



Hydropower as a catalyst and facilitator for the clean, safe and independent energy transition in Europe

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www.hydropower-europe.eu

Hydropower at the source of the development of Europe in the last century

Advantages of hydropower

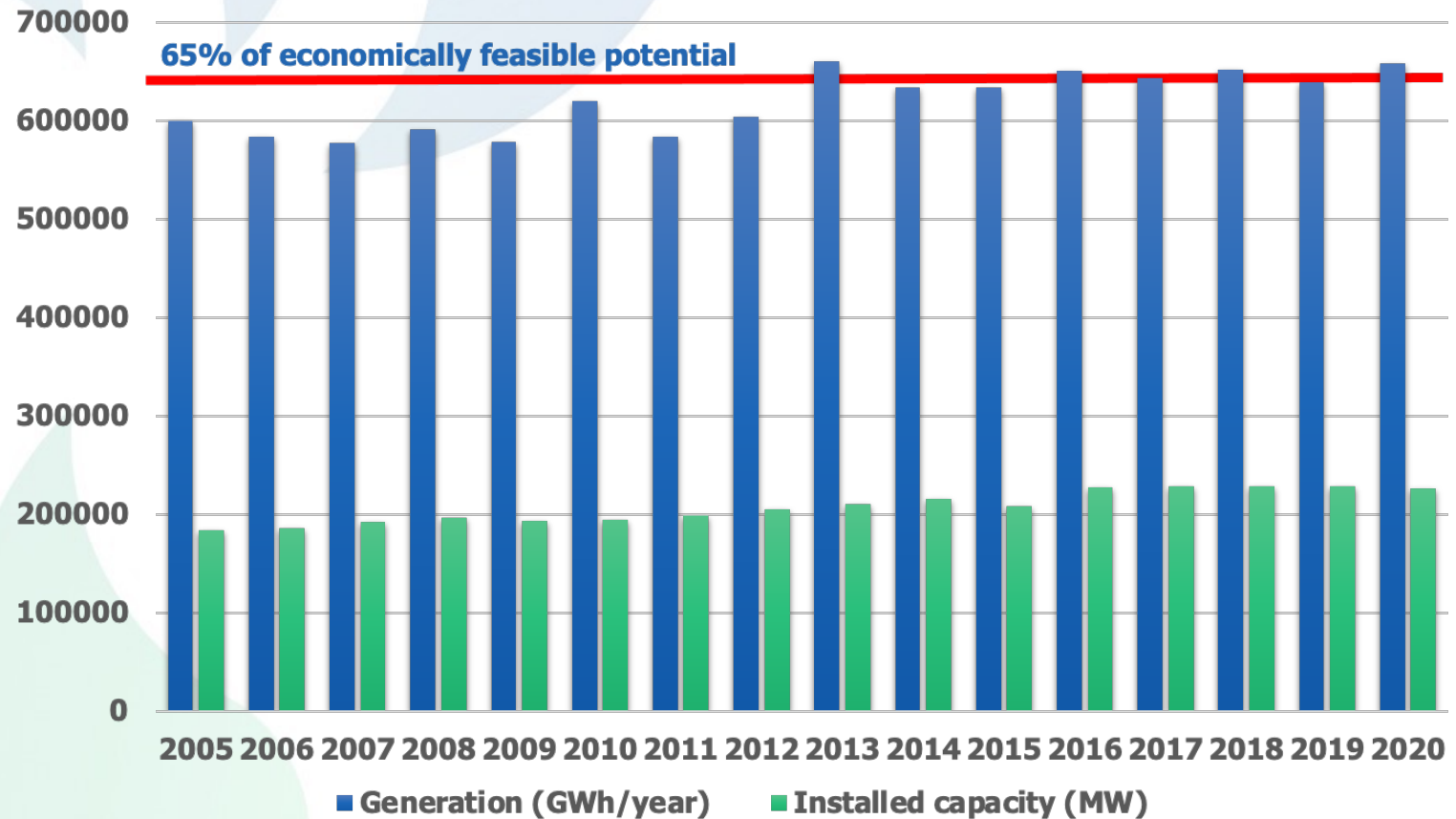
- **Renewable energy without direct and very low indirect emission of CO₂, excellent energy gain or pay back factor**
- **Excellent efficiency, production can be easily adapted to the demand (flexible peak energy)**
- **In-country energy creating jobs and financial resources in remote areas (taxes and concession fees)**
- **Improvement of infrastructures and touristic attractiveness**
- **Strong contribution to flood and drought protection**



