



ENOUGH

EUROPEAN FOOD CHAIN SUPPLY
TO REDUCE GHG EMISSIONS BY 2050





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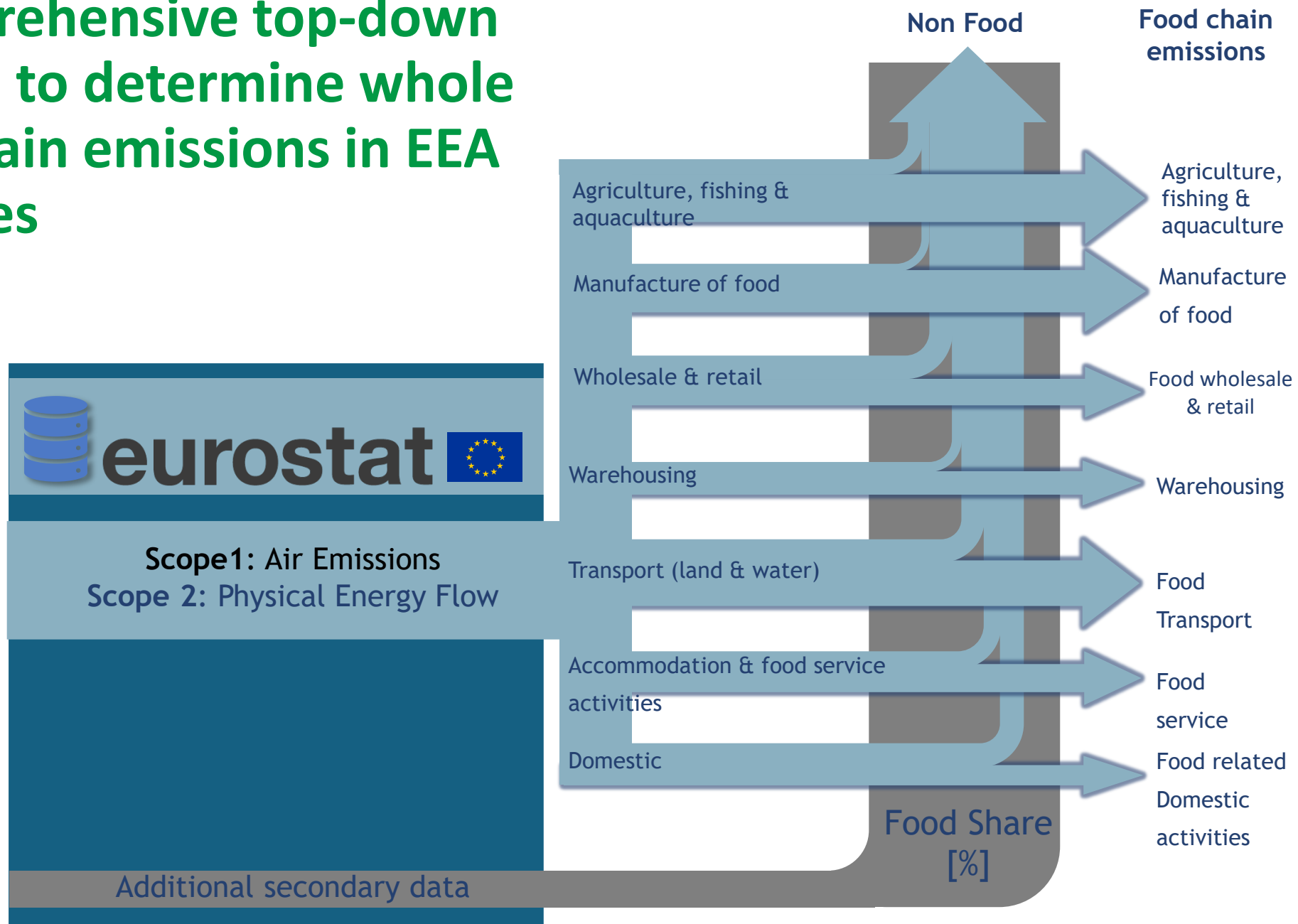
Emissions from the European food chain – how much of an impact does food have?

