EREF European Renewable Energies Federation

To
Members of the European Parliament in the ITRE Committee

Request to reject amendments 22 and 107 (RED III)

Brussels, 11 July 2022

Dear MEPs in the ITRE Committee,

We urgently draw your attention to the last-minute amendments 22 and 107 (please see text in annex I) and ask them to reject them when voting on the amendments for the RED III due to two important reasons.

First, any amendments for the reason of biodiversity and nature protection in view of hydropower needs to be followed via the normal legislative procedure under the below-mentioned legal nature protection related acts. It has as no legal place in the RED III.

The issue of sustainability of the use of hydropower and the impact on rivers is already laid down in numerous European and national regulations, such as the Water Framework Directive, the Habitats Directive and the Birds Directive. Sustainability issues are well established in national planning and permitting legislation, which often transposes specific EU nature legislation.

It would be a systemic error, despite existing established environmental and sustainability criteria in EU and national law to directly discriminate against small hydropower via the Renewable Energies Directive which objective is to promote and accelerate the development and deployment of renewable energies. The above-mentioned Directives are lex specialis to regulate questions on the use of water bodies and the influx on water bodies.

The European Commission correctly did not evaluate any nature protection issues on hydropower under its Impact Assessment for the review of the Renewable Energies Directive. Therefore, such serious intervention against renewable energies, in this case on small hydropower, cannot be included as an amendment in the very Directive on the promotion of renewables, the RED III.

The proposed last-minutes amendments would create legal insecurity for the whole legislative act since they have not been evaluated by the Commission's Impact Assessment and since nature and biodiversity in respect to the use of rivers and all waterbodies clearly fall under the discretion of established specialised EU legislation.

Second, if these amendments which falsely accuse small hydropower as being harmful to biodiversity and environmental protection were adopted, they would initiate the end of the European small hydropower sector.

Amendment 22 regards small hydropower plants as a major threat against biodiversity.

Numerous scientists demonstrate the complexity and specific richness of the biodiversity of hydroelectric facilities. For centuries, small hydroelectric plants have established their own ecosystems, known as ecotones. Their reservoirs constitute refuges for biodiversity in the face of climate change, particularly during extreme events (low water levels).

While some argue that "energy-related pressures and hydroelectric facilities are the greatest threat to these important ecosystems", 41% of water bodies in France for example that include a hydroelectric facility are in good or even very good ecological status, and the ecological status of these water bodies deteriorates from upstream to downstream as soon as other anthropogenic pressures are encountered.

The list of scientific articles about small hydropower and the environment in annex II of this letter demonstrates that small hydropower and latest environmental mitigation measures and management practices are compatible with EU environmental goals, especially with regard to a good ecological status of water bodies, ensuring river continuity and fish migration as well as biodiversity protection.

EU stakeholders have invested billions of Euros in upgrading existing plants with environmental mitigation measures, showing their commitment and support to the ecological requirements of the Water Framework Directive and demonstrating that small hydropower and environment go hand in hand.

Almost all small hydropower plants have been equipped with migration devices based on the best available techniques. The "guarantee of a minimum ecological flow, the measures allowing the efficient and effective migration of fish upstream and downstream" (cf. amendment 107) is a reality.

To ensure river continuity and enable up and downstream movement of migratory fish species and breeding, new management systems for existing small hydropower plants stop the plant during the time of fish migration. Releasing water through the gates attracts migratory fish species such as salmon to pass the plant during their up and downstream migration. An example for these measures is the plant Anundsjö in Sweden. This is combined with by-pass mechanisms for fish and sediment such as natural fishways past the plant, fish ladders as well as guaranteeing minimum ecological flows.

Small hydropower plants also create new habitats for rare and precious water plants and waterfowls. With its ditches and dammed water areas small hydropower plants even form diverse and structurally rich additional fish habitats. Small hydropower plants enrich water bodies with oxygen and clean rivers from all sorts of waste floating in the water. One small hydropower plant in Austria for example collects between 7-10 kg of plastic waste monthly.

The recently developed first shaft hydropower plant in Southern Germany allows fish to freely pass over the power plant on their migration downstream as the turbine is concealed in a shaft in the riverbed. Despite these mitigation measures, this small hydropower plants produces electricity for 900 villagers nearby.

In the 27 EU Member states, small hydropower (SHP) plants, defined as less than 10 MW of installed capacity, provide annually 13 million households with electricity from renewable energy and significantly contributes to the EU's decarbonisation by saving CO2 for energy production. In France for example, small hydropower produces 7 TWh per year, which is more than the production of a nuclear reactor.

The role for small hydropower in the new European energy systems goes far beyond the production of renewable electricity. Its increasingly important purpose lies in providing energy system services, flexibility to facilitate the integration of large amounts of variable renewable energy sources (VRE) into electricity grids and local reliability of supply. The multi-purpose functions of small hydropower plants provide protection against floods and help to mitigate droughts. Based on the experience during the war in the Ukraine, small hydropower can supply critical infrastructure with electricity in thousands of bigger and smaller places around EU Member states.

