

## Background

Freshwater reservoirs are used to regulate flow for water supply, irrigation, navigation and hydropower. The surface areas of these water bodies and several flux rate measurements indicate the emission of carbon dioxide and methane are relevant to the inventories of the greenhouse gas fluxes, but there is insufficient information and tools to support sound decisions about existing and new reservoirs and the possible mitigation measures.

To quantify the net greenhouse gas (GHG) emission from a reservoir, it is necessary to study emissions before and after the construction of the reservoir, as well as emission due to unrelated anthropogenic sources (UAS). The difference between pre- and post-reservoir emission from the whole river basin, subtracting the UAS, will be the true net GHG emission.

## Method

The pre- and post-impoundment emission of GHG from hydropower measured by SINTEF Energi in reservoirs in (Follsjøen) Norway, (Banje) Albania and (Nam Grouang) Laos was analysed using G-Res Tool developed by IHA. Also, GHG emissions from Norwegian Reservoirs their average, mean, median and maximum values was calculated and compared with other sources of energy.

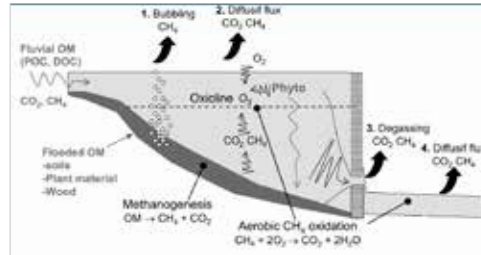


Fig. Green house gas fluxes  
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**Greenhouse gas  
emissions from  
freshwater reservoirs**

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