Thissavros Dam, Greece, 172 m

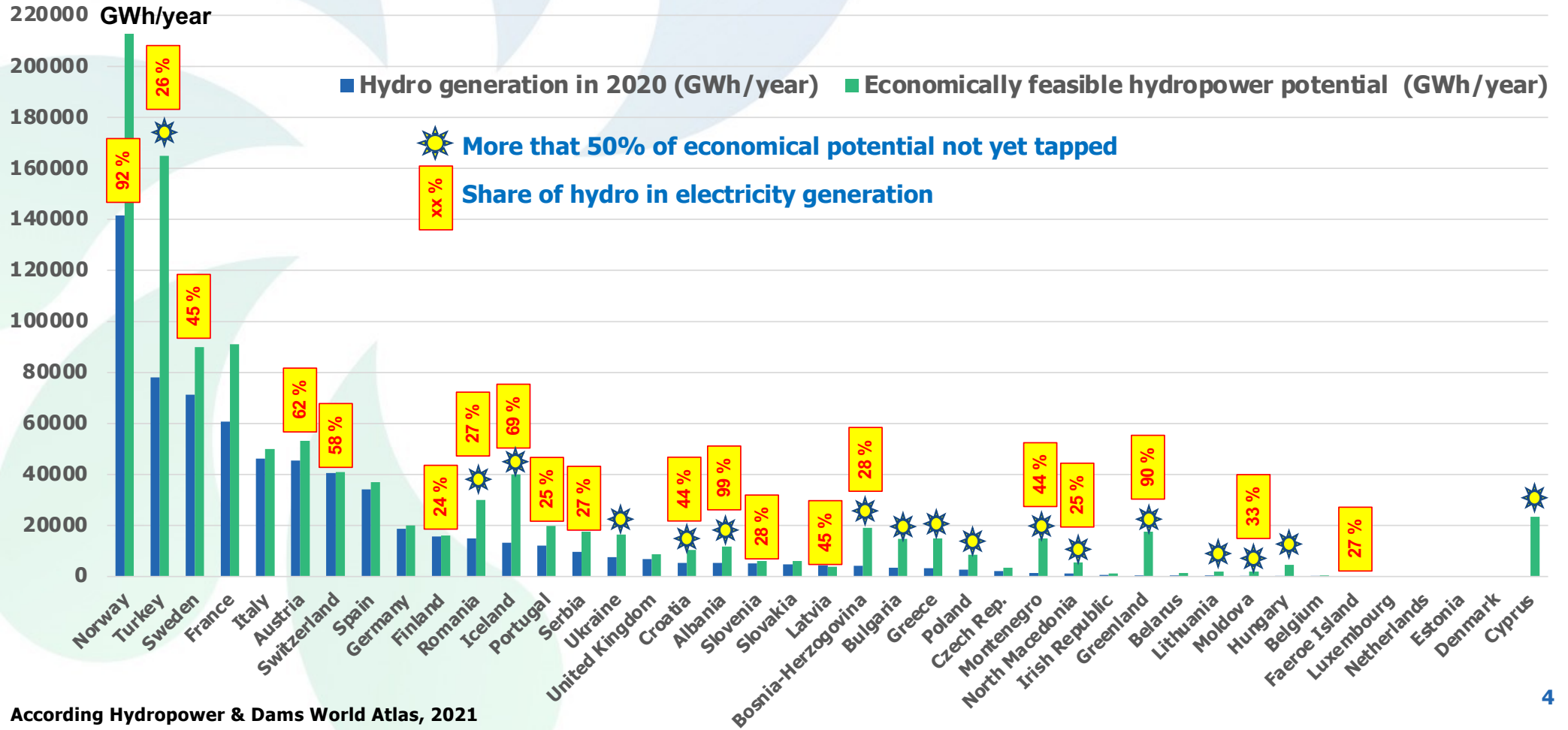
Hydropower at the source of the development of Europe in the last century

Situation of
Hydropower
in Europe
(with Turkey)



