

Activity Report 2020





Acknowledge

Special acknowledgement to the EASE members who helped make this publication possible.

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The European Association for Storage of Energy

The European Association for Storage of Energy (EASE), located in Brussels, Belgium, is the leading member-supported association representing organisations active across the entire energy storage value chain. EASE promotes the deployment of energy storage to support the cost-effective transition to a resilient, climate-neutral, and secure energy system.

EASE was established in 2011 and currently represents more than 50 members including utilities, technology suppliers, research institutes, distribution system operators, and transmission system operators. Together, EASE members have significant expertise across all major storage technologies and applications. This allows us to generate new ideas and policy recommendations that are essential to build a regulatory framework that is supportive of storage.

Our Mission

- Stimulate the development and deployment of innovative & cost-effective energy storage technologies;
- Promote a fair and future oriented energy market design that recognises storage as an indispensable element of the energy system;
- Serve as a platform for information-sharing on energy storage technologies and applications.

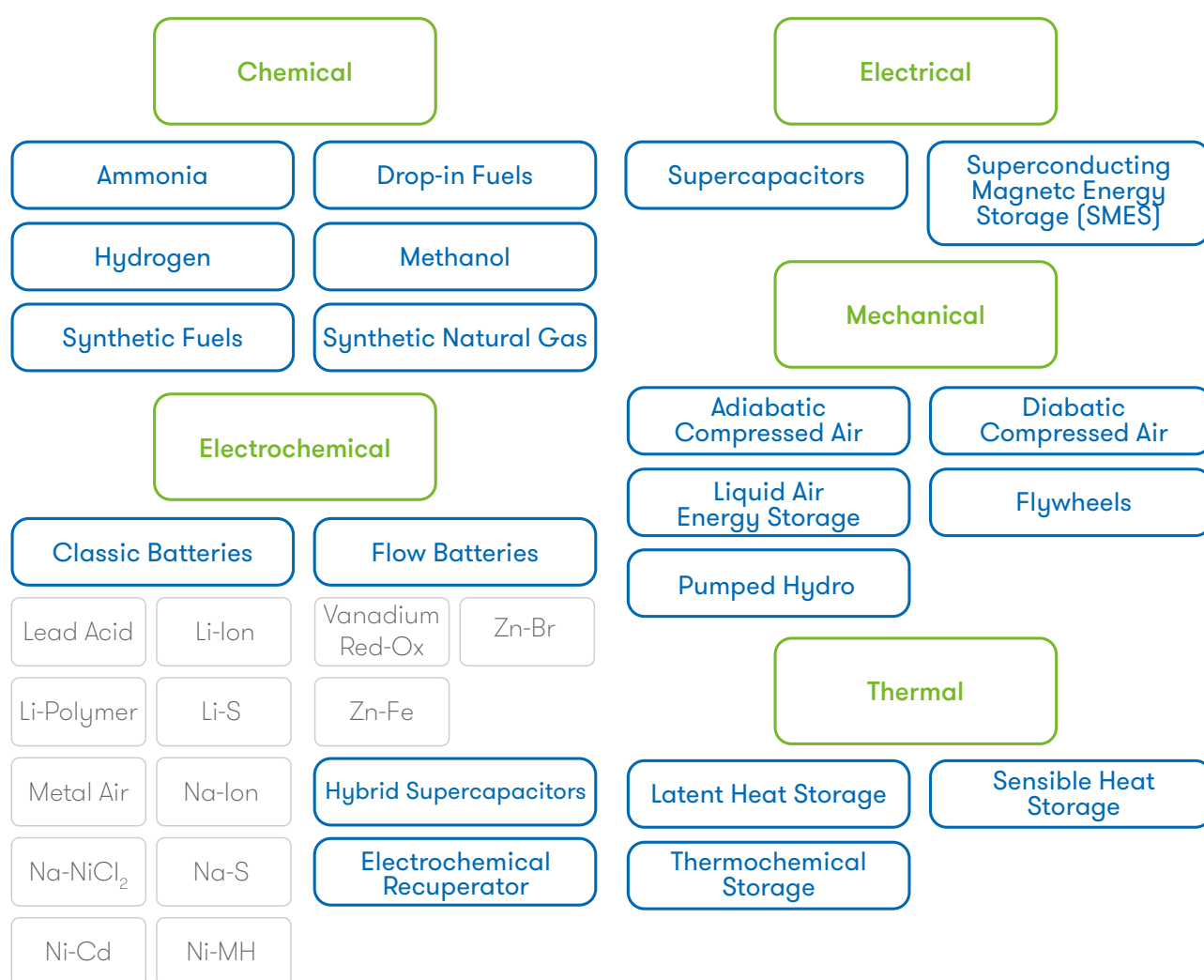




Energy Storage Technologies

EASE and its members support the development of all energy storage technologies, which can be deployed in different configurations and suit a wide range of applications, easing the integration of renewables and enabling the decarbonisation of the energy system.

