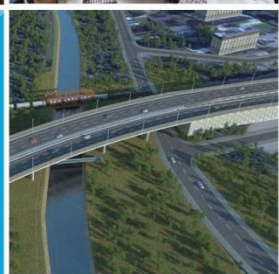
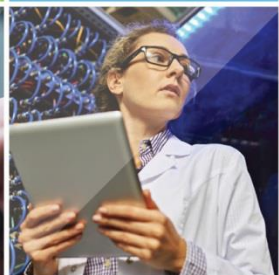
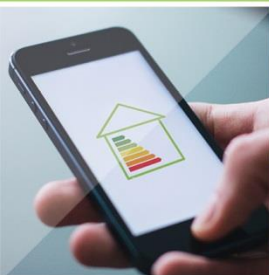




European
Commission

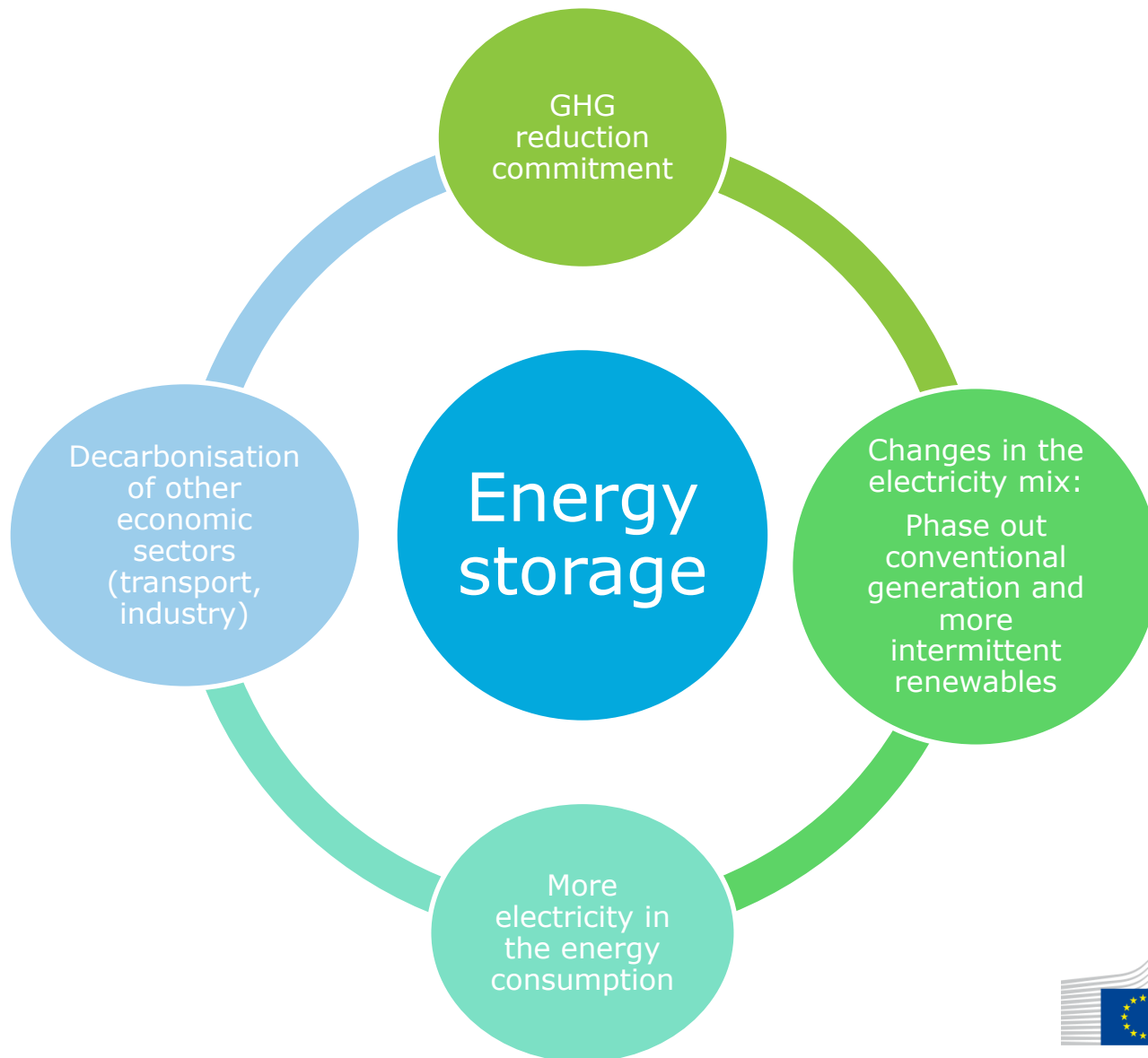


Reflections on energy storage

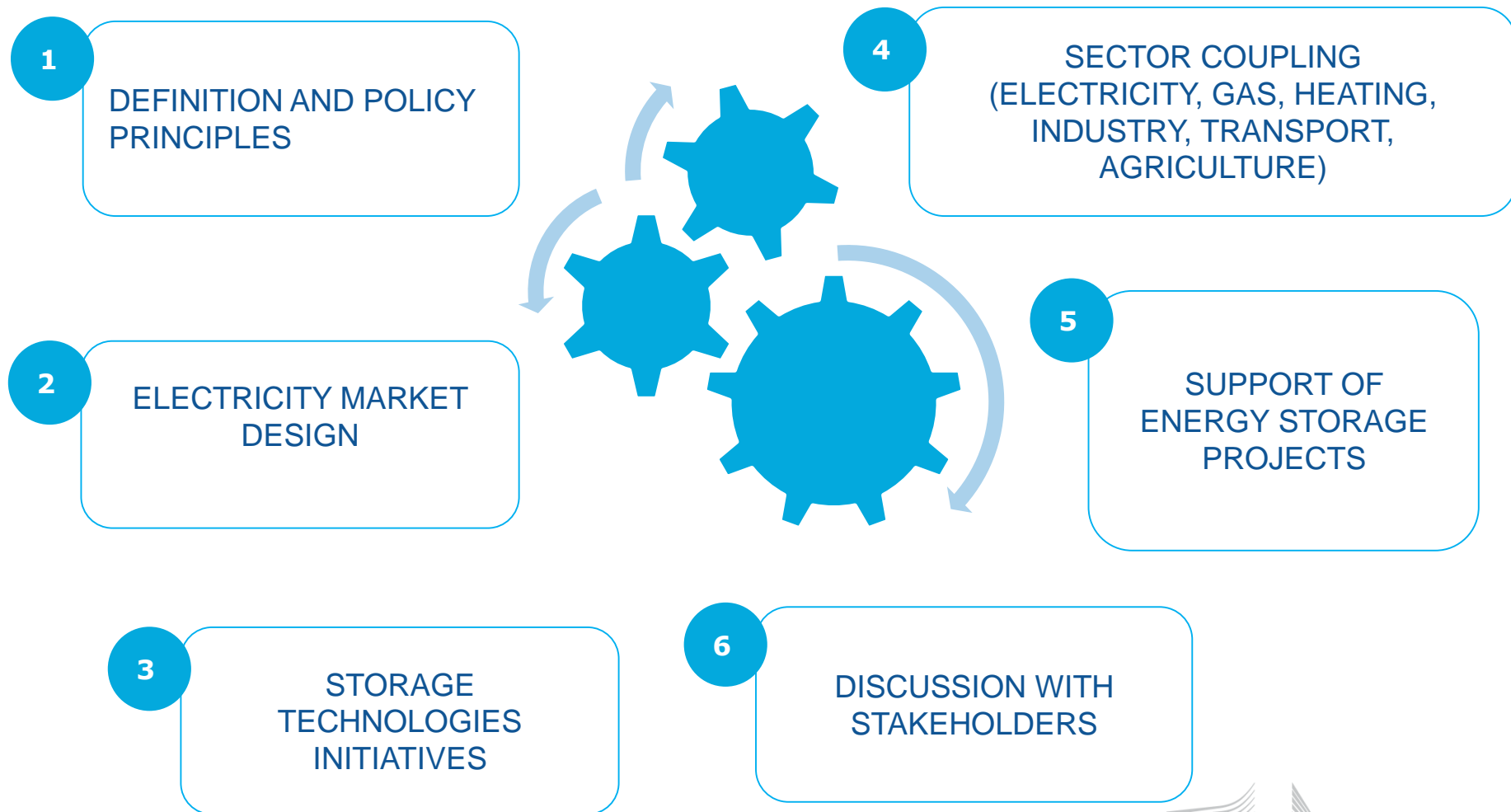
**Yolanda Garcia Mezquita, ENER-B4
Florence Forum, 31 May 2018**



Growing role of energy storage in the energy transition



State of play – what has been done so far?



What next? – Discussion with stakeholders

- ✓ Why does the energy system need energy storage?
- ✓ What are the barriers (regulatory, fiscal, economic, technical) in the deployment of energy storage?
- ✓ Is the regulatory framework sufficient to ensure that markets can deploy storage capacity?
- ✓ Should the EU do further efforts? What type of actions/policy options should be considered?

