

EFTA Surveillance Authority
Rue Belliard 35
B-1040 Brussels
Belgium

Your ref

Our ref
17/335 -

Date
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Subject: Notification of tax measures for electric vehicles

1. INTRODUCTION

Pursuant to Part I Article 1 (3) and Part II Article 2 of Protocol 3 to the Surveillance and Court Agreement, the Ministry of Finance (hereafter referred to as the Ministry) on behalf of the Norwegian Government hereby would like to notify to the EFTA Surveillance Authority (hereafter referred to as the Authority) several measures relating to the taxation of electric vehicles. The terms electric vehicle (EV), electric van and electric car in the following includes battery electric (BEV) and fuel cell electric (FCV) vehicles, unless specified otherwise. The notification comprises:

- prolongation of the existing zero VAT rating for supply, import and leasing of electric vehicles and for supply/import of batteries for such vehicles
- new full exemption of electric cars from annual tax (currently a reduced rate)
- new exemption of electric cars from re-registration tax
- new more favourable 30 % depreciation rate for electric cargo vans for income tax purposes

The outlined measures are based on specific requests adopted by the Parliament as part of the State budget for 2017. The VAT zero rating is currently in force, cf. The Authority's Decision No. 150/15/COL, according to which the measure can remain in force until 31 December 2017. The favourable depreciation rate has been formally adopted, but is not in force. The other measures are neither formally adopted nor in force.

It is the Government's position that the measures do constitute state aid according to Article 61 (1) of the EEA Agreement, however in our view the aid is compatible with the functioning of the EEA Agreement according to Article 61 (3).

In the following, we will first give a summary of why the measures in our view are compatible with the EEA Agreement in chapter 2. To support the Authority's factual and legal assessment, we will then give an overview of the measures in chapter 3, before considering the question of state aid in chapter 4. Finally, in chapter 5, the compatibility provision in Article 61 (3) will be considered in detail.

2. SUMMARY OF THE NOTIFICATION

The sales of electric vehicles in Norway is high relative to the number of inhabitants. Still, the markets are immature, and we are in a vulnerable phase of market development. The production costs, and hence the sales prices excluding taxes, are significantly higher for EVs than for comparable gasoline and diesel cars. Limited battery capacity, resulting in limited range, an uncertain second hand market, as well as limited number of models available in the market and long delivery times, result in disadvantages for EV buyers. This can represent a significant cost of owning an EV, leading to a reduced demand. In addition, consumers may not be able to take fully into consideration the future costs and benefits of buying and owning an EV, which for example can be a result for lack of necessary information, uncertainty about future benefits or the ability to understand the effect on future cash flows. Both real and perceived uncertainty regarding the expected costs and benefits may make consumers unable to take fully into considerations the future costs and benefits of buying and owning an electric vehicle. This may lead to myopic behaviour, also known as "short-termism", which can reduce the demand for electric vehicles further.

At the same time, Norway has ambitious climate policies, and ambitious targets for introduction of zero emission vehicles. To be able to reach the ambitious targets significant measures are required. The Government has set a working target of a cut of 35-40 % in emissions from the transport sector by 2030 compared with 2005. In its White paper on the National Transport Plan for 2018–2029¹, the Government established several new targets:

- In 2025, 100 percent of new private cars and light vans will be zero-emission vehicles. All new city buses will be zero-emission vehicles or use biogas.
- By 2030, all new heavy vans, 75 % of new long-distance buses, and 50 % of new lorries will be zero-emission vehicles.
- By 2030, the distribution of goods in major city areas will be more or less emission free.

¹ <https://www.regjeringen.no/en/aktuelt/a-national-transport-plan-for-better-and-safer-daily-travel/id2548623/>,
<https://www.regjeringen.no/en/dokumenter/meld.-st.-33-20162017/id2546287/>

Through these ambitious targets, the government aims for a permanent shift in the demand for zero emission vehicles within a few years' time. Although the sale of battery electric vehicles increased considerably until 2014/2015, the share of total new car sales has kept relatively stable during the last years (17.7% in 2015, 16% in 2016 and 18.8% for January-August 2017). This has been the case despite unchanged tax benefits under technological progress. Although this is a higher share of new sales than any other country in Europe, we still are far from the target of 100% of new sales being zero emission vehicles in 2025.

