EASE
European Association
for Storage of Energy

ACTIVITY REPORT 2014

Special acknowledgment to the EASE members who helped make this publication possible.
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Portrait Director-General Dominique Ristori: Courtesy of the Audio-Visual Services of the European Commission

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European Association
for Storage of Energy

THE EUROPEAN ASSOCIATION FOR STORAGE OF ENERGY...

... is the **voice of the Energy Storage community**, actively promoting Energy Storage in Europe and worldwide

... actively supports the deployment of Energy Storage as an indispensable instrument within the framework of the European energy and climate policy to **deliver services to**, and **improve the flexibility of**, **the European energy system**

... contributes to building a European platform for **sharing and disseminating** Energy Storage-related information

... supports the transition towards a **sustainable, flexible and reliable energy system** in Europe

The EU can become the champion of low-carbon economies while at the same time improving its competitiveness and strengthening its security of supply. Synergies between the actions to achieve the 2030 energy and climate objectives and the measures for security of supply are the ground of the Energy Union project that will lead to a new energy system.

" The role and importance of storage have been underestimated for too long"

Europe needs more investments into the energy sector, from energy infrastructure and interconnections to power generation, notably RES, and energy efficiency. On the way to improve competition in the market, ensure greater security of supply and to make the most of our indigenous sources, the completion of the Internal Energy Market will continue to be one of the main priorities in our energy and climate policy. An open and fair energy market will boost the most successful and beneficial technology solutions.

Though fundamental to achieve the targets the European Union set itself, the integration of increasing shares of variable renewables is a big challenge to our electricity system. Flexible generation, smart grids, demand management and energy storage will be able to provide the required flexibility and adequacy in the energy markets. They will receive more attention in the new electricity market design that the Commission will propose in the context of the Energy Union. They will also be addressed in the foreseen Renewable package.

Energy Storage is in this context one of the key pieces of the new energy system, and the European Commission is dedicated to ensure that its full value is properly enabled and reflected in the regulatory and market initiatives. To do this, continuous and closer collaboration is needed from all actors.

The technology dimension is fundamental to the low-carbon energy

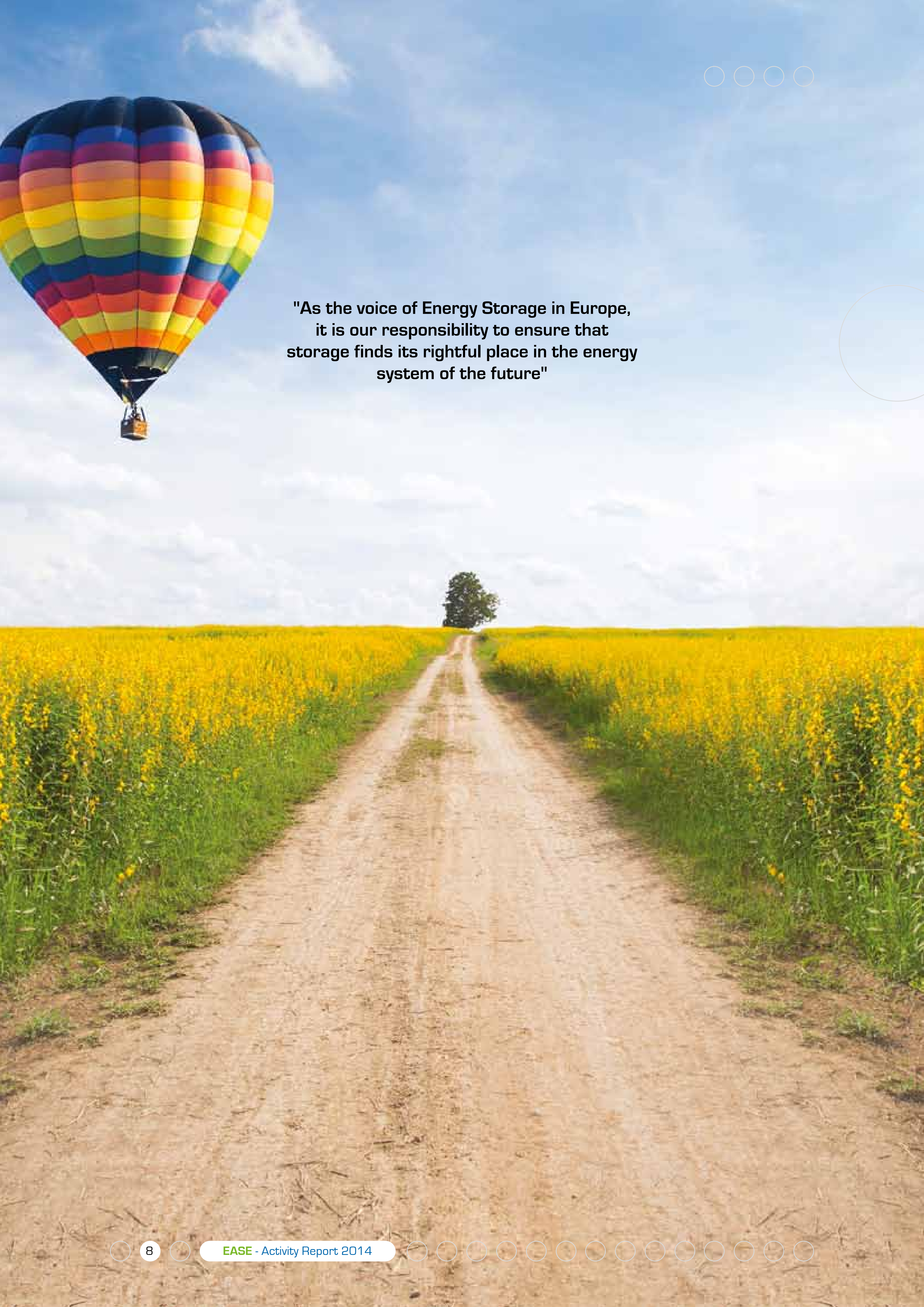
system. The Commission's Research and Innovation (R&I) programmes support the technologies of the future which will offer flexibility, security and cost-effectiveness at both centralised and decentralised level. Europe is at the forefront in energy related Research and Innovation, but active coordination and focus is necessary to sustain our excellence. This is why the EU and Member State programmes need to combine their efforts in bringing new technologies to the market as proposed by the SET-plan Integrated Roadmap and the Action Plan.

While investing in research and innovation, we need to adapt the regulatory framework to support new developments on technical and system level. The regulatory and legislative framework for energy storage needs to be managed as an integral part of the new market design, enabling a sustainable investment framework, in the context of adaptation of the European Energy System.