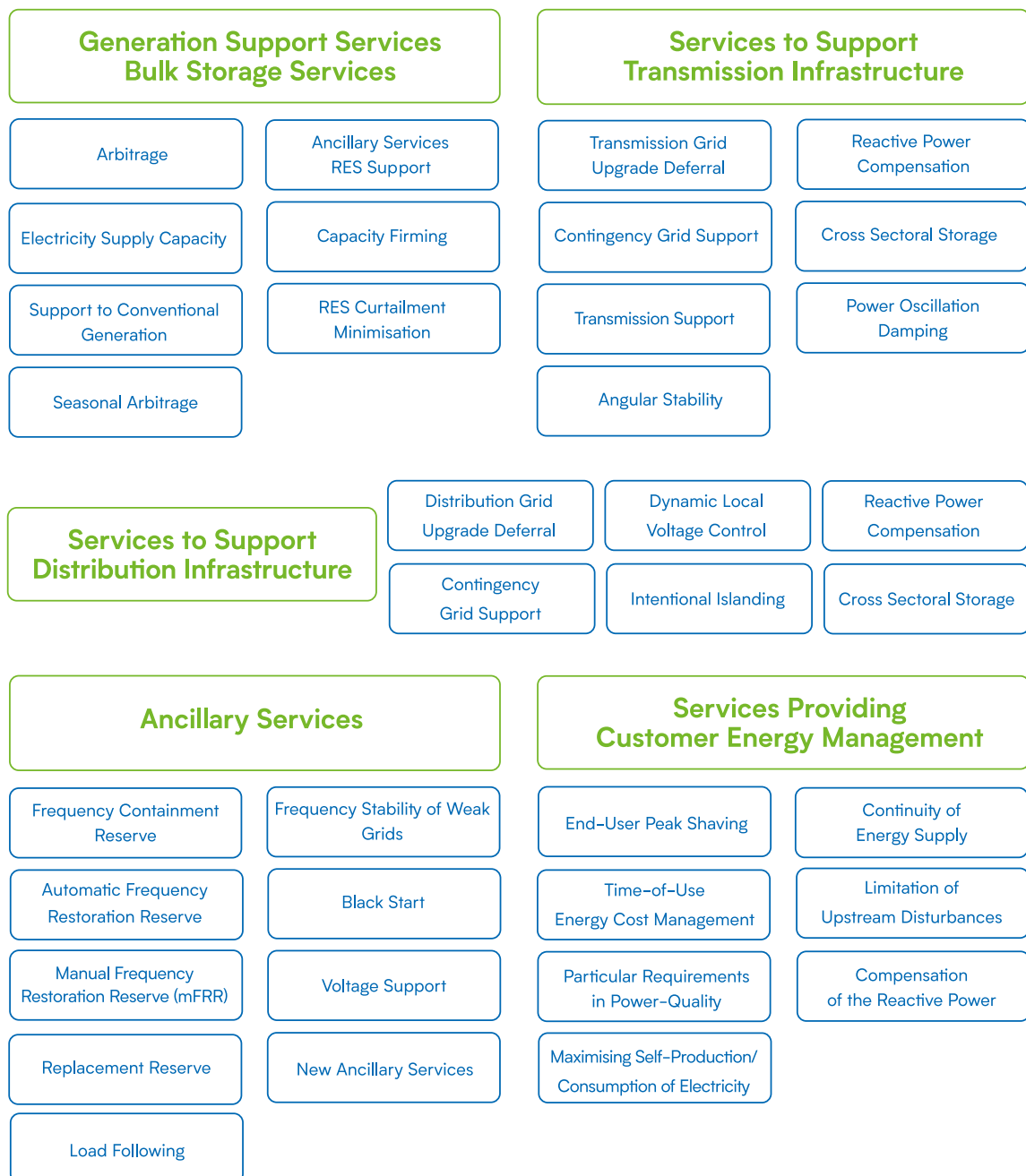
In order to clarify the diversity of storage technologies, EASE suggests a classification into five families: chemical, electrical, electrochemical, mechanical and thermal. Being a field that evolves constantly thanks to research, the technologies that belong to each category may also evolve over the years – therefore, the list should not be considered as exhaustive.



Energy Storage Applications

Energy storage has many valuable applications across the energy system. The range of applications which energy storage devices can provide is constantly evolving, both because of the ongoing development of new energy storage technologies and the evolving flexibility needs of the energy system.

EASE has classified the possible applications and contributions that energy storage can provide, organising them according to the segments of the energy system. It is expected that the list of storage applications will continue to grow over the next years. Most storage facilities will need to provide several services in order to have a robust business case. This classification focuses on services to the electricity system; there are many additional applications that can be provided by power-to-x technologies which are not included in this overview.





Foreword by MEP Claudia Gamon



Claudia Gamon

Member of European
Parliament, Renew Europe

Tackling the climate crisis has never been more important. Civil society groups such as Fridays for Future continuously remind us of this imperative and have shown how climate change inspires political consciousness, especially in youths. Although decarbonisation has been a goal of the European Union for many years, with the European Green Deal it has become one of our top priorities. Europe has committed itself to becoming the first climate neutral continent by 2050. The European Parliament has endorsed this commitment in its position on the European Climate Law and additionally calls for introducing an ambitious greenhouse gas reduction goal of 60% until 2030.

The attainment of these targets and the transition to a decarbonised economy based on renewable energy sources poses a great challenge for the European energy supply. Renewable energy, such as electricity generated by wind or solar, is variable. At the same time, we of course must secure energy supply at all times. To balance peaks and lows in the energy generation and demand, a significant increase of energy storage capacity is needed. Therefore, energy storage must be a priority in our policies and in the regulatory framework in the coming years.

It is not just the key enabler for energy transition, but it is indeed essential to reach our climate and energy efficiency goals and to secure the supply of energy. Hence, energy storage does not only deliver a benefit for our European economy, but we must consider it a societal necessity. The European Parliament addresses this very crucial issue in its own-initiative report on

energy storage and calls on the European Commission to address energy storage in a comprehensive manner and recognise its full potential. As regards policies, we must take a holistic approach to reflect the environmental, economic and societal impact of the different storage technologies.

As the energy system is multiform and complex, we need to consider all kinds of storage technologies in the European Union decarbonisation plans. Hence, we need to foster the development of all different kinds of technologies and tie them to our high environmental and social standards.

In addition, in light of the future clean energy transition targets, the European Parliament's own-initiative report stresses the need to remove the many barriers in existing legislation to enable market access for energy storage technologies. Barriers such as double taxation and charging of electricity used for storage, massive delays in



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permitting of Projects of Common Interest or the lack of a clear reference in the state aid guidelines are just a few to mention. We must remove these barriers as they are still hindering the uptake and deployment of energy storage facilities.

Moreover, we have to boost other storage options such as mechanical and thermal storage, as well as the development of decentralised storage through home batteries, domestic heat storage, vehicle-to-grid technology and smart home energy systems.

The EASE webinar on the European Parliament own-initiative report on energy storage was a productive exchange that showed the widespread interest in the matter. The different views expressed were a valuable input for my work as Member of the European Parliament. I enjoyed that the exchange aimed at finding solutions that enable the decarbonisation of the economy and raise awareness about energy storage.

The European Parliament has acknowledged the importance of storage. It is now up to the Member States to acknowledge the important role of energy storage and implement existing measures and to the Commission to make proposals to tackle existing barriers. Let's tackle decarbonisation together!

“

Energy storage must be a priority in our policies and in the regulatory framework in the coming years. It is not just the key enabler for energy transition, but it is indeed essential to reach our climate and energy efficiency goals and to secure the supply of energy. Hence, energy storage does not only deliver a benefit for our European economy, but we must consider it a societal necessity.



Welcome by EASE President Eva Chamizo Llatas



Eva Chamizo Llatas

EASE President

As we all know, 2020 has been marked by the COVID-19 pandemic, that has led to a dramatic loss of human life worldwide, an unprecedented situation for public health, and drastic worldwide economic and social disruption. In these circumstances, and while addressing the short-term challenges, both the European Commission and the European Parliament have confirmed the European Green Deal as the growth strategy of the European economy, and the greatest opportunity to drive the EU toward a new socio-economic model that is climate-neutral, resilient, sustainable, inclusive and robust. The energy storage sector is committed to playing its part to support a green economic recovery for all.

Delivering on the EU Green Deal

In 2020 the European Commission proposed the European Climate Law, to enshrine the 2050 climate-neutrality objective into EU law, and to further reduce net greenhouse gas emissions by at least 55% by 2030 compared to 1990 levels. EASE supports these two ambitious targets, and we see an important role for energy storage to support the integration of higher shares of variable renewable energy sources while maintaining efficient system operation and security of supply.