Alan Foster, LSBU

ENOUGH workshop, Manchester

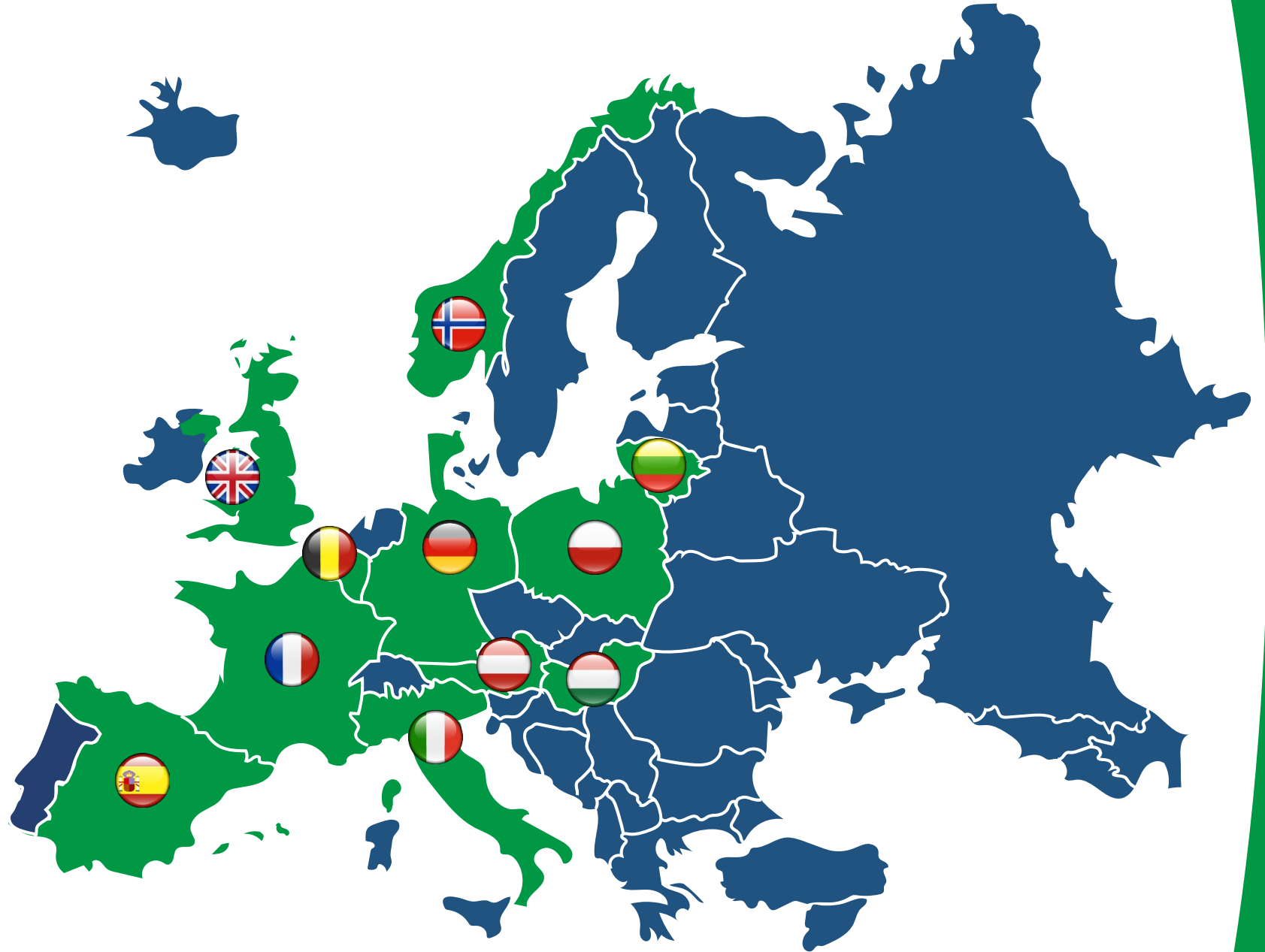
13.08.25

A comprehensive top-down method to determine whole food chain emissions in EEA countries

