What a difference a year makes

Storage market | 2017 was tet another record-breaking year for energy storage. Riding high on expectation, the industry is braced for challenges and successes in equal measure this year too. We canvassed opinions from some of the world's leading trade associations and representative bodies on the year just gone and what 2018 could bring

Kelly Speakes-Backman, CEO, Energy Storage Association (USA)

Did 2017 meet your expectations or surpass them?

The cost of storage has dropped much faster than most predictions. The installed cost of battery grid storage has dropped 50% in the last four years and this rate is likely to continue for the next several years. The result is that project economics are increasingly competitive. We've seen reported median bids from the Xcel Colorado all-source solicitation for combined wind-plus-storage PPAs at US$21/MWh and solar-plus-storage PPAs at US$36/MWh for delivery before 2023. As costs come down, new megawatt-scale battery storage projects are arriving with longer durations; while the over 90MW of four-hour batteries deployed in California to make up capacity shortfalls from Aliso Canyon was the big news in 2017, now in 2018 there are already two eight-hour grid battery projects under development in New York and Massachusetts. And that Xcel Colorado RFP solicited bids of 10-hour batteries!

What are expecting to see for 2018, and what would you hope to see this year?

We're focused on three fundamental goals for 2018. First, we are working to establish mechanisms such as market designs, programmes or rates that compensate storage for the flexibility it provides. Second, we are making every effort to ensure that storage is included in all power sector planning and procurement processes as a regular course of business. Third, we are focused on enabling storage to better interconnect with the grid and operate flexibly, under a variety of business models.

What will be the biggest challenges to face the industry for 2018?

Even as prices for energy storage systems have plummeted in recent years, policy has yet to catch up with technology. The electric system was designed before storage was a commonly available and widespread resource, and so the rules governing the grid and electricity markets were developed without contemplating the role of storage. Current rules do not capture the full economic, operational efficiency and societal value of energy storage, and therefore there are not effective market signals to encourage customers and utilities to deploy energy storage. The most straightforward example of this is in rate design, as price signals do not exist in many states to encourage customers to shift consumption of energy to times when there is the least stress on the grid. Second, storage is not included in all utility grid planning and resource procurements, and therefore cannot compete effectively with traditional resources under consideration. Distribution planning, for example, does not require utilities to consider energy storage or other "non-wires" solutions to traditional reliability investments. Third, numerous barriers to market and grid access limit the ability of energy storage systems to interconnect and offer their full range of services. The challenge is not about cost, but about value, competition, and access.

Georgina Penfold, CEO, Electricity Storage Network (UK)

Did 2017 meet your expectations or surpass them?

Riding on the back of the EFR (Enhanced Frequency Response) tender, large-scale storage hit the big time in 2017 with storage competing successfully in Capacity Market auctions. Behind-the-meter storage gained traction and it is now commonplace to find storage talked about throughout the industry – as if we have always had it. But expectations are hard to manage, and the law of unintended consequences came into play. So much interest in ancillary services depressed prices substantially, making the business case for many battery projects rather uncertain. We hoped for increased interest in longer duration storage, and our expectations were surpassed by the change in the de-rating factors for the Capacity Market, which brings a more realistic approach to the introduction of storage.

What are you expecting to see and what would you hope to see in 2018?

Of course, there will be more interest in storage. EV infrastructure and V2G (vehicle-to-grid) will be major disruptions to the whole electricity sector, but this won't be without some considerable change to the way the system will operate. The current electricity market is not functioning well, and we hope for some major changes to the way that the electricity market is configured, not least a more rational approach to dynamic pricing.

What will be the biggest challenges to face the industry for 2018?

There is a risk that the storage industry follows solar with a sudden and sad decline in the number of participants as companies realise that there is a limited market, with limited revenues. However, the transition of the UK's distribution network operators (DNOs) to distribution system operators (DSOs) will mean that storage is an essential part of the smart grid – so bulk storage should remain a growth area.

John Grimes, CEO, Smart Energy Council (Australia)

Did 2017 meet your expectations or surpass them?

It was a game-changing year. We saw a number of new products on the market, and prices continue to fall for behind the meter battery systems. It was also a breakout year for large-scale energy storage with the world's biggest lithium-ion battery installed in under 100 days on the South Australian network. In small scale energy storage over 20,000 battery systems were installed.

