



## Bachelor Thesis

# Cross-country comparison of implicit CO<sub>2</sub>-prices in residential heating

By 2027, the European Union will introduce the EU-Emission Trading Scheme II (EU-ETS II). While the original EU-ETS I encompass emissions in industry, electricity generation, and aviation, EU-ETS II shall include emissions in road traffic, buildings, and smaller scale industries. The EU-ETS sets a binding cap for the cumulated emissions in these sectors and permits the trading of emission allowances among the emitters.

Residential heating, which falls under the EU-ETS II, has been already subject to ambitious emission reduction goals and, hence, to policy interventions. In consequence, there is a heterogenous landscape of taxes and levies between fuels and European countries. Against this background, the EU ETS II may harmonize the levels of explicit and implicit CO<sub>2</sub>-pricing in the EU.

The goal of this thesis is to determine the differences between the fuel taxation of the European countries, particularly with differences regarding the CO<sub>2</sub>-intensity of available fuels for residential heating. This analysis includes a familiarization with relevant data sources on energy price data, e.g. from the IEA Prices and Taxes database, preparing the data for comparison, and conducting the analysis and comparison itself.

## Key tasks and objectives of the thesis

- Familiarization with energy price and taxes in residential heating, particularly with respect to emission pricing
- Gathering and cleaning data and making them comparable
- Interpreting the data with respect to emission pricing and its consequences for the introduction of the EU ETS II

## Your profile

- Economics major, best with a focus on energy
- Interest in quantitative work and emission pricing

## Literature

- German Environment Agency (2024). Supply and demand in the ETS 2. *Climate Change 09/2024*.
- Rosenow, Jan, et al. "Clean heating: Reforming taxes and levies on heating fuels in Europe." *Energy Policy* 173 (2023): 113367.
- Kettner-Marx, Claudia; Kletzan-Slamanig, Daniela (2018): Energy and Carbon Taxes in the EU. Empirical Evidence with Focus on the Transport Sector. *WIFO Working Paper*, 555.
- International Energy Agency (2024): Energy Prices and Taxes Statistics. *OECDiLibrary*.
- European Commission (2023): Excise Duty Tables (Tax receipts – Energy products and Electricity). Indirect Taxation and Tax administration

## Contact



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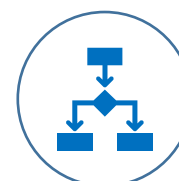
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## Topics



- Energy prices and taxes
- EU ETS II
- Heating

## Methods



- Literature work
- Data processing