Energy Storage will be a key component in this new energy system, providing required flexibility and enabling renewables to work in synergy with natural gas, distributed generation in balance with large power plants, and power generation contributing to the decarbonisation of the transport and industrial sector. Materialising such a vision requires strengthened research and innovation combined with a deep transformation of the way we ensure the functioning of the energy markets and the way services are provided and rewarded.

I am looking forward to further cooperation in completing the new vision on the energy system and I encourage EASE to continue to work along with us and with the other stakeholders in this process.

Dominique Ristori



"As the voice of Energy Storage in Europe, it is our responsibility to ensure that storage finds its rightful place in the energy system of the future"

Energy Storage will keep playing an essential role in Europe's Energy System. The vision of the new European energy market composed of a secure, sustainable energy supply, smart and flexible grids and educated prosumers is taking shape. One important step on the path to make this vision a reality remains the integration of Energy Storage into the system in a way that allows capturing all benefits through its various applications.

The energy system has two challenges; one of them is cost-effectiveness, to enable economic growth, competitiveness and to make energy available for all. Energy Storage needs to be part of this, which is why the support of policy to RD&D is crucial. A second challenge is policy and regulation, which will have to ensure a fair market design, with the elimination of market barriers.

In 2011, representatives of all parts of the entire energy value chain came together under the roof of EASE to promote the use of Energy Storage and to reveal the broad benefits it has to offer to the European energy system.

Looking back, we can state that our message is clearly understood today. This is reflected in the Horizon 2020 Energy Work Programme 2014-2015, which directly addresses Energy Storage in three calls, fostering development and demonstration of Energy Storage. The high prioritisation within research and innovation programmes but also within the current policy agenda highlights that Europe builds on Energy Storage as an indispensable feature of its prospective energy landscape.

Nevertheless, it is not the time to hesitate and to rest on our laurels. Quite to the contrary, the important times are still ahead of us.

As the voice of Energy Storage in Europe it is our responsibility to ensure that storage takes its rightful place in the energy system of the future. It will be an essential requirement of the market, and a major challenge to policy makers and regulators to consider and capture the full value of Energy Storage. EASE will continue to actively contribute its expertise to all facets of Energy Storage and help address this challenge successfully.

I would like to warmly thank the EASE members and the secretariat for all their efforts to prepare the grounds for Energy Storage on a European level, not just during the past year, but ever since the foundation of EASE. Moving forwards, I wish Dr Röttgen success in addressing the new challenges. In the interest of not just the Energy Storage sector but of all of us, of the European community as a whole, we need to ensure that the European energy system uses all the tools at its disposal. And beyond any doubt, Energy Storage is a powerful tool!

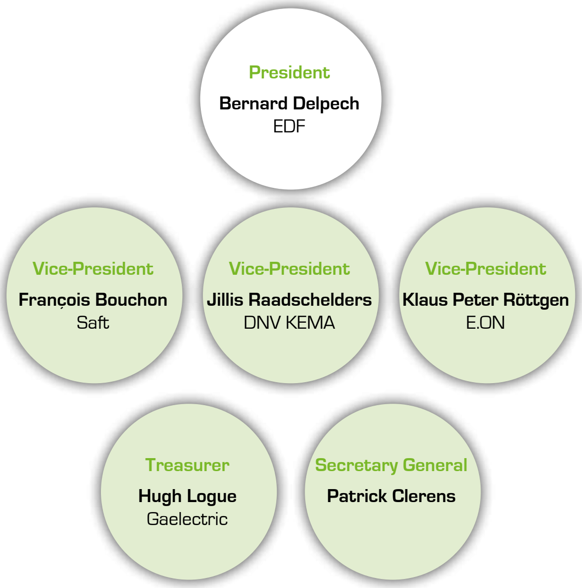
Bernard Delpech

In November 2014, three years after the creation of the European Association for Storage of Energy, the presidency was renewed for the first time. The secretariat and the EASE members thank the President and his Vice-Presidents for their tireless work of the last years, which involved the launch of the association and its establishment as a reference point for all matters related to Energy Storage in Europe.

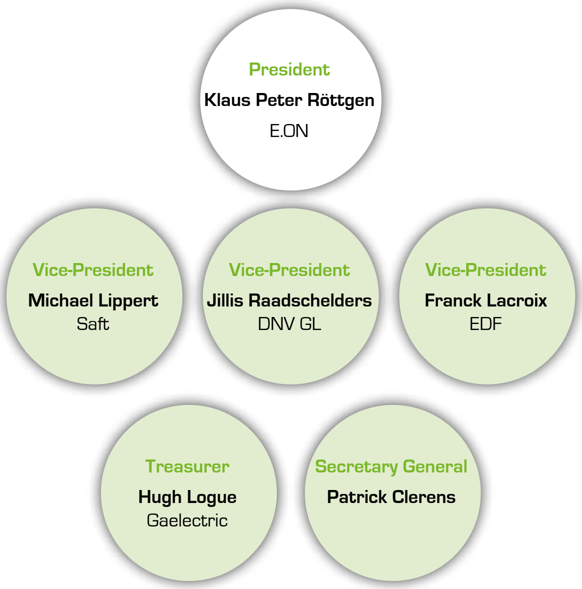
Dr Delpech, EDF Director Shared Services and EASE President 2011-2014, will be succeeded for 2015-2017 by Dr Röttgen, Head of E.ON Innovation Center Energy Storage.

