

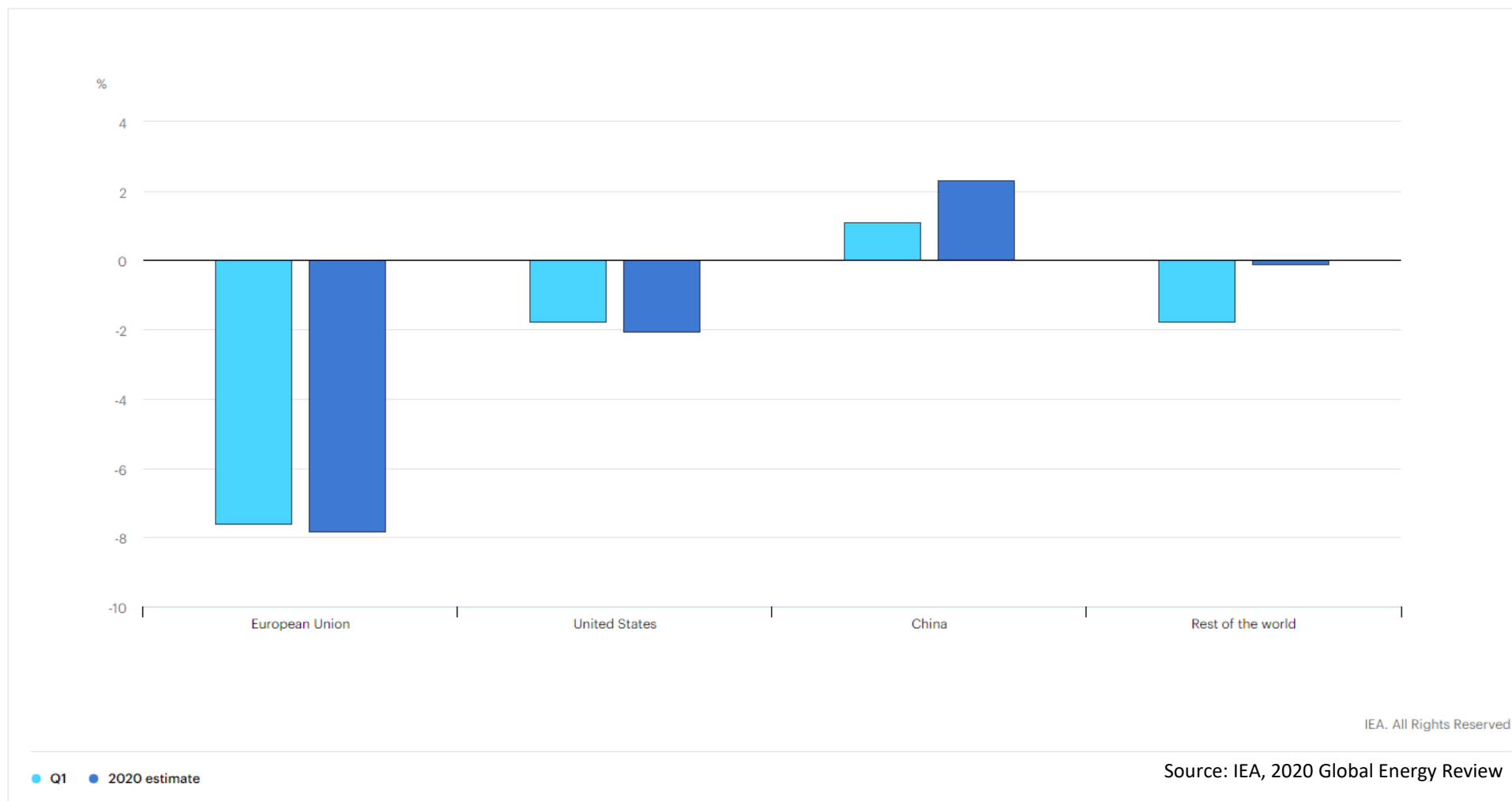
The role of nuclear energy during the COVID crisis and beyond

