



1 March 2019

15 February 2019

PJM to ask FERC to invalidate its energy market rules after stakeholder impasse

The governing board of the PJM Interconnection on Wednesday directed its staff to file a proposal with the Federal Energy Regulatory Commission (FERC) to invalidate and reform the rules of its energy market, sparking criticism from renewable energy supporters and its market monitor.

PJM's five-point proposal includes changes that will boost real-time and day-ahead energy market prices by allowing larger, less flexible units to set prices. PJM staff asked its governing board to direct the FERC filing after its proposal and others failed to garner consensus from market participants.

Consumer and renewable energy advocates criticized PJM's decision to exclude a mechanism that would offset higher energy market prices with lower prices in the capacity market, which allocates generation three years ahead of time. Without that provision, customers will be "paying twice for the same product for a significant number of years," Independent Market Monitor Joe Bowring said.

More than a year in the making, PJM's Wednesday announcement reflects an extended effort by the grid operator and its stakeholders to rework energy market price formation.

In Nov. 2017, PJM staff proposed allowing both flexible units, like gas plants, and larger, more inflexible generators to set prices, arguing it would "more accurately reflect the true incremental costs to serve load."

Because the proposal would benefit coal and nuclear generators targeted for support by the Trump administration, critics of the proposal expressed concern that it could amount to a low-profile bailout for plants that would otherwise retire. In a March 2018 interview, PJM CEO Andy Ott said that is not the case.

"It's really, truly about making sure the prices that we calculate reflect the units that are operating," Ott told Utility Dive. "Simple as that."

Since then, PJM market participants have debated that plan and others in stakeholder meetings, but were unable to come to a consensus. In early December, PJM leadership informed its members that it would ask FERC to invalidate its energy market rules if they could not reach agreement by the end of January.

That message sparked a backlash from states, who wrote in a letter that PJM sought to "institute new market structures under an unnecessarily rushed timeline." But stakeholders were still unable to find agreement on five proposals at their January meeting, and a last-minute compromise floated by generator Calpine failed early this month.

In response, Ott wrote to PJM stakeholders Wednesday, informing them that staff would file a petition with FERC under Section 206 of the Federal Power Act to invalidate the grid operator's energy market rules. That filing will come in "the next few weeks," he said.

Specifically, PJM's plan, called the Reserve Pricing Proposal, includes five changes to the energy market:

"Consolidation of Tier 1 and Tier 2 Synchronized Reserve products.

Improved utilization of existing capability for locational reserve needs.

Alignment of market-based reserve products in Day-Ahead and Real-Time Markets.



1 March 2019

Downward-sloping [operating reserve demand curves (ORDCs)] for all reserve products.

Increased penalty factors to ORDCs to ensure utilization of all supply prior to a reserve shortage."

The PJM proposal does not feature a previously included provision that would offset expected increases in energy market prices with corresponding declines in the capacity market. That drew the ire of market monitor Bowring.

"This is a dramatic change to the energy markets and without an appropriate corresponding offset in the capacity market," he told Utility Dive Thursday. "This will significantly raise prices for customers and will not have the appropriate offsetting reduction in capacity market prices."

Some critics say the PJM staff's decision to pursue a FERC filing puts it ahead of the wishes of its market participants.

"This has been a frustrating process to say the least," said Rob Gramlich, a clean energy consultant and former FERC staffer. "There is no consensus on where the market is heading so parties all want to go down different roads. Price formation and shifting focus from capacity to energy markets are key components of a clean energy grid so I hope FERC leads the market that way."

PJM is already the subject of a high-profile proceeding at FERC after the federal regulators threw out the region's capacity market rules last year. FERC must issue a decision in that case soon to avoid further delay to PJM's capacity market auction, now scheduled for August, but federal regulators gave no indication of timing in public appearances this week.

