

Summary

The EU is currently discussing its climate and energy policy for 2030. As part of these discussions German carmakers have been advocating the inclusion of road transport emissions in the EU Emissions Trading System (ETS). Some countries like Denmark also support the idea, although for different reasons. This briefing explains why transport's inclusion in the ETS is a very bad idea:

1. It would delay and reduce the rate of emissions reductions in transport, putting at risk the achievement of climate and energy security goals and increasing costs;
2. It would undermine much more effective specific climate policies for transport such as standards for vehicle efficiency and clean fuels for 2025 and 2030, which stimulate investment in low-carbon technology in the transport sector;
3. It would weaken rather, than strengthen the ETS, and increase, not reduce, costs because it shifts carbon reduction away from the – sheltered – transport sector to potentially exposed ones.

While this paper argues against including road transport in the cross-sector ETS, it does not argue against much more transport-specific forms of credit trading. Europe can draw lessons from Californian policies that allow trading of low-carbon vehicle and fuel credits between vehicle and energy suppliers respectively that truly encourage low-carbon investment and innovation in transport.

Introduction

The EU is committed¹ to reducing carbon dioxide (CO₂) emissions by 80-95% by 2050 to prevent dangerous climate change. The Commission's 2011 Transport White Paper anticipates a 60% cut in transport emissions by 2050 will be required from 1990 levels. But while overall EU CO₂ emissions dropped 19% since 1990,² transport emissions have increased by 23%. To achieve the EU's climate goals, emissions from cars and vans will need to be almost entirely decarbonised by 2050.³ This is because emissions from lorries, aviation and shipping are likely to be more difficult to reduce and demand for transport is expected to remain high.

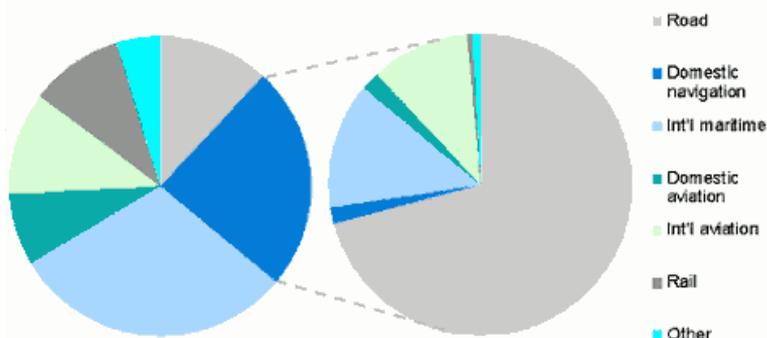


Figure 1: EU emissions by sector

In 2008, following a failed voluntary agreement with the carmakers, the EU introduced regulations setting CO₂ emissions standards for cars in 2015 and 2021. In 2014, the EU confirmed a 95g/km target for the average emissions of new cars in 2021, representing a 40% reduction compared to 2007 levels. The Commission is also committed by the end of 2014 to reviewing a 2025 target, assessing a range of 68-78g/km, representing a further 18-28% cut. Van emissions are regulated in a similar way and lorry CO₂ standards could also be introduced in the future. In addition to vehicle standards, the EU also has in place a 6% decarbonisation target for transport fuels and a 10% target for renewables in road transport.

¹ In 2009 and reaffirmed in 2011 by the European Council.

http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/envir/110634.pdf

² Despite a 45% expansion of EU GDP, which points to the decoupling of GDP growth and CO₂ emissions

³ 80% decarbonisation overall means nearly full decarbonisation in power, road transport and buildings. ECF, Roadmap 2050 – A practical guide to a prosperous, low-carbon Europe, 2011.

These policies are part of the so-called “integrated approach” according to which all sectors have to contribute to emissions reduction.

The automotive industry is now pushing for a policy overhaul and proposing that road transport be included in the Emissions Trading System (ETS). This paper explains the implications of this and why it is a bad idea.

1. The ETS would not deliver carbon savings in transport

The ETS covers around half of EU CO₂ and is based on the ‘cap and trade’ principle. Within the cap, companies receive or buy emission allowances, which they can trade with one another. Overly generous allocation and the economic recession have caused a huge surplus of allowances⁴ and consequently the price of carbon credits lingers at a very low €6 per tonne, well below the €25-30 that would be needed to incentivise investment decisions such as fuel switching from coal to gas.⁵

Restructuring the ETS is essential. An adequate carbon price is required to drive energy efficiency and the shift to lower carbon fuels needed to deliver an ambitious EU 2030 climate strategy. However, including road transport in the ETS will fail to address its current structural weaknesses and will not reduce emissions in road transport.

