



POTSDAM INSTITUTE FOR
CLIMATE IMPACT RESEARCH



Mercator Research Institute on
Global Commons and Climate Change





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An ETS for buildings and road transport (BRT ETS) in times of energy crisis and war in Ukraine?

Why we need the BRT ETS, now more than ever.

Webinar *Why a new ETS is needed to make the Road Transport FIT FOR 55*
26 April 2022

Prof. Dr. Ottmar Edenhofer & Dr. Michael Pahle

In short: Two reasons why we need the BRT ETS

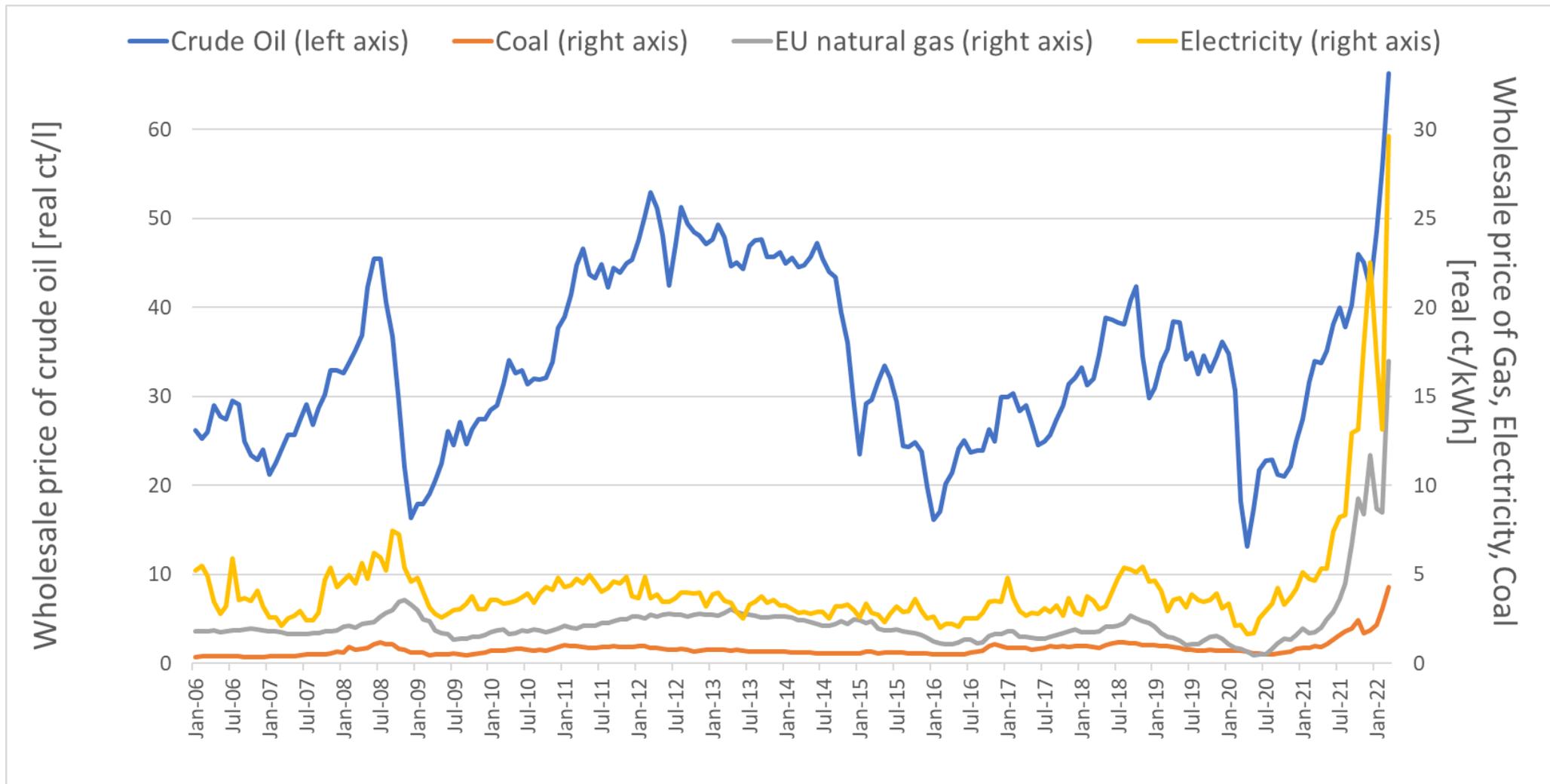
1. BRT ETS can **combine energy security and climate policy**
2. BRT ETS ensures **future energy prices are going in the right direction**

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Oil, gas, coal and electricity prices have risen substantially since mid 2021