Following the Climate Law, we saw many more policy and legislation initiatives come down the pipeline, including the Energy System Integration Strategy, Hydrogen Strategy, Renovation Wave, TEN-E legislation, Batteries Regulation and Strategy for Smart and Sustainable Mobility. I was particularly happy to see the Energy System Integration Strategy, which recognized the key role of energy storage in an efficient, electrified, renewable-based and integrated energy system. Energy storage solutions can link different energy and economic sectors, supporting efficient decarbonisation of the heating and cooling, mobility, gas, and industry.



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The European Parliament Takes on a Leading Role to Support Storage Deployment

In July 2020 the European Parliament adopted with an overwhelming majority an own-initiative report on energy storage, calling on the European Commission to develop a comprehensive strategy covering all energy storage technologies, and to urgently address the barriers that still hamper its deployment, both EASE co-hosted an event to present the report in September with the rapporteur MEP Claudia Gamon, and were joined by the shadow-rapporteurs and the European Commission representative Tudor Constantinescu for a panel discussion. We have been extremely encouraged by this clear signal from the European Parliament on the importance of energy storage and the recognition of EASE.

Progress Continues Despite the Pandemic

As my term as EASE President comes to an end in December 2020, I would like to express my sincere appreciation and gratitude to EASE members and the Secretariat, who have worked tremendously hard in promoting and strengthening the energy storage sector. Energy storage is no longer seen as a technology of the future; it is now fully recognised by EU policy-makers as an essential enabler of the energy transition.

I wish the best of success to my successor, Mr David Post of Enel X, as he takes the reins of the EASE Presidency to guide the association into the crucial discussions on the European Green Deal and COVID-19 recovery in the coming years. You can count on Iberdrola's full support for this important mission.

“

The energy storage sector is committed to playing its part to support a green economic recovery for all.

2020 in Circles

January

EASE published the **Inputs on Battery Sustainability** and **Ecodesign** position paper.

Samsung SDI and **SaltX Technology** joined EASE.



EASE published a **Study on Power System Challenges of Islands and Isolated Systems with High Shares of Variable Renewables**.

EASE published the **Energy Storage and the Alternative Fuels Infrastructure Directive** position paper.

EASE organised a **joint webinar** with representatives of the **Ukrainian Energy Storage Association**.

EASE submitted a response to the **ENTSO-E stakeholder consultation on Frequency Containment Reserve Cost-Benefit Analysis**.

EASE submitted a response to the European Commission's **Smart Sector Integration Consultation**.

EASE contributed to a **Study on Energy Storage and its Contribution to Electricity Supply Security in Europe**, tendered by the European Commission.

EASE published the **Power-to-Gas Business Cases: Revenue Streams, Economic and Regulatory Barriers and Business Opportunities** position paper.

EASE published the 1st edition of its **public newsletter**.

EASE submitted a response to the European Commission's **TEN-E Regulation Consultation**.

EASE developed a comprehensive **map of energy storage facilities in Europe** drawing from the data collected by the European Commission.

EASE published the **Energy Storage Applications Summary** technical paper.

EASE submitted a response to the European Commission's **2030 Climate Target Plan**.

February

EASE organised the **Innovation Fund Workshop** in collaboration with the European Commission in Brussels, Belgium.

Aarhus University, **Akkurate**, **Capital Energy**, and **E2S Power** joined EASE.



May

March

EASE and Delta-ee released the **4th edition of EMMES – European Market Monitor on Energy Storage**.

EASE attended and gave a presentation at the **Indian Smart Utility Week** in New Delhi, India.

EASE organised an online **Workshop on GHG Emissions Calculations Methodology for Storage in the Innovation Fund** in collaboration with the European Commission.

EASE published a joint statement: **European Industry and Research Organisations Call for a Continued Climate Ambitions amid the COVID-19 Crisis**.

EASE organised a webinar on the **Frequency Containment Reserve Cost-Benefit Analysis Stakeholder Consultation**.

EASE published an **Analysis on the Impact of COVID-19 Pandemic on the Energy Storage Sector**.

June



April



July

EASE submitted a response to the European Commission's **Revision of the Directive on the Deployment of Alternative Fuels Infrastructure**.

EASE published the result of the **2nd Analysis on the Impact of COVID-19 Pandemic on the Energy Storage Sector**.

EASE published a **Brief on the EU Hydrogen Strategy**.

Tomas Bata University in Zlín joined EASE.



August

EASE submitted a response to the ACER Public Consultation on the **Statutory Documents of the EU DSO Entity**.

UNDA Engineering Inc., CATL, Energiasalv Pakri OÜ and Wärtsilä Finland OY joined EASE.



EASE launched the **new version of its website**.

EASE published a **Briefing on Next Generation EU**, a recovery instrument to boost EU budget.

EASE organised a webinar with MEP Claudia Gamon, presenting the **European Parliament's ITRE Committee Own Initiative Report on Energy Storage**.

EASE organised a **webinar on "Fast Reserve"** a new market product and grid service developed and launched by Terna.

October

EASE published a response to the European Commission Public Consultation on the **Sustainable and Smart Mobility Strategy**.

EASE participated in the **World Energy Storage Day Virtual Global Conference and Expo**.

Grupo Cobra joined EASE.



EASE published an **Open Letter on the Revision of the TEN-E Regulation**.

Sumitomo SHI FW and Xtralis joined EASE.



Sumitomo
SHI FW



xtralis

EASE General Assembly elected **Mr David Post** (Enel X) as EASE President for the 2021-2023 period.

EASE published its Conclusions on EASE Reply to the European Commission Public Consultation on the **Revision of the Energy Taxation Directive**.

EASE published a **Summary of Services to Support Generation and Services to Support Bulk Storage**.

Blue Solutions joined EASE.



December

EASE organised the webinar **"Taking Energy Storage to the Next Level: Enabling Benefit Stacking Through Smarter Regulation"**. During the event Ian Santos Fernández was recognised as the **winner of the 5th EASE Student Award**.

EASE published two briefs on the **Sustainable and Smart Mobility Strategy** and the **Battery Strategy** for its members.

EASE submitted its feedback to the European Commission Public Consultation on the **Sustainable Finance Taxonomy**.





European Green Deal Policies Supportive for Energy Storage

2020 was a significant year for energy storage policy, as the Clean Energy Package provisions are implemented across the EU and the European Commission, European Parliament, and many other stakeholders took an active interest in energy storage. This was especially clear when it came to the European Green Deal, the ambitious plan from the new EU Commission President von der Leyen to accelerate the transition to a net-zero emissions energy system by 2050. Energy storage was highlighted across the European Green Deal proposals released in 2020, clearly establishing storage as an essential enabler of the energy transition.

2030 and 2050 Targets: High Ambition

Ambitious decarbonisation targets for 2030 and 2050 are essential to increase investment in clean energy technologies such as energy storage. EASE supports the ambitious targets: in February 2020 the EASE General Assembly endorsed the target of at least 55% reduction of CO₂ emissions for 2030 and climate neutrality with net zero greenhouse gas emissions by 2050.

