

# THE NEW EMISSION TRADING SYSTEM ON DIFFUSE EMISSIONS IN THE EUROPEAN POLICY MIX

## MOTIVATION

As part of the EU's goal for carbon neutrality by 2050, a new carbon market (ETS2) on diffuse emissions is introduced to complement the Emission Trading System (ETS1). Operational in 2027, ETS2 aims to achieve a rapid 44% emissions reduction by 2030 (EU, 2023).

➡ **Significant impact on Household** are expected (Günther et al. 2024), but no studies have yet explored its effect on behavior changes.

## RESEARCH QUESTIONS

- How will ETS2 influence household decarbonization choices?
- How will ETS2 interact with ETS1?

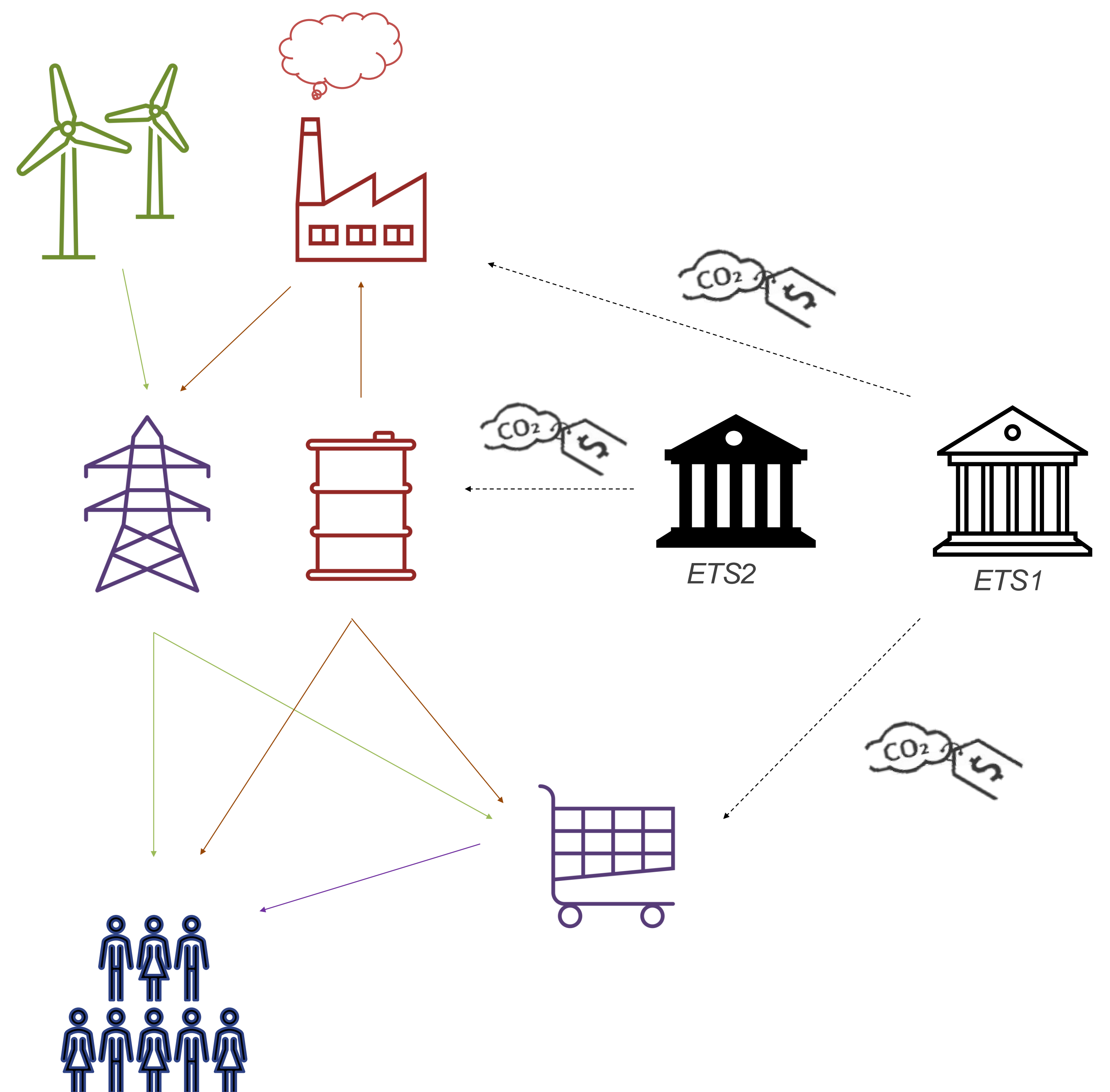
## METHODOLOGY

A **theoretical model** based on Eichner & Pethig (2019):

- Production based on fossil fuels,
- Climate regulations with quotas,
- Substitution between carbonized and clean technologies.

### Our Contribution:

- Modelling the incentives of the fossil fuel sector,
- Including both ETS1 and ETS2,
- Integrating **downstream demand** of electricity and gas.



## PRELIMINARY RESULTS

**Carbon prices** on ETS1 and ETS2 differ:

- ETS1 prices** depend on productivity and substitutability between electricity and fossil fuels in final good production,
- ETS2 prices** depend on energy price, substitutability of the final demand, and the number of quotas.

## REFERENCES

- Eichner, Thomas and Rüdiger (2019). "EU-type carbon regulation and the waterbed effect of green energy promotion". *Energy Economics* 80, pp. 656–679.
- Günther, Claudia et al. (2024). "Carbon prices on the rise? Sheddinglight on the emerging EU ETS2". Working Paper SSRN, Electronic Journal.
- UE. DIRECTIVE (EU) 2023/959 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL, Official Journal of the European Union, 2023.

## ACADEMIC SUPERVISOR

Anna CRETI (Paris Dauphine-PSL, Climate Economics Chair)  
Olivier Massol (Central Supélec, Climate Economics Chair)

## AUTHOR

Coline Metta-Versmessen

## COMPANY SUPERVISOR

Corinne Chaton (SEQUOIA, EDF R&D)  
Florent Le Start (SYSTEME, EDF R&D)

## CONTACT

Coline.metta-versmessen@dauphine.psl.eu