



Carbon pricing in non-ETS sectors

March 24, 2021

Stefano Cabras, ERCST

Thomas Mertens, ERCST

ERCST

Roundtable on
Climate Change and
Sustainable Transition

Agenda

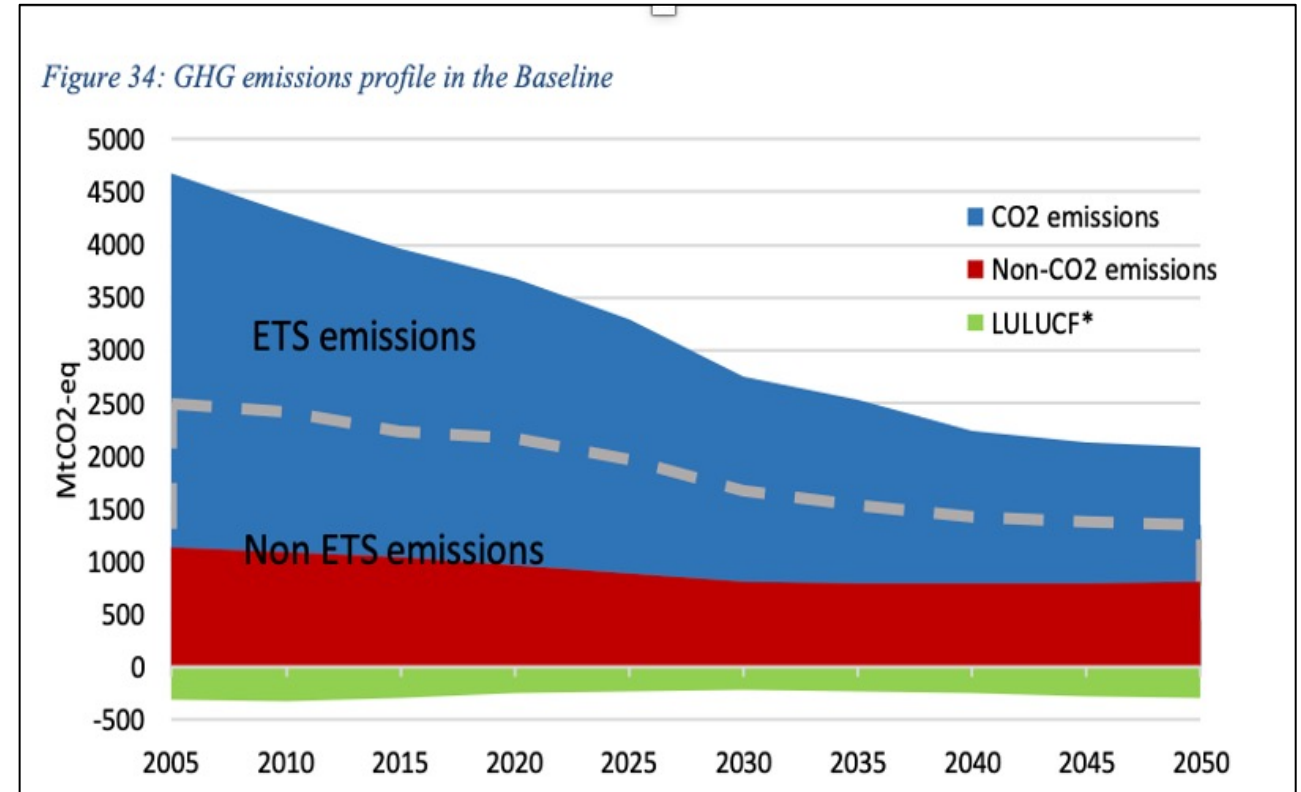
1. Presentation ERCST on state of play of extending the scope of the EU ETS
2. Panel 1: Carbon pricing in the maritime sector
 - C. Feld, CMA CGM group
 - S. Bennett, International Chamber for Shipping
 - W. Stoefs, Carbon Market Watch
3. Panel 2: Carbon pricing in road transport and building sectors
 - M. Libergren, Ministry of Finance, Denmark
 - D. Vergne, BEUC
 - M. Pollitt, CERRE
 - G. Zachmann, Bruegel
4. Reaction from the European Commission
 - P. Gregorin, DG CLIMA unit B.1

Setting the scene: the Climate Target Plan

- Considering the European Green Deal, the **three main pieces of the EU climate legislation** need to be revised:
 - EU Emissions Trading System
 - Effort Sharing Regulation
 - Land use, land use change, forestry (LULUCF) Directive
- The Commission:
 - **will propose to extend the ETS** to the maritime sector
 - **is looking into a potential extension** to road transport and building sector
- Today, the **ETS covers around 45%** of the total EU GHG emissions. An extension would lead to a cap that covers at least 80% of total EU emissions