Therefore, it was encouraging that in March 2020 the European Commission proposed the European Climate Law, setting the objective for the EU to become climate-neutral by 2050. In September 2020, the Commission updated its 2030 climate target to a net reduction of at least 55% of the EU's greenhouse gas (GHG) emissions compared to 1990 levels. This sets the

stage for ambitious EU policy that will transform the energy sector.

Defining the Policies to Meet GHG Emissions Targets

Achieving these targets requires coordinated and well-executed policy planning. This year, the European Commission issued many policy proposals aimed at making the Green Deal a reality.

One of the Commission's most eagerly awaited policy proposals were the Energy System Integration Strategy and Hydrogen Strategy, released in July 2020. Both strategies are positive for storage, supporting the deployment of all types of energy storage projects across the EU, including power-to-x and thermal storage. Energy storage can link different energy and economic sectors – electricity, gas, heating and cooling, transport, and industry - and





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this is clearly recognised by the Commission. Integrating these sectors can increase the efficiency of the whole system while contributing positively to energy security.

In October 2020 the European Commission published the Renovation Wave, a strategy to accelerate building renovation while reducing Europe's GHG emissions. Energy storage installed in residential homes or commercial and industrial facilities can increase the integration of renewable and surplus energy into buildings. Furthermore, behind-the-meter storage can provide flexibility at low cost, also supporting smart-charging and vehicle-to-grid services. Energy storage can facilitate the decarbonisation of the heating and cooling sectors which currently are heavily dependent on fossil fuels. Therefore, the Renovation Wave sends a welcome signal to the energy storage sector.

Other Green Deal policies – including the Energy Taxation Directive, the TEN-E revision, the smart mobility strategy, and the Batteries Regulation – continue this positive trend of addressing the different barriers to energy storage deployment.

More Funding for Energy Storage Research, Development, and Deployment

Policy and regulation are important, but public funding is also essential to bring more innovative energy storage projects to fruition. In January 2020 the European Commission presented the European Green Deal Investment Plan and the Just Transition Mechanism. The Just Transition Mechanism provides targeted support to help mobilise over €150 billion from 2021 to 2027 to alleviate the socio-economic impact of the transition in the most affected regions.

On 16 September 2020 the European Parliament plenary approved its position on the Just Transition Fund and called for significantly higher funding than the Council and the Commission. The Parliament's amendments added energy storage technologies to the scope of support of the Just Transition Fund. This will unlock funding for energy storage, a valuable tool that can help islands, industrial, coal and energy intensive regions transition to a more sustainable energy system.

In addition, policymakers agreed on a new Multi-annual Financial Framework and Next Generation EU recovery plan of €1.8 trillion, which clearly recognises the important role of supporting investments in clean energy technologies such as storage through programmes including Horizon Europe, the Recovery and Resilience Facility, InvestEU, and others.

Positive Momentum for Energy Storage

The European Green Deal is an ambitious roadmap with numerous policies aimed at transforming Europe's economy and society. For years, the challenge for the storage sector has been raising awareness and understanding of the role of storage for the system. Now, energy storage is clearly front and centre for policymakers – the challenge is to ensure that the policies, and their implementation, fully support the implementation of energy storage projects across the EU.



EASE Activities in Policy

The energy storage industry has come a long way. In just a few years, it has gone from being a niche technology to being recognised as one of the key enablers of the energy transition.

In 2020, the EU Green Deal implementation resulted in many initiatives that recognise the role of energy storage technologies as enablers of EU decarbonisation ambitions, such as the Hydrogen Strategy, the Sector Integration Strategy, the Renovation Wave and the Sustainable and Smart Mobility Strategy.

EASE Advocates for Energy Storage in the European Green Deal

From the start of her mandate, Commission President von der Leyen made clear the importance of raising the EU's 2030 climate targets – a key to achieve a climate-neutral EU by 2050. EASE was pleased to observe this renewed commitment towards green transition and responded to the European Commission Public Consultation on the 2030 Climate Target Plan to advocate for more ambitious climate policy.

The first EASE publication in January 2020 featured EASE inputs on battery sustainability and eco-design, replying to the Commission's consultation on Sustainability Requirements for Batteries. EASE highlighted the importance of developing requirements on ethical sourcing of raw materials as well as strict sustainability require-

ments for batteries to be a pillar of the energy transition. The topic of batteries – and the related upcoming Regulation – continued to be a focal point throughout the year in EASE Committees and Task Forces, with several rounds of inputs provided to the Commission.

Mobility is another sector in which EASE was particularly active in 2020. In April, EASE published a policy paper on the Alternative Fuels Infrastructure Directive – putting forward several recommendations, especially regarding the charging infrastructure deployment methodology. In June, EASE further engaged in the discussion by submitting a response to the European Commission's public consultation on the Revision of the Directive on the Deployment of Alternative Fuels Infrastructure. Besides, in September, EASE submitted a response to the European Commission Public



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Consultation on the Sustainable and Smart Mobility Strategy, advocating for a sound EU strategy that appropriately values the role of energy storage in the context of decarbonising mobility.

Hydrogen was also among the cornerstones of EASE activities. EASE continued informing policymakers about Power-to-Gas business cases and the barriers that could slow down deployment in the EU, for which EASE provided a set of recommendations. Additional activities took place, e.g. in the context of the Hydrogen Strategies, the European Clean Hydrogen Alliance, and the European Parliament's work on the topic.

To meet the climate objectives, it is paramount to link up the energy system with other sectors and exploit the synergies enabled through an integrated energy system. Energy storage technologies are key for that. EASE elaborated a response to the European Commission Public Consultation on Future EU Strategy for Smart Sector Integration. Besides, the Secretariat engaged with MEPs working on the ITRE report on Energy Sector Integration.

Regarding the Parliament, the ITRE Committee – under the leadership of Renew MEP Claudia Gamon – prepared an own-initiative report on energy storage. EASE fully supported ITRE members in its elaboration. In September, over 200 participants attended an EASE webinar presenting the European Parliament's ITRE Committee Own-Initiative Report on energy storage, with Ms Gamon and several other MEPs intervening.

EASE was also active in taking part in the discussion regarding the revision of the Trans-European Energy Networks (TEN-E). In July, EASE submitted a response to the public consultation on the Revision of the Trans-European Energy Infrastructure Regulation. From the EASE point of view, the TEN-E Regulation should be significantly revised to address the challenges better and seize the opportunities in light of the EU decarbonisation strategy. In October, EASE published an open letter with a set of recommendations aiming at improving the legislative framework.

In November, EASE replied to the European Public Consultation on the Revision of the Energy Taxation Directive

to inform policymakers of the energy storage sector's perspective. To foster the deployment of energy storage, it is important to improve the energy taxation framework so that it properly promotes the adoption of storage technologies. EASE believes several taxation-related barriers should be addressed – among others, the one of double taxation.