"It's incredibly complex what's going on in PJM and we constantly get proposed changes not only to capacity markets but also to energy markets," FERC Commissioner Rich Glick said at a meeting of the National Association of Regulatory Utility Commissioners on Tuesday. "I just worry that we're making it a lot more complicated than it is and not necessarily producing the results."

Utility Dive

<http://www.utilitydive.com>

15 February 2019

Vineyard Wind submits offshore wind proposal in New York for up to 1,200 MW

Vineyard Wind announced a new offshore wind project proposal to serve New York: Liberty Wind. The Liberty Wind proposal was submitted in response to the New York State Energy Research and Development Authority's (NYSERDA) solicitation of offshore wind project proposals for supplying New York with clean, emission free offshore wind energy.

The Liberty Wind proposal includes 400, 800, and 1,200-MW project size options. The 1,200-MW project, which is the most cost-effective option for New York ratepayers, would be one of the largest offshore wind projects in the world and would make a major contribution to Governor Andrew Cuomo's objective of developing 9,000 MW of offshore wind energy to supply New York.

Liberty Wind will also bring substantial economic development and job creation benefits to New York, providing hundreds of millions of dollars in economic activity and thousands of jobs on Long Island, the Capitol Region, and in New York City. Foundation



1 March 2019

components will be fabricated at a port facility in the Capitol Region and transported down the Hudson River to the project site in the Atlantic Ocean.

Liberty Wind's turbines will be located in federal waters 85 miles away from the nearest New York shore, and will not be visible from any New York shoreline. The project will deliver up to 1,200 MW of clean power directly to the New York grid at an existing substation on Long Island. The power will be delivered by a submarine cable that comes to shore and is then buried along an existing roadway onshore.

The grid connection will utilize an advanced high-voltage, direct-current system that will ensure reliable delivery of the energy and also enhance the resiliency of New York's grid, particularly in outage situations during major storms.

"Our team's extensive offshore wind experience from around the world and nearby in New England, where we are building the nation's first utility scale offshore wind project, allows us to deliver the best project for New York," said Lars Thaaning Pedersen, CEO of Vineyard Wind. "Liberty Wind will bring clean energy at the lowest price to New York ratepayers along with substantial economic benefits for the state through investments in local infrastructure and businesses and by utilizing the state's existing supply chain and workforce."

Vineyard Wind is collaborating with transmission developer Anbaric Development Partners (Anbaric) for Liberty Wind. Anbaric has helped spearhead the development of two transmission projects serving New York. Vineyard Wind will finance and own the generation components of the project and Anbaric will finance and own the transmission components.

"Anbaric is delighted to be teaming up with Vineyard Wind on the Liberty Wind Project," said Anbaric CEO Ed Krapels. "Our buried cable will bring renewable power into the heart of the Long Island electric grid, where it can be distributed to hundreds of thousands of customers in southern New York. This is the first leg of a well-designed New York ocean grid for offshore wind that will help achieve Governor Cuomo's goal of building a planned offshore grid."

Windpower Engineering Development
<http://www.windpowerengineering.com>

18 February 2019

Scotland gives approval for 1.4GW NorthConnect interconnector project

The Scottish government has given its approval for NorthConnect, a 1.4GW interconnector project connecting Scotland and Norway. To be constructed with an investment of £1.75bn, the 665km NorthConnect project enables the transfer of electricity both ways between Great Britain and Scandinavia.

NorthConnect CEO Martin Reinholdsson said: "We are extremely pleased to have reached this important milestone in the project. I hope we can conclude on more achievements like this during the year and in 2020 begin building what will prove to be a very important link for the economies of both Scotland and Norway, and also for Britain and the whole Nordic region."

The high voltage direct current (HVDC) cables for the interconnector project will be connected from an already approved converter station at Stirling Hill, Boddam and will run through underground onshore cables buried under North Sea's seabed.



1 March 2019

The cables will be connected to a similar converter station at Simadalen in Norway. With the marine permitting process now complete in the UK, construction of the interconnector project is expected to begin on schedule.