Economy-wide view

- Emissions from **ETS sectors** declined by about 35% in the 2005-2019 period, with a 9% year-on-year reduction in 2019, following the introduction of the MSR
- Emissions from **ESR sectors** declined by about 10% in the 2005-2019 period
- If **current legislation and targets** are fully implemented, 44.5% reduction will be achieved compared to 1990 by 2030. Including net LULUCF, this adds up to a reduction of 46.3% by 2030
- **More action** is needed to achieve 55% emission reductions by 2030



Source: EU Commission, Climate Target Plan Impact Assessment

Expected benefits of extension

- **Increased economic and more harmonised incentives** to reduce emissions
- **Additional abatement options** across the EU
- Emission reductions where most **cost-efficient**
- Added **liquidity** to the market
- More certainty about **delivery of emission reductions**
- **New source of revenues** to support climate action and address social/distributional impacts

International approach to maritime emissions

- According to 4th IMO Greenhouse Gas study,
 - **GHG emissions from shipping increased** from 977 Mt in 2012 to 1,076 Mt in 2018 (9.6% increase)
 - **Share in global emissions increased to 2.8%** in 2018, despite 11% efficiency gains
 - By 2050, emissions are projected to increase by up to 50% relative to 2018
- **EU is committed to a global approach** to regulate maritime emissions under International Maritime Organisation (IMO)
 - Traditionally, **environmental policy making based on standards** while IMO has been promoting **technical and operational measures** to reduce emissions
 - **Market-based mechanisms** are under discussion both at IMO and EU

Environmental impact of extension

- Significant **untapped potential** to reduce shipping emissions cost-effectively
 - Large number of measures have zero marginal abatement cost or less
- According to a 2015 study funded by Commission, **zero cost abatement measures** have the potential to reduce EU shipping emissions with 23-29% by 2030 compared to 2012
- A market-based mechanism can contribute to **removing market barriers** that prevent the uptake of cost-efficient measures:
 - by sending a **price signal that goes beyond fuel costs** to incentivise the uptake of technological and operational measures to decarbonise shipping
 - Through MRV system, **accessible information about emissions** increases, investment decisions are more transparent and in line with potential efficiency gains

EU level action and position of legislator

- In 2013, EU strategy to reduce maritime emissions lays out following goals:
 - **MRV system** for emissions from ships using EU ports
 - **GHG reduction targets** for maritime sector
 - In medium to long-term also **market-based measures**
 - In anticipation of IMO, EU MRV Regulation entering into force in 2016
 - From 1 January 2018, eligible companies are to monitor and report on GHG emissions
 - In February 2019, EC proposal to amend MRV Regulation to align with IMO DCS
 - In terms of market-based measures, action coming from two fronts:
 - In **Parliament**, ENVI committee adopted report with amendments to the EU MRV regulation which included an extension of ETS to maritime sector
 - As part of the European Green Deal, the **Commission** wants to extend ETS to the maritime sector
- **Political backing for extension** to maritime makes it likely to happen – discussion is more focused on **how an extension will look like**

Carbon pricing in maritime sector

- **Scope of MRV emissions**

- Impact Assessment looks at 2 options:

- **Option 1: Including intra-EU bunker fuel emissions.** What about extra-EU shipping?
- **Option 2: Including all EU bunker fuel emissions.** How to treat extra-EU shipping?

- **How to introduce carbon pricing in maritime sector**

- Extension of EU ETS –implications for price/liquidity/cap?

- Separate ETS system for maritime transport – implications for economic-efficiency? In long-term linking with current ETS?

- A carbon tax at EU level – still under consideration?

- **Other issues** include type of emissions covered, EU emissions standards and international policies under IMO