Much work still needs to be done from a policy perspective to fully support energy storage solutions – but this year Europe undoubtedly went in the right direction. On the next page, we will look at three storage-related topics where the European Union has been particularly active.



Smart Sector Integration: A Puzzle that Energy Storage Can Solve

Clean and smart solutions that allow for the cheapest route to decarbonisation and the transition to a greener energy mix while supporting the European industry, are essential elements of a truly integrated, greener, and cost-efficient energy system. This is well reflected in the European Commission's Strategy for Smart Sector Integration: a cornerstone in the transition to a greener energy system in the European Green Deal.

Smart sector integration is about linking up different economic sectors (including electricity, gas, heating and cooling, and transport) and unlocking synergies through direct and indirect electrification. This can be supported through the deployment of a wide array of smart, cost-competitive energy storage solutions. It is key to have a "smart" sector integration to seize the opportunities provided by digitalisation, automation for a cost-efficient, secure, and consumer-centred energy

system. There is a dramatic amount of untapped potential: consider the value of digitally-enabled energy storage aggregation to the electricity system.

Of course, there are barriers to smart sector integration. For example, stronger business cases are needed and legislation still lags behind. Luckily there is now significant activity at the EU regulatory level so we foresee some positive changes ahead for the energy storage sector.

Hydrogen: The Energy Storage Technology Everyone is Talking About

It would be surprising if you hadn't heard the word "hydrogen" in 2020. Its popularity is explained by the fact that green hydrogen can play an important role in decarbonising industry, mobility, heating, gas, and electricity system by substituting energy from fossil fuels. EASE has been investigating hydrogen's opportunities and challenges thanks to the work of its Task Force on Power-to-Gas and Bio-fuels.

The chemical industry, refineries, and steel producers can use hydrogen in their processes as a raw material. Several vehicles can use it as fuel. By combining hydrogen with carbon dioxide, it is possible to obtain synthetic methane to heat houses. It is also possible to store hydrogen and support the management of the electricity grid. But these are only a few examples.

When discussing hydrogen, the conversation often touches upon costs. This is not surprising: Power-to-Gas remains a relatively expensive technology due to its high capital costs and the price of electricity. A European supply chain covering the full hydrogen value chain would bring costs down. Also, it should be kept in mind that the cost of large-scale, long-term storage is very low.

Other limitations exist: there is legal uncertainty regarding Power-to-Gas plants and their services. Licensing requirements and authority approvals can be a significant obstacle. Taxation and tariffs often do not reflect the costs that hydrogen facilities induce to the grid. And the number of hydrogen refuelling stations for vehicles



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is too low. And, again, these are only examples.

It is clear that green hydrogen can play a key role in the decarbonisation of several sectors and interlink them. However, several challenges and barriers still need to be addressed; and policymakers must take an active role in tackling them at EU level.

Energy Storage and Mobility

The transport sector is the only European sector in which greenhouse gas emissions have risen since 1990. However, we are on the cusp of significant positive change. The electric vehicle market will grow exponentially in the coming years – worldwide, we are talking about 100-200 million vehicles by 2030. Battery costs are going down and consumers are increasingly willing to switch from fossil fuels to new forms of mobility.

Millions of electric vehicles connected to the grid will create a significant added demand in the future. If all electric vehicle owners charge when they come home in the evening, this will induce high peaks of electricity consumption. In these situations, en-

ergy storage systems connected to charging points can discharge the energy previously stored, such as an excess of solar or wind power.

But there are also other ways to reduce costs and stress on the energy system such as vehicle-to-grid integration. Electric vehicle batteries can actively work as storage systems: they can store surplus electricity to be fed back when necessary; but also provide services to the grid, participating in the electricity market.

The valuable benefits of energy storage for the system, the consumers, the grid, and the environment are increasingly recognised by policymakers. Unfortunately, current fiscal rules and energy taxes limit it. Charging standards and protocols are lacking. And these are just two of many barriers. EASE believes the EU regulatory framework should be revised to allow commercial business models to thrive – A topic worked on in EASE Task Forces and Working Groups.



Weathering the COVID-19 Pandemic: What are the Impacts for Energy Storage in Europe?

Going into 2020, before COVID-19 spread to Europe, expectations for storage deployment were high. In early March 2020, the European Market Monitor on Energy Storage 4.0 (published by EASE and Delta-ee) foresaw a 30% increase in annual electrical energy storage deployments across Europe in 2020 compared to 2019. Due to the delays and disruptions in storage projects, energy storage is unlikely to reach the expected 2020 deployment figures.

When the COVID-19 pandemic hit Europe, the European energy system was strongly impacted, particularly in spring 2020 as sudden lockdowns were imposed across Europe in an effort to slow the spread of the virus. Many EU countries saw significant changes in energy demand patterns as many citizens were confined to their homes and economic activity slowed down. Like many sectors, the energy storage industry also had to contend with the myriad challenges and disruptions caused by the pandemic.

When the virus began spreading in Belgium, EASE activities, including events, members' meetings, and engagement with policymakers shifted to remote platforms. Despite the challenges and disruptions – notably resulting in the rescheduling of the EASE Energy Storage Global Conference to 2021 – the EASE Secretariat had an exceptionally busy and pro-

ductive year, continuing to advocate for the needs of the energy sector.

One of the priorities in 2020 was to gather information from our members on how COVID-19 was impacting them and to share their experience with EU policymakers. With this goal in mind, EASE collected inputs from industry representatives through online questionnaires in April and June 2020. EASE surveys gave meaningful insights into how the energy storage industry was faring.

Overall, the COVID-19 pandemic was found to be challenging for many energy storage organisations: when we ran our survey in June 2020, 71% of the respondents expected lower revenues for Q2 2020 as a result of the pandemic, and of these 19% expected a significant drop in revenues.

Initially, respondents indicated their worry that EU policymakers would





shift their attention from the European Green Deal towards health policy and other emergency responses to the pandemic. In April, only 31% of the respondents to the EASE survey expected climate-related policies to gain momentum as a result of the pandemic, whereas in June, 55% of them had a positive outlook on this issue. This change reflected the promising announcements in May 2020 from the European Commission and Member States endorsing a green recovery tackling both climate change and the impacts of COVID-19.

While the high-level messaging from EU policymakers on recovery efforts was promising, EASE underlined that these announcements must be backed up by concrete actions and continued commitment by EU and national leaders to implement a truly green recovery as quickly as possible. In all of its communications on this topic, EASE underlined that the dual challenges of economic recovery and decarbonisation should be addressed together.

For the energy storage sector, EASE highlighted several key policy actions:

- **Maintaining the focus on ongoing EU energy policy initiatives.** This will allow Member States to build up the flexibility and resilience of their energy systems to cope with future crises and accelerate the energy transition.
- **Committing more funding to energy storage R&D, pilot, and demonstration projects** to compensate for the anticipated shortfall in private investment and reduction of purchasing power among some customers.
- **Increasing the EU's commitment to decarbonisation** with a target of reducing greenhouse gas emissions by 55% by 2030 compared to 1990 levels.
- **Prioritising energy storage in the European Green Deal policies.**

COVID-19 made 2020 a uniquely challenging year for EU citizens and busi-

nesses. EASE has worked hard with the support of its members to continue its mission to support energy storage deployment around Europe. In doing so, we demonstrated the flexibility and innovation of the energy storage sector.