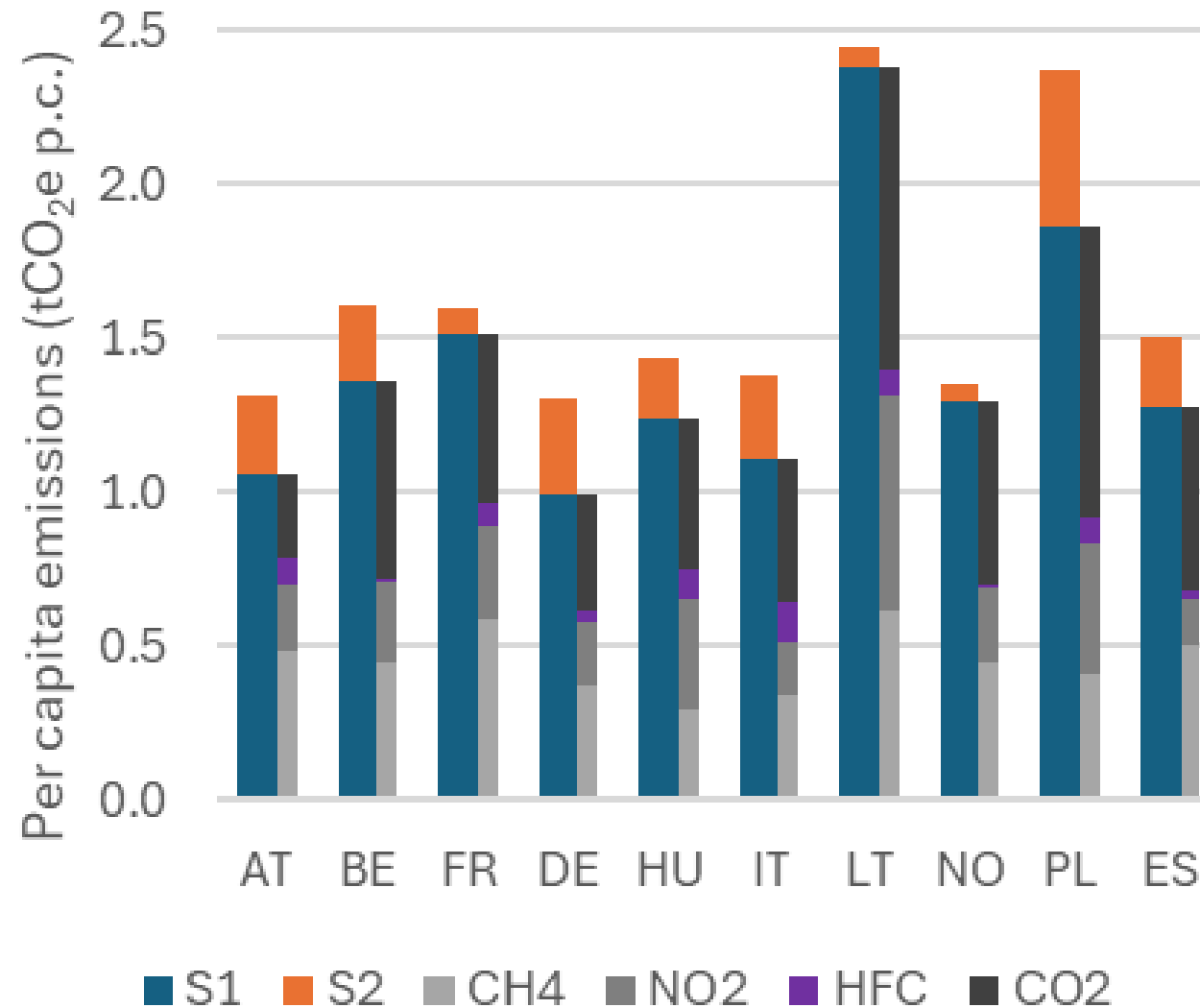


Scenario - countries

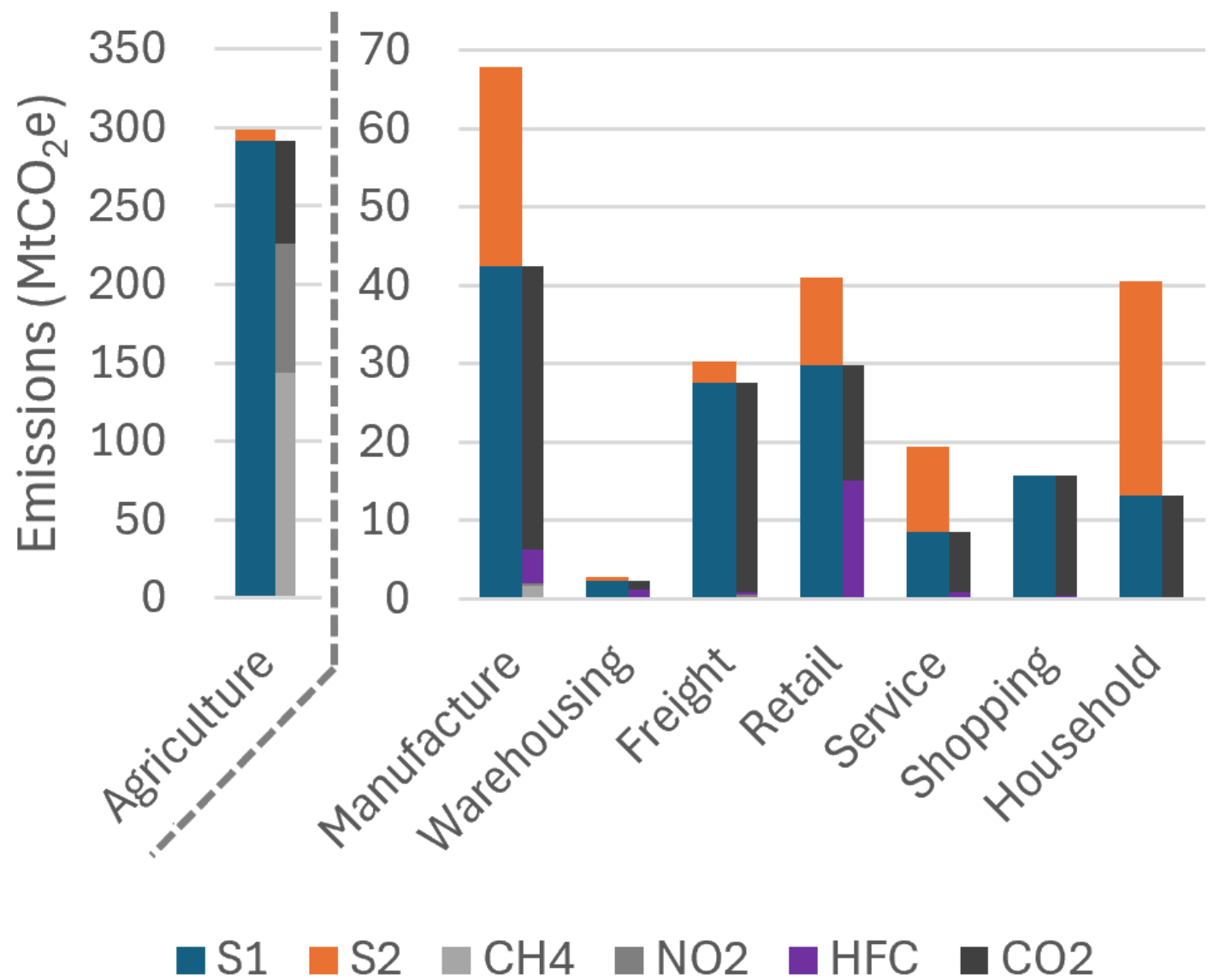
1. Austria
2. Belgium
3. France
4. Germany
5. Hungary
6. Italy
7. Lithuania
8. Norway
9. Poland
10. Spain