NorthConnect Scotland development head Richard Blanchfield said: "I am delighted that the NorthConnect Project has successfully completed all of the required UK construction permitting processes on its journey to becoming a reality.

"The interconnector will be able to monitor and respond instantaneously to meet the demands of either energy market and grid stability requirements. Crucially, it will be able to be called upon by National Grid in the event of a 'black start' situation, ensuring our lights stay on.

"NorthConnect is looking towards operation in 2023/24 and has already begun the process of finding suitable contractors to deliver this strategically important energy project."

In 2015, the project received an approval from the Aberdeenshire Council for the onshore infrastructure. The council had approved the application for a converter station and underground cabling.

In February 2017, the European Union (EU) had agreed to provide €10m (£8.45m) financing to part fund the development of the power link between Scotland and Norway.

Compelo

<http://www.compelo.com>

19 February 2019

Developer eyes world's largest solar+storage facility for Texas

Renewable energy developer Intersect Power has floated plans to construct 459 MW of energy storage next to 459 MW of solar in Borden County, Texas, according to the January generation interconnection status report from the Electric Reliability Council of Texas (ERCOT).

If completed, the project would be the world's largest battery system when it comes online in 2021, Bloomberg reported, based on an ERCOT chart listing storage and solar projects expected to be completed in the next four years. The project would increase the state's installed solar capacity to over 6.8 GW and the energy storage capacity to 584 MW.

The solar-plus-storage pairing in the middle of the Permian Basin could help meet energy needs for oil-field operations, but Intersect's CEO told Utility Dive that many filings in interconnection queues "never reach operations."

Utility Dive

<http://www.utilitydive.com>

19 February 2019

Asia-Pacific adds 24.9 GW of onshore wind in 2018

The Asia-Pacific region brought online 24.9 GW of onshore wind capacity in 2018, bringing the region's cumulative installations to 256 GW, the Global Wind Energy Council (GWEC) said today. Fresh onshore wind additions last year rose by 4.2% in annual terms, according to preliminary figures. The top three countries that led the growth were China, with 21.2 GW of deployments, India with 2.2 GW and Australia with 0.55 GW. China took the number one spot in terms of new installations both in the region and globally.



1 March 2019

GWEC expects that more than 145 GW of new onshore wind parks will be commissioned in Asia-Pacific by 2023, with China remaining the world leader. More mature markets like Japan and South Korea will continue to grow and other markets will make further steps in their progress. One of these is India, where the annual deployments could surpass 5 GW following the conduct of auctions, GWEC said.

“Aside from the largest markets in China, India and Australia, GWEC expects positive developments in South-East Asia with onshore wind representing a cost-competitive choice for markets with growing energy demand,” said Ben Backwell, GWEC’s CEO.

Renewables Now
<http://www.renewablesnow.com>

20 February 2019

100% Renewable Energy Needs Lots of Storage, Polar Vortex Test Showed How Much

Energy analysts used power demand data from the Midwest’s January deep freeze and wind and solar conditions to find the gaps in an all-renewable power grid.

In the depths of the deep freeze late last month, nearly every power plant in the Eastern and Central U.S. that could run was running.

Energy analysts saw a useful experiment in that week of extreme cold: What would have happened, they asked, if the power grid had relied exclusively on renewable energy—just how much battery power would have been required to keep the lights on?

Using energy production and power demand data, they showed how a 100 percent renewable energy grid, powered half by wind and half by solar, would have had significant stretches without enough wind or sun to fully power the system, meaning a large volume of energy storage would have been necessary to meet the high demand.

"You would need a lot more batteries in a lot more places," said Wade Schauer, a research director for Wood Mackenzie Power & Renewables, who co-wrote the report.

Schauer's analysis shows storage would need to go from about 11 gigawatts today to 277.9 gigawatts in the grid regions that include New England, New York, the Mid-Atlantic, the Midwest and parts of the South. That's roughly double Wood Mackenzie's current forecast for energy storage nationwide in 2040.

