

## Master or semester project

### **Analyzing the Influence of Environmental Assessment Methods on Transition Policies in the Lake Geneva Region**

**Research context:** Evaluating the environmental impacts of lifestyles (mobility, consumption, diet, etc.) is key for effective public policies, but the chosen evaluation methods - such as time frame, geographical scope, and indicators - can significantly influence the outcomes. The Lake Geneva region, committed to reducing greenhouse gas emissions, provides a useful case study for examining how different assessment approaches can shape policy decisions.

At the laboratory level, the project "Panel Lémanique" enables a representative sample of the Arc Lémanique population to be surveyed at regular intervals on subjects such as mobility, consumption, food and housing. An initial carbon impact modelling exercise was carried out, focusing solely on direct emissions. At the same time, another project built a database of carbon impact factors and other categories but based on a life-cycle approach.

The aim of the proposed project is to continue our investigations into the comparison of direct impacts and life-cycle impacts when looking at lifestyles in the Lake Geneva region. The project will provide answers to the following questions: How sensitive are the results to the method? Depending on the method chosen, which segments of the population have the greatest and least impact? According to the method, what type of public policy might be relevant?

**Methods:** The course of the project will be worked out with the student, and in particular the student will have to be able to adapt it to a large extent in the case of a Master's project. The project will include the following stages (not exhaustive): Literature review - Data cleaning - Data description - Computation of LCA impacts - Comparisons between Carbon Direct Emissions and LCA carbon outputs - Comparison of the targets 'high emission profile' - Discussion of the results and of the policy implications.

**Potential implications:** This Master or semester project will foster our understanding of which policies are required to reduce carbon emissions. It may also support an improved understanding of the impact of such policies on climate change. Depending on the type of project the writing of an article could be envisioned within the project. The project results will be shared with the partners of the "Panel Lémanique" project (incl. Cantons Vaud and Genève).



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Environmental Engineering Institute, IEE  
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**Requirements:** The project requires an interest in and ability to think critically and analyse data, as well as good organisational and adaptability skills. Knowledge of programming with R and/or Python statistical software is required. Experience in environmental assessment is an advantage.

**Starting date:** September 2024 – January 2025

**Duration:** 1-2 semesters

**Supervisor(s):** Matthias Heinrich, Claudia Binder

**Contact details:** If you are interested, please send your CV and a short letter describing your motivations and future plans. Contact address: **matthias.heinrich@epfl.ch** (reply provided on 16 September only due to absence).