What next? – Discussion with stakeholders – Follow up

- ✓ Please, send your replies to our functional email box (Electricity Coordination Group):

ENER-ELEC-COORD-GROUP@ec.europa.eu

- ✓ Next steps:

- Discussion with Member States at the Electricity Coordination Group on 10th July 2018
- Possible workshop with stakeholders on energy storage back to back the Electricity Coordination Group meeting of December 2018



Thank you for your attention!

<https://ec.europa.eu/energy/en/topics/technology-and-innovation/energy-storage>

1: Definition and Policy principles

- ✓ “Energy storage” means, in the electricity system, deferring an amount of the electricity that was generated to the moment of use, either as final energy or converted into another energy carrier. [Proposal of Electricity Directive (recast), Article 2]
- ✓ Principles supporting the market development for energy storage:
 - It could contribute to energy security and decarbonisation of the electricity system or of other economic sectors
 - It should be allowed to participate fully in electricity markets
 - It should participate and be rewarded on equal footing to providers of flexibility services (e.g. demand response)
 - The cost-efficient use of decentralised storage and its integration into the system should be enabled in a non-discriminatory way
- ✓ “Energy storage – the role of electricity”. SWD (2017) 61 final

https://ec.europa.eu/energy/sites/ener/files/documents/swd2017_61_document_travail_service_part1_v6.pdf

2: Electricity Market Design

- ✓ The EMD proposes rules to facilitate flexibility and energy storage
- ✓ It ensures the neutrality of network operators vis-à-vis new business activities in storage:
 - When a network operator needs to use energy to manage its network, it is procured from market participants. Only in case there are no market interests, a regulatory authority may grant a temporary derogation
- ✓ Regulatory authorities will have to ensure that charges for access to network do not discriminate storage
- ✓ Storage will be facilitated by the stricter rules on RES electricity curtailment (in combination with increasing targets on RES production)
- ✓ In day-ahead and intra-day market, energy trading should be as close to real time as possible and a bid size should not be above 1 MW
- ✓ Strengthening of short-term price signals to ensure that electricity prices provide correct and meaningful production and investment signals
- ✓ Risk preparedness: all measures, including storage, which help to avoid possible crisis or to contain a crisis are equally relevant

3: Storage Technologies Initiatives

- ✓ Technological innovation in storage is financed by the EU under the [Horizon 2020 programme](#)
- ✓ The collaboration within [Strategic Energy Technology Plan](#) enables EU players to decide on R&I priorities and collaboration relevant to energy sector. This includes the action on [Smart Energy System](#) and action on [Batteries](#)
- ✓ The technologies related to the use of electricity to produce gas, mainly hydrogen, are managed through a specific programme office, the [Fuel Cells and Hydrogen Joint Undertaking](#)
- ✓ The EU Battery Alliance aims to create a competitive and sustainable battery cell manufacturing in Europe supported by a full EU-based value chain. [The Action Plan](#) supporting BA goals has been published by the Commission on 16th May 2018

4: Sector coupling (electricity, gas, heating, industry, transport, agriculture)

- ✓ Physical and market coupling of the electricity, gas, heating and other economic sectors (industry, transport, agriculture)
- ✓ Sector coupling is a tool contributing to the decarbonisation of, and for providing the necessary flexibility to, the energy system (e.g. conversion of the excess of decarbonized electricity towards other forms of energy for temporary storage or for direct use)
- ✓ Several studies on going with the aim to identify:
 - Existing regulatory barriers and potential gaps to the coupling, in particular, of electricity, gas and heating sectors
 - Recommendations to overcome these barriers/fill the gaps

5: Support of Energy Storage Projects

- ✓ Energy storage projects in electricity can also become Projects of Common Interest (PCIs)
- ✓ In the context of the TEN-E infrastructure framework, large storage projects, above 225 MW, may be included in the selection process for the PCI. Smaller storage units may be part of smart grids PCIs
- ✓ In November 2017 the European Commission published its [third list of PCIs](https://ec.europa.eu/energy/en/topics/infrastructure/projects-common-interest), which includes 15 storage projects in electricity (11 hydro-pumped storage and 4 compressed air storage)

<https://ec.europa.eu/energy/en/topics/infrastructure/projects-common-interest>

6: Discussion with Stakeholders

✓ Done:

- High Level Roundtable on Energy Storage and Sectoral Integration on 1st March 2018. The Roundtable gathered representatives from industry, research and the European Commission to discuss the role energy storage and sectoral integration in the transition to a low carbon economy

https://ec.europa.eu/info/events/high-level-roundtable-energy-storage-and-sectoral-integration-2018-mar-01_en

✓ Next steps:

- Discussion with Member States at the Electricity Coordination Group on 10th July 2018
- Possible workshop on energy storage back to back the Electricity Coordination Group meeting of December 2018