There is, hence, still a need for economic incentives to promote the purchase of EVs. Norway has implemented several measures to promote EVs. Many of them reduce the cost of using EVs and by that, the expected lifetime costs of an EV ownership. The expected lifetime cost depends on the continuation of the benefits relating to the use of the vehicle. The Government has, however, made it clear that the incentives for electric vehicles will be scaled back in the future. At the time of purchase, there is uncertainty for many purchasers whether the advantages will exist over the lifetime of the car. For the purchasers of EVs, incentives at the time of purchase of a vehicle can be more effective than incentives over the lifetime of ownership. The VAT exemption for electric vehicles is an important economic measure that gives incentives in favour of zero emission vehicles at the time of purchase. A significant tax benefit at the time of purchase gives consumers better certainty about the actual benefit they will receive, as compared to possible future benefits that depend on e.g. annual budget decisions. While the other notified measures are smaller, they give significant incentives.

The Government has also emphasized predictability in the policy making. This favours signalling well in advance possible changes in policy measures for EVs. Predictability in the VAT exemption is especially relevant, considering the long expected delivery time on some EV models (for some models it may take up to two years from the order until the car is delivered) and that VAT is charged at the time of delivery and not at the time of ordering a vehicle. The other measures, including the exemptions from annual tax and re-registration tax, as well as the more beneficial depreciation rules, must also be predictable over time to have full effect.

The market for fuel cell electric vehicles is still immature, with high production prices and only two models on the market. There will probably be a need for economic incentives at the time of purchase of fuel cell vehicles for a longer time than BEVs.

For these reasons, the Ministry of Finance finds reason to notify all the measures for both BEVs and FCVs for a period of six years, apart from the VAT measures for BEVs, which the Ministry wants to notify for a period of 3 years, cf. chapter 4.6 below.

The Government has, however, made it clear that the incentives for electric vehicles will be scaled back in the future. In the White Paper on climate policies, the

Government signaled that annual overviews over the development of zero emission vehicles in all transport segments that are covered by the Government targets will be published. Depending on the market development, the Government will consider necessary changes in policy measures. Improvements of technological maturity in the vehicle segment so that zero emission cars become competitive with fossil solutions is a prerequisite for the target figure.

Furthermore, in light of the quick technological and market developments, the Ministry is committed to subject the proposed measures to a mid-term review, in cooperation with the Authority, cf. chapter 6.4 below.

3. BACKGROUND

According to the [Norwegian constitution](#) section 75 letter a), taxes – both direct and indirect – are to be adopted annually by the Parliament. Indirect taxes consist of Value Added Tax (VAT) and excise duties.

3.1 Overview of the Norwegian VAT system

VAT is based on the principles of self-assessment and self-declaration. The principle of self-assessment means that the tax subject must assess whether the transaction is taxable or not, if the transaction is exempted etc. By self-declaration is meant that the tax subject on his or her own shall calculate and pay the tax to the tax authorities. The tax authorities are at the same time monitoring the liable parties through continuous auditing.

VAT is levied on the final consumption of goods and services. Its objective is to secure income for the State. The VAT provisions are laid down in the Act on Value Added Tax of 19 June 2009 No 58 (the VAT Act) and the Regulation concerning Value Added Tax of 15 December 2009 No 1540 (the VAT Regulation).

VAT rates are adopted annually by the Norwegian parliament. Exemptions and zero rates are laid down in the VAT Act and are not adopted annually. However, since exemptions and zero rates have economic effects, their adoption and repeal form part of the annual budget process.

The general VAT rate is 25 % of the net price (taxable base). The VAT rate on foodstuffs is 15 %. Certain services are subject to a reduced rate of 10 %, e.g. passenger transport, admission fees to cinemas and museums and hotel accommodation.

Certain supplies, including health care and social services, are exempted from VAT. Exemption means that on the supply of the exempted goods/services no output VAT is charged, and suppliers are not entitled to deduct input VAT.

Some goods and services, however, are levied output VAT, but the rate is zero. Suppliers of such goods and services are entitled to credit for input VAT. There are few

domestic supply situations which are subject to zero VAT rating, but the zero ratings related to electric vehicles and batteries for electric vehicles are examples of such zero ratings.

When reporting VAT to the authorities, the input VAT will be set off against the output VAT for the same period. If the input VAT exceeds the output VAT, repayment can be claimed from the tax authorities. Suppliers of goods and services that are zero-rated are also entitled to credit for input VAT and therefore receive a de facto subsidy through the VAT system.