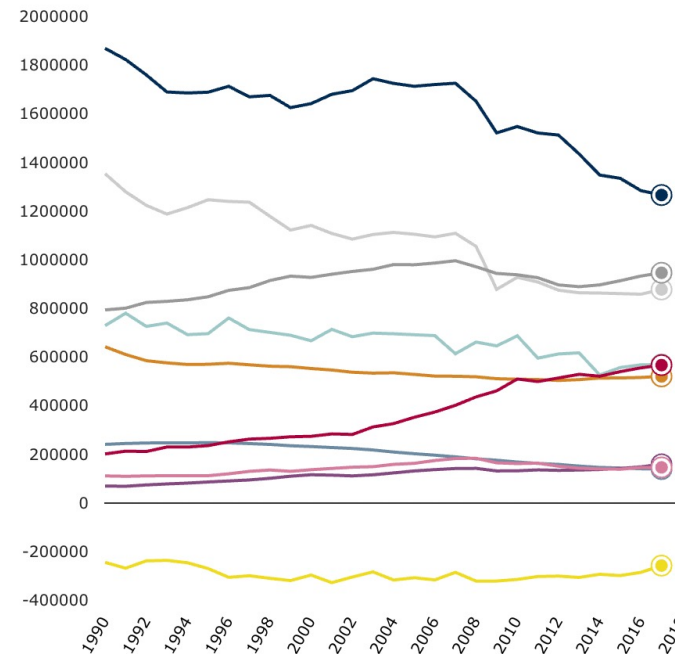
What are implications for international action under IMO?

- In April 2018, the IMO adopted its “**Initial Strategy** on reduction of GHG emissions from ships” with the objective of peaking international shipping emissions as soon as possible
- Target in Initial Strategy is **at least 50% reduction by 2050** → falls short of EU ambition
- What can the EU do to increase ambition?
 - Push for strengthening of ambition in the context of the period review in 2023
 - At the same time, EU should start prepare its own measures and policies
 - If increased ambition at international level not possible, EU can make unilateral decision and take advantage of being the first-mover

Road Transports and Buildings: emissions profile

- **Buildings:** 36% of total emissions, down by 28% compared to 1990 levels with significant disparities across MS. Less than 1% of the national building stock is renovated each year
- **Road transport:** emissions 23% higher than 1990, recent upward trend
- **Carbon pricing** is one tool to tackle the sectors' emissions. Others include strengthening fuel quality requirements, CO2 standards, labelling, energy performance requirements etc.

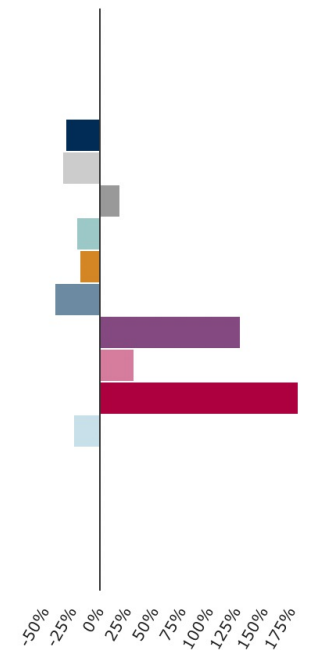
kt CO₂ equivalent



Legend

- Energy supply
- Industry
- Transport
- Residential/commercial
- Agriculture
- Waste
- International aviation
- International shipping
- CO2 biomass
- LULUCF
- Total excl. LULUCF

