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WORKSHOP ON INNOVATIONS AND TECHNOLOGICAL DISRUPTION IN THE HYDROPOWER SECTOR

Thursday 5 April 2018 | 10:00-17:00 | Washington, DC

ORGANISED BY: GLOBAL SOLUTIONS GROUP HYDROPOWER & DAMS, WORLD BANK

Background

Rapid technological changes are affecting all sectors of the economy, transforming customer habits, processes and business models. In the energy sector, several concurrent trends are at work, affecting the cost of deployment, generation and maintenance of energy systems. Hailing a new era of super smart and super clean energy systems, some predict that the age of large-scale power plants is coming to an end.

This workshop is designed to open a strategic discussion among high-level decision-makers and analyse the effect of technological disruptions on the most prominent source of renewable electricity today: hydropower.

Agenda

Participants

- Private and public developers and owners of hydropower assets;
- Service providers and equipment manufacturers;
- Technical experts and consultants;

10:00-10:15 **Welcome to participants and workshop objectives**

- Pravin Karki, Global Lead, Hydropower & Dams, the World Bank Group

10:15-12:00 **Understanding the impact of technological disruptions on energy systems**

Introduction: What exactly do we mean by technological "disruption" ?

- Gabriela Elizondo Azuela, Senior Energy Specialist, World Bank

Presentations: What are the drivers?

- **Adapting to the fast rise of renewables**
  Samantha Gross, Fellow, Energy & Climate, Brookings Institution (tbc)
- **Big data, cryptocurrency and energy demand**
  Nadine Damblon, CEO, HydroMiner: Hydropower & big data

- **Blockchain technology in the energy sector**
  Douglas Miller, Senior Associate, Rocky Mountain Institute

Respondent: How are developing countries affected by these changes? [Different pathways of technological diffusion can be envisaged in our client countries]

- Vivien Foster, Lead Economist, World Bank

12:00-13:00 **Lunch**

13:00-14:30 **What solutions can hydropower offer?**

Presentations: Supporting electricity grids

- **Hydropower's role in renewable energy systems,**
  Richard Taylor, CEO, IHA
- **Role of pumped storage**
  Vladimir Koritarov, Deputy Director of the Center for Energy, Environmental, and Economic Systems Analysis
- **Scenarios of short- and long-term energy storage**
  Norbert Riedel, CTO, Voith Hydro
  Yves Rannou, CEO, GE Hydro
- **Policy and legal frameworks for pumped-storage**
  Francois Vitez, Vice-President, SNC Lavalin

Discussion

14:30-15:00 **Break**

15:00-16:30 **Innovations**

- **Digital solutions to increase the availability and efficiency of hydro power plants through predictive maintenance and optimized asset lifecycle management**
  Yves Rannou, CEO, GE Hydro
- **Artificial Intelligence and plant operation optimization**
  Arnstein Kjesbu, Executive Vice President, Powel
- **Design technology: project and equipment**
  Georg Woeber, Andritz
- **Hybrid systems**
  Herbie Johnson, General Manager, Southern Company

Discussion

16:45-17:00 **Conclusion**