Energy storage is a key piece of the power puzzle as cities, states and supporters of the Green New Deal talk about a transition to 100 percent carbon-free energy sources within a few decades. The country would need to transform its grid in a way that could meet demand on the hottest and coldest days, a task that would involve a huge build-out of wind, solar and energy storage, plus interstate power lines.

The actual evolution of the electricity system is expected to happen in fits and starts, with fossil fuels gradually being retired and the pace of wind, solar and storage development tied to changing economic and technological factors. The Wood Mackenzie co-authors view their findings, part of a larger analysis of utility performance during the polar vortex event, as a way to show, in broad strokes, the ramifications of different options.

We'll Need More Than Just Today's Batteries

A grid that relies entirely on wind and solar needs to be ready for times when the wind isn't blowing and the sun isn't shining.



1 March 2019

During the Jan. 27 – Feb. 2 polar vortex event, the analysts test case of 50 percent wind, 50 percent solar would have had gaps of up to 18 hours in which renewable sources were not producing enough electricity to meet the high demand, so storage systems would need to fill in.

The grid would have to be designed to best use wind and solar when they're available, and to store the excess when those resources are providing more electricity than needed, a fundamental shift from the way most of the system is managed today.

"In a modern power grid, all these advanced technologies are driving the need for more flexibility at all levels," said David Littell, principal at the Regulatory Assistance Project and a former staff member for Maine's utility regulator. Grid operators have to meet constantly changing electricity demand with the matching amount of incoming power. While fossil fuel power plants can be ramped up or down as needed, solar and wind are less controllable sources, which is why energy storage is an essential part of planning for a grid that relies on solar and wind.

Much of the current growth in energy storage is in battery systems, helped by plunging battery prices. A large majority of the existing energy storage, however, is pumped hydroelectric, most of which was developed decades ago. Other types of systems include those that store compressed air, flywheels that store rotational energy and several varieties of thermal storage.

Schauer points out that advances in energy storage will need to be more than just batteries to meet demand and likely will include technologies that have not yet been developed.

He views the transition to a mostly carbon-free grid as possible by 2040, with the right combination of policy changes and technological advances. He has a difficult time imagining how it could be done within the 2030 timeframe of the Green New Deal.

Nuclear Power Would Lower Storage Needs

In addition to the 50-50 wind-solar projection, Schauer and co-author Brett Blankenship considered what would happen with other mixes of wind and solar power, and if existing nuclear power plants were considered as part of the mix.

By considering the role of nuclear plants, the report touches on a contentious debate among environmental advocates, some of whom want to see all nuclear plants closed because of concerns about safety and waste, and some who say nuclear power is an essential part of moving toward a carbon-free grid.

The Wood Mackenzie analysis shows that continuing to use nuclear power plants would dramatically decrease the amount of wind, solar and storage needed to get to a grid that no longer burns fossil fuels. For example, 228.9 gigawatts of storage would be needed, compared to 277.9 without the nuclear plants.

"If your goal is decarbonization, then nuclear gets you a lot farther than if you retire the nuclear," Schauer said.

The scenario's 50-50 renewable energy grid for the region includes 575 gigawatts of utility-scale solar capacity (compared to 3.4 gigawatts today, according to Wood Mackenzie's analysis) and 194 gigawatts of wind capacity (compared to 47.8 gigawatts today). The nuclear scenario counts 58.2 gigawatts of nuclear capacity.

While the report focuses on a few cold days this year, Schauer has also done this type of analysis based on data for all of 2018, including summer heat waves. The lessons



1 March 2019

are similar, underscoring the scope of the work ahead for the people working for a cleaner grid. "It gets even more challenging when you extrapolate to the entire year," he said.

InsideClimate News

<http://www.insideclimatenews.org>

21 February 2019

European Commission opens UK capacity market investigation

The European Commission has launched an in-depth investigation into the UK capacity market to determine whether it is compliant with EU state aid rules.