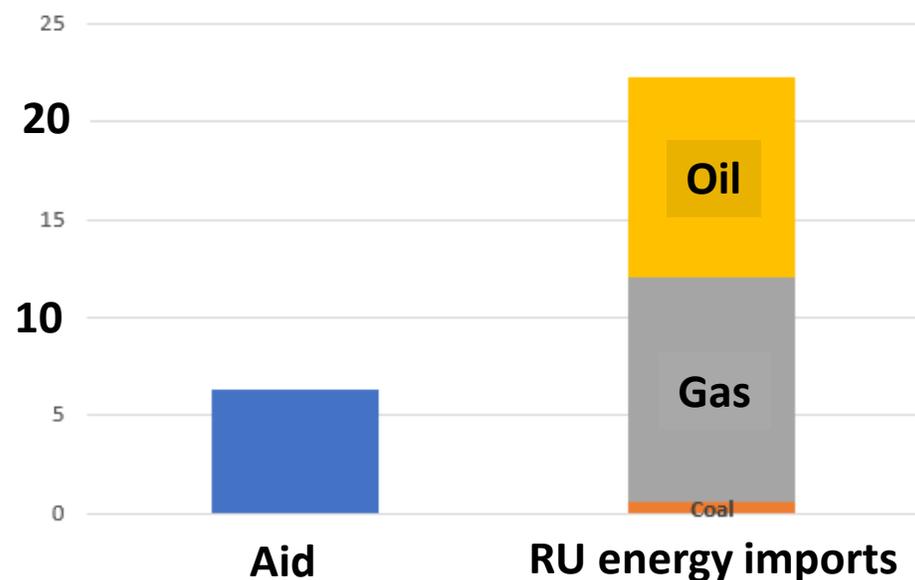


Source: MCC (2022), based on various data sources

Political ramifications of the war in Ukraine



EU imports vs. aid to Ukraine
€ billion, Feb 27 – Mar 27



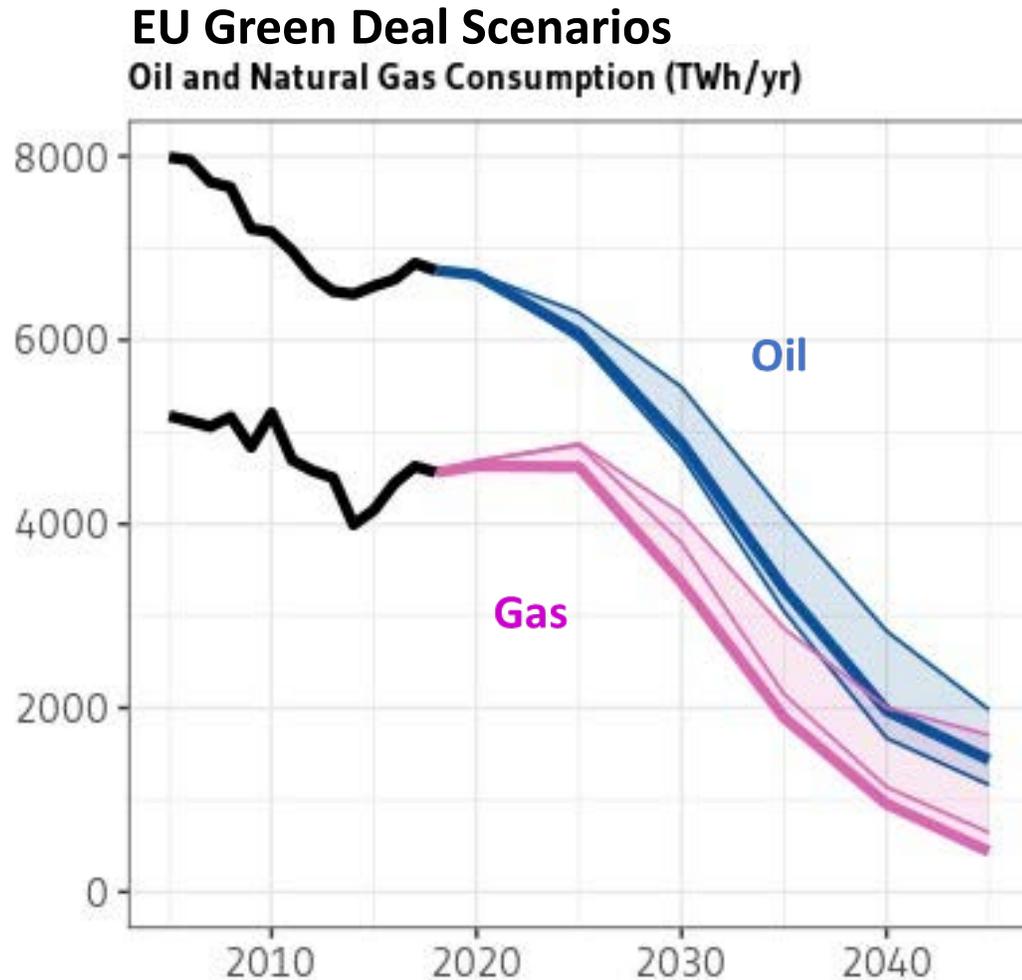
Source: Bruegel

Note: Kiel Institute provides data on Ukraine aid. Gas flows are from ENTSO-G, oil and coal based on historic averages from Eurostat. Gas price is calculated as midpoint between TTF (m-1) and spot. Due to lack of transparency on contracts it is impossible to calculate exact payments.