How it would work: a small top-up on fuel taxes

The ETS is based on emissions of CO₂ measured from tens of thousands of industrial chimneys. Measuring CO₂ emissions from millions of exhausts pipes in transport is impossible, so the inclusion of road transport would happen in a way similar to aviation. Since a litre of transport fuel emits around 2.5kg of CO₂ when burned⁶, transport CO₂ could be included in the ETS by measuring fuel sales, and making fuel suppliers liable for surrendering corresponding CO₂ emissions permits.

Road fuel suppliers already have to pay fuel taxes, so giving them an extra obligation to surrender CO₂ permits would not lead to a lot of extra paperwork. The current price of €6/tCO₂ is equivalent to around €0.015 per litre, around 1% of today’s fuel price. An aspirational mid-term ETS price of €25/tCO₂ would increase fuel prices by about €0.06/litre, around 4%.

The ETS does not give the right price signal to drive low-carbon transport

The above figures show that any fuel price increases from transport’s inclusion in the ETS will be very modest. Assuming a long-term fuel price elasticity of -0.7, a €6/tCO₂ price would reduce road transport emissions by less than 1%. **An aspirational €25/tCO₂ price would, through its €0.06/l fuel price increase, reduce CO₂ from transport by around 3%⁷.** Such fuel price rises would hardly drive development of clean vehicles or clean fuels, modal shift, or transport demand reduction. Moreover, even at the maximum carbon price of €100/tonne allowed in the ETS, the price of transport fuel would only increase by €0.25/l, leading to road transport emission cuts of around 10%.

However, to achieve the EU’s climate goals, road transport and especially cars and vans will need to be almost entirely decarbonised by 2050. In practice, there is no prospect of the maximum carbon price being achieved. Therefore, the ETS cannot deliver the required emissions reduction in transport, leading to a failure to achieve the EU’s climate targets.

Last but not least, it is easy to imagine that many national governments would opt to offset

⁴ http://ec.europa.eu/clima/policies/ets/reform/index_en.htm

⁵ Proportionate Impact Assessment European Commission backloading proposal, p11, http://ec.europa.eu/clima/policies/ets/cap/auctioning/docs/swd_2012_xx2_en.pdf

⁶ Petrol around 2.34kg CO₂ per litre, diesel around 2.62kg per litre

⁷ A 6ct fuel price increase represents a ca. 4% cost increase compared to the average fuel price of €1.5. Assuming a long term elasticity of 0.7 this would translate into a 3% reduction in carbon emitted.

the small ETS-driven fuel price increases with reductions in their national fuel tax rates. In these cases, the impact on transport CO₂ emissions falls back from small to exactly zero. This prospect is of particular importance if there would be a possibility to ‘unilaterally’ include transport.

Including transport in the ETS at national level – why there is no such thing as a free lunch

Some EU member states such as Denmark⁸ are advocating the unilateral inclusion of national transport fuels in the ETS. From a national perspective this may seem politically attractive. Rather than having to implement national policies or rely on EU-action (for example, vehicle or fuel standards) to achieve emission cuts in transport, a country could just decide to add national transport fuels to the ETS.

But there is no such thing as a free lunch. If Europe wants to reduce oil use and emissions as the Transport White Paper and 2050 Roadmap indicate, transport will have to be decarbonised at a rate of 3% a year. Postponing action will only mean deeper cuts later and so higher costs.

2. Inclusion of transport would damage the ETS and increase costs

It is sometimes argued that including transport in the ETS would cut the costs of carbon savings by shifting reduction obligations from transport to other sectors. But this is based on narrow economic theory that does not take into account that the ETS is a regional, not a global system. In reality, the inclusion of road transport will do little to strengthen it and could even end up increasing costs.

