



THE INTERNATIONAL ENERGY AGENCY TECHNOLOGY
COLLABORATION PROGRAMME ON HYDROPOWER

IEA Hydropower



**Hydropower and Fish
Research and Innovation in the context of the European Policy Framework**

**Joint Workshop
IEA Hydropower TCP– European Commission DG RTD**

29-30 May 2017

Brussels, Place Madou 1

31 May 2017

Field visit to the Ham Hydropower Plant at the Albert Canal

AGENDA

Monday 29th of May – 13:00h

13.00h

Registration

14.00h

Welcome introduction

- Piotr Tulej, European Commission, Head of Unit DG RTD G.3
- Torodd Jensen, International Energy Agency, Chair of Executive Committee, Hydropower TCP
- Hans-Petter Fjeldstad, Operating Agent IEA Hydropower TCP Annex XIII; Thomas Schleker, European Commission, Policy Officer DG RTD G.3: Introduction to the workshop

14.30h

Session 1 - The EU Water Framework Directive- the Legislative Context

Chair: Thomas Schleker – European Commission - DG RTD G.3

- Raimund Mair, European Commission, Policy Officer, DG ENV: *Environmental requirements in relation to hydropower in the context of the WFD*
- Christina Pantazi, European Commission, Policy Officer, DG ENV: *Hydropower and Natura 2000*
- Henrik Dam, European Commission, Policy Officer, DG ENER: *Hydropower in the context of the Renewable Energy Directive and the package Clean Energy for All Europeans*

15.10h **Coffee break**

15.40h **Session 2 - The EU Water Framework Directive -National legislations and implementation**

Chair: Hans-Petter Fjeldstad - IEA Hydropower TCP Annex XIII

- Veronika Koller-Kreimel, Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management, Deputy Head of Department: *Strategic planning approach for hydropower development in Austria*
- Jukka Muotka, Fortum/Eurelectric, Senior Adviser: *Implementation of the EU WFD in Finland*
- Steffen Schweizer, KWO, Head of Department: *Implementation of the Swiss regulatory context from an operator perspective*
- Roy Langåker, Norwegian Environment Agency, Senior Adviser: *The implementation of the WFD in Norway*
- Andrea Casolaro, ENEL, Head of Safety and Water Management at Business Unit Hydro Piemonte: *Hydropower in Enel and implementation of WFD in Italy*

17.20h **Session 3 - Hydropower and Fish in the context of Research and Innovation**

Chair: Irene Bonvissuto – European Commission – DG RTD G.3

- Piotr Tulej, European Commission, Head of Unit DG RTD G.3: *The Horizon 2020 Energy Work Programme on Hydropower in the context of Energy Union, SET-Plan and ACEI*
- Hans-Petter Fjeldstad, Operating Agent IEA Hydropower TCP Annex XIII Hydropower and Fish: *Hydropower and Fish*
- Panagiotis Balabanis, European Commission, Deputy Head of Unit DG RTD I2: *Research on Hydropower and Fish in the WP on Climate action, environment, resource efficiency and raw materials*

18:30h **Networking event**

Tuesday 30th of May – 08:30h

08.00h **Coffee and viennoiserie**

08.30h **Session 4 - Hydropower, Fish Technology**

Chair: Martina Bussetini - ISPRA - Italian National Institute for Environmental Protection and Research

- Peter Rutschmann, Technical University of Munich, Professor: *Hydropower and Fish in the project FITHydro (Horizon 2020)*
- Matthias Schneider, SJE Ecohydraulic Engineering GmbH, Executive Director: *New approaches to assess upstream and downstream migration of fish - integrating field survey and modelling*
- François Avellan, EPFL Laboratory for Hydraulic Machineries, Professor: *HYdropower plants PERformance and flexiBle Operation towards Lean integration of new renewable Energies: the HYPERBOLE Project.*
- Harald Rosenthal, World Sturgeon Conservation Society, Acting President, Professor Emeritus: *Hydropower and river connectivity: are win-win scenarios possible considering large migratory species?"*
- Franz Greimel, BOKU University of Natural Resources and Life Sciences, Scientific Assistant: *Mitigation of hydropower impacts on fish - the Austrian Hydro Peaking approach*

