g-res tool
assessing ghg emissions from reservoirs

G-RES TOOL VALIDATION REPORT #3.002149
Nam Gnouang and Theun Hinboun complex

The G-res tool is a web-based tool that allows hydropower companies, investors, consultants, decision-makers and other stakeholders to more accurately report on the net impact on GHG emissions resulting from the introduction of a reservoir in a landscape, whether for an existing or planned reservoir.

The G-res tool accounts for pre-impoundment GHG emissions, post-impoundment GHG emissions, unrelated anthropogenic sources (UAS) emissions, along with the temporal evolution of emissions over the lifetime (100yrs) of the reservoir, the emissions from the construction phase, and the allocation of GHG emissions to hydropower and any other services provided by the reservoir.

RESERVOIR CHARACTERISTICS

G-res ID	Name	Climate	Reservoir Area (km^2)	Net GHG Footprint ($gCO2e/m2/yr$)
3.002149	Nam Gnouang	Tropical	107	653 (582-734)
	Theun Hinboun	Tropical	8	576 (513-648)

HYDROPOWER ASSESSMENT

	Installed Capacity (MW)	Annual Mean Generation (GWh/yr)	Power Density (W/m^2)	Allocated Emissions Intensity (gCO_2e/kWh)	Service Allocation
Nam Gnouang	60	231	0.6	301.4 (270-337)	Flood Control Fisheries Irrigation Navigation Environmental Flow Recreation Water Supply Hydroelectricity = 100%
Theun Hinboun	440	3,210	55	1.4 (1 – 2)	

Nam Gnouang/Theun Hinboun complex

Allocated Emissions Intensity: 21.6 gCO2e/kWh

*See G-res Tool assessment report for detailed input values and results.

iha international hydropower association

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