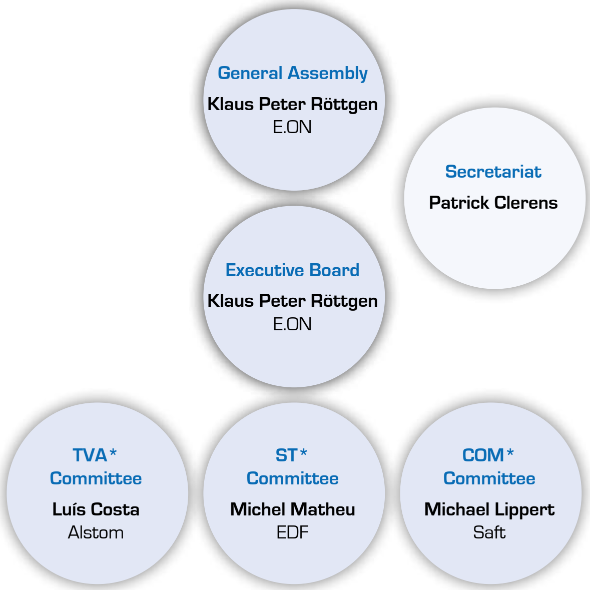
Elected Positions / Organisation Chart

2011-2014



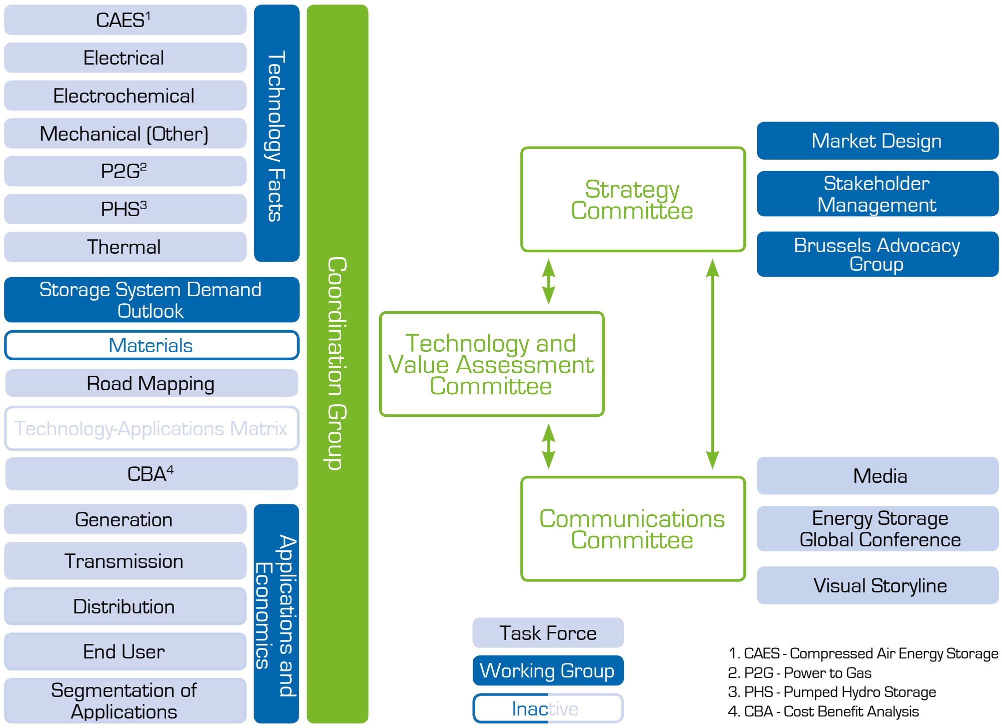
2015-2017





*TVA - Technology and Value Assessment
ST - Strategy
COM - Communications

EASE has several bodies dedicated to the various aspects of Energy Storage and the associated challenges and opportunities.



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

The **TVA Committee**, chaired by Dr Costa (Alstom), is the main responsible for acquiring and delivering hard data. For example, the Working Group on Storage System Demand Outlook has been focussed on assembling and analysing studies that have been published on Energy Storage demand in Europe. In 2014, a selection of studies was made and the analysis was started. In 2015, a further analysis and synthesis will be done so that conclusions on the different country-specific situations can be drawn.

The **ST Committee**, chaired by Mr Matheu (EDF), is dedicated to developing and executing a medium- and long-term vision, outlook and perspectives on the development of policies related to Energy Storage and its industry in Europe. To do this, the STC closely follows up any EU policy that could be relevant for Energy Storage, and keeps a close eye on the impact of existing – and future – legislation. This Committee is particularly active on the topic of Market Design, which remains a big challenge for Energy Storage.

Last, but not least, is the **COM Committee**, chaired by Mr Lippert (Saft). Its mission is to inform external stakeholders about the benefits Energy Storage has to offer. To do this, it defines and implements the EASE communication strategy in terms of content, media and target audience. In 2014, this work was spearheaded by the Task Force on the Energy Storage Global Conference, a work which resulted in the succesful completion of the 1st edition.

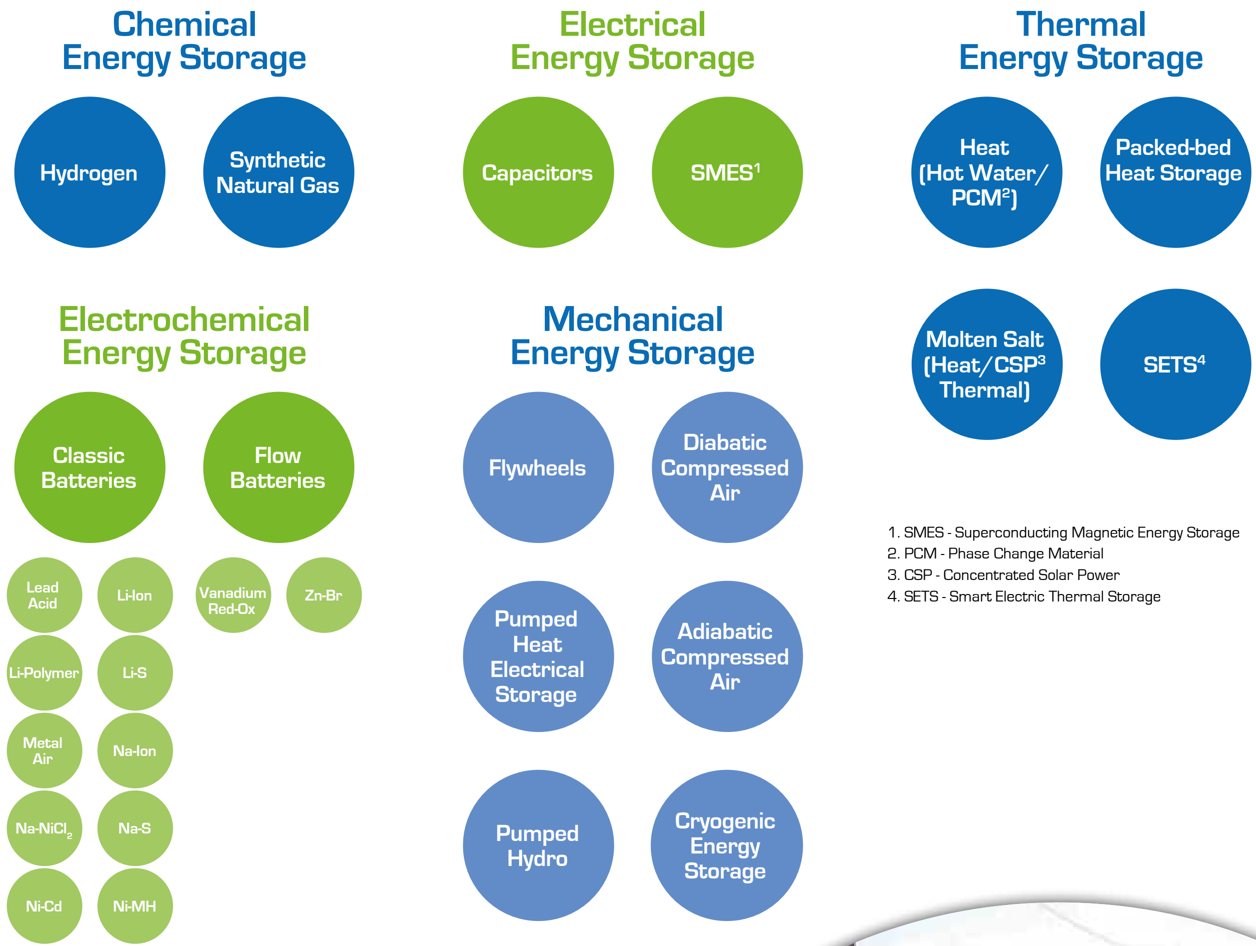
EASE strives to define and clarify the complexity that Energy Storage entails, shedding light on today's lack of a clear and well-defined framework.