3.2 Overview of the annual tax/traffic insurance tax

The annual tax is mainly levied to raise revenue. Through differentiated rates, i.e. vehicles with higher pollution levels are levied a higher rate, the annual tax can to some extent be seen as an instrument for pricing environmental effects.

The annual tax on motor vehicles is levied on vehicles with a weight below 7 500 kg. The tax varies with different types of vehicles. Gasoline and new diesel passenger vehicles are levied an annual tax of NOK 2 820 in 2017. Older diesel vehicles, without fabric-fitted particle filter, are levied an annual tax NOK 3 290. The differentiation is meant to reflect the increased environmental costs due to higher emissions of particles.

Electric cars were levied an annual tax of NOK 455 in 2017. The reduced annual tax for electric cars was introduced on 1 January 1996² to stimulate the development and use of vehicles that are less polluting than conventional vehicles.

The tax object, tax rates and tax exemptions for the annual tax follow from the Parliament's decision concerning excise duties. Further regulations regarding the annual tax can be found in Act of 19 June 1959 No. 2 on tax for motor vehicles and boats (lov 19. juni 1959 nr. 2 om avgifter vedrørende motorvogner og båter) and Regulation of 4 July 1986 No. 1433 on annual tax for motor vehicles (forskrift 4. juli 1986 nr. 1433 om årsavgift på motorvogn).

The annual tax on motor vehicles will from 1 January 2018 be replaced with a tax on car liability insurances (traffic insurance tax). According to the new system, liable insurance companies must invoice tax every third month based on the total sale of car liability insurances in the preceding period. The tax will apply to insurances for the same car types, and with the same rates and exemptions which apply under the present annual tax. The tax levied on the insurance companies will be allocated in the individual insurance premiums.

² Budsjett-innst. S. nr 13 Tillegg nr. 1 (1995-96) point 2.7.2 (annex 2)

The traffic insurance tax is (from 2018) regulated in Act 19 May 1933 No. 11 concerning excise duties and Regulation 11 December 2001 No. 1451 concerning excise duties (hereafter referred to as Regulation concerning excise duties).

3.3 Overview of the re-registration tax

The re-registration tax on used motor vehicles is an indirect tax introduced in 1956 as a special addition to the existing general sales tax. It was retained when sales tax system was replaced with VAT in 1970. Sales of motor vehicles previously registered in the Norwegian Central Motor Registry are hence exempted from VAT. Instead, previously registered vehicles are subject to a re-registration tax when re-registered on new owners. The re-registration tax is a fiscal tax, originally meant to substitute VAT on used motor vehicles, in a simplified system.

In the EU, sales of used vehicles are included in the general VAT system, following the special provisions for the calculation of VAT on used goods.

The vehicles subject to re-registration tax are divided into four groups, and the rates vary according to the vehicles' age and weight. The highest rates apply to the heaviest and newest vehicles. The system, at least originally, is supposed to approximate the tax level which would apply if sales of used cars was subject to value added tax.

There are currently no exemptions or reduced rates for electric vehicles in the re-registration tax.

The tax object, tax rates and tax exemptions follow from the Parliament's decision concerning excise duties. Further regulations can be found in Regulation of 4 July 1986 No. 1430 on the re-registration tax (forskrift 4. juli 1986 nr. 1430 om omregistreringsavgift).

3.4 Overview of depreciations rules

In Norway, all vans are currently depreciated according to the Norwegian Tax Act of 26 March 1999 no. 14 Article 14-43 (1) c, with an annual depreciation of 24 percent. In the Norwegian system for depreciation for tax purposes, the depreciation rates generally aim to correspond with the expected economic lifetime of the operating assets.

In December 2016, the Norwegian Parliament approved a new, more favourable 30 percent depreciation rate for electric cargo vans for income tax purposes (not yet in force). The advantage for the beneficiaries consists of faster depreciation of investments in electric vans compared to current depreciation rules, and thereby increased present value of these deductions from taxable income.

