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Inside the black box: EU policy officers' perspectives on transport and climate change mitigation

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ABSTRACT

Transport is a significant and growing contributor to climate change. To stay within 'safe' global warming guardrails requires substantial cuts in greenhouse gas emissions. This represents a global political consensus, but there is evidence that current legislation in the transport sector is not significant enough to achieve medium- and longer-term reduction goals. In focusing on the European Union, this paper investigates the perspectives of twelve policy officers in three Directorates-General (MOVE, CLIMA, ENV) of the European Commission with regard to their understanding of mitigation goals and timelines, responsibilities for policy development and implementation, and perceived efficiencies of these policies to achieve climate objectives in the transport sector. Results indicate diverging and common views on climate policy goals and political responsibilities, as well as barriers to policy-making, including lack of political leadership on climate change mitigation, resistance from member states, the favoring of economic growth over cuts in greenhouse gas emissions, pressure from industry and lobby groups, preferential treatment of aero- and automobility over more sustainable transport modes, policy implementation delays, insufficient forecasting and monitoring tools, and an overreliance on technologies to contribute to emission reductions. In offering a view inside the 'black box' of transport policy-making, the paper reveals fundamental institutional (structural) and individual (agency-based) barriers that will have to be overcome if significant emission cuts in the transport sector are to be achieved.

1. Introduction

Transport in the European Union (EU28) continues to grow (EC, 2015a): in the period 1995–2013, average annual growth in passenger transport in the EU was 1.0%, totalling 6465 billion passenger kilometres (pkm) in 2013, or 12,700 km per person. Air and sea transport by EU28 citizens outside the EU are not included in these transport volumes. In the EU, transport accounts for 31.6% (348.5 Mtoe) of final energy consumption (1104 Mtoe), out of this 82.8% is a result of road transport and 13.2% of intra-EU air transport. Notably, the share of transport emissions increased from 18.8% in 1990 to 25.3% in 2012, while the share of emissions from non-transport sectors declined. In the future, continued growth in transport volumes and associated emissions is likely: passenger car numbers, for instance, increased from 163.6 million in 1990 to 248 million in 2013 (EC, 2015a). With regard to aviation, Airbus (2015) expects passenger growth in the order of 3.8% per year in Western Europe, North America and Japan, measured in revenue passenger kilometres (RPK), for the next two decades. Similar expectations have been formulated by Boeing (2015). IATA (2011) projects 16 billion passengers by 2050, compared to 2.8 billion in 2011. Even if growth was lower than these projections by industry, transport's share in EU28 emissions will very likely increase and make it difficult to reconcile growth with climate policy (e.g. Bows and Anderson, 2007; Chèze et al., 2013; Kousoulidou and Lonza, 2016).

Within the European Union, pledges have been made to reduce emissions of greenhouse gases (GHG) by 20% by 2020, and 40% by 2030, compared to 1990. Furthermore, the EU has voiced ambitions to implement at least a 27% share of renewable energy sources in its final energy consumption, and to achieve at least a 27% improvement in energy efficiency, below a 'business-as-usual' scenario (EC, 2015b). The European Environment Agency (EEA, 2015a) is tracking these targets and concludes that GHG emissions have already declined by 19.8% below 1990 levels, i.e. they are in line to achieve a 24% reduction by 2020, more than necessary to meet mitigation commitments (20% by 2020). A critical assessment of the EEA report reveals, however, that the influence of economic growth as a driver of emission growth has been negative or neutral in most years of the assessed period (2005–2013), while

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there are also economies that have experienced reversing emission trends. Germany, for instance, with a self-declared goal of a 40% emission cut by 2020 in comparison to 1990, has recorded growing annual GHG emissions in the years 2012 and 2013 compared to 2011 (Umweltbundesamt, 2015). Compounding this, measures in the EU to reduce emissions are likely to have had a comparably low or even negative cost in the last decade, and these costs are going to increase significantly over time (IPCC, 2014). Consequently, there is evidence that a continuation of decarbonisation pathways may be complicated by various factors.

Even though these issues are not acknowledged by the EEA (2015a): 10), the organization does emphasize that "member states…will have to increase considerably their efforts to meet longer-term energy and decarbonisation objectives for 2050", noting that reductions between 2030 and 2050 will have to be three times steeper than reductions between current and 2030 levels (Fig. 1), in a situation where mitigation becomes increasingly expensive. As outlined by the EEA, a major obstacle to achieving longer-term overall mitigation objectives will be transport, as emissions from this sector have increased – not declined – by 19.4% between 1990 and 2013. Compounding this, the EEA outlines that GHG emissions covered by the EU Emissions Trading Scheme (ETS) are essentially from industrial installations, i.e. largely irrelevant for the transport sector. The EEA emphasizes, however, that the EU ETS has covered emissions from intra-EU aviation since 2012, and concludes that further reducing emissions from transport will require mitigation actions at the national level, driven by a mix of EU policies.