Dr. Sama Bilbao y Leon

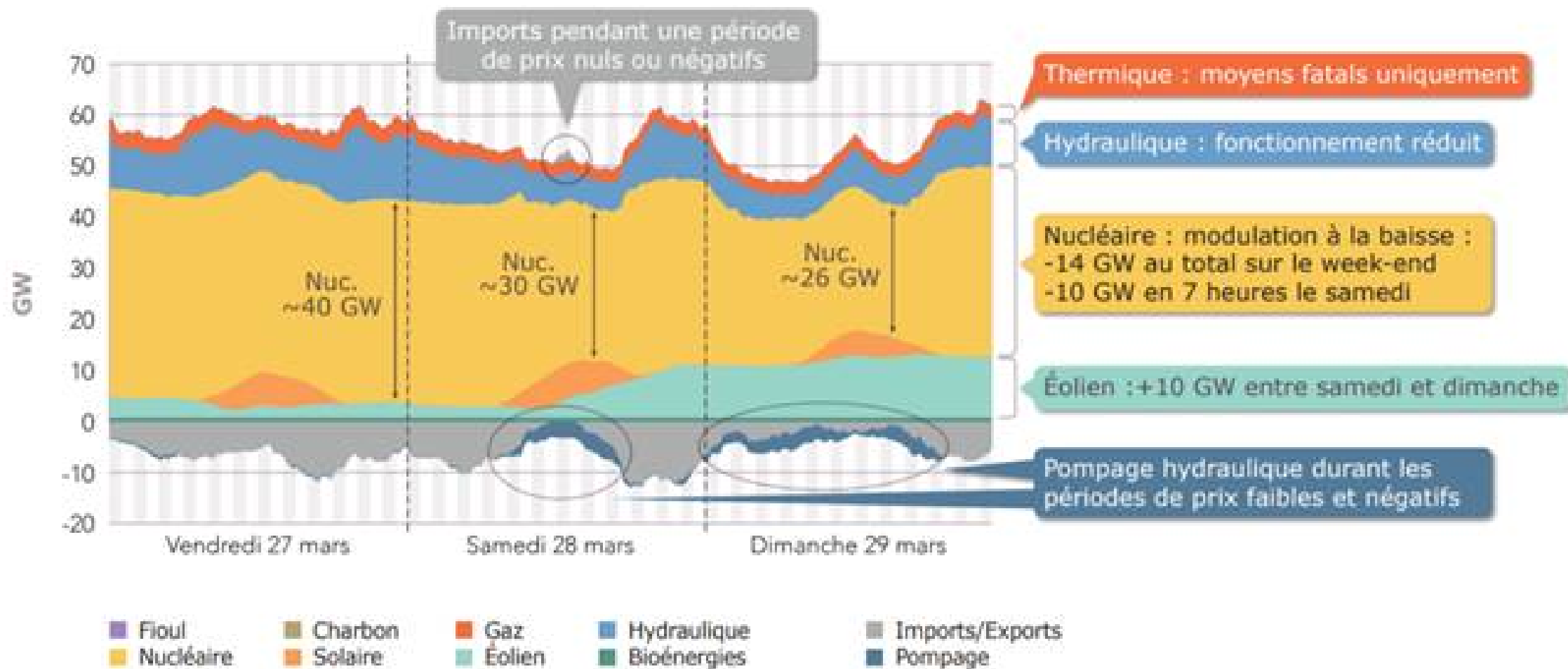
Division of Nuclear Technology Development and Economics
OECD Nuclear Energy Agency

FORATOM Webinar - Impact of COVID19 on markets and grids
8 July 2020

Nuclear generation down 3% in 2020 Q1 due to reduction in global electricity demand



