

Open letter: NGO reply to the European Commission on the role of hydropower in the deployment of renewable energies in Europe

Lukasz KOLINSKI
Head of Unit C.1 - Renewables and Energy System Integration Policy
Directorate C Green Transition and Energy System Integration
Directorate-General for Environment
European Commission

Brussels, 20 October 2023

Re: Reply to the European Commission letter of 4 May 2023 on the role of hydropower in the deployment of renewable energies in Europe as an open letter signed by 100 NGOs.

Dear Mr Kolinski,

Thank you for your letter of 4 May 2023, replying to our NGO letter of 6 February 2023 to Executive Vice-President Timmermans on the role of hydropower in the deployment of renewable energies in the European Union. For the sake of transparency and on behalf of 100 NGOs, we are making this reply an open letter as a reaction to some of the points raised in your letter on the hydropower potential in Europe and its environmental impacts.

First, you mentioned that hydropower plants will have an increasing role to play to provide balancing and/or ancillary services to the grid and back-up variable renewable energy sources. However, such ancillary services or back-up can only be provided to a significant extent by large hydropower plants. In Europe, a large majority of the planned hydropower capacity is small plants - 93% of planned projects have a capacity <10 MW and 60% below 1 MW. Therefore they are unable to significantly back up variable renewables. On the contrary, the smallest run-of-river hydropower plants are subject to seasonal river flows, thus they operate as an intermittent energy source. Many of those planned small plants are in protected areas.¹

Building new storage and pumped storage power plants where two reservoirs do not already exist is likely to cause irreversible damage to rivers, due to landscape change and hydropeaking.²

Second, we agree that several pieces of environmental law oblige hydropower developers to evaluate the costs and benefits of their projects for society, and in particular to make sure that projects can only lead to a deterioration in the water status in exceptional circumstances and if

¹ EuroNatur, GEOTA, RiverWatch, WWF, [Hydropower pressure on European rivers: The story in numbers](#), 2019, page 19.

² For instance: planned storage plant on the Dniester (Moldova-Ukraine border); planned extension of [Kaunertal storage plant](#) (Austria).

specific conditions are fulfilled (Article 4(7) of the Water Framework Directive). However, NGOs have repeatedly reported cases where those conditions were either not checked, or bypassed.³ This is despite the confirmation given by the EU Court of Justice that any authorisation given by the national competent authority without checking that the conditions of Article 4(7) of the Water Framework Directive are fulfilled is unlawful.⁴

In particular, article 4(7) (a) requiring that “all practicable steps are taken to mitigate the adverse impact on the status of the body of water” is hardly implemented. Research shows that 22% of all fish passing hydropower plants suffer from lethal injuries and kills in turbines, because of inadequate protective devices and lack of safe downstream migration routes at hydropower plants.⁵ Several turbines in different locations in the same river can reduce the passing of some fish species to zero or close to zero. The mortality rate is generally higher for critically endangered eels because of their length. One reason for the huge implementation gap is that environmental impact assessments are often elaborated by engineering companies which depend economically on hydropower projects to be realised.

Third, even when fish-friendly turbines and fish ladders are installed at hydropower plants, such devices have limited efficiency and do not always qualify as appropriate mitigation measures. Mitigation measures such as fish passes are not standardised, and even when some measures are implemented, they will likely focus on a limited number of species rather than encompass the needs of a larger array of species to enable upstream and downstream migration, while measures targeting larger fishes (such as sturgeons) tend to be costlier and thus rarer. For instance, a recent publication shows that most adult riverine fish may actually pass through the best fish protection grids installed so far (with 15 or 20 mm bar spacing), supposed to protect them from turbine entrainment.⁶ Likewise, nature-like by-pass channels are usually more efficient than fish ladders when appropriately designed (i.e. with sufficient flow / steepness / etc.)⁷, but they remain rare. Despite mitigation measures, migratory fish species (long-distance or only migrating within river systems) can suffer from the cumulative effects of several hydropower installations.

Therefore, while we agree that hydropower plants represent a small share of all river barriers in Europe, hydropower barriers, even those with mitigation measures, have a much higher environmental impact than other obstacles due to the specific fish-killing effect of hydropower turbines and infrastructure, and due to hydropeaking causing declines in fish, insect and plant populations as well as alterations in sediment dynamics.⁸ In regions where hydropower development has been strong, hydropower barriers actually constitute a very significant share of all barriers, such as in Bavaria which is home to 50% of German hydropower plants.⁹

³ For instance, the [Tumpen-Habichen](#) project in Austria.

⁴ ECJ ruling C-529/15 of 1 June 2017, paragraph 38.

⁵ Radinger, J., van Treeck, R. & Wolter, C. (2022) [Evident but context-dependent mortality of fish passing hydroelectric turbines](#). Conservation Biology, online early. doi: 10.1111/cobi.13870

⁶ Knott, Josef et. al., [Bigger than expected: Species- and size-specific passage of fish through hydropower screens](#), Ecological Engineering, January 2023, DOI:10.1016/j.ecoleng.2022.106883

⁷ WWF, [Hydropower in Europe: Transformation, not development](#), 2020, pages 12-15.

⁸ R J Batalla et al., [Hydropeaked rivers need attention](#), 2021 Environ. Res. Lett. 16 021001.