Including transport in the ETS would shift emission reduction efforts away from sheltered sectors

The ETS covers both sheltered and exposed sectors. Transport is a sheltered sector, like buildings – it cannot be relocated by definition. Shifting the effort of emissions reduction to other, less sheltered, sectors can lead to negative consequences for the EU economy. It is not only carbon abatement costs that count but also carbon leakage costs. While transport could bear very high carbon prices without delocalisation, this may not be the case with, for example, heavy industry. This fear of – perceived or real – carbon leakage from exposed sectors is one of the key reasons why emissions allocations have been so generous that we now have an excess.

Including transport in the ETS could in theory introduce a sector in the system that is in need of excess allowances, contributing to higher carbon prices. But there are two major caveats.

- The first is that if there is a problem with excess allowances, the best solution is to remove them or tighten the cap. This has proved to be politically difficult. It is therefore questionable whether there is sufficient political will to include transport emissions in the ETS with a sufficiently tight cap (i.e. a cap that would indeed push up the carbon price significantly).
- The second is that transport CO₂ emissions, after decades of increases, are now some 10% down

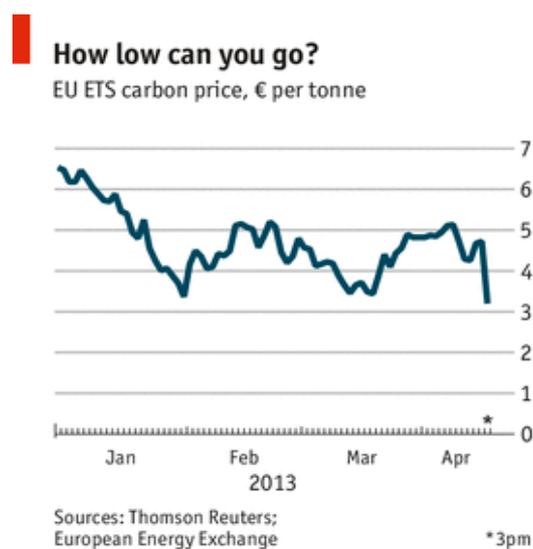


Figure 2: the EU ETS suffers from design flaws and excess allowances

⁸ Environment Council 12 June 2014, public policy debate 2030 framework for climate and energy policy climate and energy policy

from 2007 levels (further analysis below). This is a good thing, but reduces the sector's need for allowances. It also shows current policies are starting to work.

The fundamental problem with the ETS is that it covers sectors able to bear very different carbon prices. The political and economic reality dictates that prices in the ETS will only be allowed to increase to a level perceived affordable for the most exposed sectors. This explains the current €6/ton price and makes the maximum carbon price of €100/ton look inconceivable.

In sum, including road transport in the ETS would increase, not address, the tension between exposed and sheltered sectors and do nothing to tackle the ETS's in-built weaknesses.

The ETS postpones necessary action in transport, making it costlier

As described above, the ETS price signal would be too weak and too indirect for some key players, for example, car and lorry makers and automotive suppliers, to make necessary investments, even if these investments have reasonable payback time for their customers. Crucial time would be lost in accelerating the fuel efficiency improvements and shift towards e-mobility that are needed to decarbonise the light duty fleet. Both the EU economy and climate policy would be damaged.

The transition to ultra-low carbon transport needs to be made at some point if we are to avoid dangerous climate change. With transport in the ETS, this transition would happen too late and would have to be done much faster in a very short period of time, therefore imposing huge additional costs.

The Commission's Transport White Paper already includes an unrealistic reduction trajectory, delaying much of the required improvements – a 60% cut by 2050 – until after 2030.⁹ The ETS option would make meeting this target more difficult and more expensive by making even less progress before 2030. Consequently, meeting the overall target would require greater, more costly efforts from other sectors, making it harder and less likely for Europe to meet its 2050 objectives – let alone meet them in a cost-effective manner.

3. Inclusion in the ETS would jeopardise more effective policies

It is not for nothing that German carmakers are among the biggest proponents¹⁰ of inclusion of road transport in the ETS. It shifts the effort of reducing CO₂ to other sectors. And it specifically provides them with a good reason to delay and weaken CO₂ standards for vehicles with the argument of 'double regulation' – supposedly CO₂ emissions from transport have been 'dealt with' once included in the ETS.

This has been the tactic for 20 years, during which time the car lobby initially argued that fuel costs naturally drive the required efficiency improvements (they don't); then it argued a voluntary agreement would be sufficient (it wasn't); and finally, when regulation was proposed, it should be delayed and weakened (it was). Now the car lobby is trying to prevent post-2020 targets by advocating that transport should be included in the ETS.