10.15 – 10.35h **Coffee break**

10.35h **Session 5 - Fish habitat in regulated rivers**

Chair: Peter Rutschmann - Technical University of Munich

- Gerd Frik, VERBUND Hydro Power GmbH, Head of Department: *Existing hydropower facilities: Strategic planning for ecological restoration*
- Georg Loy, VBEW Working group Hydro, Project Manager: *Integrative Approach to Combine Connectivity, River Restoration, Sediment Managment, Spawning Grounds, Fish Habitats and the Interaction River Oxbow*
- Christian Haas, IAmHydro GmbH, Managing Director: *Unmanned Aerial Systems (UAS) - New opportunities for measuring, mapping and modelling rivers and lakes*
- Jörg Freyhof, IGB Institute of Freshwater Ecology and Inland Fisheries, Scientist: *Fish habitats in regulated rivers – relevance for hydropower development*
- Helmut Habersack, BoKu – University of Natural Resources and Life Sciences Vienna, University Professor: *SedNet - The Effective River Basin Management Needs to Include Sediment*

12.15h – 13.15h

Lunch

13.15h

Session 6 – Migration and River connectivity

Chair: Atle Harby - SINTEF Energy

- Willem Schreurs, International Meuse Commission, Secretary General: *Master plan for Migratory Fish in the Meuse basin*
- Martin Wilkes, Coventry University, Research Fellow: *FISH-Net: Prior probabilities to support sustainable hydropower planning, design and monitoring*
- Hans-Petter Fjeldstad, SINTEF, Research Scientist: *The Mandal Project - Efficient two- way fish migration past hydropower plants in Norway*
- Piotr Parasiewicz, S. Sakowicz Inland Fisheries Institute, Associate Professor: *Defining impacts of dams on fish migration and habitat connectivity in AMBER project*

14.40h – 15.00h

Coffee break

15.00h

Session 7 - Energy and ecology

Chair: Gerd Frik - VERBUND Hydro Power GmbH

- Atle Harby, SINTEF Energy Research, Senior Research Scientist: *Environmental design of hydropower to meet requirements in the EU Water Framework Directive*
- Martina Bussetti, ISPRA - Italian National Institute for Environmental Protection and Research, Head of Area: *A process-based hydro-morphological assessment*
- Isabel Boavida, CERIS - Civil Engineering Research and Innovation for Sustainability, University of Lisbon, Researcher: *Structural mitigation measures for hydro peaking downstream hydropower dams*
- Peter Matt & Markus Pleger, Engineering Services Vorarlberger Illwerke AG, Area Manager & Technical Planning and Operational Coordination: *Hydropeaking Mitigation Measures – Significant Impacts on Use*
- Agnar Aas, Statkraft, Head Advisor: *Implementation of the WFD – long term operation of our flexible hydro power; balancing between environmental improvements and the need for more renewable energy, flexible operations and flood control*
- Angelo Salsi, European Commission, Head of Unit, EASME: *Hydropower impact on fish movement: how can the LIFE programme help?*

17.00h

Panel Discussion

Open questions to Research and Innovation in the context of implementation of the WFD

Moderator: Thomas Schleker – European Commission DG RTD G.3

- Veronika Koller-Kreimel, Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management, Deputy Head of Department
- Willem Schreurs, International Meuse Commission, Secretary General
- Jukka Muotka, Eurelectric/Fortum, Senior Advisor
- Harald Rosenthal, World Sturgeon Conservation Society, President, Professor Emeritus
- Isabel Boavida, CERIS - Civil Engineering Research and Innovation for Sustainability University of Lisbon, Researcher

18.15h

Wrap-up and conclusions

- Hans-Petter Fjeldstad, Operating Agent IEA Hydropower TCP Annex XIII

Wednesday 31st of May 09:00h-14:00h

Field visit tour to Ham HPP on the Albert canal

- 09:00h Departure from Brussels by bus
- 10:15h Arrival at HPP Ham - coffee
- 10:30h Presentation of the HPP and pumping station of Ham in the Albert canal - Werner Dirckx (De Vlaamse Waterweg)
- 11:00h Effect of the HPP and pumping station of Ham on the fish populations in the Albert canal - Johan Coeck (INBO)
- 11:30h Archimedes screws in hydropower production – Franz Greimel (BOKU)
- 12:00h Guided visit to the HPP Ham - Werner Dirckx (De Vlaamse Waterweg)
- 13:00h End of the visit and return to Brussels