TRANSPORT ANALYSIS

Policy instrument for eco-friendly goods vehicles

Summary
Report 2019:2

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Summary

Transport Analysis has been tasked with analysing whether additional policy instruments are needed to retool Sweden's heavy goods vehicle fleet so that the climate target for domestic transport can be achieved. A description is also to be provided, if necessary, of how such policy instruments could be configured. The vehicle fleet and its development are to be described within the framework of this task, as are applicable policy instruments in Sweden and other countries. Relatively extensive consultation with relevant actors has taken place during this effort.

Currently, there are over 80,000 heavy goods vehicles in service in Sweden. Fully 97% of them are registered as diesel powered. A scant 8,000 new registrations of heavy goods vehicles occur in Sweden each year. Only 1.4% of the heavy goods vehicles in the fleet are specially designed for alternative fuels. The assessment of Transport Analysis is that, given the policy decisions made, the transition to fossil-fuel freedom will continue to proceed notably slower for heavy goods vehicles than for personal cars and buses.

Carbon dioxide emissions from heavy goods vehicle traffic in Sweden decreased 31% from 2010 to 2017. However, the trend up until 2030 looks less favourable. Calculations show that emissions from heavy goods vehicle traffic will decrease by only 28% from 2010 to 2030, far short of the climate target, which calls for a decrease of 70%. Additional measures are needed if greenhouse gas (GHG) emissions from heavy goods vehicle traffic are to decrease in a manner consistent with the climate target for domestic transport.

The Swedish system for greening diesel oil implies a reduction obligation that requires fuel companies to reduce emissions of fossil carbon dioxide by 20% this year via the admixture of bio-based fuels. Diesel is subject to both energy and carbon dioxide taxes. Natural gas is subject to carbon dioxide tax but is exempt from energy tax. Biofuel, such as bio-based ethanol, is exempt from both energy and carbon dioxide taxes, at least until 2020. Electricity is subject to a relatively low energy tax. Overall, fuel taxes would seem to offer clear incentives to adopt climate-friendly solutions. On the other hand, vehicle taxes, road tolls, and congestion taxes offer no such direct guiding influence.

Sweden also has climate investment programmes and research and innovation programmes that offer support for fossil fuel-free heavy goods vehicles. This applies in particular to Klimatklivet (Climate Leap), Stadsmiljöavtal (Urban environment agreement), and the Strategic Vehicle Research and Innovation Programme (FFI), as well as liquid biogas subsidies, and innovation clusters for ethanol.

In Germany, a cash subsidy has been introduced for companies that purchase heavy goods vehicles that run on either natural gas/bio gas or electricity, even as such vehicles are, for a limited time, also exempt from the German kilometre tax. A different form of subsidy for eco-friendly goods vehicles has been introduced in France, one that instead grants advantageous depreciation rules to purchasers of such vehicles. Certain incentives are also available in other EU countries.

The introduction of an eco-friendly goods vehicle premium and carbon dioxide-differentiated vehicle tax for goods vehicles has been proposed in previous official Swedish Government Reports, including the so-called *Fossilfriutredningen* (Fossil-free report) in 2013. Working with

several other agencies, the Swedish Environmental Protection Agency has analysed similar proposals within the framework of an in-depth assessment of Swedish environmental targets.

Given the configuration of our task, some measures that could potentially increase the proportion of climate-friendly goods vehicles in Sweden could fall by the wayside: measures to influence shipping volumes fall outside our purview; changes in fuel taxation are not applicable in connection with a sole emphasis on goods vehicles; and, for the time being, a carbon dioxide-differentiated kilometre tax is impeded by European legislation. Increased taxes on less climate-friendly goods vehicles are considered an impassable route, on market-related grounds. The analysis consequently leads to a proposal for an eco-friendly goods vehicle premium.

An eco-friendly goods vehicle premium has been proposed to be granted to purchasers of factory-new goods vehicles with a total weight exceeding 16 metric tonnes, assuming they are powered by electricity, bio gas, or ethanol. The proposal calls for the premium to be implemented as of 1 January 2020. The eco-friendly goods vehicle premium would essentially amount to 40% of the added cost of the vehicle compared with a corresponding diesel goods vehicle, regardless of vehicle type. In the case of small and medium-sized companies, the premium would amount, at least initially, to 60% or 50% of the added cost, respectively. For an eco-friendly goods vehicle premium to be granted for bio gas-powered vehicles under the proposal, the recipients would be required to declare their intention to use biogas (rather than natural gas) to a significant extent. It is important that the premium be designed to ensure that these vehicles will remain in Sweden. It is proposed that this preferably be achieved by configuring the premium as a conditional subsidy, with the condition being that the vehicle must remain in the Swedish vehicle register for at least five years. A secondary alternative is that the premium be configured as a conditional loan. It is proposed that the eco-friendly goods vehicle premium be administered by the Swedish Energy Agency.

It is difficult to assess the impact that the eco-friendly goods vehicle premium could have, and therefore to determine the associated budgetary requirements. On one hand, we know that there is fierce competition in the market for goods vehicle shipping both between Swedish haulers and between Swedish and foreign haulers. It is normally difficult to commit to solutions that entail added costs in such an environment. On the other hand, the State is undertaking major initiatives in both bioenergy production and the distribution of electricity and other fuels in order to enhance the attractiveness of such alternatives. Our assessment is that uptake of a significant number of bio gas vehicles could elevate the eco-friendly goods vehicle premium, while the initially low number of electric cars could grow relatively rapidly. The eco-friendly goods vehicle premium for ethanol vehicles is relatively low and affects the need for budgetary funding to a lesser extent. The budget would be on the order of SEK 60 million for 2020, SEK 80 million for 2021, and SEK 120 million for 2022.

In theory, an eco-friendly goods vehicle premium is not the most efficient policy instrument that could be designed to retool our heavy vehicle fleet, so that GHG emissions are reduced in keeping with the target. However, other alternatives are ruled out by legal or market-related restrictions. The challenge has been to configure the eco-friendly goods vehicle premium in the best manner possible. For the future, a sustainably designed carbon dioxide-differentiated kilometre tax stands out as an efficient and effective policy instrument for retooling our fossil-fuelled heavy vehicle fleet so that GHG emissions can be decreased in a manner consistent with our climate target for domestic shipping.

European road toll legislation is deficient insofar as it does not address electric roads. In the negotiations concerning a revised Eurovignette Directive, Sweden should consequently push

for electric roads to be handled in a way that countervails the fact that shipments made by electric goods vehicles to and from Sweden are subject to excessive tolls abroad, and for the regulations to leave an opening for whatever forms of financing Sweden may ultimately seek to apply.

Transport Analysis also proposes that, looking ahead, the issue of carbon dioxide-differentiated vehicle taxes for heavy goods vehicles should be put back on the table. There may also be reason to consider whether the electric bus premium should be expanded into a more technology-neutral eco-friendly bus premium.

TRANSPORT ANALYSIS

Transport Analysis is a Swedish agency for transport policy analysis. We analyse and evaluate proposed and implemented measures within the sphere of transport policy. We are also responsible for official statistics in the transport and communication sectors. Transport Analysis was established in April 2010 with its head office in Stockholm and a branch office in Östersund.

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