

## Pricing instruments on transport emissions



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Fair and efficient pricing in transport is one of the core elements within the European Commission's vision to decarbonise the transport sector. By using a mutually compatible and complementary mix of pricing instruments, like emission trading, infrastructure charges, energy taxes and vehicle taxes, transport users should be incentivised to make more sustainable transport decisions.

### The study

provides a general overview of the current and proposed pricing instruments on road transport CO<sub>2</sub> emissions in the EU.

### Main observations

Pricing instruments on road transport CO<sub>2</sub> emissions are widely applied in Europe, although there are significant differences between Member States. More broadly, Member States also differ to the level by which their road transport

sectors meet the 'polluter-pays' and 'user-pays' principles.

The European Commission has presented proposals to incentivise the pricing of CO<sub>2</sub> emissions of road transport by introducing emission trading for this sector as well as by revising the Energy Taxation Directive (ETD). One of the aims of the latter is to incentivise the uptake of low-carbon energy carriers by the transport sector.

In order to better align the EU legal framework on transport pricing instruments with the decarbonisation objectives of the EU, the Commission recently proposed to revise the ETD by removing the disadvantages for clean technologies and introducing higher levels of taxation for inefficient and polluting fuels. Furthermore, the Commission proposed to launch a new, separate emission trading scheme (ETS) for road transport (and buildings).

Pricing instruments (particularly emission trading and fuel taxes) are effective in reducing CO<sub>2</sub> emissions in the road transport sector. They may, however, also have significant distributional impacts, which should be carefully considered in order to gain social acceptance for this type of instruments.



### Conclusions and policy recommendations

To optimise the use of pricing instruments in decarbonising the road transport sector, it is important to:

- *Develop a balanced mix of pricing instruments.* Fuel taxes and/or an ETS would be the cornerstone(s) of an effective package of pricing instruments on CO<sub>2</sub> emissions. However, CO<sub>2</sub> based purchase taxes may provide an effective additional incentive for the uptake of low- and zero-emission vehicles.
- *Integrate pricing instruments in a broader package of CO<sub>2</sub> reduction policies.* As pricing instruments are largely complementary to other climate policies, like CO<sub>2</sub> vehicle standards, they should be preferably combined in an overall climate policy for (road) transport.
- *Consider political and social acceptance of pricing instruments.* Large distributional impacts may negatively affect the political and social acceptance of pricing instruments. Developing mitigation measures for these impacts is therefore key, e.g. by designing effective recycling channels for the revenues of pricing instruments.



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- *Regularly re-adjust the pricing instruments.* In order to maintain the effectiveness and revenue of pricing instruments, regular updates of CO<sub>2</sub> based pricing instruments are required, taking trends in the car industry (e.g. decreasing average CO<sub>2</sub> emissions of vehicles) and consumer preferences (e.g. increased preferences for zero-emission vehicles) into account.
- *Consider other transport externalities as well.* An overall transport pricing policy should not only consider CO<sub>2</sub> emissions, but also other externalities like air pollution and congestion. Differentiated distance-based road infrastructure charges may play an important role in this respect.

### Key areas for EU action

1. Develop a balanced mix of pricing instruments.
2. Integrate pricing instruments in a broader package of CO<sub>2</sub> reduction policies.
3. Consider political and social acceptance of pricing instruments.
4. Regularly re-adjust the pricing instruments.
5. Consider other transport externalities as well.

**Table: Overview of CO<sub>2</sub> reduction options incentivised by the various pricing instruments**

Pricing instruments		Reduced vehicle ownership	More fuel efficient vehicles	Shift to low-carbon energy carriers	Fuel efficient driving	Increased transport efficiency	Modal shift to low-carbon modes	Limiting overall transport demand
	Increase fuel tax level	Green	Green		Green	Green	Green	Green
	Carbon content differentiation of fuel taxes			Green				
	ETS for road transport	Green	Green	Green	Green	Green	Green	Green
	Increase of vehicle taxes	Green					Green	Green
	CO <sub>2</sub> differentiation of vehicle taxes		Green					
	Flat road infrastructure charges					Green	Green	Green
	CO <sub>2</sub> differentiated road infrastructure charges		Green					

Source: own analysis based on [Van Essen et al. \(2010\)](#)

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