According Hydropower & Dams World Atlas 2021

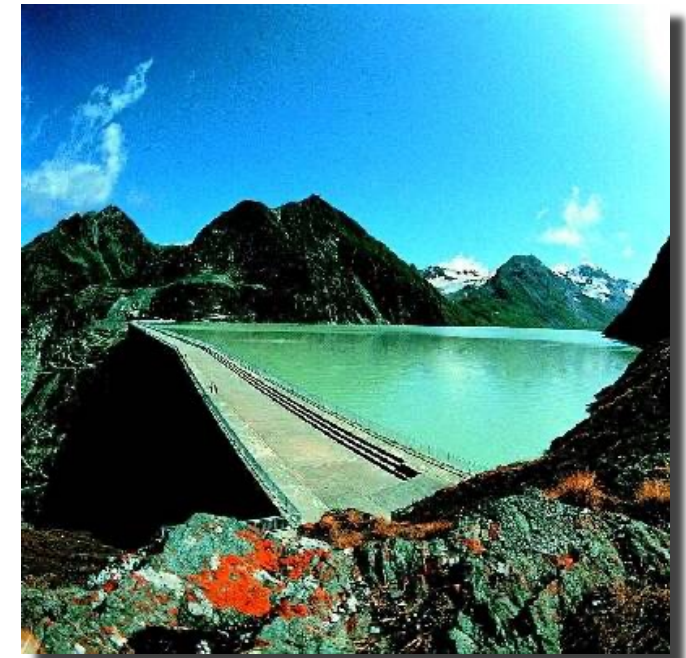
Generation and Potential of Hydropower in Europe



According Hydropower & Dams World Atlas, 2021

Actual difficulties and challenges for hydropower in Europe

- **Hydropower's excellent role as system storage and flexibility needs to be acknowledged and prioritized by policy makers.**
- **Environmental standards and sustainability criteria are high representing a significant part of investments**
- **Markets rules need to be adapted to remunerate flexibility services and storage in a fair way.**
- **The procedures of environmental clearances for obtaining construction permits must be bundled to reduce approval time**
- **Energy tariffs for flexible storage should be ensured over some 20 years to attract investors.**



Grande Dixence (285m), Switzerland



H2020 objectives for Hydropower: Hydropower Europe Forum

➤ **ICOLD Leader**

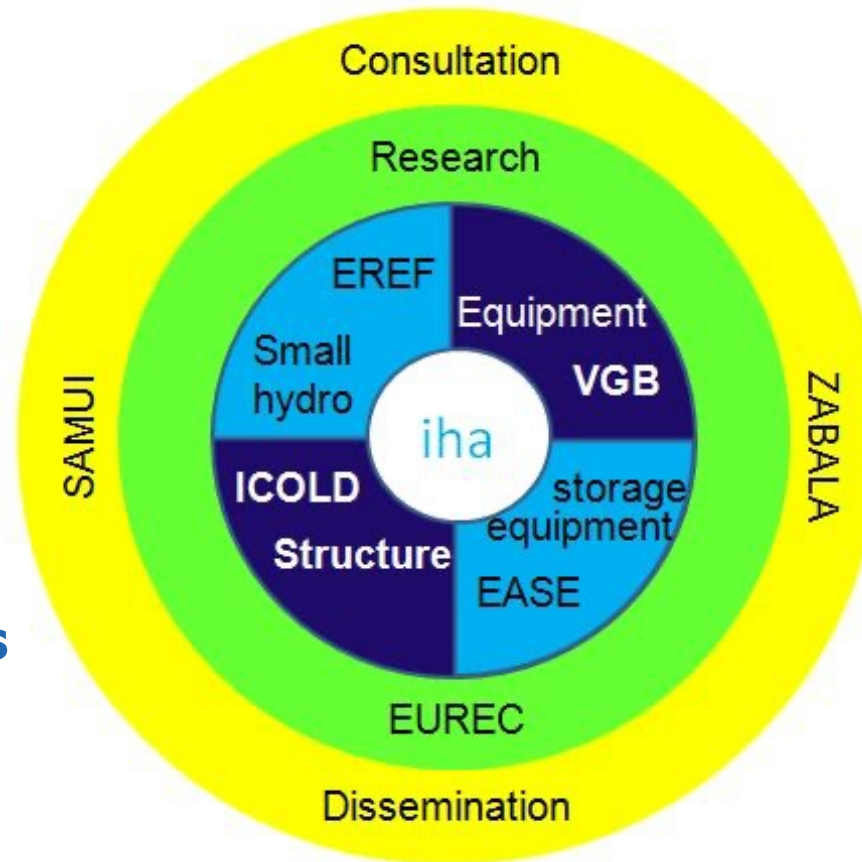


➤ **Coordinators:**

- Jean Jaques Fry
- Anton J. Schleiss

➤ **+ 7 core partners**

➤ **+ 5 third linked Parties**



EASE - European Association for Storage of Energy

EREF - European Renewable Energies Federation

EUREC - Association of European Renewable Energy Research

ICOLD - International Commission on Large Dams

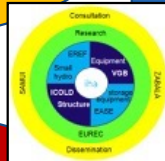
IHA – International Hydropower Association

VGB - International Technical Association for Generation and Storage of Power and Heat

The outcomes of the Forum

R&I
Priorities

Barriers



RIA
Recommandations
18 Research Themes – 80 topics

SIR
Steps to new hydro deployment
11 Strategic Direction – 40 Detailed Actions



630 registered on consultation platform - 185 participants in the second on line consultation