In 2021, we hope to continue on the path to a strong green recovery in Europe, building on the lessons learned from the pandemic and deploying energy storage to achieve a more efficient, resilient, and flexible energy system capable of achieving the ambitious 2030 and 2050 decarbonisation targets.



Developments in R&D and EU Funding for Energy Storage

In 2020, we saw the adoption of funding frameworks such as the Innovation Fund and the Just Transition Fund that can have a great impact in the development of storage technologies.

This year the EASE Secretariat worked hand in hand with the European Commission to fully develop the Innovation Fund, one of Europe's most ambitious funding programmes for the demonstration of innovative low-carbon technologies.

The Innovation Fund, launched in July 2020, creates financial incentives for projects to invest in the next generation of technologies needed for the EU's low-carbon transition, boost growth and competitiveness for EU companies, and support innovative low-carbon technologies in all Member States. Up to €10 billion from the EU Emission Trading System will be invested under the Innovation Fund programme up to 2030. This funding will go to innovative technologies and big flagship projects with European added value that can bring on significant emission reductions.

During two workshops organised in March 2020, EASE members had the opportunity to discuss the Fund and make sure that the Greenhouse Gas emissions savings methodology appropriately values energy storage's contribution to decarbonisation. EASE Secretary General Patrick Clerens also gave additional inputs from the energy storage sector by participating in the Innovation Fund Expert Group.

A second fund that plays an important role in fostering research and development in the storage sector is the Just Transition Fund. The Fund will dedicate €40 billion to support the energy transition in fossil fuel-dependent regions, including islands and isolated systems. It foresees productive investments in Small and Medium-sized Enterprises, up- and reskilling of workers, clean energy technologies such as storage, as well as the transformation of existing carbon-intensive installations. The Fund recognises energy storage as a solution for the economic transition from an energy production dominated by fossil fuels to a model with high shares of renewables.

The need to allow for more funding for energy storage R&D was also underlined by the European Parliament in July 2020 with the adoption of "A Comprehensive Approach to Energy Storage" report.

Another promising source of funding for energy storage is the Recovery and Resilience Facility which will be launched under the 'Next Generation EU' recovery programme. The Recovery and Resilience Facility will unlock €672.5 billion in grants and loans to support Member States' recovery from the COVID-19 pandemic. 37% of this funding – nearly €250 billion should be earmarked for climate





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spending, meaning a significant amount of funding will be available in the coming years for energy storage projects around the EU.

Finally, 2020 also featured discussions and agreement on the follow-up to Horizon 2020, the EU's flagship R&D programme. Horizon Europe will kick off in January 2021 with a budget of €95.5 billion for 2021-2027. Dedicated calls will be launched to support research in all different types of energy storage technologies.

Investment in research remains key in further driving innovation and improvements in energy storage solutions while driving Europe's competitiveness in the sector. In order to support energy storage research, development, and deployment we see several priorities for EU funding:

- Comprehensive modelling studies assessing flexibility needs and energy storage deployment according to various scenarios to achieve the 2030 and 2050 targets, covering all different types of energy

storage and taking into account intra-hour flexibility needs.

- Systematically demonstration of how energy storage can provide energy services and monetise the added value to the energy system. Demonstrating the effective use of energy storage devices from a technical and economic point of view for short-, medium-, and long-duration services would greatly facilitate their deployment. Such an assessment could consider energy storage installations at each location in the grid in order to identify at which point of the grid energy storage could provide different applications in the most cost-effective way.
- Materials and equipment research to allow improving and understanding performance of crucial components and parts in energy storage facilities, which will help reduce the costs of storage systems.
- Studies focused on system integration, focusing on how gas, electric-

ity, heat, and other infrastructures (e.g. refuelling infrastructure) can be combined and complemented with storage of gas, electricity, heat, and/or fuels. Crucially, assessments of business cases and remuneration frameworks should be included here.

- Research on energy storage in relation to the expected expansion of EVs, including vehicle-to-grid services and the use of second-hand EV batteries for stationary applications. Assessing the relative merits of services from stationary vs mobile (aggregated EV) storage facilities, and identifying opportunities for mutual learning could have an added value.
- Research into new designs for energy storage and hybrid technologies coupled with analysis on the requirements for optimal integration.
- Large-scale demonstration projects for innovative storage technologies and in particular in the context of the just energy transition.



EASE Involvement in EU-Funded Projects

With the adoption of the European Green Deal, Europe has officially become the frontrunner in the race for decarbonisation, aiming to reach carbon-neutrality by 2050. To turn these efforts into reality, the comprehensive European funding system plays a fundamental role as it supports the research and innovation efforts of the energy sector and helps innovative solutions enter the market.

The involvement in EU-funded projects is beneficial to organisations focusing on research and innovation and wishing to bring their existing solutions closer to the wider European market, but it is also an occasion to engage in fruitful synergies beyond national borders. For many years, EASE has participated in EU-funded research and demonstration projects related to energy storage and has facilitated the access of its members to such funds: out of its eleven ongoing projects, EASE members are involved in five of them.

With the challenges brought by the COVID-19 pandemic, EASE had to adapt some of the activities performed in the framework of EU-funded projects to make sure that the topic addressed stayed relevant. We worked hard to turn challenges into opportunities, organising and shaping discussions around funding, policy and technology.

Below, some of the milestones of EASE's work in EU-funded projects in 2020:

Policy Discussions: SMARTSPEND, ASSET and TSO2020

For the SMARTSPEND project, aimed at promoting improved public and private funding design for clean energy technologies, a full-day workshop was organised by EASE. The event covered how funding will change with the arrival of new or reshaped programmes and with the developments brought by the Recovery Fund. Interesting points were put forward by the European Commission, such as the importance of public funding in paving the way for private investments, while industry representatives underlined the need to funnel the resources available for research from now on focusing on many smaller projects for low technology-readiness levels and a smaller number of bigger projects for higher levels.

The ASSET project focuses on the actions needed from policy, research, and industry to foster the development of skills for the energy transition.





EASE organised an online European Roadshow for the project, addressing how policy can feed the demand for energy transition skills and how industry and research can collaborate to supply them. While Member States are in charge of education policy, the EU will play a central role in the next years thanks to the European Skills Agenda, a plan that to support the sustainable competitiveness set out by the European Green Deal and ensure post-pandemic employment stability. From an industry point of view, corporate social responsibility can steer a bigger focus on employee's vocational training aimed at energy transition.

