Hydropower & EU Nature legislation

19 September 2018 – Conference on renewable energy developments and the EU Nature legislation – Brussels, Belgium
INDEX

I. Eurelectric Vision and Key Focus
II. Hydropower’s contribution to a successful energy transition
III. Hydropower and Natura 2000
IV. Eurelectric’s feedback to the EC guidance document
   i. General remarks
   ii. Hydropower and other water uses
   iii. Planning and approval processes
Our vision
The European electricity sector believes that a cost-effective decarbonization is crucial

“...to become carbon neutral well before mid-century.”
Eurelectric designed 3 deep EU decarbonization scenarios

2015 - Baseline

2050 scenarios

Scenario 1
~80%

Scenario 2
~90%

Scenario 3
~95%

EU economy decarbonization achieved vs. 1990
1. Emissions out of scope are expected to contribute proportionally to the decarbonization effort required in each scenario.
2. Decarbonization will be different by sector depending on relative costs and available technologies, industry contributing least with below 80% of emission reduction in all scenarios.

Driving towards full EU economy decarbonization

4 underlying pre-requisites and drivers per scenario:
level of ambition, technology development, consumer behavior and regulation.
Hydropower’s contribution to a successful energy transition

Hydropower is a key technology towards a decarbonized energy system

Hydropower is...

- a cost efficient source of low carbon energy
- a renewable provider of all system services
- a provider of multiple benefits
Hydropower Fact Sheets

Hydropower is...

- Providing flexibility and storage electricity system
- Enhancing EU security of supply and system stability
- Contributing to Europe's economy and innovation
- More than power generation
- A reliable and sustainable partner to tackle climate change
- At the heart of the renewable energy transition
- The most efficient power generation technology

& additional leaflet on facts and data of hydropower in the EU

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Shares of renewable electricity generation in the EU-28 in 2015 (in TWh)

- 178 TWh, hydropower, 18.0%
- 341 TWh, photovoltaics, 11.5%
- 302 TWh, wind, 32.3%
- 108 TWh, biofuels and other, 11.8%
- 7 TWh, geothermal, 0.7%

Total: 936 TWh

EUROSTAT 2017 - Supply, transformation and consumption of electricity - annual data [rg_105a:15_107038, 15_107037], data basis 2015

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Historical and projected net electricity generation in the EU-28

EU Reference Scenario 2016, based on PRIMES, GAINS

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Hydropower and Natura 2000

Hydropower – Europe’s Rivers

- thorough understanding needed
- case-by-case approach necessary
Hydropower and Natura 2000

EC guidance document on the requirements for hydropower in relation to EU Nature legislation

- General principles and requirements for hydropower in relation to Natura 2000 sites
  - Good practice
  - Linking strategic planning
General remarks
Eurelectric’s feedback to the EC guidance document

It is crucial that new projects, improvements, or maintenance measures are treated differently regarding their possible impacts to Natura 2000 areas.
Hydropower and other water uses
Eurelectric’s feedback to the EC guidance document

Hydropower generation accounts for less than 50% of river and habitat continuity interruptions in the Danube River Basin District.
Planning and approval processes
Eurelectric’s feedback to the EC guidance document

Field surveys and monitoring programmes as well as public participation can cause significant delays to the planning process and incur additional costs.
Example: Pumped storage power plant Atdorf, Germany
1,400 MW - 13 GWh

Planning period:
- 2008-2017

Estimated investment:
- 1.6 billion EUR

Stopped:
- profitability
- legal obstacles

Investigations for nature conservation:
- 7 years
- 21 mio. EUR

→ compatibility with Natura 2000?
Thank you very much for your attention!

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