4. THE NOTIFIED MEASURES

4.1 Background

Norway has over time established a number of measures supporting electrical vehicles. In Decision No. 150/15/COL the Authority considered the following measures:

- the zero VAT rating for the supply and import of electric vehicles
- the zero VAT rating for the leasing of electric vehicles
- the zero VAT rating for the supply and import of batteries for electric vehicles
- the reduced annual vehicle tax for electric vehicles
- the exemption from road tolls for electric vehicles,
- the free boarding on classified national road ferries for electric vehicles,
- the favourable income tax calculation for employees benefitting from private use of electric company cars.

as compatible State aid within the meaning of Article 61(3) (c) of the EEA Agreement in favour of the indirect beneficiaries of those measures, i.e. manufacturers and dealers of electric vehicles and batteries. The Authority found that the outlined measures did not entail State aid within the meaning of Article 61(1) of the EEA Agreement in favour of their direct beneficiaries, i.e. the buyers, importers or lessors of electric vehicles or buyers or importers of batteries for electric vehicles.

A broad cross-party majority of the Parliament decided in 2012 that the tax advantages for battery electric vehicles should be continued until 2017 or until the number of such vehicles exceeded 50 000, whichever occurs first³. The current [Government's Political platform of 2013](#) also states that the tax advantages for zero emission vehicles were to be continued through 2017. The number of battery electric vehicles reached 50 000 in 2015, however the Parliament decided that the tax advantages should remain unaltered through 2017⁴.

Parliament's request for an extension of the VAT measures

When adopting the budget for 2017 the Parliament requested the Government to continue the VAT zero rating for battery electric vehicles until 2020, and for fuel cell electric vehicles until 2025 or until the number of such vehicles reaches 50 000⁵. The Ministry assumes that the Parliament's intention is to continue all the VAT zero rating measures accepted by the Authority in Decision No. 150/15/COL for electric vehicles.

Parliament's request for annual tax exemption

The Parliament also requested the Government to put forward an exemption in the annual tax for electric vehicles in the 2018 budget, and if necessary to notify the measure to the Authority. The Ministry assumes that the Parliament's intention is to

³ <https://www.stortinget.no/no/Saker-og-publikasjoner/Vedtak/Vedtak/Sak/?p=52754>

⁴ Cf. Innst. 360 S (2014-2015) p. 26

⁵ Statsbudsjettet for 2017 "Blå bok" p. 93

change the current reduced rate to a full exemption, and to include this in the upcoming traffic insurance tax. Insurance companies shall consequently not invoice tax on insurances covering electric vehicles, and the owners will benefit correspondingly.

Parliament's request for exemption in re-registration tax

Furthermore, the Parliament requested the Government to propose an exemption in the re-registration tax for electric vehicles in the 2018 budget, and if necessary to notify the measure to the Authority.

Parliament's request for beneficial depreciation rules

In December 2016, The Norwegian Parliament's finance committee proposed the new depreciation rules in a majority decision in Innst. 4 L (2016-2017), which later won a majority in Parliament. The proposal was the result of a settlement between collaborating parties in the Norwegian Parliament.

The Parliament's request is to apply a 6 percentage points higher depreciation rate on electric vans (30 %) than to conventional fossil vans (24 %). This leads to a deduction in taxable income at an earlier point in time for electric vans than what is the case under the currently applicable legislation. Faster depreciation increases the tax-deductible expenses of the investors in the first years of investments, which they can deduct from their income when calculating their taxes due. Therefore, the beneficiaries gain an increase in the present value of deductions.

4.1.1 Zero and low⁶ emission vehicle technologies

Battery electric vehicles

Battery electric vehicles (BEV) are propelled by one or more electric motors powered by rechargeable battery packs. No other fuel source is used, and there is no internal combustion engine. BEVs require the battery to be charged to power the motor.

Hybrid electric vehicles (non-rechargeable)

Non-rechargeable hybrid electric vehicles combine a conventional internal combustion engine system with an electric propulsion system (hybrid vehicle drivetrain). The presence of the electric powertrain is intended to achieve either better fuel economy than a conventional vehicle or better performance. These vehicles are powered by an alternative fuel or a conventional fuel, such as gasoline, which in turn is used to charge a battery. Such hybrid electric vehicles run on fuel alone and do not plug in to an electrical outlet to recharge the battery.⁷

⁶ Hybrid electric vehicles (rechargeable and non-rechargeable) are not covered by the Parliament's request for exemptions in the annual tax, re-registration tax, beneficial depreciation rules, nor the request for an extension of the existing VAT measures for electric vehicles. Consequently, hybrid electric vehicles are still to be taxed in line with ordinary vehicles in regard to these taxes.