Fleet-average CO₂ standards for 2015 and 2021 are successfully lowering emissions from cars and vans and could further contribute to achieving 2030 climate goals if new targets

⁹ The Commission is only aiming for a reduction of 1% per year until 2030, and then expects emissions to drop magically by around 5% each year after 2030 to reach the target.

¹⁰ <http://www.reuters.com/article/2014/08/20/eu-ets-autos-idUSL6N0Q42U720140820>;

Similarly, Daimler boss Dieter Zetsche, during a panel discussion in Stuttgart, called the development of the EU CO₂ vehicle targets "carpet trading", and suggested a move away from mandatory CO₂ emission standards and toward integrating the transport sector into the existing EU emissions trading system (ETS) instead (see the print edition of FAZ, Oct 15). <http://www.theicct.org/blogs/staff/latest-eu-bazaar-carpet-trading-emissions-trading>

were set for 2025 and 2030. The car CO₂ regulation increased the pace of annual fuel efficiency improvements from 1.3% p.a. prior to the law (before 2007) to 3.9% p.a. in 2009-2013. Most European carmakers are on track to meet the 2021 target and all are expected to achieve this goal. Meanwhile car prices remained stable, which suggests fuel savings can be achieved at lower than expected cost.¹¹

CO₂ standards are already contributing to transport emissions cuts. CO₂ emissions from land transport were 10% lower in 2012 than the peak year of 2007.¹² The impact of the economic crisis on this has been limited, suggesting there has been a strong decoupling of transport CO₂ from economy activity since 2007.¹³ The 2020 target will reduce total car emissions by 24% between 2010 and 2030.¹⁴

Below we sketch why maximum ambition on vehicle CO₂ and efficiency standards is the right way to reduce road transport emissions.

1.1 Standards are more effective in reducing Europe's oil dependence

An economically optimal climate and energy policy should not only minimise the costs of CO₂ abatement, but also minimise the costs of the EU's dependence on foreign oil which has important political and economic repercussions. Excessive energy dependence leads to transfer of wealth, GDP losses and costs of adjusting to sudden, big price fluctuations.¹⁵ The EU imports 90% of its oil. Russia (33%) is our biggest supplier. Other big suppliers include Saudi Arabia, Libya and Nigeria.¹⁶

Around a third of the EU's total oil consumption – around 200 Mtoe – is used to fill up cars and vans, costing Europe €100 billion annually. The ETS option would hardly reduce fuel consumption and energy dependence (about 3% lower assuming a €25/ton cost). Standards are far more effective. The 95g target will avoid fuel use worth €27-36 billion every year from 2020.¹⁷ A recent analysis found that ambitious CO₂ standards are the most effective way for Poland to reduce its dependence on – mostly Russian (94%) – oil imports.¹⁸

1.2 Standards overcome market barriers

It is sometimes argued the only market barrier impeding carbon reductions is the lack of a carbon price. This is far from true. The additional cost of buying a car to meet the 95g target could be met in lower fuel costs within two years.¹⁹ However, car buyers often do not prioritise fuel efficiency when buying a new car – it is just one of many criteria they take into account. Moreover, when it comes to fuel efficiency, they are strongly focused on the purchase price, discounting future fuel savings.²⁰ Emissions standards therefore also address this market barrier and are widely supported by motorist and consumer groups.²¹

1.3 Standards give automotive suppliers planning certainty

Suppliers invest in developing low-carbon technologies because emissions regulations establish a predictable future market. They provide investment certainty, something the inclusion of transport in the ETS would not do. The investment made by automotive

¹¹ http://www.transportenvironment.org/sites/te/files/publications/T%26E%20Report%20-%20Carmakers%20CO2%20emissions%20in%202013_Part1.pdf

¹² Heavy-duty vehicle emissions remained more or less stagnant and van CO₂ emissions improved at a much slower pace. This suggests most of the improvements come from cars.

¹³ <http://www.eea.europa.eu/data-and-maps/data/data-viewers/greenhouse-gases-viewer>

¹⁴ Commission Impact Assessment accompanying its proposal to review Regulation 443/2009.

¹⁵ See, for example, http://cta.ornl.gov/cta/Publications/Reports/ORNL_TM2005_45.pdf

¹⁶ Eurostat, Main origin of primary energy imports, EU-28, 2002-12

¹⁷ Commission impact assessment Car CO₂ Regulation 2012 p17.

