

Semester project

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

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.

Project goals: Two previous semester projects have enabled us to gather emission factors for calculating direct and indirect emissions associated with mobility behavior. In this project, you will benefit from the existing database of emission factors and methodological inputs to streamline a calculation of direct and indirect emissions for the housing and consumption domains, using survey data from the Panel Lémanique project.

The aim of the proposed project is therefore to continue our research into the comparison of direct and life-cycle impacts by examining 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? Depending on the method, what type of public policy might be relevant?

Methods: The course of the project will be worked out with the student. The project will include the following stages (not exhaustive): Literature review - Data cleaning - Data description - Computation of direct and indirects CO2 emissions for housing and consumption in the Arc Lémanique region - Comparisons between Carbon Direct and Indirect Emissions - Comparison of the targets ‘high emission profile’ - Discussion of the results and of the policy implications.

Potential implications: This 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. As this project will build on two other semester projects, we envisage the collaborative writing of an article within or after the project. The results of the project will be shared with the partners of the “Panel Lémanique” project (including the cantons of Vaud and Geneva).

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 (computation of direct and indirect emissions). Experience in environmental assessment is an advantage.

Starting date: September 2025

Duration: 1 semester

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