What are you expecting to see and what would you hope to see in 2018?

Commitments to major battery programmes have been made by a number

of state governments, while Queensland has announced low interest loans for batteries in low-income households. This year will see substantive work done on large-scale pumped hydro projects in Queensland, South Australia and early stage planning continue towards Snowy Hydro 2.0 in New South Wales. Large-scale storage projects are emerging, and there is policy work happening towards a long-term energy storage target in Australia.

What will be the biggest challenges to face the industry for 2018?

Lack of a national energy policy and lack of support for renewable energy policy post-2020 are major barriers. Energy market rules need reform to unlock the true value of energy storage assets – and there is an ongoing need to continue to drive down costs, for quicker take-up.

Dr Rahul Walawalkar, CEO, India Energy Storage Alliance (IESA, INDIA)

Did 2017 meet your expectations or surpass them?

The industry will look back on 2017 as a year when India crossed 2GWh of deployment of advanced energy storage solutions. Also Indian industries have started investing in setting up manufacturing capabilities for developing li-ion battery packs in India. EVs also got significant boost with clear support from the Indian government and committees were created for developing standards for batteries, charging infrastructure and stationary energy storage systems.

The only disappointment for the industry was the flip-flops from various government agencies on large-scale renewables integration projects. There were over 100MWh of grid-scale energy storage project RFPs released during 2017; unfortunately most have been stuck due to mixed signals from MNRE (Ministry of New and Renewable Energy). IESA is working closely with all the policy makers and we anticipate most of these projects can move forward in 2018.

What are you expecting to see and what would you hope to see in 2018?

We anticipate that with global scale-up in manufacturing, advanced energy storage prices will drop by over 10% in 2018. India will also start witnessing adoption of EVs in 2018, fuelled by central procurement led by EESL [the Indian government's energy service company] and various state agencies. The stationary energy storage market will also start seeing traction with MW-scale deployments for both renewable integration and C&I applications.

If we start deploying energy storage projects in a systematic manner this can create a huge interest for local manufacturing and system integration capabilities.

By mid-2018, India will have over 1GWh of li-ion battery pack manufacturing capacity. We also anticipate that in 2018 at least two li-ion cell manufacturing plants with capacity of 1GWh or more will start construction in India with anticipated completion for early 2020.

What will be the biggest challenges to face the industry for 2018?

As with any fast growing area, we anticipate some teething pains for the industry as we develop the skills and capabilities for large-scale adoption of energy storage, microgrids and EVs.

India has significant engineering capabilities, but qualified resources for deployment, operations and managing advanced energy storage solutions will need some time. In the meantime, with the growing pressure of cost reduction, we hope the industry does not take shortcuts to compromise on safety.

Credit WEMAG/Younicos

Storage looks set to build on a record-breaking 2017 with further steps forward this year

Patrick Clerens, Secretary General, EASE (European Association for Storage of Energy, EUROPE)

Did 2017 meet your expectations or surpass them?

It was a record-breaking year for the energy storage industry in terms of new installations. We are seeing more and more innovative technologies and storage projects coming onto the market across Europe, demonstrating the value energy storage can provide at all levels of the system. Not only are technologies developing much more rapidly than previously thought possible, new business models and applications are also emerging. Meanwhile, in discussions around the 'Clean Energy for All Europeans' package, we saw more and more stakeholders advocating for policies that will support storage deployment.

What are you expecting to see and what would you hope to see in 2018?

We will continue to see more and more deployments of energy storage technologies across Europe, particularly in front of the meter, but also behind-the-meter. Hopefully we will see an agreement on the final "Clean Energy for All Europeans" package that contains supportive policies for energy storage. This would be a major step forward for the industry. We also hope to see more discussions about energy storage business cases, how to monetise flexibility services, the role of storage in supporting the decarbonisation of transport, and efforts to improve investment security.

What will be the biggest challenges to face the industry for 2018?

The biggest challenge for the industry in 2018 continues to be the uncertainty about the role of storage in the EU regulatory framework and, as a result, the lack of long-term investment security. Another challenge is to further clarify the different applications storage can provide as well as how to monetise these different services. On the R&D side, the biggest challenges are to deliver continued performance improvements and cost reductions across all storage technologies. ■