Small hydropower is an increasingly inherent part of combined local renewable energy-based energy and flexibility systems often paired with community power since hydro power is the most traditional community power enabler in Europe. Taking it away from European local communities by these amendments would be a blatant injustice.

In times of urgent needs to decarbonise the EU and to reach greater energy independency from energy imports, Europe needs to use all forms of renewable energy, including small hydropower. And in view of a critical supply-demand balance for the next winters, it is not reasonable to sacrifice such a well-established decentral and sustainable source of renewable energy.

Prof. Dr. Dörte Fouquet
EREF Director

Ghislain Weisrock
Spokesperson of the EREF Small Hydropower Chapter

Annex I

Proposed amendments 22 and 107

Amendment 22, Proposal for a directive, Recital 22 a (new)

Emission reduction and climate neutrality objectives should not come at the expense of biodiversity. According to the European Environmental Agency report on the "State of the Water" the Union's rivers are in bad state with only 44% being in a good or high ecological state. In addition to chemical pollution, "energy-related pressures and hydropower installations" are the biggest threat to these important ecosystems. Moreover, European rivers are thought to be the most fragmented freshwater ecosystems in the world. Small hydropower plants in particular can jeopardise the goal of restoring 25.000 km free flowing rivers laid down in the Biodiversity Strategy. Hydropower's effect on biodiversity has been considerable: since 1970, migratory freshwater fish species have declined by 93 percent. All new hydropower plants should be excluded from the possibility of getting support or counting towards the targets. Furthermore, in order to receive support, existing plants should be able to fulfil a number of requirements: they should, inter alia, be greater than 10 MW and meet the minimum ecological requirements laid down in Union legislation.

Amendment 107, Proposal for a directive, Article 1 – paragraph 1 – point 19 a (new), Directive (EU) 2018/2001
Article 29 b (new), (19a) the following article is inserted:

Sustainability criteria for hydropower plants

For the purposes referred to in points (a), (b) and (c) of the first subparagraph of paragraph 1 of Article 29 energy generated by hydropower shall be produced at a plant which in accordance with Directive 2000/60/EC and in particular Articles 4 and 11 of that Directive has implemented all technically feasible and ecologically relevant mitigation measures to reduce adverse impacts on water as well measures to enhance protected habitats and species directly dependent on water, which include at least the following measures:

- *a) enabling efficient and effective upstream and downstream fish migration*
- *b) contributing to the objectives and measures of the Pan -European Action Plan for Sturgeons, where applicable*
- *c) ensuring minimum ecological flow at all times.*

Hydropower plants that were commissioned after 31 December 2022 shall further comply with the following conditions:

- *a) shall not be located at a site prioritised for a barrier removal to achieve longitudinal connectivity to reach the target of free flowing rivers under the Biodiversity Strategy*
- *b) shall have an installed capacity of 10 MW or greater.*

Annex II

Scientific articles and Publications on small Hydropower and the environment

Bernaś, R., Dębowski, P., Skóra, M., Radtke, G., Morzuch, J., Kapusta, A.: Low mortality rate in silver eels (Anguilla anguilla L.) passing through a small hydropower station. In: Marine and Freshwater Research. 2017, 68, p. 2081-2086. https://www.publish.csiro.au/mf/mf16396 .

Bret, V., Capra, H. et al.: Understanding inter-reach variation in brown trout (Salmo trutta) mortality rates using a hierarchical Bayesian state-space model. In: Canadian Journal of Fisheries and Aquatic Sciences. 2017. 74(10), p. 1612-1627. https://doi.org/10.1139/cjfas-2016-0240 .

Česonienė L, Dapkienė M, Punys P.: Assessment of the Impact of Small Hydropower Plants on the Ecological Status Indicators of Water Bodies: A Case Study in Lithuania. In: *Water.* 2021, 202, 13(4), p. 433. https://doi.org/10.3390/w13040433 .

Deutsche Umwelthilfe: Lebendige Flüsse & Kleine Wasserkraft – Konflikt ohne Lösung?, 2006. https://docplayer.org/14786558-Lebendige-fluesse-kleine-wasserkraft-konflikt-ohne-loesung.html .

Dodd, Jamie R., Cowx, Ian G., et al.: Win, win, win. Low cost baffle fish pass provides improved passage efficiency, reduced passage time and broadened passage flows over a low-head weir. In: Ecological Engineering. 2018, 120, p. 68–75.

Ebel, Guntram, Kehl, Martin, Gluch, Arne: Fortschritte beim Fischschutz und Fisch-abstieg: Inbetriebnahme der Pilot-Wasserkraftanlagen Freyburg und Öblitz, In: Wasserwirtschaft. 2018, 9, p. 54ff.