In November, EASE organised a Policy Roundtable for TSO2020, which demonstrates large-scale deployment of green hydrogen for transport and industry. The Roundtable focused on how to make the best out of the hydrogen momentum brought by the recent Hydrogen Strategy. Participants underlined the need for policy to support the competitive advantage of Europe on the production of elec-

trolisers and on the enlargement of existing infrastructure across the EU.

Publications: Battery2030+, ETIP SNET and Batteries Europe

EASE has contributed to Battery2030+'s long-term research Roadmap, tackling the actions needed for the future batteries. The Roadmap addresses not only the acceleration of technology breakthroughs, but also the integration of smart functionalities and cross-cutting topics for the value chain, and has helped shape the scope of five funding calls released under Horizon2020.

2020 has brought important achievements for the two European Technology and Innovation Platforms EASE is part of: Batteries Europe has published a list of R&I topics for the entire value chain in Spring, as well as a Strategic Research Agenda at the end of the year, providing recommendations on research priorities for batteries to support European competitiveness

and decarbonisation, which will help to shape the upcoming Horizon Europe framework; ETIP SNET published an Implementation Plan giving detailed recommendations on R&I priorities to be addressed before 2024 on six main research areas– based on the Roadmap 2020-2030 also released this year. EASE has participated in both actions and facilitated the synergies between the two ETIPs.

EASE is thankful for the collaborations which made these milestones happen. 2020 has been an exceptional year in which our projects kept going, sometimes needing adapt to the new present, in order to be one step ahead in the - now reshaped - future.

For a complete list of projects EASE is involved in, please check EASE website:

www.ease-storage.eu/eu-projects





What to Expect in 2021

EASE has big hopes for energy storage in 2021, as we dive into the recovery from the economic effects of the COVID-19 pandemic. 2021 will also be the ten-year anniversary of EASE, an important milestone!

With the EU forging ahead on implementing the European Green Deal and agreeing with Member States on the spending of the record €1.8 trillion multi-annual EU budget and 'Next Generation EU' recovery programme, EASE will be more active than ever to ensure that energy storage is fully considered across all Green Deal policies and spending programmes.

Throughout 2021, EASE policy team will have its hands full with the European Green Deal. Research and Innovation will also be a big topic, as Horizon Europe kicks off and our work on many EU funding bodies continues. Finally, we look forward to continuing our webinars and – hopefully – physical events to support networking and information sharing, culminating in the Energy Storage Global Conference in autumn 2021.

European Green Deal

The many policy proposals contained in the European Green Deal offer a host of prospects for EASE to drive forward the energy storage policy agenda. For instance, we see the opportunity to address the issue of double taxation of energy storage devices

with the revision of the Revision Taxation Directive. Other important files include the revised Batteries Regulation, the revision of the Renewable Energy Directive, the TEN-E legislation, State Aid Guidelines, and many others.

Research and Innovation

2021 should also prove to be an exciting year for innovation in Europe with the launch of the new research programme Horizon Europe, as well as new funding opportunities. EASE will continue its work on innovative EU-funded projects to support research, development and deployment of energy storage. We will also support more financing opportunities for storage projects by participating in the ETS Innovation Fund Expert Group, contributing to the World Bank Energy Storage Partnership, and providing inputs to the European Commission on sustainable finance and state aid guidelines.

The European Green Deal, coupled with the €750 billion envisaged for the 'Next Generation EU' programme, creates numerous funding opportunities for clean energy technologies





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such as storage. EASE will advocate for more energy storage funding in Member States' recovery plans, the Just Transition Fund, and other new funding sources that aim to accelerate the energy transition in the wake of the COVID-19 recession.

Energy Global Conference 2021

The Energy Storage Global Conference, which was cancelled in 2020 due to the pandemic, should return in October 2021. This will allow us to celebrate EASE's ten-year anniversary in style. The event will offer great opportunities to industry, researchers, and policymakers to exchange views on key issues for the storage sector. Based on EASE's experience of organising this global event over the years, we expect to reach more than 400 participants and feature more than 80 expert speakers from all areas of the industry.

2021: A Bright Outlook for Energy Storage

As you can see, our 2021 schedule is already jam-packed. With our growing membership base supplying valuable expertise, the guidance of our new EASE President David Post (Enel X), and the enthusiastic EASE team, we can expect big things for next year.

We hope you will join our events and activities, or consider becoming a member, so that we can together help build a brighter and better future for the energy storage sector. This in turn will help support the economic recovery and enable a cost-effective and socially just energy transition.





Closing by EASE Secretary General



Patrick Clerens
EASE Secretary General

Going into 2020, we decided to take energy storage to the next level with the support of our ambitious members. With a bigger Secretariat team than ever before, we started 2020 eager to ramp up our activities and better serve the growing EASE membership. It was to be our most productive year yet, full of travel, meetings, and networking with policymakers and EASE members.

Our goals included ensuring that energy storage is prioritised across all European Green Deal policy proposals, driving the rapid implementation of the 'Clean Energy for All Europeans' Package across the EU, preparing and advocating EASE positions on a host of topics from energy taxation to sustainable batteries, and holding our Energy Storage Global Conference 2020. None of us expected the COVID-19 pandemic to hit us like a ton of bricks, upending our personal and professional plans as lockdowns and travel restrictions were imposed. It quickly became clear that achieving our 2020 goals would be all about showing flexibility in times of crisis.

I'm proud to say that in the EASE team, we learned new approaches to work remotely, new ways of connecting with our members and policymakers, and new opportunities to drive the deployment of energy storage across the EU. Flexibility – a keyword in the energy storage sector – came to be a central tenet that infused our personal and professional lives as we sought to make the most of the COVID-19 pandemic's impacts.

Looking back, this year was successful in many ways, despite the myriad challenges. The value of flexibility in the energy sector became clearer than ever: system operators demonstrated their ability to rapidly adjust to changing energy consumption patterns amid the lockdowns. Energy storage solutions proved their significant value and potential, supporting the energy system in times of record low demand and facilitating integration of record high levels of variable renewables.

On the policy side, flexibility was also essential. EASE was heartened to see EU policymakers stay true to their climate ambitions, despite the pandemic situation. A record €1.8 trillion seven-year budget and COVID-19 recovery plan was proposed, with at least 30% of this amount – €600 billion – earmarked for climate spending. This COVID-19 recovery spending opened new doors by allowing the European Commission to borrow money on the markets, thereby mutualising debts of individual Member States for the first time in the EU history. It did also turn it into a significant opportunity for all clean energy technologies, including energy storage.

In parallel, policymakers continued preparations for dozens of European Green Deal proposals, from the Renovation Wave to the Just Transition Fund. System flexibility was a clear focus: we saw the publication of a major Commission-tendered study on energy storage and its contribution to security of supply, the European Parliament proposing a comprehensive approach to energy storage, and the Commission releasing an ambitious energy system integration strategy, coupled with a clean hydrogen strategy. Many Member States looked more closely at energy storage as the Clean Energy Package provisions were being implemented in their national frameworks.

