

Europe & Central Asia Energy Storage Workshop

Online 27, 28 and 29 April 2021, from 12:00 to 15:30 CEST

ECA countries are in a period of transition towards clean electricity, rapidly developing renewable energy generation projects, motivated by countries' ambition to meet climate targets.

The clean energy transition is driven by efforts to diversify countries' generation sources and to improve security of supply, whilst reducing dependency on inefficient thermal power generation. By the end of 2019, Ukraine had a PV solar installed capacity of 3.5 GW, almost 7 times of its 2016 level. Uzbekistan has an ambitious plan to develop solar and wind generation to move away from depending on natural gas fired power generation. Western Balkan countries have agreed to comply with EU-mandated climate and energy goals by 2020 in the context of their commitments under the Energy Community Treaty.

To facilitate renewable energy integration and to ensure electricity supply security and reliability, ECA countries are increasingly interested in Battery Energy Storage System (BESS).

Ukraine needs to develop the BESS capacity to provide Frequency Containment Reserve (FCR) before its power system's synchronization with European systems. Turkey has completed a technical study with the World Bank's support and identified economic potential of the BESS for provision of FCR. Uzbekistan, which will need a significant amount of the regulating capacity to integrate an expected large amount of solar and wind generations, is studying technical and economic viability of the BESS to provide the regulating capacity. Georgia is conducting Feasibility Study with support from EBRD to identify a potential market for the BESS. Other storage technologies such as hydrogen are also increasingly interesting to the ECA countries.

The World Bank Europe & Central Asia Energy Storage Workshop will provide ECA countries with knowledge and best practices in energy storage and its benefits to the power system and its users. In the workshop taking place online on 27, 28 and 29 April 2021, from 12:00 to 15:30 CET, participating policy makers and utility managers in ECA will learn key aspects of energy storage options such as the latest technological developments; price and market trends; policy and regulatory aspects; the best applied business use cases and key energy storage contract issues; through presentations and discussions from global leading players. The event will provide English and Russian interpretation.

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WORKSHOP AGENDA

Day 1 – Tuesday 27 of April 2021

The Role of Energy Storage Technology in National Energy Systems

12:00 – 12:20 - **Opening Remarks: Why are we speaking now about Energy Storage in ECA?**
Context, objectives and policies

- **Lucio Monari**, Regional Director, Infrastructure, Europe and Central Asia, **World Bank**

12:20 – 13:30 - **Global Trends on energy storage markets and regulation**

This session delves into the market challenges and opportunities of storage markets worldwide; from technologies, cost, regulatory trends, localization, manufacturing etc., as well as how the added flexibility of batteries can be of value to provide specific grid services.

Presentations followed by discussion and Q&A

- **Rahul Walawalkar**, President, **India Energy Storage Alliance and President & MD, Customized Energy Solutions of India**
- **Christoph Kost**, Head of Group Energy Systems and Energy Economics Energy System Analysis, **Fraunhofer ISE**
- **Luis Munuera**, Strategic Initiatives, **International Energy Agency (IEA)**

13:30 – 14:45 – **ECA countries view on energy storage**

Experts from various countries, including transmission companies, utilities and consultants will provide insight into the potential role and value of energy storage systems in ECA's national grids.

Presentation followed up by Q&A

- **Mr. Yaroslav Demchenkov**, Deputy Minister, **Ministry of Energy of Ukraine**
- **Mr. Abay Kulanbay**, Acting Director of the Department of Renewable Energy, **Ministry of Energy of Kazakhstan**

14:45 – 15:45 - **Policy and regulation support for the deployment of energy storage technologies**

Policy makers, regulators and legal experts consider the barriers to the deployment of energy storage systems and how they have been removed in other markets.

Panel discussion with no PPTs

- **Rémi Mayet**, Deputy Head of Unit - Directorate General for Energy Security and Safety, **European Commission**
- **Emanuele Taibi**, Power Sector Transformation Strategies, **International Renewable Energy Agency (IRENA)**
- **Brittney Elzare**, Policy Manager, **The European Association for Storage of Energy – EASE**
- **Gabe Murtaugh**, Lead Infrastructure and Regulatory Policy Developer - Market and Infrastructure Policy, **California ISO**

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15:45-15:50 – **Key takeaways and closing remarks**

Day 2 – Wednesday 28 of April 2021

Energy Storage Technologies

12:00 – 12:05 – **Welcome back remarks**

12:05 – 13:00 – **Role and applications of energy storage**

This session will explore grid scale battery projects for frequency regulation, integration with renewables, behind the meter and peaking battery plants.