The probe will mainly focus on the participation of demand-side response (DSR).

The capacity market was suspended in November after the European Court of Justice (ECJ) upheld an appeal by Tempus Energy against the commission's previous decision to approve the scheme.

Judges said the commission had failed to properly address concerns the capacity market discriminates against DSR providers. They said it should have held a full investigation before granting approval.

The commission has now launched such an investigation as part of a reassessment of the capacity market.

Jonathan Marshall, head of analysis at the Energy and Climate Intelligence Unit, said: "By kicking off its investigation, the European Commission should give investors clarity on whether pre-agreed payments will be made, and how the scheme will look going into the future.

"Allowing demand-side response to compete on an equal footing with other technologies is the minimum we can expect from a supposedly technology-neutral system. It will light the fire under a nascent industry, one that will be vital for the new generation of power systems that we will see around the world.

"As one of the tools for balancing variable power sources, boosting demand side response – alongside new interconnectors and storage – will ensure that we can install more renewable energy sources. This will both reduce household bills and cut carbon emissions, a win-win situation."

Last month the European Commission filed an appeal against the ECJ's ruling.

Utility Week

<http://www.utilityweek.co.uk>

21 February 2019

APS Plans to Add Nearly 1GW of New Battery Storage and Solar Resources by 2025

The Arizona utility says it will deploy 850 megawatts of battery storage and at least 100 megawatts of new solar generation in the coming years. The Arizona power grid has a unique set of challenges, which it turns out solar and energy storage are particularly well suited to address.

Arizona Public Service, the state's largest investor-owned utility, announced Thursday morning that it will add 850 megawatts of battery storage and at least 100 megawatts of solar generation by 2025. That amounts to nearly 1 gigawatt of new clean



1 March 2019

energy technology, to be obtained through a combination of newly completed and upcoming procurements. The plan includes outfitting existing utility-owned solar projects with 200 megawatts of batteries, deploying 500 megawatts of new battery resources, and contracting for 150 megawatts of third-party-owned storage — the last of which beat out new-build natural gas peakers in a request for proposals that just concluded.

This work builds on the dispatchable solar project APS is building with First Solar, which is scheduled for completion in 2021. Factoring in the 50-megawatt battery and 65-megawatt solar power plant included in that system, that brings APS' recently announced contracts for new clean energy resources to more than 1 gigawatt.

Not every utility has the same set of grid challenges as APS. The utility has to cope with long periods of peak demand that last into the evening, as well as the duck curve issue, where there's an abundance of solar during the day that drops off as the peak rises.

With this latest round of clean energy resources, APS wants to bring some of that sunlight into the evening. The storage projects will also help absorb some of the midday solar energy produced during the winter months, when the Arizona grid uses far less energy than during the state's scorching summers.

APS plans to provide its customers with "solar after sunset" through three major initiatives.

The first piece is upgrading a portfolio of utility-owned large-scale solar plants across the state with 200 megawatts of battery storage. APS has already selected Invenergy to install 141 megawatts of new battery systems at six solar sites, with the first expected to begin service by the summer of 2020. The remaining retrofits (which still need a contractor) will be completed by 2021. These will be 3-hour duration batteries, which means the retrofit initiative will produce 600 megawatt-hours of energy storage in total.

The second and most substantial part of the APS plan is to build an additional 500 megawatts of battery storage and at least 100 megawatts of solar resources by 2025. In fact, the first project in this category will be a 100-megawatt solar-plus-storage plant. APS expects to issue a request for proposals (RFP) this summer.

The third initiative is to contract with third parties to deploy 150 megawatts of 4-hour battery storage to help meet demand when energy usage peaks. APS launched this peaking capacity RFP last year and today announced AES and Invenergy will provide 100 megawatts and 50 megawatts of storage capacity, respectively.

