Unjust transition?

Distributional impacts of climate policies

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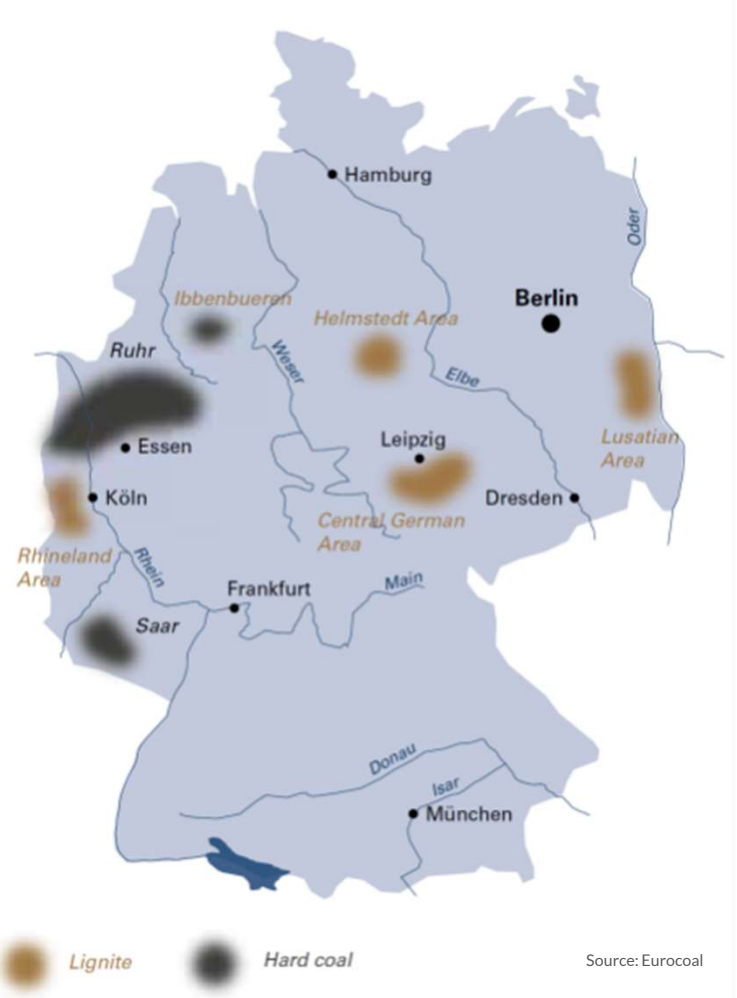
Will it be a sustainable transition?

Why the doubts?

- Sustainability is an easy word to throw around
  - ↪ *Risks of greenwashing*
- A multifaceted concept
  - ↪ *Many trade-offs involved*
  - ↪ *Example: coal sector in Germany*

Case study: Coal in Germany

- *World's first producer of lignite*
- *First source of energy in Germany*
  - *Source: BMWK*
- *Trade-off: jobs vs climate*
  - *Specialisation trap*
  - *Institutional and cognitive inertia*
  - *Social sustainability issues*
  - *Source: ILO Report*
- *A longer-term perspective*
  - *839k jobs lost in the coal sector*
  - *801k jobs gained in services*
  - *Source: World Resources Institute*



Will it be a sustainable transition?

What happens if we leave one out?

- Environmental sustainability
  - *Climate breakdown. Human life on Earth at risk if we continue with business-as-usual (e.g. IPCC RCP 8.5).*
- Social sustainability
  - *Unrest. Persistent social disorder and magnified conflicts of interests (e.g. Yellow Vests)*
- Economic sustainability
  - *Failure. We are united and determined, but just lack the means (e.g. Critical Raw Materials, financial resources)*

Will it be a sustainable transition?

How are the current EU climate policies performing?

- Carbon taxes
- Emissions trading
- Transportation
- Energy

Carbon taxes

Panacea or nemesis?