Throughout the year, regardless of the COVID-19 situation, EASE was able to have many fruitful exchanges with policymakers of European institutions and Member States, ensuring that the value and role of energy storage is fully considered by all.

On a personal level, of course, flexibility was required for all of us as we came to terms with all the changes and uncertainties caused by the pandemic. There were clear bright spots: the EASE Secretariat was happy to integrate 16 new members from all over Europe into the association.

However, 2020 saw several EASE 'founding fathers' and other leading members stepping down and passing the torch to the next generation of EASE members. Our profound thanks go to Ms Eva Chamizo Llatas (EASE President 2018-2020, Iberdrola), Mr Jillis Raadschelders (EASE Vice-President 2011-2020, DNV-GL), Mr Michel Matheu (Strategy Committee Chair, 2016-2020), and Mr Jean-Michel Durand (EASE Technical Advisor 2011-2020) for their commitment and support of the EASE activities over the years.



Mr Patrick Clerens, EASE Secretary General, at the Indian Utility Week, March 2020

Many of us are happy to see 2020 come to a close, but I hope we remember the important lessons that this year taught us: flexibility is key, both for the energy system and our lives. The mute button is the remote worker's ally (and occasionally a nuisance). And finally, being grateful for the things we have goes a long way. In this spirit, I close by thanking all

EASE members, policymakers, and other stakeholders for their commitment, engagement, and hard work this year. Working to drive forward the EU policy agenda to support energy storage deployment has truly been a pleasure that helped keep our minds focused on better days ahead. With flexibility, cheerfulness, and mutual support we achieved a lot in 2020 – let's take this energy forward into 2021!

Yours sincerely,
Patrick Clerens

“

Looking back, this year was successful in many ways. The value of flexibility in the energy sector became clearer than ever. Energy storage solutions proved their significant value and potential, supporting the energy system in times of record low demand and facilitating integration of record high levels of variable renewables.

EASE Structure and Organisation

2021 - 2023

General Assembly

Executive Board

President
David Post (Enel X)

Vice-Presidents
Corneliu Barbu (Aarhus University)
Michael Lippert (Saft)
Holger Wolfschmidt (Fluence)

Treasurer
Etienne Briere (EDF)

Secretary
General
Patrick Clerens

As a non-profit association, EASE is governed by an Executive Board elected by the members of the General Assembly and has several bodies dedicated to the various aspects of energy storage and the associated challenges and opportunities.

The **EASE presidency** was held by Ms Eva Chamizo Llatas, Director of European Affairs for Iberdrola and Head of the Iberdrola Brussels Office from 2018 to 2020. Ms Chamizo Llatas contributed greatly to energy storage advocacy thanks to her involvement in EASE leadership. She was supported in her function by three Vice-Presidents: Mr David Post (Enel X), Mr Michael Lippert (Saft), and Mr Jillis Raadschelders (DNV-GL) and a Treasurer (Etienne Brière, EDF).

On 19 November 2020, EASE General Assembly elected Mr David Post, Head of Energy Storage Solutions at Enel X, to serve as the new EASE President for the 2021-2023 period. On 1 January 2021, Mr David Post will officially take over the presidential torch from Ms Chamizo Llatas.

Mr Post will be supported in his new function three Vice-Presidents: Mr Corneliu Barbu (Aarhus University), Mr Michael Lippert (Saft), and Mr Holger Wolfschmidt (Fluence). Additionally, Mr Etienne Brière (EDF) will cover the position of Treasurer.

The work of EASE presidency is supported by three Committees:

The Technology and Value Assessment Committee (TVAC), chaired by Mr David Post (Enel X), aims to deliver the necessary data for supporting all EASE positions and interactions with external stakeholders.

The Strategy Committee (STC), chaired by Mr Miguel Garagorri (Iberdrola), advises and supports the Executive Board on policy-strategic issues affecting the storage industry, defines and promotes a fair market design for all the services provided by energy storage. It also contributes to the issue management process, including the representation on identified topics, as well as, to the advocacy processes in the specific field of responsibility.

The Communications Committee (COMC), chaired by Mr Luca Camuncoli (EDF), defines and implements the EASE communication strategy in terms of target audience, content, and media.

The **General Assembly** and the **Executive Board** are responsible for all association-wide decisions, whereas the Committees and the underlying Coordination Group, Working Groups and Task Forces are involved in topic-specific decisions and tasks.

EASE Secretariat



Patrick Clerens
EASE Secretary General

Policy Team



Brittney Elzare
Policy Manager



Anneli Teelahk
Senior Policy Officer



Jean-Michel Durand
Technical Advisor



Jacopo Tosoni
Policy Officer



Emiliano Degasperi
Technical and Policy
Assistant

Communication Team



Doriana Forleo
Communications
and Events Manager



Emin Aliyev
Senior EU Funding
and Project Officer



Thomas Otuszewski
Project Officer



EASE Members



Become a Member

EASE was established in 2011 and currently represents over 50 members including utilities, technology suppliers, research institutes, distribution system operators, and transmission system operators. Together, EASE members have significant expertise across all major storage technologies and applications.

Members' benefits



• Advocacy

EASE is actively shaping the legal and R&D funding framework for energy storage at EU level. Members gain direct influence in the EU decision-making process.

• R&D and EU-funded projects

Members benefit from EASE's expertise and technical know-how, and they can participate in EU-funded research projects.

• Market intelligence

Members receive timely information and data about future market developments that can help them adapt to the changing business environment.

• Visibility and networking

Featuring in EASE's publications and events, such as the Energy Storage Global Conference, gives members the opportunity to gain visibility and to strengthen their network among storage experts.

Get connected
Become a member





Membership Categories

Regular

Organisations involved in energy storage activities in Europe such as utilities, grid operators (TSOs and DSOs), equipment and technology manufacturers, and R&D organisations.

Consultancies

Consultancies involved in energy storage activities.

Start-ups

Start-ups developing energy storage technologies are allowed to join EASE at a discounted rate compared to regular members.

Associations

Associations involved in energy storage, directly or indirectly, at EU national or European level. Only secretariat personnel can be directly involved in EASE.

Associate

Any organisation that does not fulfil the requirements to become a Regular Member with activities relevant to energy storage.

Members Benefits

	Executive Board*	General Assembly	Committees	Working Group
Regular	✓	✓	✓	✓
Regular-R&D	✓	✓	✓	✓
Consultancy	✗	✓	✓	✓
Start-up	✗	✓**	✓	✓
Association	✗	✓	✓	✓
Associate	✗	✓**	✗	Upon Invitation

Upon joining, EASE members pay a one-off contribution to the working capital of EASE, which amounts for 10% of the of the annual membership fee. Associate members and consultancies must commit to joining EASE for a minimum of 3 years, with a one-time payment of all registration fees. More details on the EASE Statutes available on the EASE website.

* Elective position

** No voting rights

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