⁷ <http://www.ieahev.org/about-the-technologies/hybrid-electric-vehicles/>

Plug-in hybrid electric vehicles (rechargeable)

A plug-in hybrid electric vehicle is a hybrid electric vehicle that in addition uses rechargeable batteries, or another energy storage device, that can be recharged by plugging it in to an external source of electric power. The amount of electricity a plug-in hybrid can store in its battery can significantly reduce the vehicle's petroleum consumption under typical driving conditions.

Fuel cell electric vehicles

A fuel cell electric vehicle (FCV) is an electric vehicle that uses a fuel cell instead of a battery, or in combination with a battery or supercapacitor, to power its on-board electric motor. Fuel cells in vehicles generate electricity to power the motor, generally using oxygen from the air and compressed hydrogen. Most fuel cell vehicles are classified as zero-emissions vehicles that emit only water and heat. The main advantage of FCVs compared to BEVs is that they typically have the same range as conventional fossil fuel vehicles and are faster to refuel.

4.1.2 Current market status and availability

Status of the battery electrical vehicle market

Battery electric vehicles and plug-in hybrids are already available in the passenger car market. A continued strong cost reduction for batteries is expected, which means that BEVs will become competitive in the small passenger car segment and plug-in hybrids in the large passenger car segment. These two technologies complement each other by meeting demands in different segments. A combination of reduced costs and increased energy efficiency in batteries will initially increase the range of these cars, and subsequently reduce the cost for a given range. An increased emphasis on battery electric vehicles and plug-in hybrids from several car manufacturers implies that these models are set to be competitive in the small and large car segments during the 2020s, according to the Norwegian consultancy THEMA Consulting Group and the international consultancy Bloomberg New Energy Finance.

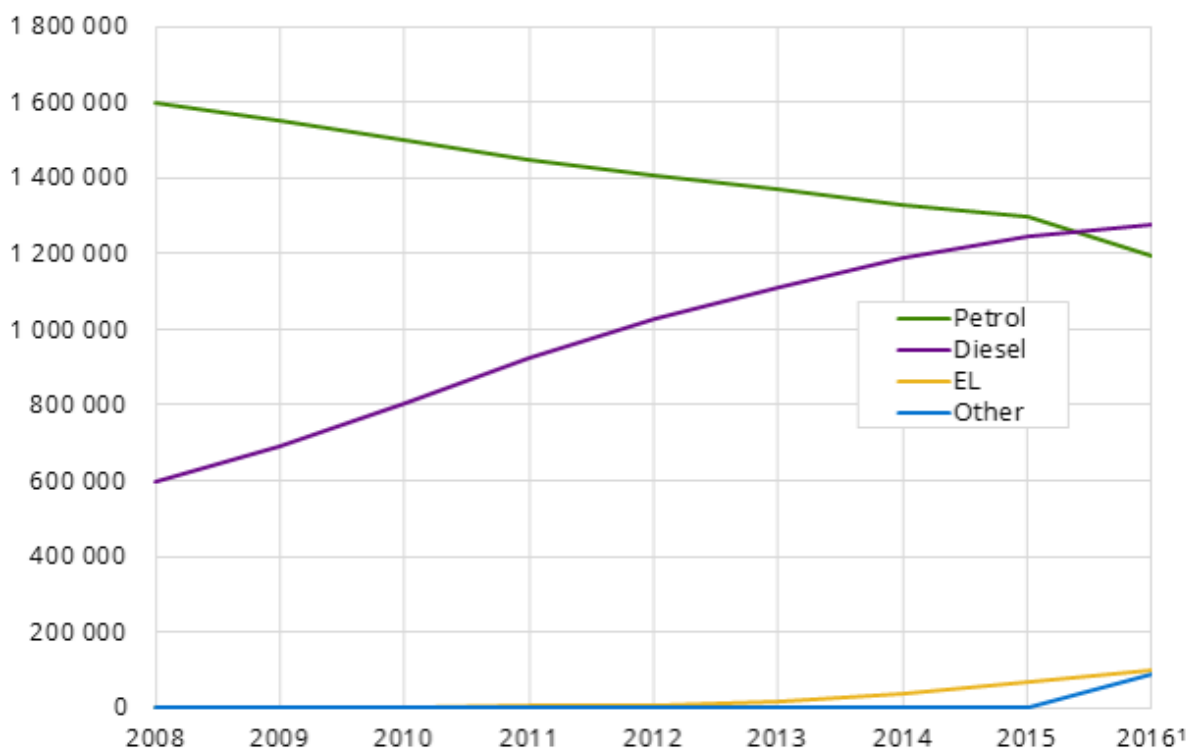
In December 2016, 100 000 BEVs had been registered in Norway, and the sale has increased considerably over the last six years. However, the total number of electric vehicles is still very small compared to the number of conventional fossil fuel vehicles (3,7 per cent in 2016)⁸. In addition, the share of new BEVs registered in Norway as a percentage of all new cars, has been relatively stable during the last years. In 2015, battery electric vehicles made up 17.7 % of the new car sales, and this fell to 15.7 % in 2016. So far in 2017 (January–August) 18.8% of new passenger cars were electric vehicles, slightly higher than in 2015.).

