Water consumption from hydropower production: review of published estimates

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Abstract This paper presents an extensive review of all known published literature on water consumption from hydropower plants. The paper documents that the estimates show a large variation, from close to zero m³/MWh to more than 3500 m³/MWh, where the maximum values are far beyond the values published by IPCC (2011). The highest values are from irrigation reservoirs with very limited hydropower production. The review reveals that there is no consistent methodological approach in place, which is a major obstacle in making a fair comparison between hydropower projects, and ultimately between technologies.

Key words energy water nexus; hydropower; water consumption; water footprint; review of estimates