Percentage



Source: EEA GHG Data

CTP Impact Assessment Extension Options

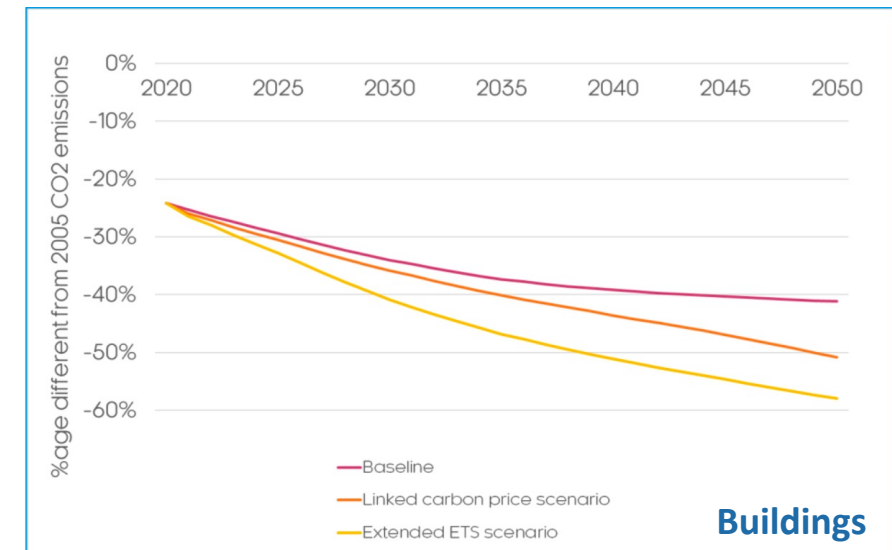
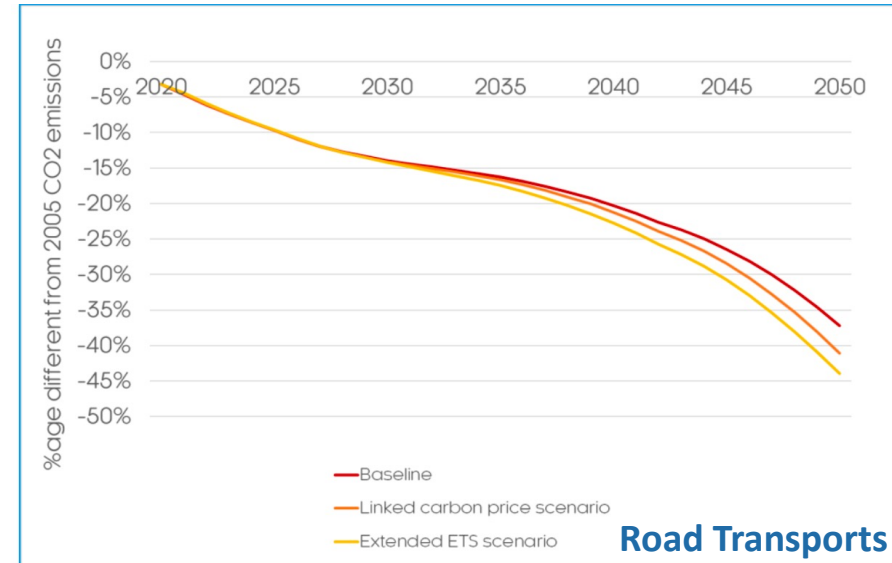
1. **Current scope of ETS and ESR**
2. **Extension of current EU ETS to new sectors (road transport and buildings)**
 - Sub-option 2.1: new ETS sectors not retained in ESR
 - Sub-option 2.2: new ETS sectors remain in ESR
3. **Separate EU-wide emissions trading system for new sectors (new sectors remain in ESR)**
4. **Obligatory carbon price incentives through national systems**

Options Implications and Rationale

- **Extended ETS:** more integrated carbon market with a single carbon price, adds liquidity, max cost-efficiency and min distortion. **Level the playing field** between fossil-fuelled and electric heating and transportation systems
- **ETS-ESR overlap:** limit the carbon price impact risk for the industry sector, MS still in charge of addressing non-price-sensitive abatement potentials
- **Separate ETS:** buys time to create a **robust and verified data reference for the cap setting in the new ETS and MRV systems for new sectors**
- **Separate ETS/National Systems:** different carbon prices adjust for **diversity of abatement potentials and ability to pay of different sectors and MS** but risk to **undermine the level playing field** in the single market

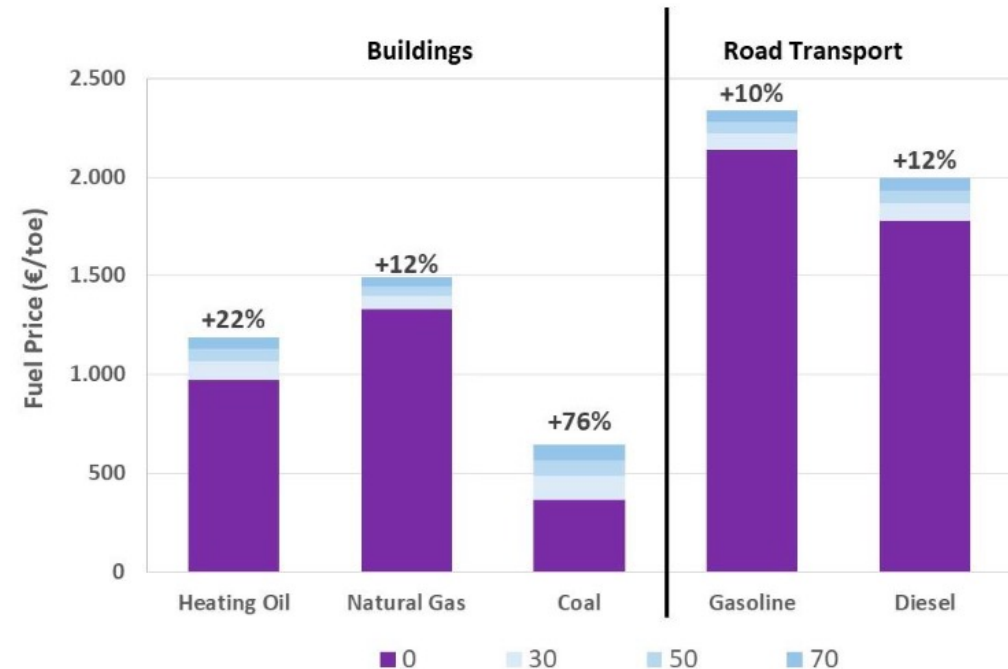
Environmental Impact of Extension

- Cambridge Econometrics projections: **road transport emissions 14% and heating 34% below 2005 levels in 2030**
- Neither a carbon price mirroring EUA price nor an extended ETS **substantially shift their emissions trajectory**
- To keep ETS overall emissions under the CAP, **the bulk of reductions takes place in existing ETS sectors.**
- Achieving the emission reductions target requires a **substantially higher ETS allowance price than in existing ETS sectors**