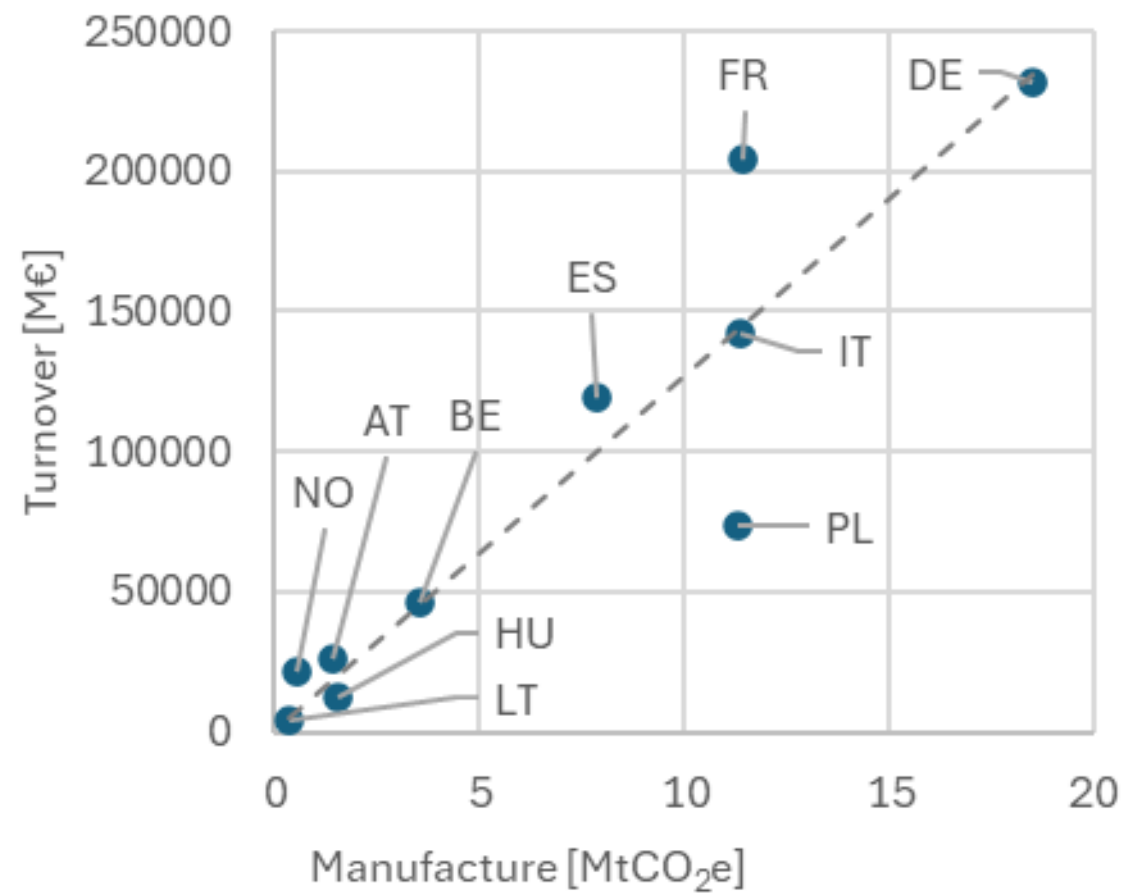
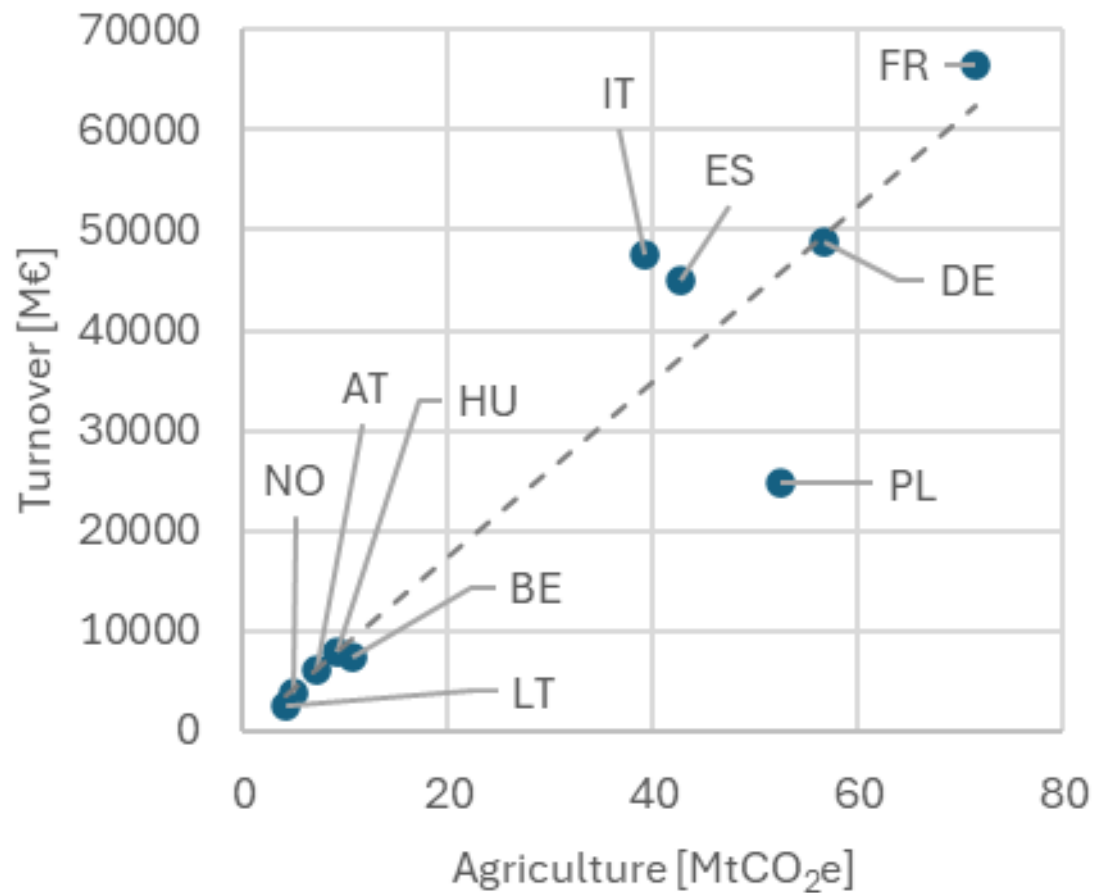
Emission per capita for the countries subdivided into the different scopes