Source: Bruegel

- **Substantial revenues for Russia** from selling oil and gas to EU
 - Financing of Russia's “war machine”
 - **EU aid** just a fraction in comparison

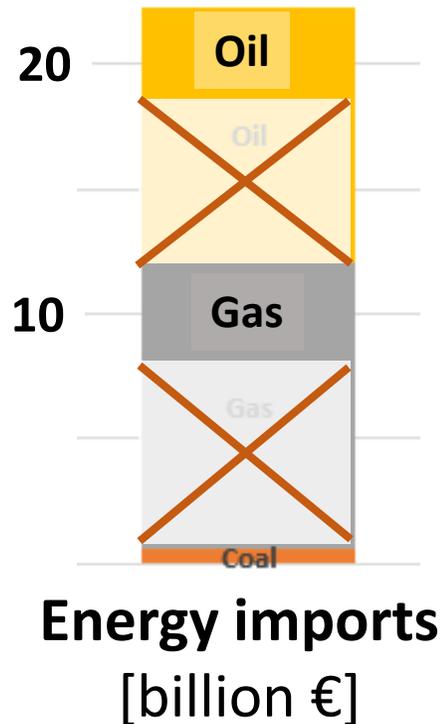
Volume effect – Fit for 55 reduces long-term Gas and Oil Demand



Source: PIK / REMIND model

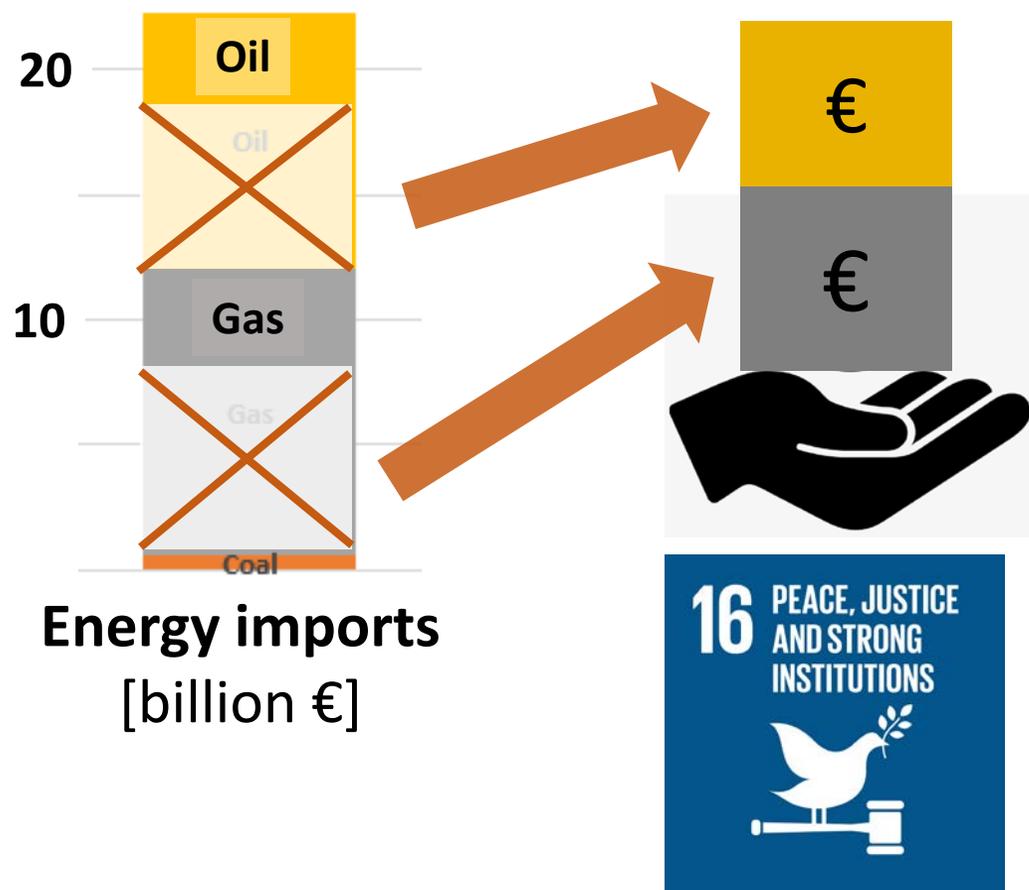
- BRT ETS and EU ETS form a **demand cartel** on coal oil and gas market.
- The demand for oil and gas is crucial for the **intertemporal budget constraint of Russia**.
- The **Green Deal tightens the intertemporal budget** constraint of Russia for a **sufficiently low creditworthiness**.
- The **duration of war depends** on the intertemporal, not the static, **budget constraint**.
- However, the Green Deal reduces only the volume, while **not changing the composition of imports**. This is **critical for energy security**.