ETS extension impact on fuels prices

- The ETS extension is likely to exert an **upward pressure on EUA prices**, due to the low carbon price elasticity of the transport and building sector
- Due to **high upfront cost for significant GHG reduction**, price-induced emissions reduction likely to come from **reduced use, transport mode switching and investment in energy efficiency**, prior to substantial investment in zero carbon technologies
- **Complementary policies** – CO2 standards and energy performance - can put downward pressures on EUA prices



Source: Enerdata, derived from EnerFuture (EnerBlue Scenario)

Source: EU Commission, Climate Target Plan Impact Assessment

Social and administrative impacts

- Carbon pricing would **impact households and raise equity-related concerns** within and across MS. **Low-income households** who cannot afford to quickly switch low carbon technologies or those who live in **rental properties** would be penalized
- **The impact is expected to vary across MS**, depending also on how ETS revenues are distributed. What role for the **Modernisation Fund** and of the **Just Transition Fund**?
- If ESR coverage is retained, **additional distributional impact depend on the relative stringency on national ESR targets** compared to the ETS induced reduction
- An extension implies greater administrative complexity and the necessity to implement **robust MRV systems**. Due to the large number of small emitters in concerned sectors, an **upstream rather than a downward stream** approach seems preferable

Macroeconomic Impacts

- The ETS extension leads to a **significant increase of carbon revenues** (up to six fold increase). Revenues recycling can offset some extensions' effects.
- What will be the impact of a **higher EUA prices on existing ETS sectors?**

Table 15: Macro-economic impacts of carbon pricing **extension** (REG, MIX and CPRICE), 55% fragmentation action scenarios, deviation from baseline, percent)

EU impacts on key variables vs. baseline, 2030						
	- Tax recycling - Imperfect labour market - Free allocation ETS - Market share maximisation ETS			- Lump sum transfers - No labour market imperfections - Free allocation ETS - Profit maximisation ETS		
	REG	MIX	CPRICE	REG	MIX	CPRICE
Real GDP	-0.30	-0.27	-0.24	-0.23	-0.25	-0.25
Private consumption	-0.53	-0.71	-0.79	-0.41	-0.46	-0.44
Investment	0.49	0.57	0.86	0.50	0.56	0.83
Employment	-0.09	0.06	0.15	0.00	0.00	0.00
“Fuels and power” prices	-1.62	4.55	9.96	-1.92	3.47	8.07
“Housing and water charges” prices	2.67	1.77	0.14	2.68	1.82	0.19

Source: EU Commission, Climate Target Plan Impact Assessment

Policy interactions

- The **building and transport sectors are currently covered by horizontal legislation on GHG emissions (ESR), on renewables (RED), energy efficiency (EED, Energy Performance of Buildings Directive) and fuel infrastructure (Alternative Fuels Infrastructure Directive)**
- Carbon pricing extension must **exploit synergies and seek coherence** with the update of other relevant legislation
- **There is room for positive interaction:** carbon pricing can influence market diffusion of minimum energy performance requirements for buildings, CO2 emission standards for vehicles and RE in heating and transport

Extension to building and road transport: pros

- Strong **enforcement**, environmental **certainty** and **transparency**
- ETS is **technology neutral**, can correct for regulator's mistakes in picking winners and losers
- Incentive for **cheapest reductions** across MS and expansion in the availability of **abatement options**
- Incentive to **strengthen complementary policies**
- **Counter possible rebound effects** from efficiency improvements and cost reductions

Extension to building and road transport: cons

- **Lengthy, high risk, low-reward measure:** The resulting price signal hardly strong enough to encourage switching to cleaner technologies and to address the real barriers to the transition
- **Socially regressive:** It transfers the burden to citizens, risking to undermine European Green Deal public support
- **Shift responsibility away from Member States:** It weakens MS incentives to implement national measures, such as implementing fiscal measures, modal shift, demand reduction or building renovation
- Put pressure on sector where it is cheaper to achieve reductions but are at **risk of carbon leakage**