Presentations followed by discussion and Q&A

- **Mark Wilson**, Senior Technical Advisor, **Australian Energy Regulator**
- **Michele Pissarello**, Head of BD New Markets, **Enel X**
- **Michael Herbert**, Co-Founder, **Delorean Power**

13:00 – 14:00 - **Energy storage technologies**

Lithium-ion batteries have been getting all the attention but other technologies such as flow batteries, solid-state batteries, thermal storage and cryogenic storage, to name a few, have also made inroads into energy storage market. This session analyses the different use cases for each of them.

Presentations followed by discussion and Q&A

- **Jaione Martínez de Ilarduya**, Project Manager, **BCARE**
- **Matt Cheng Zedler**, Head of Product & Application Engineering of GridStar, **Lockheed Martin Energy Javier Cavada**, CEO, **Highview Power**

14:00 – 14:45 – **ECA countries view on energy storage**

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Presentation followed up by Q&A

- **Mr. Abdullajon Otaboev**, Head of the Department of Generation Development based on Renewable Energy Sources (RES), **Ministry of Energy of Uzbekistan**
- **Mr. Deniz Daştan**, Head of Electricity Market Department, **Energy Market Regulatory Authority (EMRA) of Turkey**

14:45 – 15:45– **Energy Storage Case studies from selected countries**

In this session you will hear case studies of specific iconic projects around the World from the companies spearheading them.

Presentation followed by discussion and Q&A

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- **Madina Mukhanova**, Market Manager, **Fluence**
 - **Valentin Rota**, Bid Team Manager EMEA, **Tesla Energy Products EMEA**
 - **Yan Mu**, **European System Solution Manager**, **Sungrow Power**
 - **Michael Geyer**, Senior Consultant, **German Aerospace Centre (DLR)**
- Moderated by: **Fernando de Sisternes**, Senior Energy Specialist, **World Bank**

15:45 – 15:50 – **Key takeaways & closing remarks**

Day 3 – Thursday 29 of April 2021 Business Models, Financing and Bankability

12:00 – 12:05 - **Welcome back remarks**

12:05 – 12:45 - **Cost trends of the different battery technologies**

Is the price of battery storage coming down as predicted? Which technology is more cost-competitive? This session focuses on project cost now and cost projections for the next 2-3 years.

Presentations followed by discussion and Q&A

- **Chloe Holzinger**, Senior Analyst - Batteries & Energy Storage, **IHS Markit**
- **Tifenn Brandily**, Associate, Energy Economics, **BloombergNEF**

12:45 – 14:00 - **Business models for energy storage projects**

Experts delve into the different sources of revenue that storage projects could tap into to make storage projects viable.

Presentations followed by discussion and Q&A

- **Vinayak Walimbe**, VP - Emerging Technologies, **Indian Energy Storage Alliance**
- **Anette Danielsson**, Market Development Analyst, **Wärtsilä Energy**
- **Weijie Mak**, Principal, **Aurora**
- **Randell Johnson**, CEO, **Acelerex**

14:00 – 15:00 - **Financing energy storage projects**

Multilateral development banks and commercial financiers talk about what makes storage projects bankable, and the role of concessional financing in unlocking the value of energy storage in developing markets.

Presentations followed by discussion and Q&A

- **Chandra Govindarajalu**, Lead Energy Specialist Energy Climate Finance, **World Bank**
- **Stéphane Dubos**, Head of EMEA Power & Renewables Industry Group Corporate & Investment Banking, **Natixis**
- **Roger Font**, Director Global of project, asset and specialized business, **Banc Sabadell**



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- **Peter Mockel**, Principal Industry Specialist, **IFC**

15:00 – 15:05 - **Concluding remarks**

- **Sameer Shukla**, Practice Manager Europe and Central Asia, Energy and Extractives Global Practice, **World Bank**