Stripping Russia of its “war rents” by taxing imports



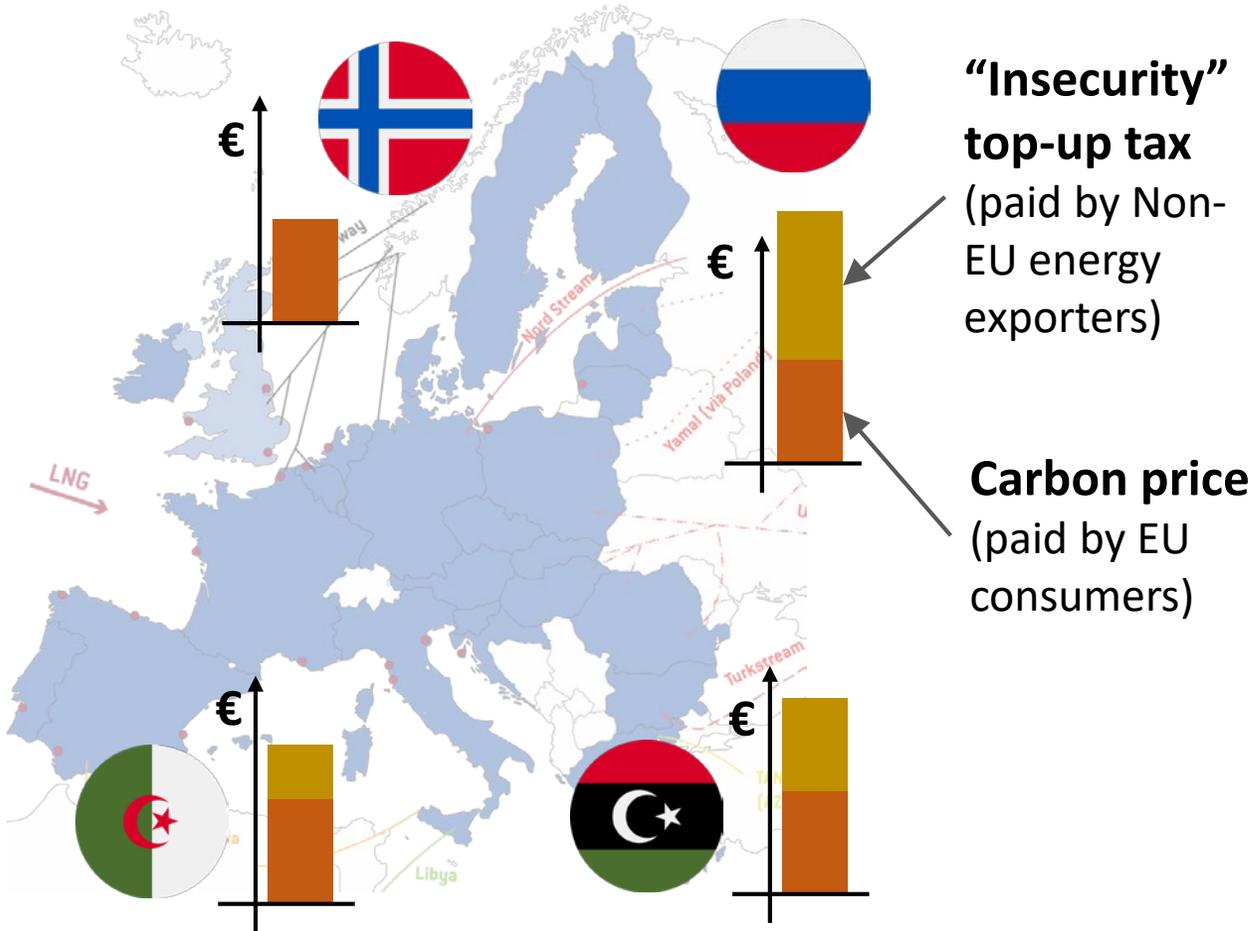
- **Taxing Russian imports** reduces its resource rents. The degree to which the latter are reduced depends on the elasticity of supply.
 - If Russia **cannot respond to the tax by decreasing the price of oil/gas** to a level below or equal to that of its competitors, there will be **relative price effect**. This hinges on, inter alia, its fiscal and technological constraints.
- changes the **composition of imports**
- reduces the **EU’s dependency on Russian oil and gas, thereby boosting energy security**

Positive geopolitical side effects



- “**Flexible response**”, e.g. tax level can be adjusted to concessions by Russia.
- Tax revenues can go into **trust fund** to help **rebuild Ukraine** or make mobility affordable.
- Taxing imports can improve the EU and Ukraine’s relative **bargaining power** vis-à-vis Russia.