For the entire energy system to benefit, it is fundamental that the different viewpoints of the various stakeholders are harmonised, that everyone speaks the same language. EASE has set itself the goal to help define that language.

Energy Storage Families

EASE has focussed on the range of energy storage technologies and has grouped them in 5 families: chemical, electrical, electrochemical, mechanical and thermal.

Each technology, both old and new, both conceptual and established, fits into these families. Of course, as new technology solutions are being developed every day, the below list of family members intends to be illustrative rather than exhaustive.



1. SMES - Superconducting Magnetic Energy Storage
2. PCM - Phase Change Material
3. CSP - Concentrated Solar Power
4. SETS - Smart Electric Thermal Storage

TERNA
Codrongianos is the site of 7 different Power-Intensive solutions, for a total of about 7.4 MW, with a variety of technologies from a variety of suppliers (Sardinia, Italy).

CHEMICAL ES

Chemical energy storage systems store energy in the chemical bonds between atoms. For example, excess electricity can be used for an electrolysis process, producing hydrogen and oxygen (Power to Gas). The hydrogen can then further be processed to Synthetic Natural Gas (Methanation).

ELECTROCHEMICAL ES

Electrochemical storage devices can be divided according to their design and construction into devices with internal or external storage. In those with internal storage, the classic batteries, also called accumulators, the electrochemical conversion process and the storing of energy cannot be separated, and therefore the amount of storable energy is directly linked with charge or discharge power. Consequently, if more energy is needed, more batteries must be used.

In contrast, those with external storage, also called flow batteries, use a liquid as the electrolyte, with the electro-active material only being introduced into the device during operation. In these devices, energy capacity can be increased simply by increasing the size of the external storage tanks.

ELECTRICAL ES

Electrical energy storage systems store electricity without converting it to another type of energy. The most common electrical energy storage concepts are capacitors and Superconducting Magnetic Energy Storage (SMES). Capacitors are electrical devices that consist of two oppositely charged metal plates separated by an insulator. The capacitor stores energy by increasing the electric charge accumulation on the metal plates and discharges energy when the electric charges are released by the metal plates.

SMES consists of a coil with many windings of superconducting wire that stores and releases energy with increases or decreases in the current flowing through the wire. Although the SMES device itself is highly efficient and has no moving parts, it must be refrigerated to maintain the superconducting properties of the wire materials.

MECHANICAL ES

Mechanical energy storage systems convert excess electricity to potential energy. This potential energy can later be converted back to electricity by using a generator.

THERMAL ES

Thermal ES (TES) systems use various substances to store heat or cold. There are two very different types: TES applicable to solar thermal power plants and end-use TES. TES for solar thermal power plants consists of a synthetic oil or molten salt that stores solar energy in the form of heat collected by solar thermal power plants to enable smooth power output during daytime cloudy periods and to extend power production for 1-10 hours past sunset. End-use TES stores electricity from off-peak periods through the use of hot or cold storage in underground aquifers, water or ice tanks, or other storage materials and uses this stored energy to reduce the electricity consumption of building heating or air conditioning systems during times of peak demand.

For more information on the energy storage technologies, their families and their applications, please visit the EASE website: www.ease-storage.eu

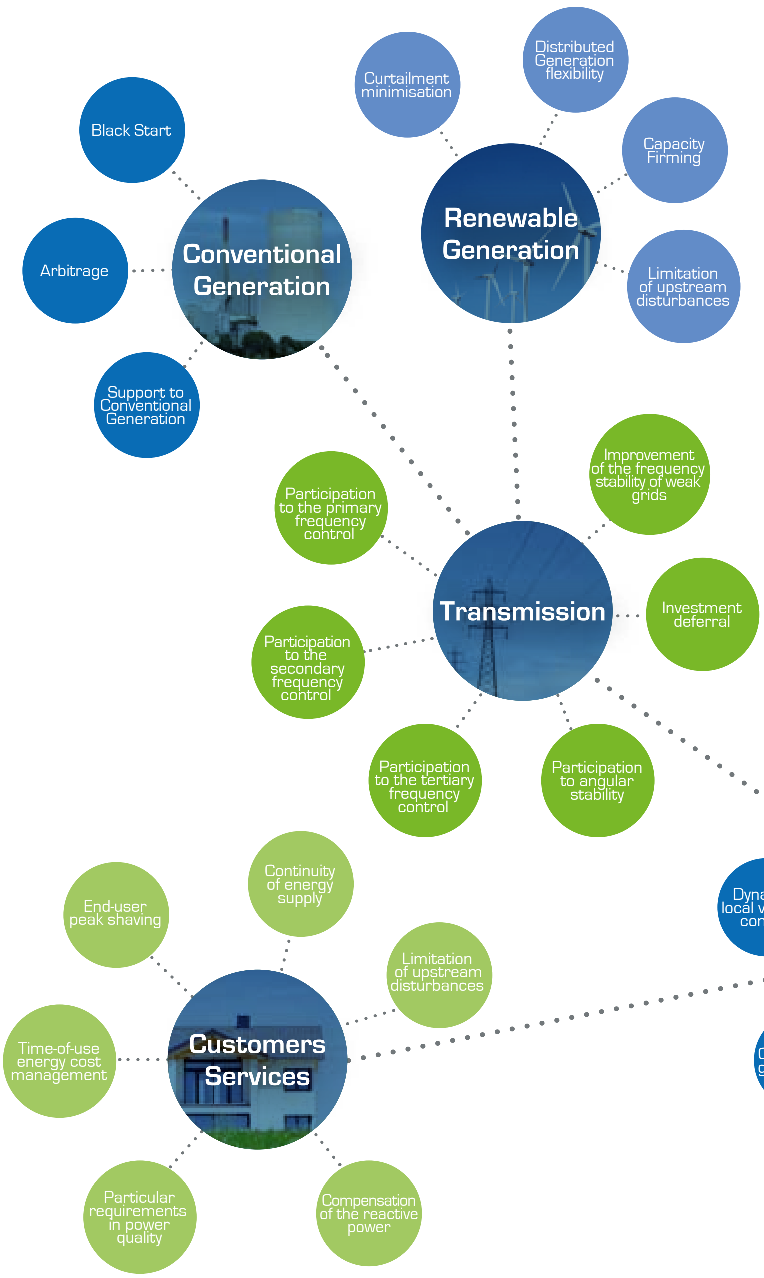
SAFT
A Saft Intensium® Max 20M (1.1MW), Li-Ion containerised system, has been deployed as part of the Eurogia+ ILIS project to demonstrate grid-connected energy storage for an industrial scale photovoltaic plant in Spain. The main goal of this project is to improve the electric behaviour of a Photovoltaic plant by adding a Li-Ion MW scale storage unit and reduce the levelised cost of electricity (Sarriguren, Spain).

