Social impacts in the EU energy transition: what are the distributional effects of European energy policies?

# 20 May, Brussels

## **Co-organised by**





MEP Group on Climate Change, Biodiversity & Sustainable Development

## With the support of

HEINRICH BÖLL STIFTUNG BRUSSELS European Union Social impacts in the EU energy transition: what are the distributional effects of European energy policies?



#### Welcome

## Chiara Antonelli

Head of programme Climate and Circular Economy Institute for European Environmental Policy (IEEP)

## Introductory remarks

**Nicolás González Casares** Member of the European Parliament



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MEP Group on Climate Change, Biodiversity & Sustainable Development Social impacts in the EU energy transition: what are the distributional effects of European energy policies?



#### Presentation

**Xaquin Garcia-Muros** Research Fellow Basque Centre for Climate Change (BC3)

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> Xaquín García-Muros. Ikerbasque Research Fellow at BC3 and Fellow at MIT



IEEP – MEP Lunch Briefing Brussels May 20, 2025



Institute for European Environmental Policy



EXCELENCIA MARÍA DE MAEZTU 2023 2027









## **Barriers to penalizing carbon emissions**





(Gago and Labandeira 2014)



- Heating fuels and in particular electricity are regressive (represent a bigger share of expenditure of poorer households)
- Transport fuels make up the biggest expenditure share of middle income groups.

## Share of energy expenditure over the total expenditure by country (excluding electricity)





- Eastern European countries are more dependent on fossil fuels
- In Slovenia, Hungary and Croatia energy expenditure exceeds 10% of the total.
- In Denmark, Finland, Luxembourg and Austria, by contrast, it is less than 5%

## Energy Poverty in the EU. Energy at Home vs Transport poverty



### Low Income High Cost (LIHC) A household is energy-poor if:

i) Energy cost (energy or Transport) > x2 the national median
ii) Income – energy cost < poverty line</li>

- Energy and Transport Poverty varies depending on the Member State
- MS with the highest levels of **energy poverty** are Central and Eastern European countries.
- Transport poverty is higher in high-income Member States (such as those in Western Europe). => Higher fuel prices
- Home Energy Poverty Characteristics:
  - Rural Households
  - Female Headed Households
  - Elder Households
- Transport Poverty Characteristics:
  - Rural Households
  - Large families (families with kids)
  - Man Headed Households
  - More middle income groups



**ETS2**: Extend the emissions trading scheme (ETS) for transport and buildings, seeking to reduce emissions from private transport and energy consumption in housing.

**SCF**: New Social Climate Fund will provide funding to Member States to support vulnerable European citizens. Mobilise €72.2 billion for the period 2025-2032





**New ETD:** The EU's Energy Taxation Directive sets out rules and minimum excise duty rates for the taxation of energy products and electricity used as motor fuel and heating fuel



**ETS2**: Extend the emissions trading scheme (ETS) for transport and buildings, seeking to reduce emissions from private transport and energy consumption in housing.

**SCF**: New Social Climate Fund will provide funding to Member States to support vulnerable European citizens. Mobilise €86.7 billion for the period 2025-2032



## Distributional impacts of ETS2 + SCF: Welfare impacts by income groups at EU level



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## **Distributional impacts of ETS+SCF on Vulnerable Households**



**ETD:** The EU's Energy Taxation Directive sets out rules and minimum excise duty rates for the taxation of energy products and electricity used as motor fuel and heating fuel



## Distributional impacts of ETD: Welfare impacts by income groups at EU level



## **Distributional impacts of ETD: Welfare impacts by Households Characteristics**





minimum tax rates on **fossil fuels** to the new ETD proposal  $(\land$ 



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minimum tax rates on **fossil fuels** to the new ETD proposal

current electricity taxation (=

taxes on electricity to the lowest level of the classification (~)

## **General Takeaways**



- The distributional implications will depend on the Member State, the policy implemented, and the design of that policy, as well as the use of any potential new revenues. However, some general guidelines can be considered.
- If the policies affect household energy consumption (electricity and heating), they will likely be regressive, disproportionately impacting the most vulnerable households—unless compensation mechanisms are put in place.
- For transport, the expected impacts differ. Policies that increase fuel costs for transport will tend to affect lower-middle income groups more significantly.
- Compensation mechanisms and the allocation of potential revenues will play a crucial role in determining the final impact of the implemented policies.
- It is essential to consider the horizontal implications of these policies—taking into account the diverse socioeconomic characteristics of households, not just income levels. Factors such as rurality, gender, age or energy and transport poverty should also be integrated into policy design and evaluation.

## A tool from MCC-PIK to explore Distributional Analysis (ADJUST PROJECT)

## https://www.cpic-global.net/

- Global database covering households from 88 countries
- Derive CO<sub>2</sub> intensities of individual consumption baskets
- Simulation of different carbon pricing policies to compute vertical and horizontal distributional effects
- Explore various redistributive policies

## **Carbon Pricing Incidence Calculator**

Facilitating socially responsible carbon pricing policies: the Carbon Pricing Incidence Calculator (CPIC)



# iTHANKS! Eskerrik Asko

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Panel discussion - Social impacts in the EU energy transition: what are the distributional effects of European energy policies?



## **Moderated by Chiara Antonelli** Head of programme Climate and Circular Economy, IEEP

#### Frank Siebern-Thomas

Directorate-General for Employment, Social Affairs and Inclusion European Commission





## **Alejandro Ulzurrun De Asanza Y Munoz** Directorate-General for Energy

European Commission

## **Claire Roumet** Strategic Partnership Energy Cities





## Hélène Sibileau

Senior Policy Advisor Buildings Performance Institute Europe (BPIE)

## Jörg Mühlenhoff

Head of Programme – European Energy Transition Heinrich-Böll-Stiftung European Union



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#### **Closing remarks**

**Andries Gryffroy** Member of the Committee of the Regions

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<u>Can Polluter Pays policies be progressive? (IEEP, BC3 2022)</u>

Can Polluter Pays principles in the aviation sector be progressive (IEEP 2022)

Who took the burden of the energy crisis (BC3, IEEP 2023)

**Boosting participation in the energy transition (HBS)** 







## Ensuring affordable energy and a competitive European industry with the Clean Industrial Deal

- 🛅 Date: 4 June 2025
- Time: 12.00–13.30 CET (in person only)

Hosted by MEP Christophe Grudler and MEP Ludek Niedermayer

Location: European Parliament, Room tbc







# Thank you for attending

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