

Comments of the Fundación Nueva Cultura del Agua (FNCA, New Water Culture Foundation) to the consultation on the draft revised Climate, Energy and Environmental Aid Guidelines (CEEAG) - on hydropower

We consider that **new hydropower facilities should not be eligible to state aid**. On the contrary, State aid should be limited to the **refurbishment or dismantling of existing hydropower facilities**, in line with environmental requirements and with the objective of restoring 25.000 km of free-flowing river sections that actually support cross barriers, particularly dams, including hydropower facilities. Moreover, building new dams is **incompatible with the achievement of a good status of water bodies** by 2027, as required under the Water Framework Directive (WFD).

Among other impacts, hydropower plants and associated reservoir and dams, modify natural hydrological regimes, the temperature of the water downstream, act as barriers to fish migration, trap sediments, homogenize the river habitat and favor the settlement and development of invasive alien species. (See for example, among many others, Bratrich et al., 2004; Friedl y Wüest, 2002; Pringle, 2001; Graf, 2001; Bunn and Artinton, 2002; Ladrera et al., 2013). **All of these impacts contributes to the accelerated loss of river biodiversity**, one of those that is **being lost at the fastest rate**.

Also, there should be no feed-in tariffs for existing micro-hydropower plants (capacity <10 MW), since such facilities generate negligible electricity production but cause very high negative environmental impacts. In Spain, they represent 89% of all existing installations (about 1,200 of a total around 1,350 hydroelectric plants), but they contribute only 12% of the total annual hydropower production. **Mini-power plants frequently cause comparatively greater damage than large hydroelectric plants, since to generate reduced amounts of energy they often deeply alter small rivers with a high ecological value and environmental functionality** (Munné et al, 2009; Rodríguez y Brufao, 2011).

Moreover, according to the EEB/CAN Europe Paris Agreement Compatible Energy scenario, **the share of hydropower in Europe's electricity generation is expected to decrease** from the current 10% to 4-6% after 2035, partly as a result of the impacts of climate change, partly because of the obligations imposed by the environmental legislation. Regarding climate change in the case of Spain, studies carried out in different power plants of the Guadalquivir basin point to **decreases in production** by the end of the century between 11 and 44%, according to the different climate change scenarios, which in some cases would mean their economic unsustainability (Solaun and Cerdá, 2016). Overall in Spain, there is an **installed capacity that doubles the maximum electricity demand**. Specifically, in 2017 there

was around 100,000 MW of installed power, compared to a maximum electricity demand that, until 2017, reached its historical maximum in December 2007, with about 45,450 MW (Ecologistas en Acción, 2017).

The reference to the Water Framework Directive (WFD) in the 2014-2020 EEAG (paragraph 117) is not enough to ensure that hydropower installations do not induce deterioration of the water status, and do not jeopardise existing river restoration efforts. In many cases, efforts of plant operators to comply with the WFD is limited to the installation of basic fish passes that have **extremely limited efficiency** and do not significantly reduce fish mortality, let alone limit the destruction of habitats, sediment and ecological flows. Cases of hydropower plants receiving tariffs or premiums despite breaching the WFD article 4(7) have been reported in several countries.

In short, **hydropower plants have dramatic impacts on freshwater biodiversity** as they hamper fish migration and breeding, disturb ecological flow, damage habitats, and alter sediment transport. **Measures to mitigate** the negative impacts of hydropower plants on biodiversity only have **very limited efficiency**, so investing in this kind of measures can only marginally reduce adverse impacts on ecosystems. Because of that, **more than 150 NGOs have signed a manifesto calling on the EU institutions to phase out all public finance for new hydropower development projects.**

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