BRT ETS can incorporate such an import tax



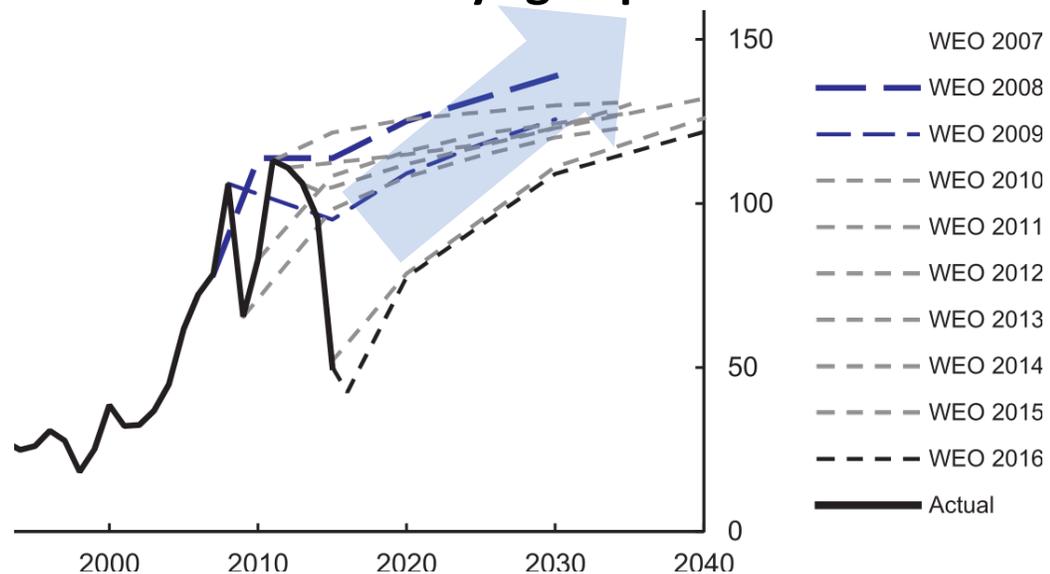
- › Energy **security and threats to peace** will remain **virulent** as a result of the war in Ukraine.
- › BRT ETS is a suitable tool for **combining energy security & climate policy**:
 - › **“Insecurity” tax** on imported energy on top of carbon price
 - › Aim: Tax fossil fuel rents depending on **exporters’ climate & peace commitments**
 - › The **lower the commitment, the higher the “insecurity” tax**

In short: Two main reasons why we need the BRT ETS

1. BRT ETS can combine energy security and climate policy
2. BRT ETS to ensure future energy prices are going in the right direction

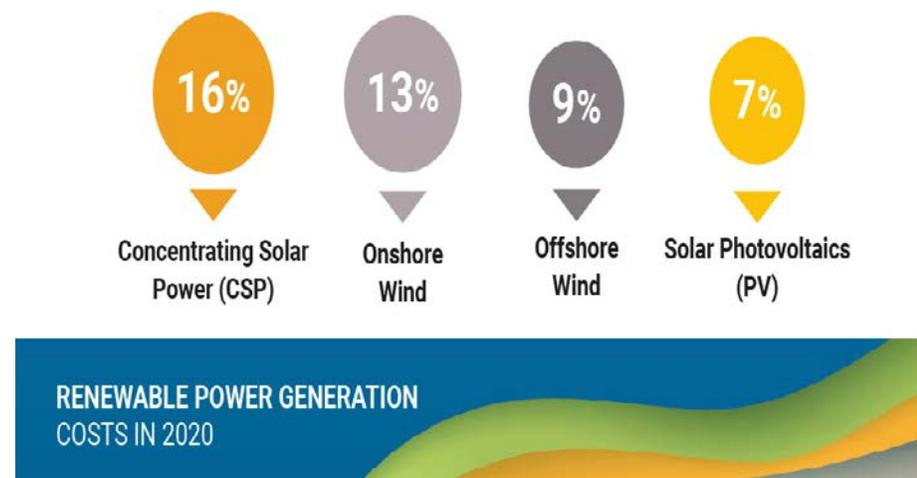
Common belief: oil prices will go up, electricity prices will go down

