

# The Clean Energy Package is here – now what?

**EU policy** | The EU's clean energy policy framework for the first time recognises energy storage as a key part of the future energy system. It is far from perfect, but lays the foundation for storage to become an integral part of efforts to decarbonise the energy system, writes Brittney Elzare

Only 10 years ago, the value of energy storage for the energy system was not at all recognised by European Union policymakers. In the Third Energy Package, the 2009 package of EU energy legislation, there was no mention of energy storage. In an energy system and regulatory framework built around the traditional assets of generation, transmission/distribution and consumption, energy storage was seen as a rather unimportant niche technology.

Just as the energy storage market has grown in leaps and bounds, the thinking of policymakers across the EU has evolved since then. The European Commission now recognises that “Energy storage has a key role to play in the transition towards a carbon-neutral economy, and it addresses several of the central principles in the Clean Energy for All Europeans package” [1].

This package of legislative and non-legislative proposals, commonly referred to as the CEP, ushers in a new era for the energy storage industry. The CEP for the first time in EU law formally recognises energy storage as one of the key players in the energy system and seeks to address the main barriers that have hampered storage deployment.

## Clean Energy Package: game changer for storage?

The CEP is undoubtedly positive for the storage sector. By establishing a binding renewables target of 32% by 2030 – along with targets for renewables in transport, heating and cooling – the package sets a high level of ambition that can only be achieved with the widespread deployment of flexibility solutions such as storage.

Within the CEP, the recast Electricity Directive and Regulation tackle some of the most pressing challenges for storage technologies. First of all, they establish a definition for energy storage that covers all of the different technologies: pumped

hydro storage, power-to-gas, power-to-heat, liquid air, batteries, supercapacitors, flywheels and others. This technology-neutral definition ensures that both current technologies and those that may be developed in the future are covered by the legislative framework.

Second, the Clean Energy Package clarifies the important issue of regulated entities owning and operating storage facilities. As a general rule, transmission and distribution system operations (TSOs and DSOs) should not own and operate storage, unless they are considered “fully integrated network components”. However, in situations where there is no market party willing to build a storage device, the National Regulatory Authority (NRA) may introduce a derogation. Prior to the CEP, the lack of clarity on ownership of storage held back the development of storage devices; addressing this point therefore represents an important step forward.

The CEP also focuses on the evolving role of TSOs and DSOs more broadly: TSOs and DSOs must consider energy storage in their network planning and are encouraged to move towards market-based tendering of flexibility services as an alternative to grid expansion. This will allow energy storage to access more revenue streams, building a more robust business case and creating a level playing field between the different flexibility options.

In addition, the CEP emphasises the changing role of consumers in the energy system. Instead of being passive players in the energy system, consumers can choose to play an active role, deploying renewables and storage and participating in different electricity markets. The package formally recognises the right of “active customers” and “citizens energy communities” to own and operate energy storage devices. These customers and communities should be able to offer the flexibility of their storage devices to the grid, including



Credit: Belectric

## The role of energy storage facilities in providing grid services is more clearly defined in the Clean Energy Package

via aggregators.

Although the CEP is a significant step forward for the industry, it does not address all of the issues that are holding back storage deployment. For instance, energy storage will require at least some investment certainty in the form of long-term contracts for storage services. Yet the CEP limits the duration of balancing services, which could reduce investment certainty. This means that there are ever fewer longer-term revenue streams on which storage operators – and investors – can rely.

Another key issue is that grid fees, taxes and tariffs applied to energy storage may be higher than on other devices, as storage is sometimes taxed when ‘consuming’ electricity and then again when ‘generating’ electricity. This point is not adequately addressed in the CEP, since taxation remains an EU member state competence.

## Beyond the CEP: new policy initiatives and challenges for storage

Although the CEP addresses some of the key high-level principles that are needed to formalise the role of energy storage and ensure access to new revenue streams, there are many more topics that are still up for discussion.

One key challenge is that the implementation of the CEP provisions may not be uniform across all member states. Some markets that are now closed to energy

storage technologies (for example, the Czech Republic, which does not allow stand-alone grid-scale storage facilities to be built), may still lag behind in terms of implementing the package. Urging governments to implement the CEP as quickly as possible is therefore a key priority in order to have a harmonised EU market.

While CEP implementation is important, there are also many new EU policy initiatives that can benefit storage. Next year, the Commission is expected to propose changes to the EU's gas legislation. The 'Gas Package' will cover a range of gas market design issues, notably the role of power-to-gas. Definition of renewable and low-carbon gases, guarantees of origin and certification schemes will have an important impact on the storage sector [2].

Over the past two years, there has also been a flurry of Commission activity focused on supporting the batteries sector in Europe. Commissioner Maroš Šefčovič, vice-president of the European Commission in charge of the energy union, has repeatedly emphasised the strategic importance of a strong EU value chain for batteries. At his initiative, a European Battery Alliance was established to enhance collaboration between industry and policymakers. This has led to a number of other activities including a proposal for sustainability criteria for batteries, a battery working group in the European Parliament, and additional funding for battery R&D projects.