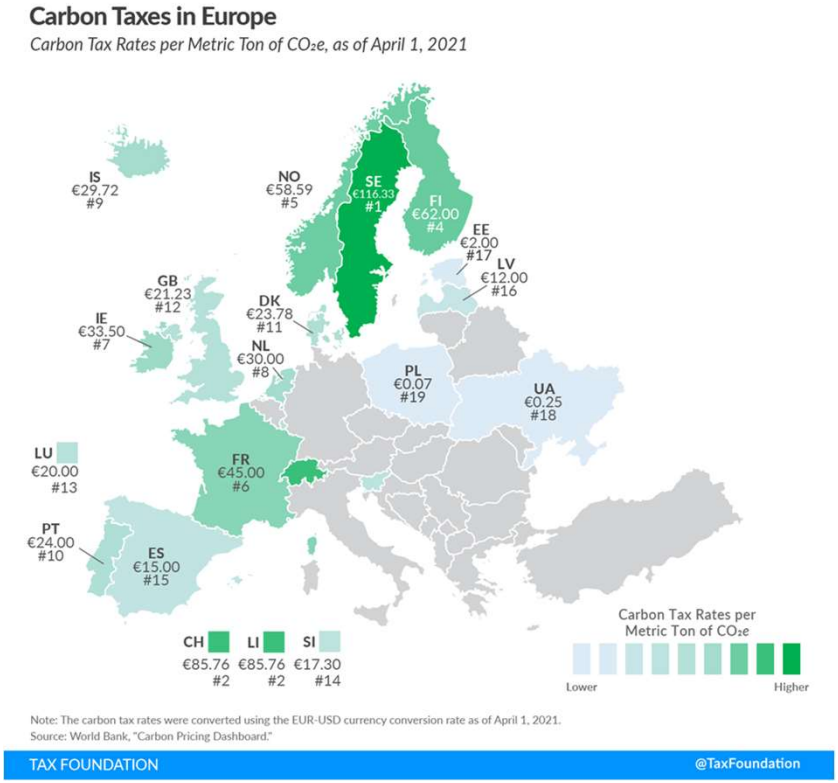
Carbon taxation

- Based on the “Polluter pays” principle
- Widely adopted at country level
  - Italian excise taxes on fuel
  - UK Climate Change Levy
  - Dutch top-up carbon tax
- Not possible at EU level
  - Unanimity required for fiscal measures
  - … So the EU found a way around it

Carbon taxes

Simple principle:

1. Increases the price of emission-intensive goods
   - ↪ Taxations typically occurs downstream
   - ↪ Do we have data?
2. The person/firm reduces their consumption
3. Increase the tax if emissions are still high
   - ↪ Wide variety of prices across sectors



Carbon taxes

Are carbon taxes sustainable?

- Environmentally
  - Uncertain effectiveness: will we just pollute and pay?
- Socially
  - Definitively regressive
  - Especially if we take wealth into account
  - Revenue recycling
- Economically
  - Sizable additional tax revenue
  - No adverse consequences on employment, revenue, or plant exit

Emissions Trading

EU ETS - The flagship

EU Emissions Trading System

- Est. under the Kyoto Protocol
- “Cornerstone of EU climate policy”
  - Single most effective policy to reduce GHG
- Scope
  - **Now** 40% of EU GHG emissions
  - Most polluting sectors + shipping
  - … Heating and transport next?

EU Emissions Trading System

How does it work?

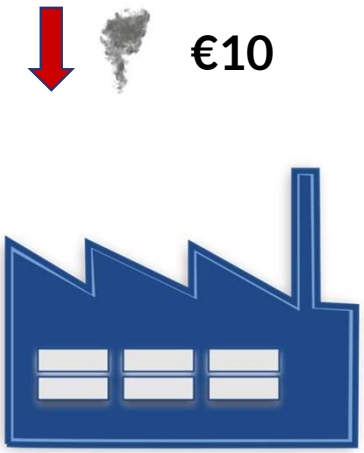
- Like a carbon tax, but not really
- Carbon taxes
  - Price is certain
  - Emissions are not
- Emissions trading
  - Emissions are certain
  - Price is not

EU Emissions Trading System

How does it work?