GLEN DIMPLEX
The 'Quantum' Smart Electric Thermal Storage System (SETS) is a local small-scale storage technology in which electrical energy is stored as heat thus providing decentralised space heating and hot water to the home/building. SETS offers sizeable storage functionality to the energy system, enabling the storage of heat generated from renewable electricity at times of high supply and low demand and providing load control for the system operator at distribution level.

ENERGY STORAGE APPLICATIONS

Energy Storage delivers added value to the whole energy system, and therefore cannot be clearly put underneath any of the 3 segments - Generation, Transmission & Distribution and Consumption - but instead is part of all. Indeed, it is often called the 4th element of the energy system, able to be a generation, transmission & distribution or consumption asset in a fraction of a second.

This is why EASE has identified and described the different applications Energy Storage can have in the energy system, and their distribution per segment.



As an example, intermittent power generation can benefit from energy storage applications as it, amongst others:

- Improves reliability of production planning and output forecasting
- Optimises integration of wind generators into the medium voltage grid at their point of connection
- Alleviates grid disturbances in regions of high wind penetration, e.g. when generation stops abruptly
- Stores massive wind energy in times of excess production, avoiding curtailment

It is of course important to keep in mind that most energy storage devices offer several services along the energy value system.

Some of the energy storage applications explained (for the full list, please visit www.ease-storage.eu):

Conventional Generation

Black Start: storage can help in the process of restoring a power plant to operation after a total disruption of the supply without relying on transmission network.

Arbitrage: storage can select the production/consumption moments according either to energy market prices or to technical choices (e.g. to level the load in island systems).

Renewable Generation

Capacity Firming: storage can help increase the dispatchability of variable distributed generation just like conventional generation assets.

Limitation of upstream disturbances: storage can help limit disturbances of decentralised generators.

Curtailment minimisation: storage can charge energy and report its use when it is not possible to inject all the energy generated in the networks.

Transmission

Primary frequency control: storage can help maintain the instantaneous balance between generation and demand (the reserves associated must be released within 30 seconds and maintained for at least 15 minutes).

Secondary frequency control: storage can help adjust the active power production of the generating units to restore the frequency and the interchanges with other systems to their target values following an imbalance. While primary control limits and stops frequency excursions, secondary control brings the frequency back to its target value.

Investment deferral: storage can help resolve congestions in high voltage lines.

Distribution

Capacity support: storage can shift load from peak to base load periods to reduce maximum currents flowing though constrained grid assets.

Dynamic, local voltage control: storage can help maintain the voltage profile within admissible contractual/regulatory limits. The main benefit derives from the deferral of distribution upgrades that would otherwise be necessary to meet the voltage level requirements.

Customer Services

End-user peak shaving: storage can minimise the part of the customer's invoice that varies according to their highest power demand.

Time-of-use energy cost management: storage can charge when the rates are low and discharge during peak times, with the aim of reducing the invoice of customers.

Continuity of energy supply: storage can substitute the network in case of interruption; this service reduces the losses to industry and households in case of blackout.

CIRCE
The CIRCE Storage System is a Power Electronic system designed to manage Li-Ion Stationary Batteries and integrate distributed generation to reduce the grid impact of considerable and variable electric loads as well as to compensate reactive power and harmonic filtering.

FIAMM
The Toucan photovoltaic facility (5 MWp), including 4,500 kWh $NaNiCl_2$ storage capacity, offers improved forecasts of delivered power and reliable services for the grid management by improving management of electricity generation to overcome the relatively fragile power grid in such areas. With more than 55,000 First Solar thin-film solar panels and five 20ft ISO containers *Energy Spring by FIAMM*, the power generated will produce the equivalent of the annual electricity consumption of over 4,000 French Guiana homes (Montsinéry-Tonnégrande, French Guiana).

ENERGY STORAGE DEFINITION

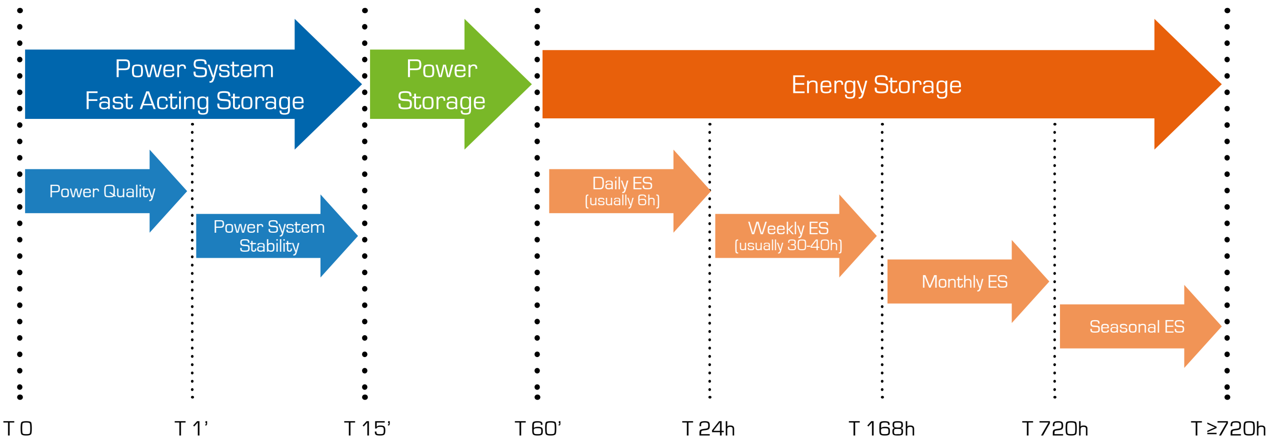
Defining Energy Storage as a 4th element in the energy system was one of the priorities of EASE in 2014. EASE organised several workshops with its members to brainstorm about the precise wording and to weigh the importance of every clause, leading to an increasing consensus and the endorsement of all EASE members to the following definition of Energy Storage for the electricity vector:

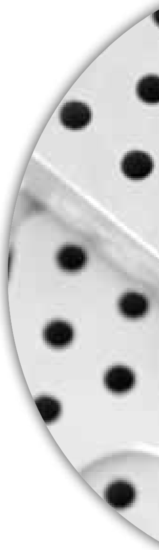
An "Energy Storage Facility" for the electricity vector means a facility used for the intake and stocking of electricity in different suitable energy forms. The release of this energy, at a controlled time, can be in forms that include electricity, gas, thermal energy and other energy carriers.

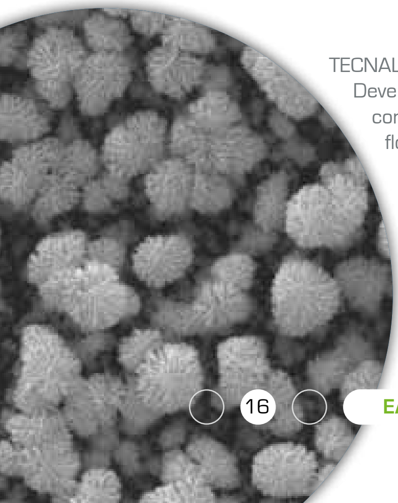
With this definition, EASE intends to support the work of European policy makers and the other stakeholders in Europe. This introduction is important, on the one hand, to receive contributions and suggestions, and on the other, to ensure that this definition - already accepted by the Energy Storage community - is further spread and acknowledged.

ENERGY STORAGE SEGMENTATION IN TIME

Some technologies might store for less than a minute, others for hours, and yet again others for days or even months. To be able to group these technologies with regards to the speed and length of the storage capabilities is a basic but fundamental part of any approach to Energy Storage. Though the work behind it was exhaustive, the segmentation in time can be represented quite simply in the following manner:





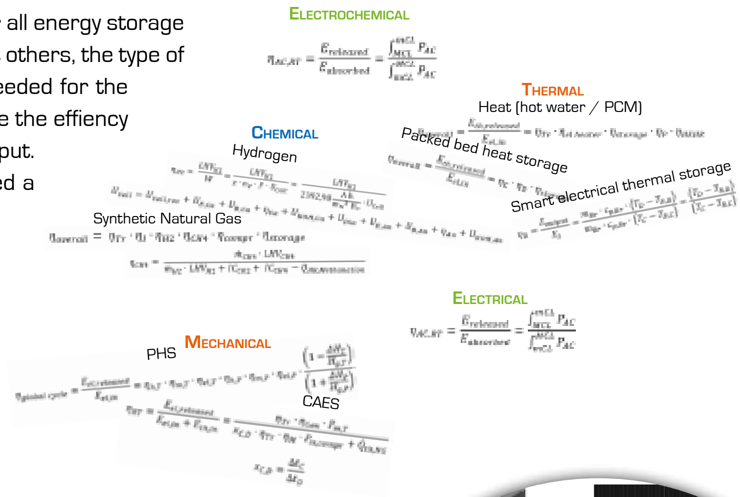


TECNALIA
Developing electrodes, membranes, bipolar plates, electrolytes, and other components for fuel cells and batteries with a special focus on redox flow batteries and metal-air batteries. Nanomaterials and ionic liquids are key issues for these developments.

BOSCH
Bosch Energy Storage Solutions - Europe's largest battery with two technologies in one system: wind park integration and grid services (Braderup, Germany).

Energy Storage Efficiency Calculation Methods

There is no single, one-size-fits-all way of calculating the efficiency for all energy storage technologies. Energy storage efficiency depends heavily on, amongst others, the type of storage and the components. Different calculation methods are needed for the different technologies. It is of the utmost importance to define where the effiency is measured and what is the energy considered as input and output. This is why EASE has taken its list of technologies and has produced a document which details all their efficiency calculations methods, from Adiabatic Compressed Air Energy Storage to Synthetic Natural Gas.



GAS NATURAL FENOSA
An energy storage project - in development since 2007 - based on hydrogen in the Sotavento wind farm (Sotavento, Spain).

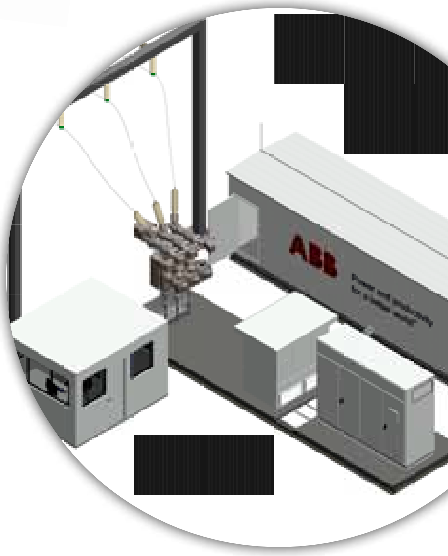
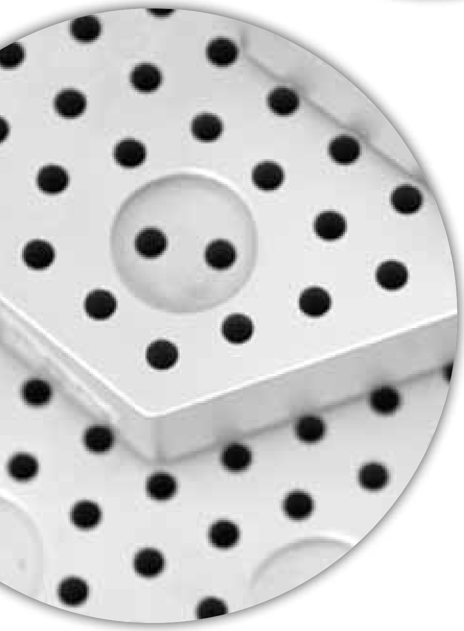