This year the European institutions have also been debating the EU's 2050 strategy for greenhouse gas emissions reductions. The Commission's proposal, issued in November 2018, envisaged that power generation be fully decarbonised by 2050, with a share of variable renewables in gross electricity generation of 81-85% [3].

The Commission's analysis of the different options to reach this target underlined the vital role of energy storage: stationary storage use is expected to increase from about 30TWh today to 70TWh in 2030 and 170-270TWh in 2050 to achieve 80% greenhouse gas reductions compared to 1990 levels. This is a massive increase in energy storage deployments, which will require significant investments in the sector. However, this analysis only considers some storage technologies and does not quantify the flexibility that can be provided by behind-the-meter storage or – potentially – smart charging and vehicle-to-grid solutions.

The discussion about this strategy is

still ongoing, as the growing number of EU Member States that support a target of net-zero emissions by 2050 have been blocked by a minority. There is also a debate about potentially revising the 2030 greenhouse gas emissions reduction targets to reflect a higher level of ambition.

For behind-the-meter storage, there are ongoing discussions in various member states about the grid fees and tariffs that customers should pay, and several countries and regions are considering incentive schemes for storage behind-the-meter. Another interesting development is the Smart Readiness Indicator [4], one of the proposals contained in the Energy Performance of Buildings Directive (part of the CEP). European policymakers are currently defining the methodology to assess the smart readiness of buildings, which will include measuring the ability of buildings to provide flexibility to the grid and support electric vehicle charging. Deployed alongside energy performance certificates, the smart readiness indicator of buildings could be a valuable way to communicate the added value of smart energy technologies – including energy storage – to consumers.

Finally, there are also developments related to DSO-TSO cooperation, for example to define new services such as congestion management that could be provided by services, and around the EU electricity network codes. The revision of the grid connection codes to include battery storage and other storage technologies (of which currently only pumped hydro storage is included in the codes) is an important step that could help create a more harmonised regulatory framework for storage across the EU.

### What's next for storage?

While the CEP is a big success for the storage industry, now is not the time to rest on one's laurels. As the energy storage industry matures, and as the energy transition accelerates, engagement with policymakers will be essential to ensure that the right policies are put in place to support storage deployments. A few key risks are worth mentioning, which could derail some of the advancements made in recent years.

One risk, as highlighted above, is the tendency of EU policymakers to discourage longer-term contracts for flexibility services, which could reduce certainty for energy storage investors. Another risk is that policymakers tend to pick winners

and losers among the technologies. For instance, significant attention is paid to li-ion batteries and hydrogen, potentially shutting out some of the other promising energy storage technologies that will be needed for the energy transition.

Not only is the diversity of energy storage technologies not considered, but also the diversity of services storage can offer is difficult for policymakers to take into account. This is noticeable, for instance, when looking at the modelling used by EU policymakers to support the 2050 targets, or the discussions around the Smart Readiness Indicator for buildings.

Since the European elections in May, new members of the European Parliament have come to Brussels, and a new College of Commissioners is being formed to take up its activities in November 2019. There is no guarantee that these policymakers will continue the positive efforts of the current Commission – and, to a lesser extent, the European Parliament – when it comes to energy storage.

Continued engagement with policymakers at the local, regional, national and EU level is therefore essential to ensure that they understand the complexity of the energy storage business case and the many different services that energy storage can provide – and should, ideally, be remunerated for. Industry and policymakers must work together to design smart and effective policies to ensure that energy storage can reach the levels needed to achieve the 2030 and 2050 decarbonisation targets. ■

### References

- [1] European Commission Website, August 2019: <https://ec.europa.eu/energy/en/topics/technology-and-innovation/energy-storage>
- [2] For more information on this topic, please see EASE's Recommendations on Certification of Renewable and Low-Carbon Hydrogen, published May 2019, at <http://ease-storage.eu/recommendations-on-certification-of-renewable-and-low-carbon-hydrogen/>
- [3] European Commission Communication "A Clean Planet for All" and the In-Depth Analysis, published November 2018, available at [https://ec.europa.eu/clima/policies/strategies/2050\\_en/](https://ec.europa.eu/clima/policies/strategies/2050_en/).
- [4] See <https://smartreadinessindicator.eu/>

### Author

Brittney Elzarei is senior policy officer at EASE, the European Association for Storage of Energy. Since joining EASE in 2016, she has supported the association's advocacy efforts and activities across a range of topics: energy storage technologies, applications, business cases, R&D needs, storage in the EU electricity network codes and the 'Clean Energy for All Europeans' Package. Prior to joining EASE, she worked in a Brussels-based public affairs consultancy on projects in the agri-food and pharmaceutical sectors. She obtained her degree in political science from the Free University of Berlin in 2012.