Status of the fuel cell electric vehicle market

⁸ <https://www.ssb.no/transport-og-reiseliv/statistikker/bilreg/aar/2017-03-28>

According to Thema (2016)⁹, the market for fuel cell vehicles will still be very limited in 2025. Both the production cost of fuel cell vehicles, fuel cells and the hydrogen itself relies on large scale production. According to our numbers, 64 FCVs have been sold in Norway. Only 9 new fuel cell electric passenger vehicles were registered in Norway in 2015¹⁰, and 23 in 2016¹¹. In the first half of 2017, 19 fuel cell electric vehicles have been registered¹². This was equivalent to only 0.02 % of total sales of new personal vehicles, which amounted to 77 983 during the same period. At the end of 2016, there were six hydrogen fuelling stations in Norway. Enova, a government enterprise promoting environmentally friendly production and consumption of energy, has recently launched a support program for hydrogen fuelling stations.

Figure 5. Passenger cars by fuel type



¹ As from 2016, petrol-hybrid passenger cars are separated from the fuel group petrol and placed under Other fuel (about 88 000 in 2016, nearly 50 000 in 2015)

Source: Central Vehicle Register, Directorate of Roads.

Fig. 4.1 Registered vehicles by type of fuel, Norway

⁹ «Potensiale for null- og lavutslippskjøretøy i den norske kjøretøyparken – På oppdrag frå Samferdselsdepartementet – november, 2016»

¹⁰ <http://www.ofvas.no/bilsalget-i-2015/category679.html>

¹¹ <http://www.ofvas.no/bilsalget-i-2016/category706.html>

¹² Numbers from OFV.