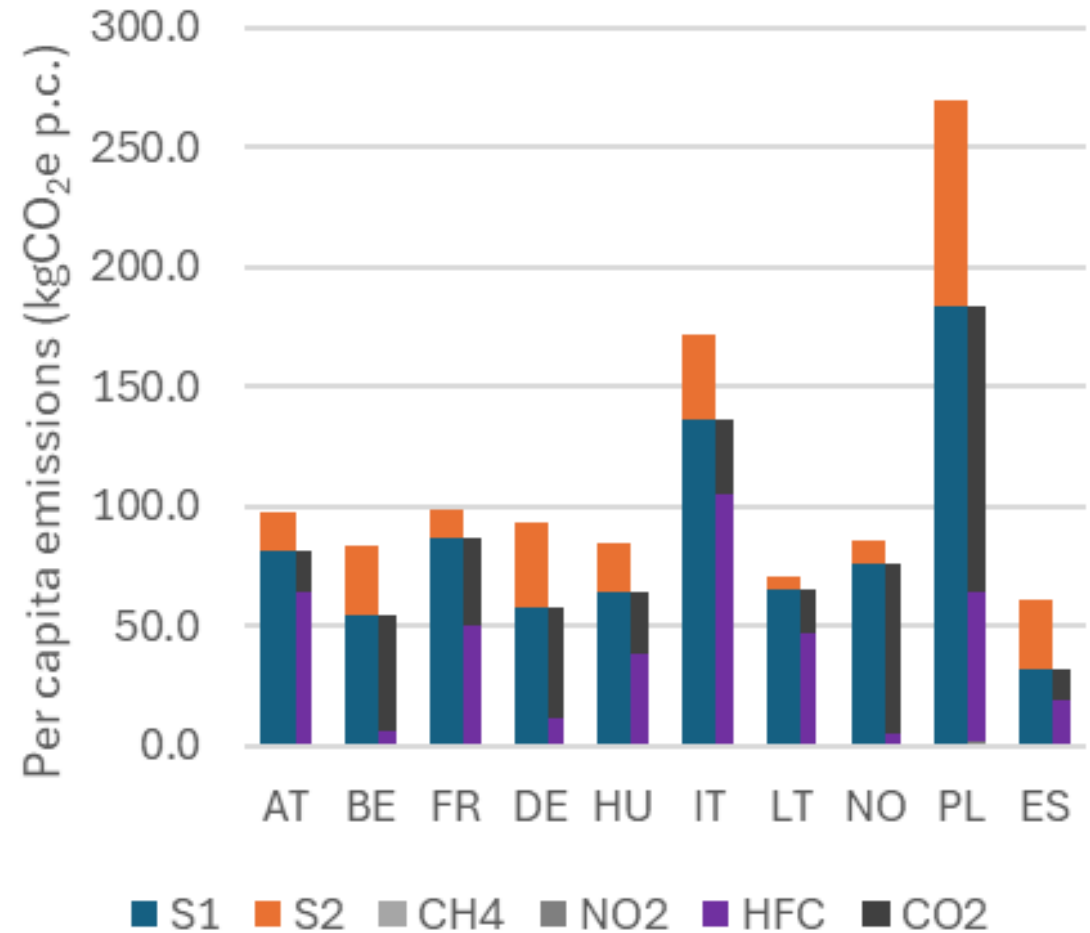
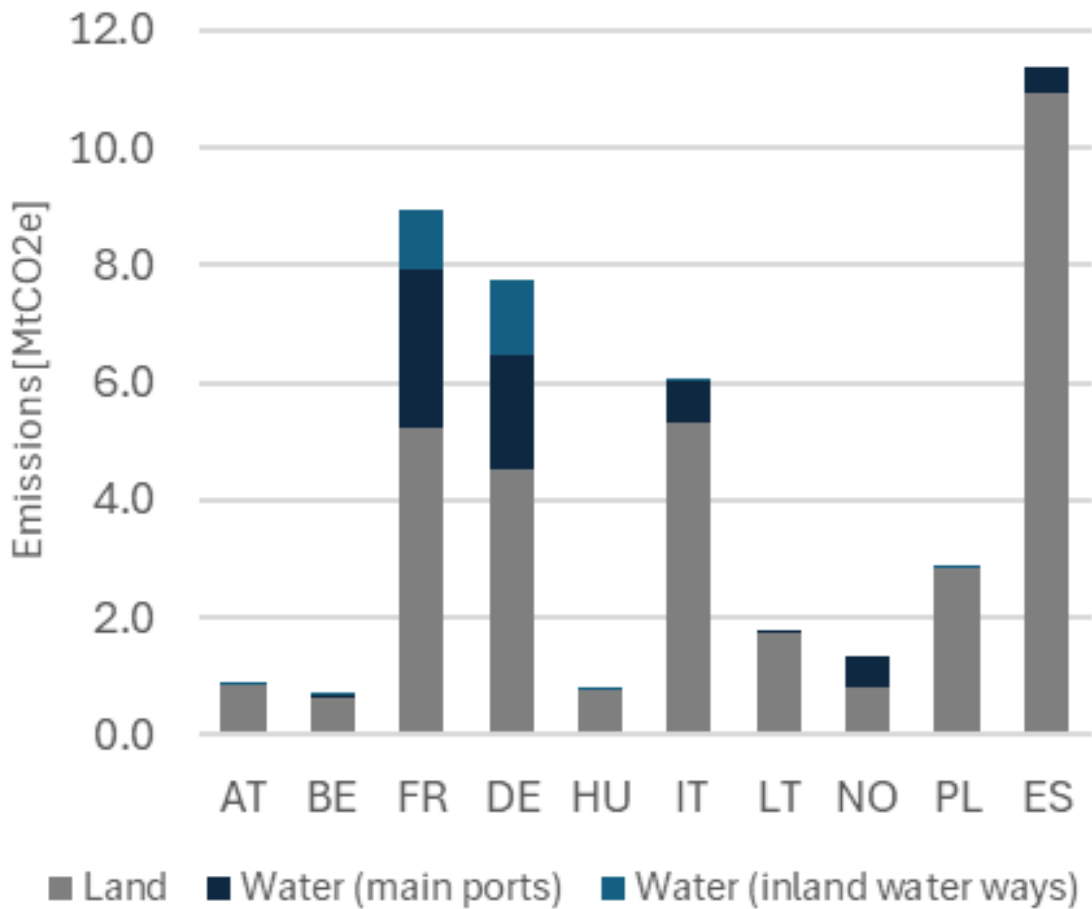
Emission per sectors and scopes