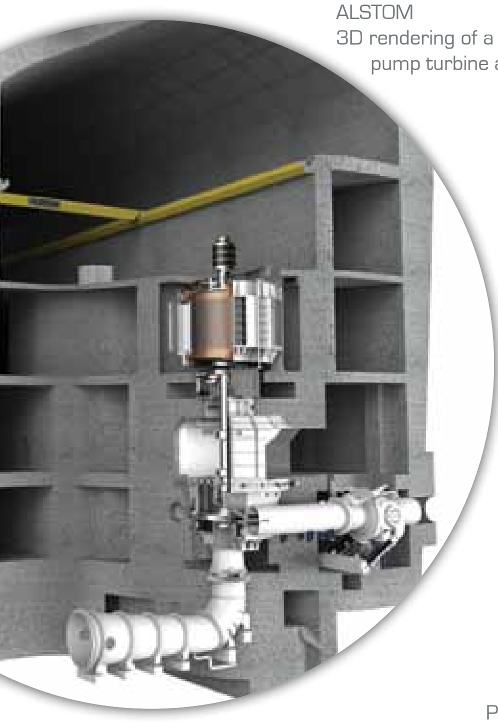
ABB
Layout example of a 1 MW, 15 min battery energy storage system EssPro™ Grid.



SAINT-GOBAIN INNOVATIVE MATERIALS
Developing high temperature ceramic material for Thermal Storage.

DEME BLUE ENERGY
iLand is an offshore island for energy storage, built on a sand bank off the Flemish coast in order to balance fluctuations on the electricity network which are caused, amongst others, by wind parks. It will be used primarily to reconcile differences between forecasted and actual production and consumption (Belgium).

ALSTOM
3D rendering of a hydro variable speed pump turbine and generator.



MHPSE
Power-to-fuel process diagram at the STEAG coal power plant. The project represents a cooperation of several firms / research institutes. As system integrator, MHPSE ensures that all the components function smoothly and flexibly together (Lünen, Germany).

HYDROGENICS
The HySTAT™ 60 - Alkaline electrolyser (containerised solution) has a production of 60 Nm^3 of hydrogen per hour and has a power of 300kW.

SIEMENS
Commissioned in 2014, the SIESTORAGE installation is based upon Li-Ion batteries and is installed in the existing substation of Vulkan Energiewirtschaft Oderbrücke. The system is used to provide: black start to the gas turbine that provides power and heat to the steel and rolling mill of Arcelor Mittal GmbH, power system stability for Island Mode, power quality and peak load management (Oderbrücke, Germany).

ENERGY STORAGE ROADMAP

In 2013, EASE and EERA - the European Energy Research Alliance - developed recommendations aimed at identifying critical energy storage technology gaps and at providing milestones for technology development. The need for a coordinated approach in research activities, thus leveraging and optimising Research, Development & Demonstration (RD&D) investments, was an important aspect acknowledged in the publication.

HORIZON 2020 - GRID+STORAGE PROJECT

Considering the relevance of this call to the Energy Storage community, EASE formed a consortium together with Technofi, Edso, ENTSO-E, RSE and VITO, and submitted a bid to the European Commission on the 23rd of September 2014. A little over a month later, a decision was taken and the bid was granted to the consortium. The contract was signed on the 19th of December 2014.

The project focuses on the development of implementation plans and roadmaps for research, demonstration and market uptake of technologies for the end-to-end pan-European grids and energy storage technologies. The aim is to support a more efficient allocation of RD&D programmes for the implementation of the SET-Plan – the European Strategic Energy Technology Plan aiming at accelerating the deployment of low-carbon technologies – in this area by providing prioritised roadmaps and a detailed analysis of on-going activities. The duration of the project is 2 years.

Complementing the activities performed so far by the European Electricity Grid Initiative (EEGI), the Grid+Storage Consortium will support DG Energy and the Member States in defining a European R&D roadmap. This roadmap aims to integrate Energy Storage into grid research and innovation activities, both at electricity transmission and distribution levels.

For more information, please visit www.gridplusstorage.eu.

During the next two years, the following activities will be implemented by the partners:

- Extensive public consultations to gather the views of all the stakeholders potentially impacted by, or involved in, research and innovation activities in these areas;
- Detailed project reviews and analyses at international level to identify best practices and knowledge gaps;
- Knowledge sharing activities in order to better appraise the yearly progress of projects having a European added value.

These activities will allow EASE and its partners to deliver at the end of 2016 a ten-year integrated Research and Innovation Roadmap and the related short-term Implementation Plans, in support of a more secure single European electricity market.

E.ON
E.ON builds a second Power-to-Gas plant with partners, sponsored by the German Federal Ministry of Transport and Digital Infrastructure. This project is testing the new PEM electrolysis (Proton Exchange Membrane), which has an electrical input power of one megawatt and is significantly smaller and more flexible than conventional electrolysis. The hydrogen produced will be injected into the local natural gas grid.
(Hamburg, Germany).

In November, EASE organised the first Energy Storage Global Conference in the Cercle National des Armées in Paris, France. One of the aims of the conference was to integrate Energy Storage better in the regulatory framework; the next big challenge for Energy Storage.

ESGC in numbers

- 150 participants from all over the world
- 40 speakers from the European Commission, national administrations, industry, research centres, national and international bodies
- 5 drivers (ESA, DG JRC, Sandia National Laboratories, DG Energy, ATEE-CSE)
- 4 sponsors & 11 Exhibitors
- 4 supporting organisations

Market Policy Technology

Energy Storage Global Conference

Explaining I Exchanging I Enabling

Paris | 19th to 21st November 2014

Main Conclusions:

1. Defining 'Energy Storage' in a policy and regulatory context is a high priority;
2. Entry barriers and undue tariffs affecting Energy Storage need to be eliminated;
3. Energy storage systems are established, revenue-generating solutions in some energy and services markets. In order to realise the high potential of additional value streams, further efforts are needed in the areas of technology, regulation and market design;
4. Several energy storage technologies have reached technical maturity and are available on an industrial scale. RD&D must further be supported to unlock the full potential of each technology, enable upscaling and cost reduction, and to enable the emergence of new technologies;
5. We must emphasise collaboration – It is critical to moving global markets to enable Energy Storage.