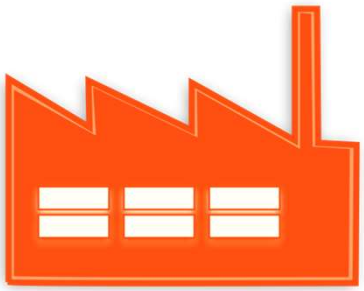
1. Put a cap on emissions
2. Give permits
   - ↪ A mix of free allocation and auctioning
   - ↪ Firms can exchange permits
3. Decrease the cap as needed
   - ↪ Currently annual 2.2% reduction

Emissions trading systems



€10

Firm A



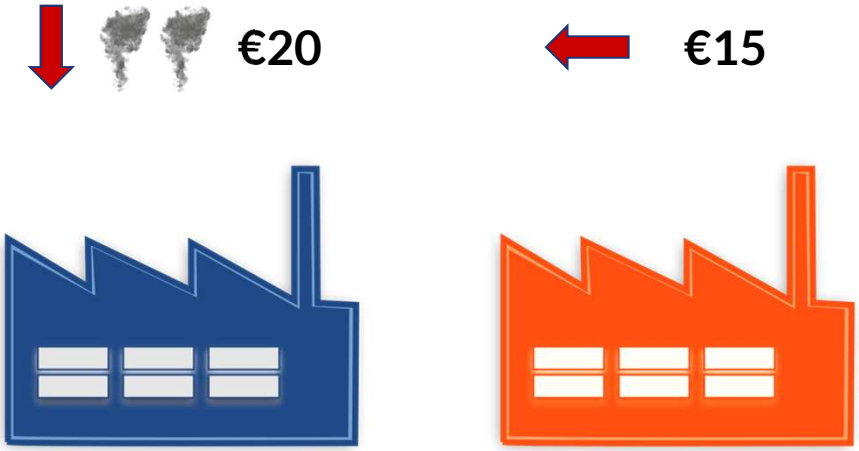
€20

Firm B

Consider these scenarios:

- **Carbon tax**
  - ↪ Firms pay €10 per each tCO2
  - ↪ Emissions reduction: 1 tCO2
  - ↪ Cost for firms: €20
- **Carbon quota**
  - ↪ Firms have to reduce by 1 tCO2
  - ↪ Emissions reduction: 2 tCO2
  - ↪ Cost for firms: €30

Emissions trading systems



Now, let's simulate the EU ETS

- **Emissions trading**
  - ↪ Firms have to reduce by 2 tCO2 **in total**
  - ↪ They can trade emissions
  - ↪ Emissions reduction: 2 tCO2
  - ↪ Cost for firms: €20
  - ↪ Trading reduces costs and so allows to abate more emissions

EU Emissions Trading System

Is it sustainable?

- Environmentally
  - A few missteps at the start
  - …but still the most effective tool
  - No carbon leakage
- Socially
  - Within country distributional effects?
  - Cross-country distributional effects
- Economically
  - No impact found on competition or employment
  - Sectoral effects?

Transportation

A fragmented framework

EU transport policy in the EU

- Shipping
  - Included in the EU ETS from 2023
  - 100% emissions covered by 2026
- Road transport
  - EU ETS 2 to start in 2026
- Aviation
  - No fuel taxation
  - Inclusion in the EU ETS
  - 82% free allocation of permits
  - CORSIA?

Transportation

Each transport mode is its own story

- Shipping
  - Very new topic, so little info.
- Road transport
  - Vexed by regressive carbon taxation
  - EU ETS 2 potentially regressive
- Aviation
  - Frequent flyers dominate the trip count
  - Developed countries dominate the trip count
  - Intra-EU vs Extra-EU flights
  - EUAA steadily decreasing, but emissions increasing
  - CORSIA

Energy

Double or nothing

Many issues on the table

- Energy integration
  - Collective vs competitive gas purchases
  - Solidarity in gas storage
- Energy costs
  - Cut the energy bills or lump-sum payments?
  - Demand flexibility
- Adjusting ambition?
  - EU RES energy targets