Building the Research and Innovation Agenda and the Strategic Industry Roadmap

➤ Perceptions, views and expectations of the hydropower sector through a wide consultation process were synthesized in 3 outputs :

- **1 – SWOT ANALYSIS**
- **2 – GLOBAL SYSTEM ANALYSIS**
- **3 – PRIORITISATION of Research Themes and Strategic Actions**



Hydropower has all the required characteristics to play an important role as a **catalyst** for the **safe energy transition** in Europe and worldwide



ETIP HYDROPOWER EUROPE
Promoting future hydro in Europe

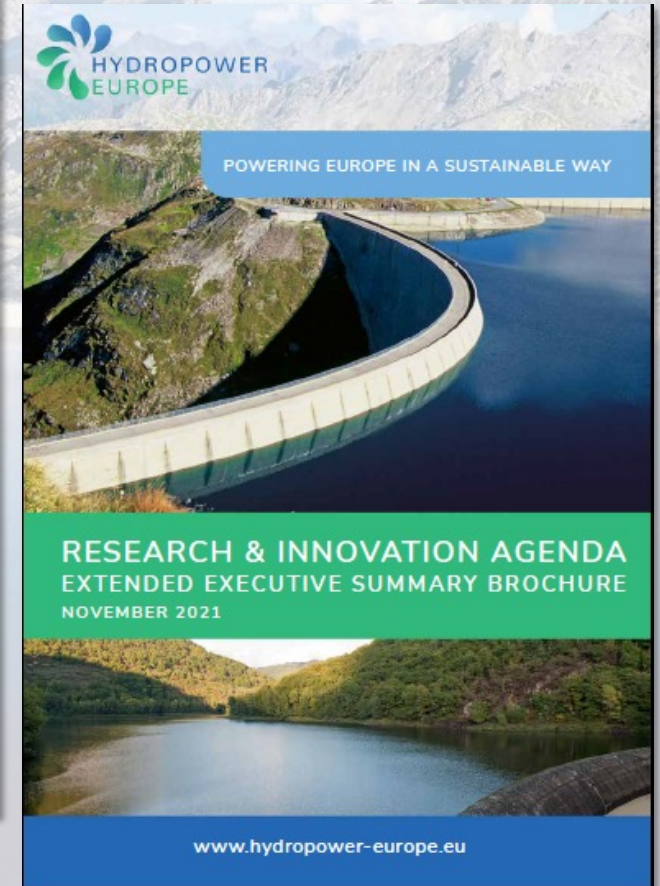
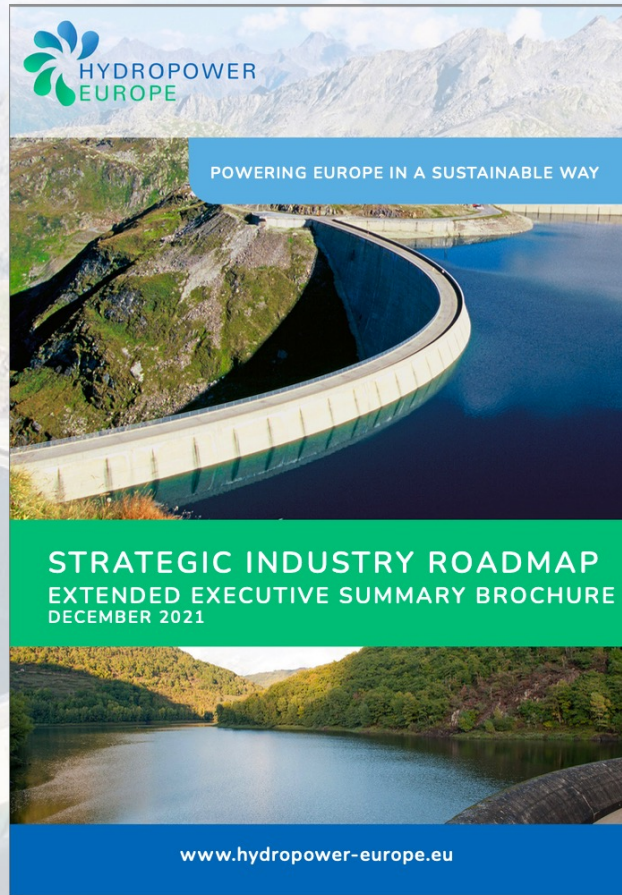


Full reports and summary brochures available at <https://hydropower-europe.eu>

and see Youtube

[https://youtu.be/Kwccf0](https://youtu.be/Kwccf0ZESx0)

ZESx0



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