Nuclear has been a key source of flexibility during COVID crisis



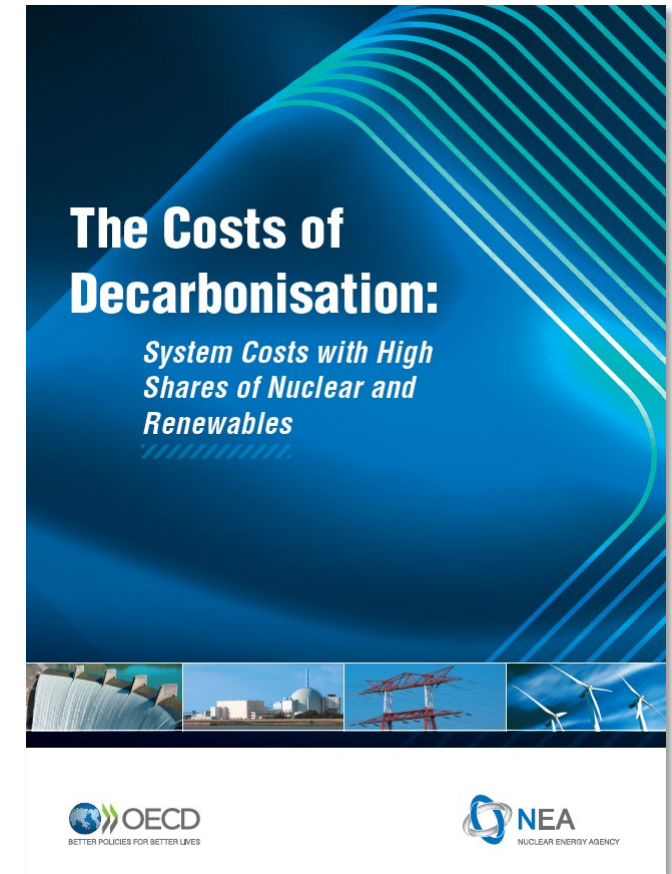
Source: RTE, March 2020

Nuclear energy helps achieve system resiliency

- Resiliency and electricity security requires long term planning
 - Physical availability of generating **capacity**
 - Smooth **operation** of the electricity system
 - Stable **economic behaviour** of the electricity system
- Nuclear energy is resilient at many levels
 - **Technology design**: Defence in depth, redundancy, multiple layers principle
 - **Organizational**: Emergency preparedness, safety culture, continuous learning
 - **System**: Dispatchable, flexible, provides stability
 - **Socio-Economic**: Stable local high-pay jobs, economic spill-over

Electricity market reforms for efficient decarbonation

- Prioritize **carbon pricing**, as the most efficient approach for decarbonising electricity supply
- **Policy stability** to encourage new investments in all low-carbon technologies
- Foster **competitive short-term markets** for the cost-efficient dispatch of available technologies
- Ensure **adequate levels of capacity and flexibility**, as well as **transmission and distribution** infrastructure
- Recognise and **fairly allocate the system costs to the technologies that cause them**



<https://www.oecd-nea.org/ndd/pubs/2019/7299-system-costs.pdf>

Key policy recommendations for nuclear energy to contribute to modern low carbon resilient energy systems

- Include nuclear (both new build and LTO of existing units) in **post-COVID economic recovery** plans
- Foster **electricity market reforms** to create a level playing field for all low carbon generation technologies, including support for existing nuclear power plants and new build
- Include nuclear energy in **future sustainable funds** considering its low carbon content and benign lifecycle environmental footprint
- Non-electric nuclear applications should be systematically considered in **decarbonization scenarios**
- Building on the lessons learned from the completion of FOAK nuclear new build projects in several G20 countries, government have a **window of opportunity to support rapid construction costs** reduction through near term projects
- Increase support to emerging nuclear technologies and in particular **Small Modular Reactors** (SMRs) that are nearing market deployment
- Support **nuclear cogeneration demonstration** plans
- **Nuclear hydrogen production** should be considered on equal footing as hydrogen produced with other low carbon technologies

Thank you for your attention



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