Official pledges of emission reductions by the European Commission (EC, 2015a) for the European Union can thus be compared with mitigation pathways outlined by the EEA (2015a), and goals specified in the 2011 Transport White Paper (EC, 2011). While the EEA seems to expect the EU ETS to achieve the greatest share of overall emission reductions in the short-term future (63% of needed cuts in the period 2013 and 2020), the European Commission (EC, 2015a) highlights that transport emissions would have to fall by 67% by 2050 compared to 2012 in order to meet the Transport White Paper (EC, 2011) transport emission reduction objectives for 2050, defined as a 60% decline in GHG emissions compared to 1990 (see also EEA, 2015b). Given EU28 ambitions to reduce overall emissions by 80% by 2050, this implies that the transport sector will make a smaller contribution to decarbonisation than other sectors. Yet, the current view by EEA (2015a) is that transport emissions will decline by only 0.7% per year between 2013 and 2020, as a result of 'key EU policies' including biofuels, infrastructure charging for heavy goods, mobile air conditioning, CO_2 from cars, clean and energy-efficient road transport, and CO_2 from vans.

In comparison, the EC (2015a) in summary has implemented transport policies as follows:

- Aviation has been included in the EU Emissions Trading System (ETS);
- A strategy is in place to reduce emissions from cars and vans, including emissions targets for new vehicles;
- A strategy for reducing heavy duty vehicle fuel consumption and CO_2 emissions;
- A target is in place to reduce the greenhouse gas intensity of fuels;
- Rolling resistance limits and tyre labelling requirements have been introduced and tyre pressure monitors made mandatory on new vehicles;
- Legislation encouraging national authorities to deploy gas and electricity infrastructure; and,
- Public authorities are required to take account of lifetime energy use and CO_2 emissions when procuring vehicles.

In summary, the EU currently relies on two major legislative instruments to reduce emissions, i.e. the EU ETS, imposing caps on CO_2 emissions of large emitters (Directive 2009/29/EC), as well as legislation for sectors not covered by the EU ETS on a national level, covering transport (Decision 406/2009/EC). While inclusion of aviation in the EU ETS limits the impact of additional growth in this sector by forcing other sectors to reduce disproportionally greater emission volumes, the system only covers intra-EU air travel. With regard to other legislation, measures as currently implemented or planned for the period 2013–2020 appear to be solely focused on technological innovation, with no specific consideration of either market-based initiatives including taxes and duties (carbon pricing) to initiate changes in transport use, or stripping away fossil-fuel subsidies. Yet, both of these have been singled out as key issues that would have to be addressed in order to significantly reduce fossil-fuel dependencies and emissions of GHG (IEA, 2015; IMF, 2015; OECD, 1999, 2008, 2015). Concerns that current policy measures are not far-reaching enough have been voiced frequently, and it has been

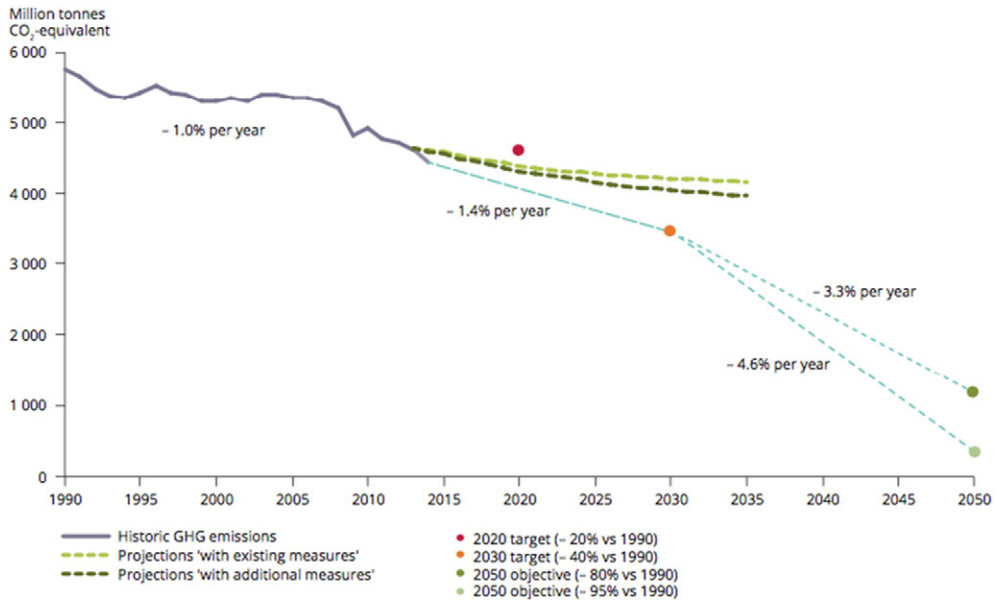

Fig. 1. Emission reductions pathway, EU28
Source: EEA, 2015a.