Historical IEA WEO oil price forecasts always go up



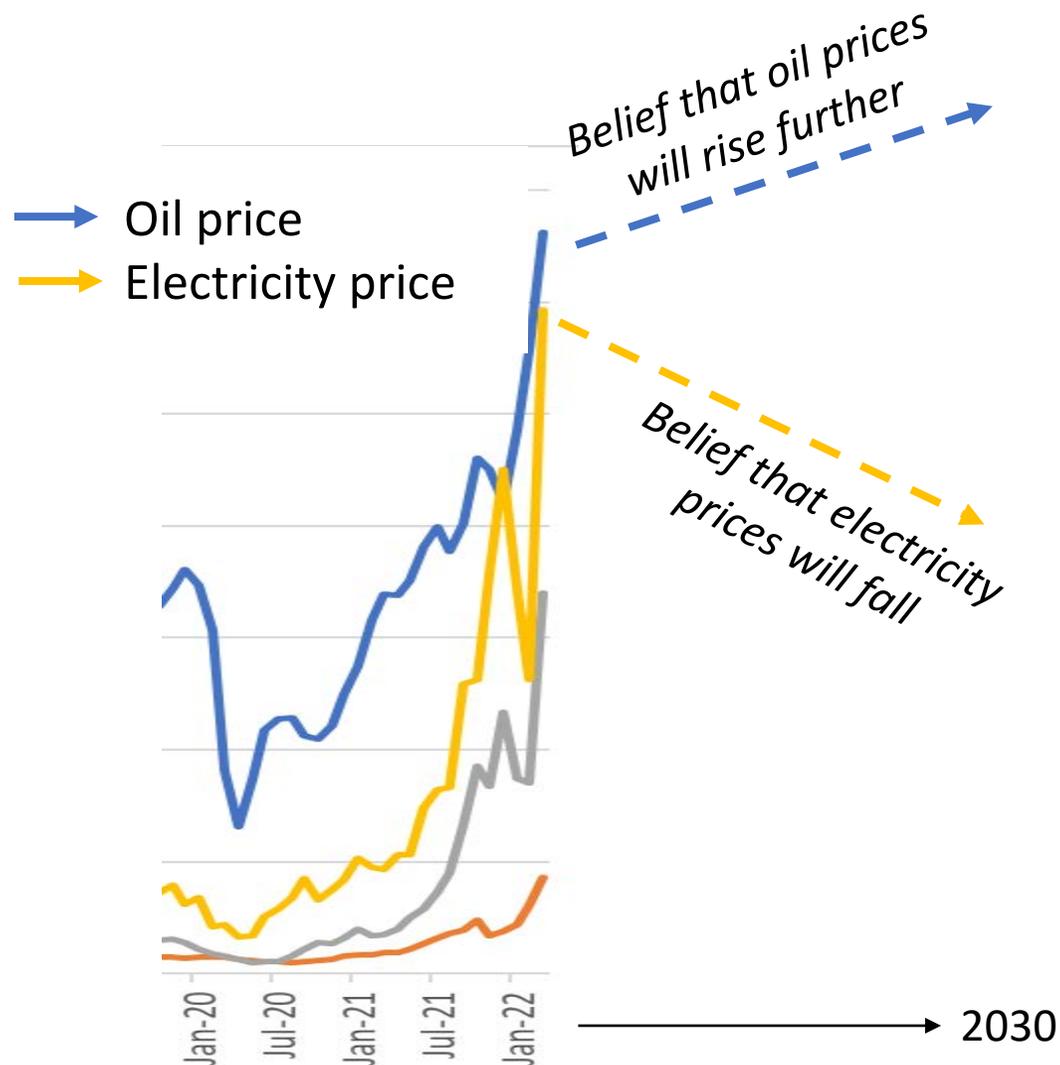
Source: Wachtmeister et al. (2018)

Renewable (RE) power costs always go down



Source: IRENA (2021)

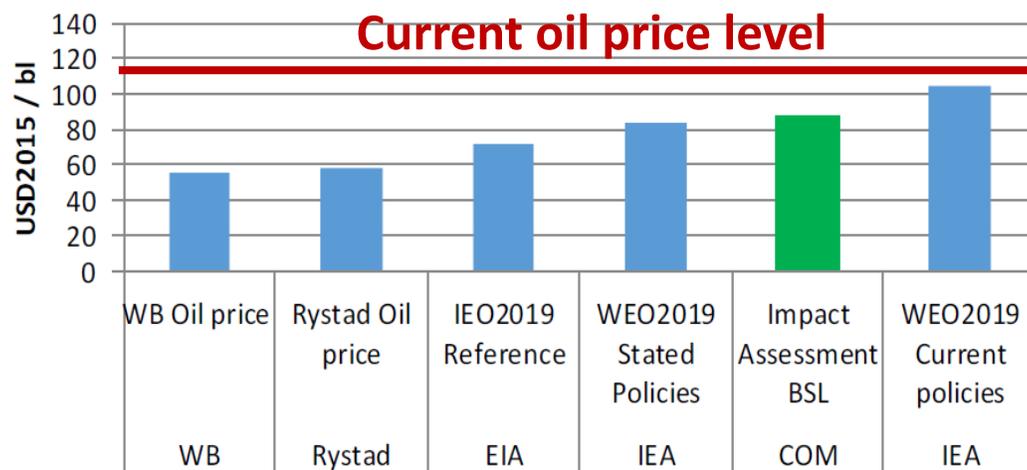
Under current prices, these beliefs suggest BRT ETS might be redundant