⁹ <https://www.lfu.bayern.de/wasser/wasserkraft/ueberblick/index.htm>

Fourth, you wrote that when it comes to flood risks, hydropower plants can also be a source of resilience. In some cases, as e.g. the Upper Rhine, the contrary is true. Hydropower dams actually worsen the consequences of floods as dammed, channelised riverbeds and reservoirs cannot take up excess water in the way a free-flowing river, connected to its floodplain would.

Based on the above, we urge you:

- To ensure that no new hydropower projects in Europe receive EU financing, in particular through the Resilience and Recovery Facility respecting the do-no-significant-harm pledge.
- When reviewing Member States development plans designating renewable acceleration areas, closely monitor that any planned hydropower development is checked against the EU environmental legislation, including Article 4(7) of the Water Framework Directive.

Yours sincerely,

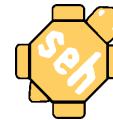




Comitato per lo sviluppo sostenibile dell'Alta Val Brembana **AVB**



EURONATUR



MAMMAL CONSERVATION EUROPE





A Rocha International

AEPIRA - Asociación en defensa del piragüismo y de los usos recreativos del agua

Allier Sauvage

Arnika

Asociația Clubul Sportiv Fly Fishing Extreme

Asociația Fly Fishing Club Sibiu

Asociația Fly Fishing Rarau

Asociația Grupul Pescarilor Sportivi Orădeni

Asociația Pescarilor Sportivi Aqua Crisius

Asociația Pescarilor Sportivi Bega Poieni

Asociația Sportiva Fly Fishing Bistrita

Association Agréée des Pêcheurs Professionnels en eau douce du Bassin Loire-Bretagne

Association of Environmental Journalists and Ecological Tourism from Republic of Moldova

Association of Tourism Development in Moldova

Association Protectrice du Saumon pour le bassin Loire-Allier

Balkan River Defence

Balkanka Association

Baltic Environmental Forum Group

Buglife – The Invertebrate Conservation Trust

Bund für Umwelt und Naturschutz Deutschland e.V. (BUND) – Friends of the Earth Germany

BUND Naturschutz in Bayern

Carpatica Fly Fishing

CEEweb for Biodiversity
Centar za životnu sredinu
Center for Protection and Research of Birds of Montenegro
Center for Research and Information for the Environment Eko-svest
CIREF - Iberian Centre for River Restoration
CIRF - Italian Centre for River Restoration
Coalition Clean Baltic
Comitato per lo sviluppo sostenibile dell'Alta Val Brembana
Commission Internationale pour la Protection des Alpes - CIPRA
COORDINAMENTO NAZIONALE TUTELA FIUMI - FREE RIVERS ITALIA
Croatian Biospeleological Society
Danmarks Naturfredningsforening
DÉFENSE DES MILIEUX AQUATIQUES
Deutscher Angelfischerverband e.V.
Eco-Razeni Association, Republic of Moldova
Eco-Tiras International Association of River Keepers
EcoContact /Aarhus Centre for Environmental Information and Consultation
Ecological Association Rzav
Environmental Protection Public Association, Republic of Moldova
European Environmental Bureau – EEB
EuroNatur
European Anglers Alliance
European Cave Protection Commission
European Herpetological Society - Societas Europaea Herpetologica
European Rivers Network
Federația Coaliția Natura 2000 România
Fédération Auvergne Nature Environnement
Federatia Română de Pescuit la Muscă Artificială - FRPMA
Fédération SEPANSO Aquitaine
Fédération Spéléologique Européenne asbl.
Federazione Nazionale Pro Natura
Foundation for Education and Development, Moldova
Free Rivers Fund
Fundația Eco-Civica
GEOTA
GRÜNE LIGA e.V.
Habitat
Hellenic Institute of Speleological Research
Herpetološko društvo - Societas herpetologica slovenica
International Rivers
Jägala kalateed MTÜ
Lašišos dienoraštis
Latvijas Dabas Fonds - Latvian fund for nature
Leeway Collective

Let's Do It Peja
Lithuanian Fund for Nature
Living Rivers Foundation
Mammal Conservation Europe
MedINA - Mediterranean Institute for Nature and Anthropos
Montenegrin Ecologists Society
Natuurpunt
Open Rivers Programme
Organizatia Salvati Prutul din Iasi
Österreichisches Kuratorium für Fischerei und Gewässerschutz
Podkarpacie Towarzystwo Przyrodników Wolne Rzeki
Polish Ecological Club
Polish Society for the Protection of Birds - BirdLife Poland
proTEJO - Movement for the Tagus river
Rewilding Europe
Rewilding France
RiverWatch
SHOAL
Societatea Carpatina Ardeleana
Sportfiskarna
Tartu Sportfishing Club
Tetide - Associazione di Promozione Sociale
The Public Association of the Society of Ecotoxicologists from Republic of Moldova ECOTOX
The Speleological Committee of the Croatian Mountaineering Association
Towarzystwo na rzecz Ziemi, Society for the Earth
Umweltdachverband
Verband der deutschen Höhlen- und Karstforscher e.V - German Speleological Federation
WET - Wildwasser erhalten Tirol
Wetlands International Europe
WildFish
World Fish Migration Foundation
World Sturgeon Conservation Society
WWF European Policy Office
Youth Ecological and Security Zone- EcoZ