Greentech Media
<http://www.greentechmedia.com>

21 February 2019

Wind now provides 14% of Europe's electricity

Wind energy provided 14% of the EU's electricity last year, up from 12% in 2017, according to statistics released today by WindEurope. Wind power capacity rose in Europe by 11.3 GW in 2018: 8.6 GW onshore and 2.65 GW offshore.

Continued growth in capacity and the use of more powerful turbines are helping to drive up wind's share in the electricity mix. Denmark had the highest share of wind in its electricity last year (41%) followed by Ireland (28%) and Portugal (24%). Wind was 21% of Germany's electricity. Wind accounted for 49% of all the new power generation capacity in Europe in 2018. But the amount of new wind capacity was down a third on 2017 (a record



1 March 2019

year). Wind energy won 9 GW of new capacity in auctions last year, compared to 13 GW in 2017. Capacity additions in Germany were down by over half after poorly designed auctions (now sorted) and problems with permitting (ongoing). And the number of new onshore wind farms dried up in the UK. Europe now has 189 GW of wind power capacity: 171 GW onshore and 18 GW offshore.

2018 was a record year for new wind capacity financed. 17 GW of future projects reached Final Investment Decision (FID): 13 GW onshore and 4.2 GW offshore. This is 45% more than in 2017 but only 20% more in euros invested, showing that costs continue to fall and you get more bang for your buck.

WindEurope

<http://www.windeurope.org>

21 February 2019

Japanese businesses test blockchain to trade renewable energy

This week independent power producer Marubeni and LO3 Energy said they have started a pilot project in Japan where LO3 will administer an energy marketplace using blockchain to connect a number of Marubeni's power production facilities, including renewables, with offices and factories around Japan in a virtual marketplace.

The project will simulate energy transactions to test the viability of the concept with the ultimate goal of creating a full-scale commercially operational network in the future.

LO3 Energy's transactive energy platform was pioneered in the creation of the Brooklyn Microgrid. It utilizes standard electricity meters combined with blockchain-enabled TAGe computer devices to measure useful energy data and power quality information and communicate with other devices on the network to activate energy transactions.

The actual electrons flow through the normal grid transmission network, but the private, permissioned blockchain manages the transactional element – the definition of the energy source and the contract agreement to pay for it. Users set preferences via a dedicated mobile app, giving consumers the opportunity to choose preferred energy sources and how much they are willing to pay for renewable energy.

LO3 Energy chief executive Lawrence Orsini said: "The Japanese energy sector is in the midst of a drastic transition, and there are increasing numbers of private power producers and suppliers interested in developing new customer offerings particularly in the renewable energy space."

He added that though the first phase of this project is internally focused, "it is very much driven by the desire from Marubeni to explore the opportunities that blockchain management systems can offer in the transaction of energy throughout Japan."

Chief Operating Officer of the Marubeni Power Business Division, Yoshiaki Yokota, said: "Their successful use of blockchain in the Brooklyn Microgrid and other projects around the world has shown us the potential for providing consumers with more energy choices and, crucially, improving efficiencies in energy usage."

He added that the project will allow the company to evaluate how blockchain could work in Japan and help them "develop case examples that we can use to decide how and when this kind of project could be implemented widely."

PEi

<http://www.powerengineeringint.com>



1 March 2019

21 February 2019

IO.Energy (Internet of Energy): a cross-sectoral ecosystem aimed at optimising end users' comfort and energy bills

- *Energy sector joins forces with academia and businesses to find sustainable solutions that fully leverage the effects and benefits of the energy transition;*
- *Electricity consumption needs to be better aligned with the growth in variable energy supply from renewables;*
- *Digitalisation and new technologies can create energy services that give consumers an active role in the energy system while optimising their comfort.*

The system operators Elia, Fluvius, ORES, Sibelga and Resa have today launched IO.Energy, a unique and innovative Belgian project that will help to develop new services by exchanging data between all energy market players. IO.Energy (short for Internet of Energy) is being undertaken in collaboration with business, research institutes and public services. The focus is on end users, who will be able to tailor their generation and consumption to their current needs using a digital communication platform. For example, they could optimise their energy bills by avoiding consumption at peak times. This will also make the electricity system more efficient and sustainable.