- **Oil prices at very high level**
→ **Internal combustion engine (ICE) relatively costly, even more so when prices rise further.**
- **Electricity price also high**
→ But when electricity prices fall, **competitiveness of zero emission vehicles (ZEV) would increase.**
- Such beliefs about future prices may imply **BRT ETS not needed**, but are they **well-founded?**

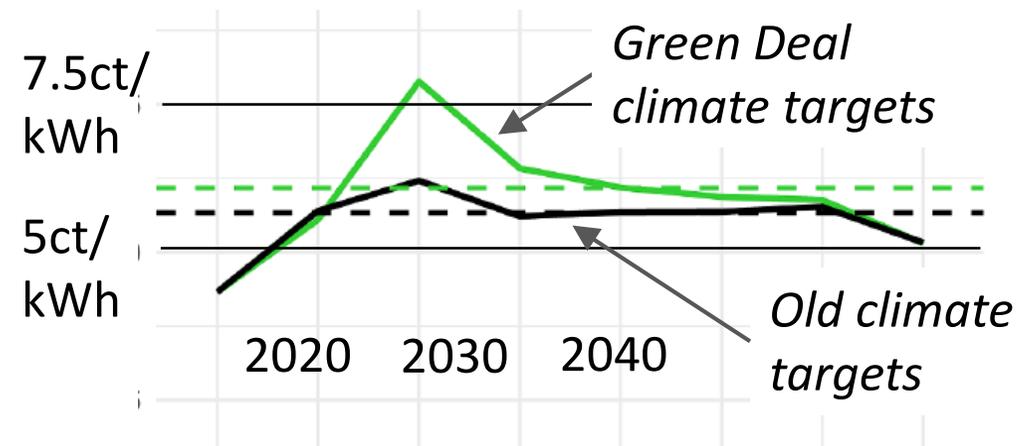
Price forecasts & model analysis suggest such beliefs are “upside down”

Current oil price inflated by war, well above projections for 2030 and bound to fall again



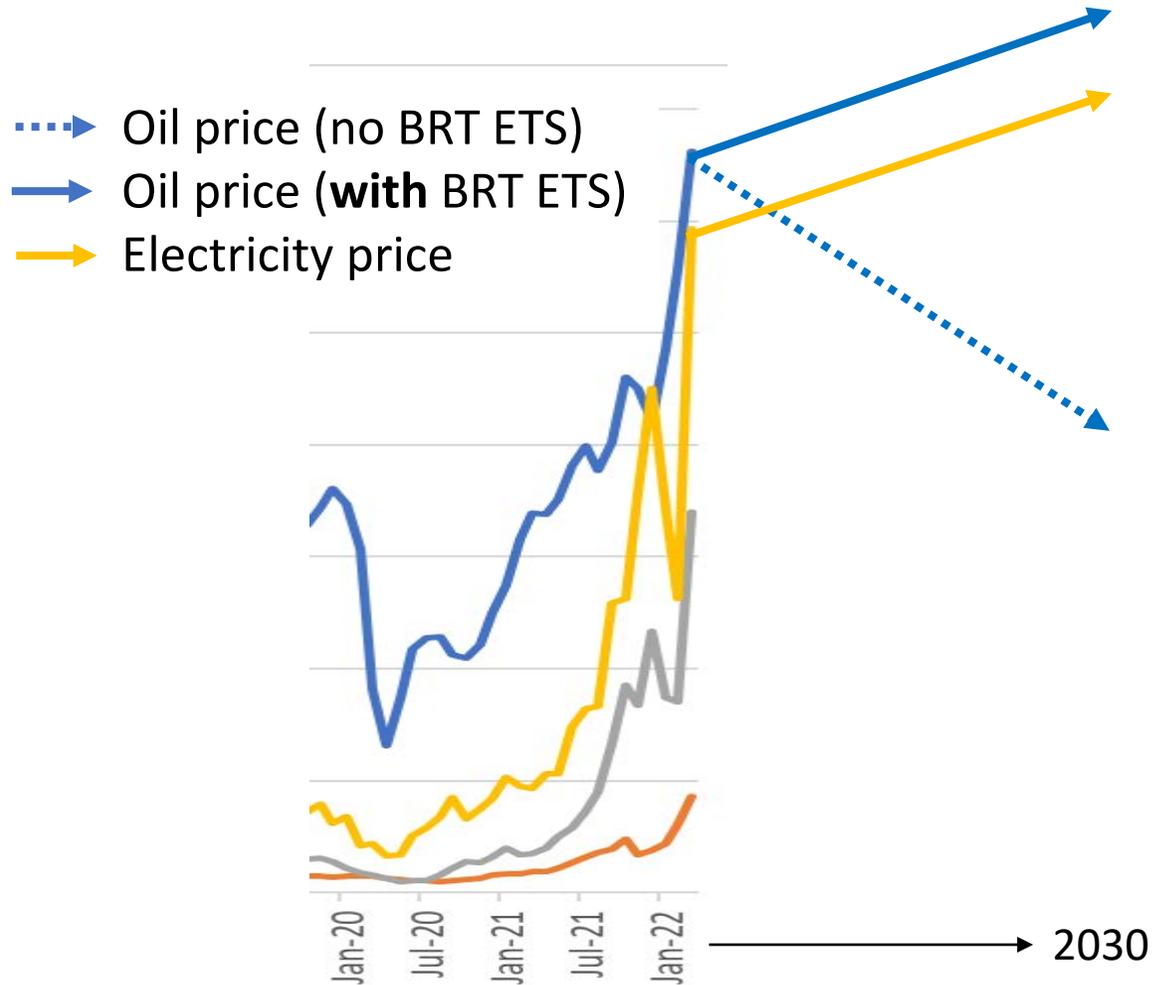
Source: EC Impact Assessment (2020)