¹⁸ http://www.transportenvironment.org/sites/te/files/publications/2013%20Poland_at_crossroads_final.pdf

¹⁹ T&E Position Paper Cars CO₂

http://www.transportenvironment.org/sites/te/files/publications/Cars%20CO2%20Position%20Paper%20301012%20Final_0.pdf

²⁰ <http://www.theicct.org/blogs/staff/latest-eu-bazaar-carpet-trading-emissions-trading>

²¹ See for example BEUC or FIA support for 95g target <http://www.beuc.org/publications/2013-00542-01-e.pdf>

suppliers creates high-quality engineering jobs in the EU. It also increases the competitiveness of the sector that develops more fuel-efficient technologies that are increasingly demanded by drivers and regulators globally.

1.4 Standards create high-quality jobs in the industry

Standards require manufacturers to provide more fuel-efficient vehicles to their customers. The additional cost of these technologies is earned back through lower fuel costs. Fuel savings finance the development (R&D) and manufacturing (jobs) of supplying low-carbon technologies. The money that motorists do not spend on fuel is spent elsewhere in the economy. A 2013 Cambridge econometrics study²² estimates EU car CO₂ regulations could create up to 440,000 jobs by 2030, many of these in the automotive industry.

Transport in ETS is not a solution; other forms of trading can be

The current car and van CO₂ standards set targets that have to be met by individual carmakers. This allows them to average or trade between their own models or brands through a system of pooling allowances. For example, some carmakers offset the higher emissions of their SUVs by also supplying small city cars.

There is currently no trading of CO₂ credits between carmakers beyond the company group. Carmakers do not like trading allowances, except it seems within the ETS when it's not them but rather fuel suppliers which have to do so. **Trading of low-carbon vehicle credits**, such as the system in California, would increase the cost-effectiveness of the regulation and stimulate competition between carmakers, allowing some to be rewarded by overachieving their targets. The Californian system combines a Zero Emission Vehicle (ZEV) mandate and the possibility to trade ZEV-credits.

This allows some carmakers that are good at making ZEVs, like Tesla or Nissan, to sell more electric cars in a cost effective way while others, for example Fiat-Chrysler, can opt to buy credits instead. This creates a (financial) incentive for companies to exceed the targets, ensures cost-effective effort sharing, allows specialisation of carmakers, and facilitates the early introduction of electric cars. California has one of the highest level of sales of electric cars globally.²³ The same is true for California's low-carbon fuel standard that provides possibilities to trade clean fuel credits. From an environmental, competition and economic point of view, the Californian system compares very favourably to the EU's flawed supercredits – overly generous emission allowances per electric car sold – which serve merely to undermine CO₂ standards.

4. Conclusions and policy recommendations

The EU is currently discussing its climate and energy policy for 2030. As part of these discussions, the car industry but also Denmark are advocating the inclusion of road transport emissions in the EU Emissions Trading System.

The system would work as a very modest top-up on fuel prices (depending on whether or how member states vary their fuel taxes). But any fuel price increase would be too modest to reduce oil imports or drive the investment and innovation that is needed to reduce transport emissions.

Including road transport in the ETS would:

1. Delay and reduce the rate of emissions reductions in transport, putting at risk achievement of climate and energy security goals.

²² <http://www.ricardo-aea.com/cms/assets/MediaRelease/Economic-Assessment-Vehicles-FINAL2.pdf>

²³ <http://www.transportenvironment.org/publications/electric-vehicles-2013-progress-report>

2. Undermine much more effective specific climate policies for transport such as standards for vehicle efficiency and clean fuels for 2025 and 2030, which stimulate investment in low-carbon technology in the transport sector.

3. Weaken rather than strengthen the ETS, and increase, not reduce, costs because it shifts carbon reduction away from the – sheltered – transport sector to potentially exposed ones. The tension between these sectors lies at the heart of the current failure of the ETS to provide an adequate price signal.

While the ETS option is a bad idea, more transport-specific forms of credit trading could be a good idea. Europe can draw lessons from Californian policies that allow trading of low-carbon vehicle and fuel credits between vehicle and energy suppliers respectively. These truly encourage low-carbon investment and innovation in transport.

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