Energy

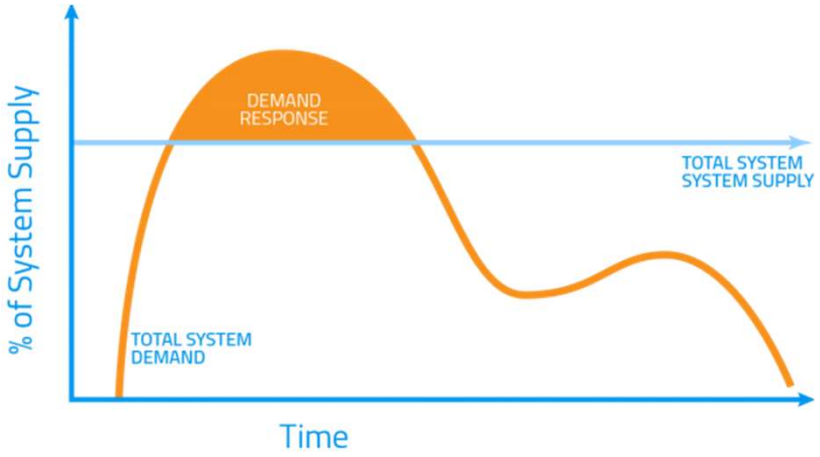
Is the energy agenda sustainable?

- Socially
  - Tenants vs landlords
  - Social Climate Fund?
  - Energy poverty
  - Gas cooperation makes european cooperation easier
- Environmentally
  - Gas-related carbon lock-in?
  - From 45% to 40% RES?
  - Energy subsidies: environmental-social trade-off (Italy vs Germany)
  - Social Climate Fund?
- Economically
  - Collective gas purchases might reduce energy bills
  - Social Climate Fund?

Energy

Demand flexibility strategies: a very sustainable policy?

- Demand flexibility measures
  - What are they?
  - **EU directive**
- Environmentally
  - Decreases emissions by power plants
- Socially
  - Reduces costs for households and distributors
- Economically
  - Helps mitigate inflation in the energy sector

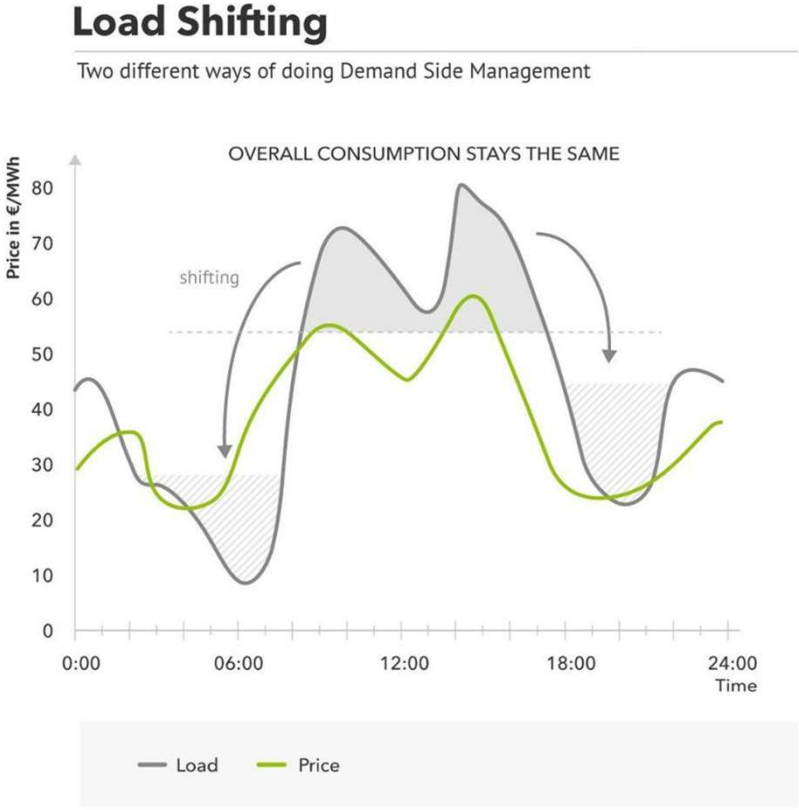


Focus:
Peaker plants

- *Small gas-fuelled power plants*
  - *Very inefficient*
  - *Very polluting*
- *Why do we use them?*
  - *Low ramp-up rate*

Focus: Peaker plants

- *Small gas-fuelled power plants*
  - ↪ *Very inefficient*
  - ↪ *Very polluting*
- *Why do we use them?*
  - ↪ *Low ramp-up rate*
- *Alternative: load shifting*
  - ↪ *Cuts bills*
  - ↪ *Reduces emissions*



Source: Adapted from Next Kraftwerke

Thanks for your attention!

For comments or sources
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