



**Master thesis topic: Life cycle assessment of water based transport**

The topic of this thesis is to update and extend the available Life Cycle Inventory (LCI) of water based transport activities in the ecoinvent database ([www.ecoinvent.org](http://www.ecoinvent.org)). The main task of this master thesis is the compilation of new LCI data for current and future technologies for freight (more important) and passenger (less important) transport on rivers and the ocean. Based on the new LCI data, the environmental performance of these transport activities will be assessed and compared against alternative transport modes (lorries, trains and aircrafts). The new LCI data shall be submitted to the ecoinvent database, which guarantees high data quality due to independent peer-review.

New LCI data should include the most important goods shipped (bulk material, oil, LNG, containers, food/agricultural commodities) and freighter ship technologies with current and potential future fuels and propulsion systems. Current and future emission control technologies need to be included. If appropriate, the inventory data will be differentiated according to geographical scope.

The thesis is to be performed within the Technology Assessment group in the Laboratory for Energy Systems Analysis and the Paul Scherrer Institute in Villigen, Switzerland. This thesis is part of the SCCER Mobility.

Interested students are encouraged to contact Brian Cox\* for more information. Please include a short academic background on yourself including study programme, course list, and current grades.

\*More information:

Email: [brian.cox@psi.ch](mailto:brian.cox@psi.ch)

PSI group webpage: [www.psi.ch/ta/](http://www.psi.ch/ta/)

SCCER Mobility project webpage: [www.sccer-mobility.ch/](http://www.sccer-mobility.ch/)