Evening Reception on the Seine

French delicacies on Montmartre

Networking at the Exhibition

For more information, please visit www.energystorageglobalconference.org

Day I - Session II
Storage in Transmission and Distribution Infrastructure Services

"I think the road is ready, we just need to step in"

Theophile Davy, Alstom

Day II - Session IV
Business Cases for Large Capacity Storage Projects

"This conference has set the stage for continued advancement"

Colette Lamontagne, ESA

Day II - Session III
Market Outlook

Day III - National Policy Perspectives

"When you speak about developing energy technologies, storage is an important one amongst these"

Andreea Strachinescu, DG Energy

Based upon the success of the conference, the growing interest in the topic and its increasingly acknowledged relevance, EASE is proud to present the

2nd Energy Storage Global Conference,

which will be organised in September 2016 in Brussels, capital of Europe.

2014 in Circles

European Union Sustainable Energy Week

EASE organised together with EDSO for Smart Grids, GO15 & Eurelectric a High-Level Policy Conference on "Are the 2030 RES Targets achievable without Energy Storage?"

The conference was a success, with close to 120 participants and more following the debate on the role ES can play in the achievement of the 2030 targets live from the EUSEW website.

New Member

GE Energy Storage joins EASE.

New Member

Maxwell Technologies joins EASE.

January 2014

February 2014

March 2014

April 2014

May 2014

June 2014

New Member

Highview Power Storage joins EASE.

Retail Energy Market

EASE responds to the Public Consultation put forward by the European Commission.

New Member

DEME Blue Energy joins EASE.

Draft Guidelines on Environmental and Energy Aid for 2014-2020

EASE responds to the Public Consultation put forward by the European Commission.

Grid+Storage

The consortium - of which EASE is a member - wins the Horizon 2020 call.

Trilateral Energy Storage Workshop

EASE gave a presentation at a Workshop focussed on the developments in Germany, France and the UK, organised by the Centre for Low Carbon Futures in London, UK.

Energy Storage Definition

The 1st EASE workshop on the definition of Energy Storage is organised

Presidency Elections

For the 1st time since its founding the EASE General Assembly elects a new Presidency.

July 2014 · August 2014 · September 2014 · October 2014 · November 2014 · December 2014

Energy Storage Global Conference

EASE organised the 1st Energy Storage Global Conference in Paris, with the support of DG ENER, DG JRC, Sandia National Laboratories, ESA and ATEE-CSE.

For more information on the publications and events of EASE, please visit the EASE website: www.ease-storage.eu

Secretariat

Patrick Clerens
Secretary General

Jean-Michel Durand
Technical Advisor

Maria João Duarte
Policy Officer

Tom De Latte
Communications Officer

Michela Bortolotti
Operations Officer

Partners (as of June 2015)

EASE is continuously establishing a network with partners sharing the same goal of contributing to the development of a sustainable energy system.

One example of this are the biannual meetings with interested European National Energy Storage Associations. In these meetings, information is exchanged, support given to valuable initiatives and shared fields of interest are discussed. In October 2014, representatives from Italy, Germany, Portugal, the UK and Austria came together in Brussels to discuss energy storage Incentive Programmes.

Another example is the succesful organisation of the Energy Storage Global Conference, which saw the involvement not just of the American and French Associations, but also a broad basis of support from our other partners all over Europe and the world.

NATIONAL ENERGY STORAGE ASSOCIATIONS

ANIE ENERGIA
atee
bdew Energie. Wasser. Leben.
BVES German Energy Storage Association
CNESA
Energy Storage NL
ENERGYIN
ESA Energy Storage Association
The Electricity Storage Network
IESA
oesterreichs energie

EUROPEAN AND GLOBAL PARTNERS

EERA
European Hydrogen Association EHA
EMIRI
entsoe
eurelectric
EUROBAT
EWEA
gse
Hydro Equipment Association
iea International Energy Agency
SolarPower Europe

By all accounts, 2014 was a busy but successful year for EASE.

The European energy system is clearly moving towards an energy future based on clean, variable and renewable power generation, smarter and more reliable networks, empowered consumers and competitive, interdependent European energy markets. To successfully carry on this transition, however, the added value energy storage can bring has to be grasped.

Whereas the reward at the end of this process is tangible, tremendous investments in our energy infrastructure are necessary to reach it, estimated at some €200 billion annually in the next decade. A degree of certainty and predictability is a prerequisite for all types of investment. In the dynamic energy landscape this predictability is sometimes difficult to find. This is especially valid for new players in the field, such as energy storage. Although the question of why we need energy storage has been clearly answered today and the necessity to implement it into our energy system widely acknowledged, questions about the how and the when are still numerous.

A major objective of EASE is to foster the creation of a fair market design, adequately remunerating rendered services and allowing a natural market uptake of storage based solutions. To ensure that policy and industry acknowledge and enable the benefits of energy storage to their fullest extent, we need to provide a clear framework on how to address and assess it. This is why EASE attempts – and has already succeeded through the combined expertise of our members - to clarify the view on Energy Storage and to raise awareness of its potential and value.

Following the segmentation of storage technologies and applications EASE has already published, the definition of energy storage in the electricity vector is only the most recent example of the progress EASE has made in this context. The consensus we reached within the Energy Storage community will be a key contribution for policy makers to further address the Energy Storage topic. The Energy Storage Technology Development Roadmap towards 2030, published in 2013 by EASE in cooperation with EERA, was widely recognised. This was followed up in 2014, with EASE being part of the Grid+Storage consortium which won the B2.16 2014 call of the Horizon 2020 Energy Work Programme for 2014-2015. This project will deliver prioritised roadmaps to further determine the path and distance Energy Storage still has to go to reach its position as an equitable part of the system. Together, all these are essential assets to help integrate energy storage in a coherent manner into the energy system.

Looking back, a highlight of 2014 was the organisation of the 1st Energy Storage Global Conference, in cooperation with the European Commission and the American Energy Storage Association (ESA). This conference brought together stakeholders from around the world to encourage a holistic understanding of Energy Storage and its capabilities. This was especially emphasised by the 3 days, each of which was dedicated to one of the pillars of the discussion on Energy Storage: Technology, Markets and Policy.

Based upon the positive feedback received, we will organise a 2nd edition of the Conference in September 2016, this time in Brussels. I hope that I will be able to welcome you there to discuss Energy Storage and the exciting possibilities that it brings along. I strongly believe that the exchange of expertise and experience is the key to create a new and improved energy system for us all.

See you soon,

Patrick Clerens

Members (as of June 2015)

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DBE
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DTU
E.ON
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IK4 CIDETEC
Isentropic
Johnson Controls
Kolibri
Maxwell Technologies
Mitsubishi Hitachi Power Systems Europe
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