore wind farm in the country. The feasibility study will evaluate the viability of installing the wind farm, which would represent one of the first offshore wind installations in Jamaica and the greater Caribbean region.

This project offers potential export opportunities for a range of US equipment and services related to the design, development, and operation of offshore wind power generation and transmission infrastructure.

PCJ selected Keystone Engineering Inc. (KEI), a Louisiana-based energy firm specialising in the engineering, design, procurement, project management and construction support for offshore wind and oil and gas platforms, to conduct the study. KEI was the foundation design-engineer for the first offshore wind farm installed in the United States; the 30 MW Block Island Wind Farm off the coast of Rhode Island.

Group General Manager of the PCJ, Winston Watson, said: "This study will help the PCJ to get valuable data that can attract overseas investment for the development of our offshore wind resources and we look forward to a fruitful partnership with USTDA and with KEI."

USTDA (US), October 4, 2017

Argentina starts building largest solar park in LatAm

Argentine President Mauricio Macri has announced the start of work on the Cauchari solar park, planned to be Latin America's largest solar park with a production capacity of 300 MW. Macri made the announcement from Buenos Aires through a videoconference with the governor of Jujuy Province, Gerardo Morelos, and the head of the cabinet of ministers, Marcos Pena, who were at the plant's location in Cauchari.

"We are putting in place the construction of a solar park, which will give energy to the Argentineans. Solar energy does not pollute," said the president. The project is made up of three parks, Cauchari Solar I, II and III, that generate 100 MW of power each, and will see the installation of a total of 1.2 million solar panels.

It attracted an investment of US$511 million and will create 600 direct jobs. It is being actively supported by China, with the Export-Import Bank of China financing part of the project loans.

XINHUA (CHINA), October 6 2017

MIDDLE EAST

Orad bags EPC contract for 35.5 MW of Israel solar projects

Israel-based firm Orad has signed a 100 million shekel (US$28.6 million) EPC contract for four solar PV projects with a combined capacity of 35.5 MW in Negev, Israel, according to a filing on the Tel Aviv Stock Exchange (TASE).

Shikun & Binui Renewable Energy is the project developer, having won a tender issued by the Israel Public Utility Authority for Electricity. Under the contract, Orad subsidiary SolarPower will also perform O&M services for a period of 10 years at the plants located in a semi-desert region of southern Israel. This is also combined with 'exit points' every three years for 20 million shekel. The site will be connected to the IEC grid.

EPC is expected to take 15 months to complete and is due before the end of next year. In the TASE filing, Orad noted that it would have to pay "compensation at a very substantial rate" if it missed the construction deadline.

The company intends to finance the construction work through equity, financing and banking.

PV-TECH, October 10, 2017

NORTH AMERICA

Samsung and Pattern complete 100-MW Belle River Wind in Ontario

The Belle River Wind power facility in Lakeshore, Ontario is now up and running. Samsung Renewable Energy and Pattern Energy Group announced their 100-MW Belle River Wind power facility has completed construction and is fully operational.

Towers for the 40 Siemens 3.2 MW wind turbines were made at CS Wind's manufacturing facility in Windsor using Ontario steel. The 120 turbine blades were manufactured in Tillsonburg. The Belle River Wind power facility operates under a 20-year power purchase agreement with the Independent Electricity System Operator (IESO).

"Pattern Development continues to grow in Canada. This is the fifth wind power facility we have completed in Ontario, and seventh across Canada, totalling nearly 1.3 GW of operational capacity in the country, and we expect another project to reach completion this year in Quebec," said Pattern Development CEO Mike Garland.

PRNEWSWIRE, October 9, 2017

Enel signs US$330 million tax equity agreement for Thunder Ranch wind farm

Enel Green Power North America, Inc. (EGPNA), the US renewable energy company of the Enel Group, acting through its subsidiary Thunder Ranch Wind Holdings, 1 has signed a tax equity agreement worth approximately US$330 million with the Alternative Energy Investing Group of Goldman Sachs and GE Energy Financial Services, a unit of General Electric for the 298-MW Thunder Ranch wind project located in Oklahoma.

Under the agreement, which is a common transaction structure for the development of renewable energy projects in the United States, the two passive investors will purchase 100% of "Class B" and "Class C" equity interests in the project, respectively, in exchange for their payment of the above purchase price. This interest will allow the investors to obtain, under certain conditions set by U.S. tax laws, a percentage of the fiscal benefits of the Thunder Ranch wind project. In turn, EGPNA, through Thunder Ranch Holdings will retain 100% ownership of the "Class A" interests and therefore management control of the project.

The agreement secures the funding commitment by the two investors, and the closing of the funding is expected to occur upon achievement of commercial operation of the 298-MW wind farm. Construction of the Thunder Ranch wind farm started last May, with the facility expected to begin operations by the end of 2017. The overall investment in Thunder Ranch amounts to, approximately, US$435 million, which is part of the investment outlined in Enel's current strategic plan. Once fully operational, Thunder Ranch will be able to generate more than 1,100 GWh annually.

ENEL GREEN POWER (ITALY), October 6, 2017

New Energy Solar to acquire 130 MW of PV plants from Cypress Creek

New Energy Solar (NES) and Cypress Creek Renewables (CCR) have announced that New Energy Solar has entered into a binding agreement to acquire 14 utility-scale solar plants, totalling 130 MW DC, to be constructed by CCR and anticipated to be commercially operational in 2018. On completion of the plants (the CCR Portfolio), New Energy Solar's investment in the CCR Portfolio will be approximately US$108 million, paid progressively against specified development and construction milestones. The projects have been developed and designed by CCR and will serve utilities in North Carolina and Oregon.

10 of the plants, totalling 71 MW, will be constructed in North Carolina and, once constructed, will connect to the electrical systems of Duke Energy Progress and Duke Energy Carolinas, both subsidiaries of Duke Energy Corporation, the largest electric power holding company in the United States. The other four plants, totalling 59 MW, will be constructed in Oregon and have the approval to connect to the electrical system of PacifiCorp, a subsidiary of Berkshire Hathaway Energy. Both Duke and PacifiCorp are vertically-integrated, regulated utilities.

The CCR Portfolio plants are expected to sell power under 13 to 15-year fixed price and escalating power purchase agreements (PPA) to large utility off-takers, including Duke and PacifiCorp. Following the expiry of the PPA terms, the plants can re-contract with those parties or enter into new contracts with other buyers.

North Carolina has a well-established solar development, construction, and asset management market. In addition, the state's strong economic growth is forecast to continue, with a resulting positive outlook for electricity demand and pricing. Oregon is a growth state for solar development, and one of the fastest growing US states in GDP terms, resulting in a similarly positive outlook for electricity demand and pricing.

NES (AUSTRALIA), October 6, 2017

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