With renewable energy on the rise, flexibility in generation and consumption is increasingly important since the supply of wind and solar power fluctuates constantly. Moreover, changes linked to the energy transition are making it harder for system operators to maintain a balance between supply and demand and to manage grid congestion.

Through a joint initiative, the system operators aim to turn these challenges into opportunities. This can only be achieved by working with a broad coalition of businesses and organisations that will help to meet consumers' expectations by developing and offering new services. In an era of digital transformation and technological innovation, end consumers will be given greater opportunities to exploit price incentives and control their own level of comfort.

More innovation, new opportunities

If IO.Energy is successful, new opportunities could eventually emerge for a broad range of stakeholders.

First and foremost, consumers will have access to new services as a result of data exchange. For example, they will be able to choose whether to store the energy they have generated in batteries or, given the right price incentive, sell it to a third party. A combination of digitalisation, automation and innovation will allow users to charge their electric car, turn on their washing machine or switch on their underfloor heating at the most opportune time (in terms of price, grid requirements, etc.).

The free market will be able to innovate and develop new energy products and services designed to enhance consumer comfort.

Meanwhile, system operators will have new possibilities enabling them to better operate the Belgian grid at its various voltage levels, making our energy system more efficient.

Elia
<http://www.elia.be>



1 March 2019

26 February 2019

Green light for Snowy 2.0 as Government approves funds

The Australian Government has committed up to \$1.38 billion in an equity investment for Snowy Hydro's Snowy 2.0, giving the green light for work to go ahead on the early stages of the 2000MW expansion project.

In a statement the Government said it has approved Snowy 2.0 as part of its plan to support new renewable energy for Australia's future energy mix to deliver affordable, reliable power. The historic deal will see a high-tech expansion of the iconic Snowy Mountains Scheme and will help make renewables reliable, reduce volatility and drive affordability in energy markets and provide other services critical to the security and stability of the NEM, it said.

Following Snowy Hydro Board's final investment decision on 12 December 2018 where the project was approved, the Government has reviewed the project's business case and is satisfied that the project stacks up and will benefit energy consumers and the Snowy Mountains region.

The Government will commit up to \$1.38 billion, with the remainder of the project to be financed by Snowy Hydro Limited.

Snowy 2.0 will increase generation capacity by 2000 megawatts and provide 175 hours of energy storage. Importantly, this will also put downward pressure on wholesale electricity prices.

Snowy 2.0 will create up to 2,400 jobs in construction and support up to 5000 direct and indirect jobs across the Snowy Mountains region, providing opportunities for local businesses, improvements in local infrastructure and increased economic activity.

This decision builds on the Government's investment in Snowy Hydro following the acquisition from the New South Wales and Victorian governments on 29 June 2018 and work to back electricity supplies in Tasmania and Victoria with a new \$56 million investment in the Marinus Link to support Tasmania's Battery of the Nation project.

"It's an exciting time for our Company," Snowy Hydro CEO Paul Broad said. "Snowy 2.0, like the original Snowy Scheme, is a nation building project that is vital to Australia's economy and our energy transition.

"This significant expansion of the Snowy Scheme will provide the storage and on-demand generation needed to balance the growth of wind and solar power and the retirement of Australia's ageing fleet of thermal power stations. In short, it will keep our energy system secure.

"Snowy 2.0 is not only a sound business investment for Snowy Hydro with over 8% return on investment. It also represents the most cost-effective way to ensure a reliable, clean power system for the future."

Snowy 2.0 Exploratory Works will start immediately.

International Water Power & Dam Construction
<http://www.waterpowermagazine.com>