Eie, Jon Arne: Vannkraft og miljø Resultater fra FoU-programmet Miljøbasert vannføring, 2013. https://publikasjoner.nve.no/rapport/2013/rapport2013_73.pdf .

IEE project report SHERPA: Hydropower and environment. Technical and operational procedures to better integrate small hydropower plants in the environment, 2009.

Johnsen, Geir Helge: Environmental aspects and consequences of recent small-scale hydroelectric power plants in Norway. 10/2021.

Judes, Clarisse, Gouraud, V., Capra, H. et al.: Consistent but secondary influence of hydropeaking on stream fish assemblages in space and time. In: Journal of

Ecohydraulics, 2021, 6, no. 2, p. 157-171.
https://doi.org/10.1080/24705357.2020.1790047

Kasiulis, E., Punys P., Kvaraciejus, A., Dumbrauskas, A., Jurevičius, L.: Small Hydropower in the Baltic States — Current Status and Potential for Future Development. In: *Energies,* 2020, 13(24), p. 6731.
https://doi.org/10.3390/en13246731.

Köhler, Berit, Audun, Ruud: "How are environmental measures realized in European hydropower? A case study of Austria, Sweden and Switzerland". In: Hydrocen Reports, , 02/2019, No. 6, p. 78.

Mathé, Gaspard In: La Nouvelle République, À Éguzon, la ponte des sandres est scrutée, 26. 03.2021. p. 6.

Noonan, Michael J., Grant, James W. A., Jackson, Christopher D.: A quantitative assessment of fish pass efficiency. In: F I SH and F I SHERI E S, 2012, No. 13, p. 450–464.

Marence, Miroslav: Roadmap for Green Small Hydropower. Guidebook for methodological framework for the development of Green Small Hydropower standards and guide for global community, 2017.

Pulg, Ulrich, Stranz, Sebastian: Gassmetning nedstrøms småkraftverk med installert omløpsventil, Rapport nr 109-2015 Gassmetning nedstrøms småkraftverk med installert omløpsventil, 2015.
https://publikasjoner.nve.no/rapport/2015/rapport2015_109.pdf .

Punys, Petras, Dumbrauskas, Antanas, Kasiulis, Egidijus et al.: Flow Regime Changes: From Impounding a Temperate Lowland River to Small Hydropower Operations. In: Energies 2015, 8(7), p. 7478-7501. https://doi.org/10.3390/en8077478 .

Pusch, Martin et al.:Memorandum deutscher Fachwissenschaftler:innen zum politischen Zielkonflikt Klimaschutz versus Biodiversitätsschutz bei der Wasserkraft. 4. November 2021.

Vingerhagen, Samuel, og Kjetil Arne Vaskinn, Sweco Norge AS: Optimalisert drift av omløpsventiler, Rapport nr 83-2017, Optimalisert drift av omløpsventiler, 2018.
https://publikasjoner.nve.no/rapport/2017/rapport2017_83.pdf .

Saltveit, Svein Jakob; Pavels, Henning: Småkraftverk: Tetthet og reproduksjon av ørret på utbygde strekninger med krav om minstevannføring, Rapport nr 31 Tetthet og reproduksjon av ørret på utbygde strekninger med krav om minstevannføring, 2014. https://publikasjoner.nve.no/rapport/2014/rapport2014_31.pdf .

Traebing, K., Theobald, S.: Achievement of Rhithral Fish Faunistc Objectives, Morphology and Continuity. In: Wasserwirtschaft, 2016. 106, p. 28-34.

UK Environment Agency: Cumulative effects of hydropower schemes on fish migration, Report – SC120078, 2015.

Van Looy, Kris, et al.: Disentangling dam impacts in river networks. In: Ecological Indicators, 2014, 37, p. 10 – 20.
https://doi.org/10.1016/j.ecolind.2013.10.006 .

Ripl, W., Systeminstitut Aqua Terra e.V .: Studie zur ökologischen Bewertung von kleinen Wasserkraftanlagen, 2004.

Wallner, Ph.: The influence of migratory obstacles on the ecological status of water bodies in Upper-Austria. Wien 2020. The influence of migratory obstac les on the ecological status of water bodies in Upper-Austria - BOK - Universität für Bodenkultur (boku.ac.at) .

Weilrod, Max Friedrich: Wasserkraftwerk Lollar, Altbewährte Maschinentechnik in neuem Kleid. In: Wasserkraft & Energie. 01/2021, p. 23 – 27.

Weiß, A.; Arndt,C. Das Potenzial naturnaher Triebwerkskanäle als eigenständiger Biotoptyp. In: Wasserwirtschaft, 7-8/2017, p. 61-68.

The World Bank, Social Development Department, Enhancing Development Benefits to Local Communities from Hydropower Projects. A Literature Review. May 2009.