Average EU electricity price bound to rise in next years



Source: Pietzcker et al. (2021)

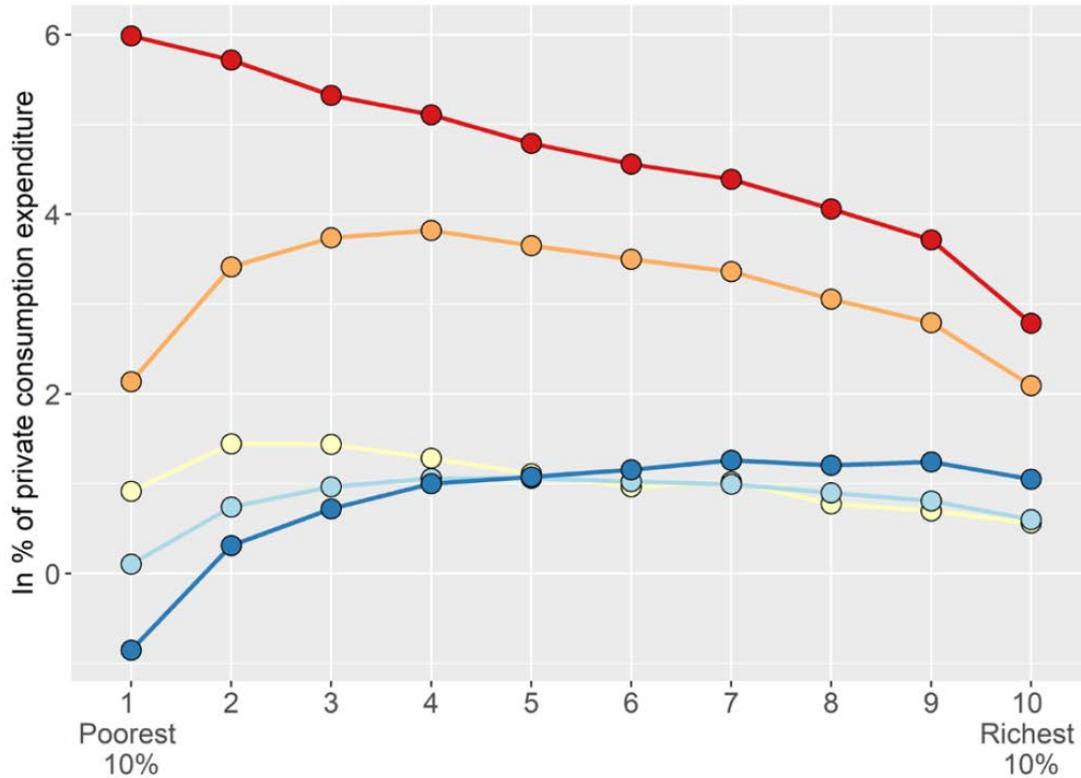
BRT ETS of the essence to ensure energy prices go in right direction



- **BRT ETS needed to ensure that oil prices remain at high levels (long term).**
 - **BRT ETS needed to ensure regulatory level playing field, i.e. electricity already regulated under EU ETS.**
- **BRT ETS of the essence to ensure energy prices go in the right direction.**

Compensation of low-income households is crucial!

Effects of the energy price crisis, and compensation measures, on households in Germany



Source: MCC (2022)

- **Non-market-based instruments** also **incur costs**, which can be **more regressive** than price instruments (carbon pricing) .
- By generating revenue, price-based instruments allow for a **fair distribution of the cost burden**.
- Generally addressed by COM's proposal for a **Social Climate Fund**.



Conclusion: Two main reasons why we need the BRT ETS

1. BRT ETS can **combine energy security and climate policy**
2. BRT ETS to ensure **future energy prices are going in the right direction**

Many thanks!

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