



IEA Hydro – Communiqué to National Governments & Multi-Lateral Agencies

Transformational Markets: the value and contemporary role of hydropower Brussels, Belgium December 2018

Representatives from authorities, companies, industry and research organisations of the international hydropower communities met to discuss the role of hydropower in contributing to rapidly transitioning global electricity markets.

Hosted by the International Energy Agency Technology Collaboration Program on Hydropower (IEA Hydro), the representatives noted that while there are uniquely different characteristics to each region, energy markets and supply chains, they have several common opportunities and challenges when it comes to the future energy system, security of supply and the role of hydropower. New approaches are needed to fully utilise the value and unique contribution of hydropower in providing renewable energy production, flexibility and regulating services. Hydropower is positioned to take a unique role in supporting the increased deployment of variable renewable energy sources such as wind and solar by providing Essential Electricity System Services (EESS) and needed strategic energy storage.

In many current market situations, the near and long-term contribution of existing hydropower assets and additional hydropower services are not fully realised. Especially the long-term value in providing emission-free EESS delivered by large-scale reservoir hydropower and pumped storage. A key challenge is to incorporate these services into the market in a way which values these services correctly, as hydropower may not be competing on common grounds with other technologies.

In order for hydropower contributions to be fully utilized and valued, a greater understanding of several issues is needed:

- How to ensure the **profitability and security of existing hydropower** infrastructure
- The economics for hydropower reinvestments and operation, including new **business models**
- Technology developments and **optimized operation for enhanced energy flexibility and productivity** at existing and new hydropower plants
- How hydropower through delivering a wide range of system services can **enable penetration of large amounts of variable and distributed renewables** such as wind and solar, and thus improving system stability and security of supply

Key questions identified in the workshop for the sector to work on include developing methods to identify:

- What are the future **market needs**?
- Which **technologies** can deliver which solutions?

- Which types of EESS/flexibility can Hydropower deliver **competitively**?
- What is required in **market design** and product definition?
- What positive **consumer outcomes** can be assured?
- How to express **benefits** in terms of **savings** that can be achieved?

The workshop discussion also touched briefly upon other services provided by hydropower and its reservoirs, such as climate change resilience and mitigation strategies, flood control, drought mitigation, water and irrigation supply, environmental and ecological services. These services will also be included in the future work of the participants in the IEA Hydro.

Workshop delegates also recognized that through multi-disciplinary collaboration, improvements are generally needed in the terminology used in hydropower and electricity markets. Particularly in relation to flexibility services, terminology can be better adapted to the changing needs of energy systems and hydropower capabilities.

IEA Hydro is working cooperatively with our respective national governments, multi-lateral organisations, industry and other associations **to raise the profile of hydropower in energy policy formulation**, market regulation and adoption of hydropower specific strategies:

- **clear EESS policy and regulatory approaches and remuneration** to support the increased deployment of all renewable energies to provide investor certainty
- **clear industry policies to maintain and build hydropower industry capability and capacity** to ensure the long-term sustainability of the future renewable energy system

The opportunities for tailored policy and regulatory responses for hydropower can be enhanced by better understanding and documenting regional characteristics and needs. This is a task that IEA Hydro members wish to advance collaboratively with the IEA-Secretariat, national governments and industry.



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