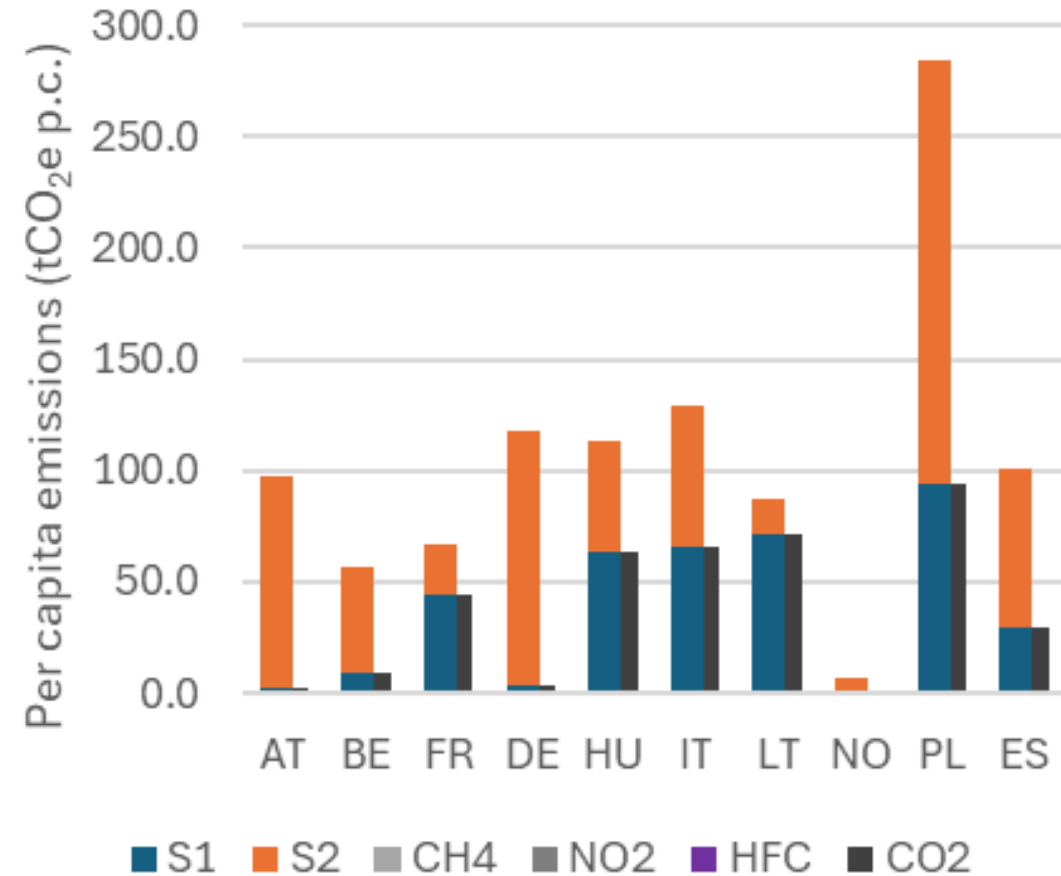
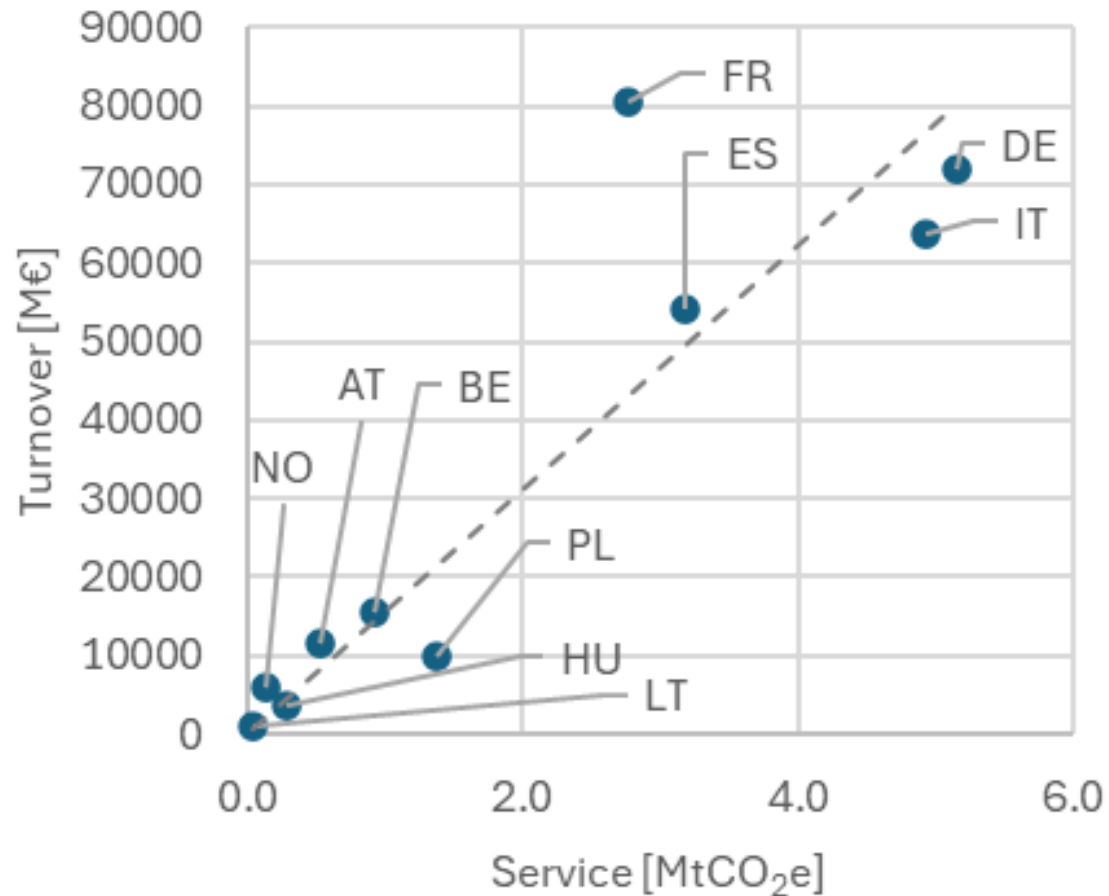
Production sectors



Intermediate sectors transport (left) retail (right)



Last sectors – food service (left) household (right)



Overall food share for different countries

	Emissions (MtCO ₂ e)		%
	Food	All NACE+Households	Food share
Austria	11.62	99.61	12%
Belgium	18.43	140.95	13%
France	107.32	531.07	20%
Germany	108.34	1117.63	10%
Hungary	14.00	86.81	16%
Italy	82.21	580.33	14%
Lithuania	6.82	28.80	24%
Norway	7.17	74.96	10%
Poland	89.82	577.32	16%
Spain	70.28	401.50	18%

How much of an impact does food have?

- Food accounts for between 10 and 24% of selected country emissions
 - Norway and Germany lowest share, Lithuania highest
- Scope 1 emissions dominate (84%)
 - Therefore, emission occurs directly and not at electricity generation
 - Need for food sector to decarbonise, stop using gas for heating and diesel for transport
- HFC emissions are small (5%)
 - 50% of retail emissions
 - 66% of HFC emissions in retail
- Scope 2 emissions greatly effected by country electrical carbon intensity
 - Norway, Lithuania and France (<0.07 kg/kWh)
 - Poland (0.776 kg/kWh)

Thanks

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- WP1 team

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