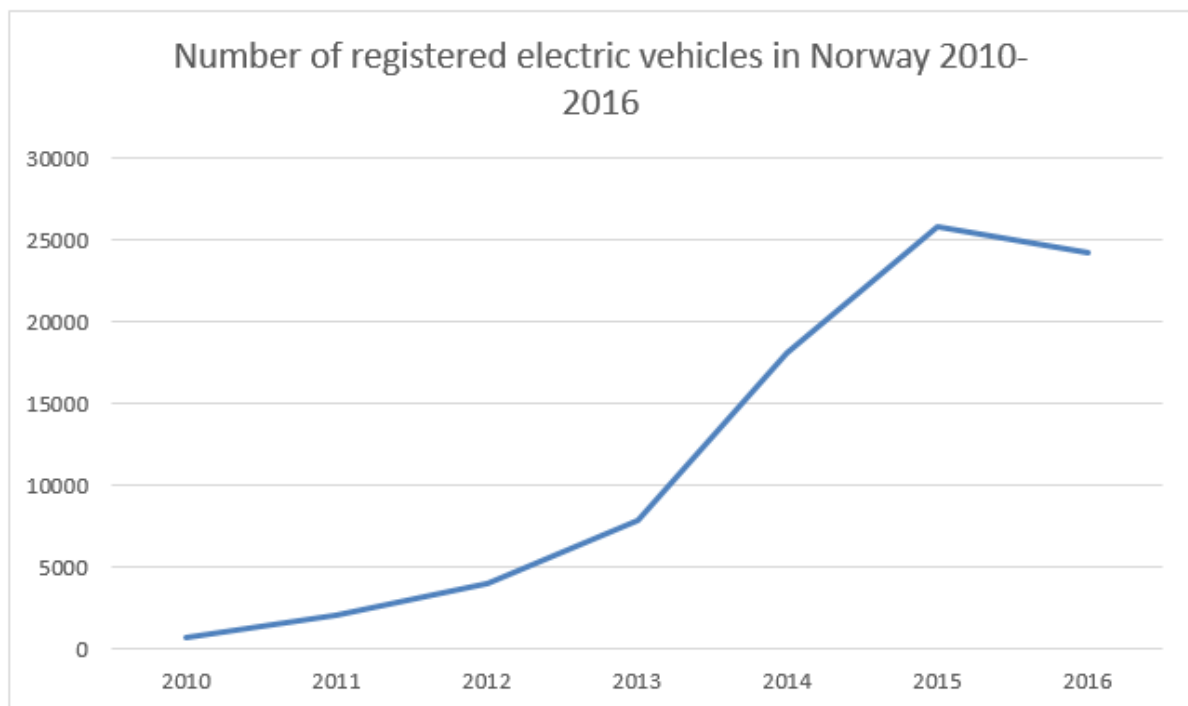


Fig. 4.2 Number of registered electric vehicles per year in Norway 2010-2016

4.2 Objective of the measures

The measures have an environmental purpose. The aim is to reduce national CO₂ emissions from the transport sector through an increased share of zero emission vehicles in the Norwegian vehicle fleet. Norway is committed to reducing its CO₂ emissions by at least 40 per cent by 2030, compared to 1990. Most of the emission reductions are expected to be achieved in the non-ETS sector (transport, agriculture, buildings and waste). The transport sector accounted for 31 per cent of Norwegian emissions in 2015 (16.7 million tonnes CO₂). Passenger cars emitted 5.6 million tonnes CO₂ in 2015, while lorries and vans emitted 4.6 million tonnes in 2015.

Decarbonising the transport sector is an important element in the effort to reduce Norway's emissions. In 2012, the Parliament set a goal that average CO₂ emissions from new cars should be less than 85 g/km in 2020.¹³ The Government recently also set ambitious targets for emission from new vehicles in 2025 and 2030. In its White paper on the National Transport Plan for 2018–2029¹⁴, the Government established several new targets:

- In 2025, 100 percent of new private cars and light vans will be zero-emission vehicles. All new city buses will be zero-emission vehicles or use biogas.

¹³ https://www.regjeringen.no/contentassets/aa70cfe177d2433192570893d72b117a/en-gb/pdfs/stm201120120021000en_pdfs.pdf

¹⁴ <https://www.regjeringen.no/en/aktuelt/a-national-transport-plan-for-better-and-safer-daily-travel/id2548623/>, <https://www.regjeringen.no/en/dokumenter/meld.-st.-33-20162017/id2546287/>

- By 2030, all new heavy vans, 75 % of new long-distance buses, and 50 % of new lorries will be zero-emission vehicles.
- By 2030, the distribution of goods in major city areas will be more or less emission free.

The White Paper on National Transport Plan 2018–2029 was adopted by the Parliament in June 2017.

In June the Government also issued a White Paper on climate policies¹⁵, where the Government set a working target of a cut of 35-40 % in emissions from the transport sector by 2030 compared to 2005. Further, the Government said in the White Paper that it would build upon current policy measures to stimulate use of zero emission vehicles, and by that contribute to reaching the targets for zero emission vehicles in the National Transport Plan 2018–2029. Depending on market development, the Government will consider necessary changes in policy measures. The Government also stated that it will facilitate to make zero emission cars competitive, and that economic measures should support this.

In order to achieve the national targets for CO₂ emission reduction, the notified measures support the demand and use of zero emission electric vehicles. Since electric vehicles still are more expensive and have larger potential drawbacks for consumers, including weight and other characteristics, the Norwegian government considers the measures necessary to encourage the use of and demand for electric cars. Furthermore, in the VAT system undertakings can deduct input VAT and as a consequence the VAT exemption does not result in an economic benefit for vans, unlike passenger cars. This has contributed to electric vans only representing 1.8 per cent of the total sales of new vans in 2016.

4.3 Form of aid, eligible costs and intensity

The notified aid measures are implemented by means of tax exemptions or preferential tax treatment. The measures do not discriminate between car manufacturers since all models or types of electric cars are eligible. No electric cars are manufactured in Norway.

All end users – private and undertakings – are able to purchase, lease or import the electric vehicles for their own use. They are also able to purchase or import batteries. Consequently, all end users are eligible for the tax measures.

The aid measures will cover part of the expenditure incurred for the purchase, lease or import of an electric vehicle or batteries. The exemption from annual tax and re-

¹⁵

<https://www.regjeringen.no/contentassets/7d3c209f821248da8d4727713ab9619c/no/pdfs/stm201620170041000dddpdfs.pdf>

registration tax cover expenditures related to ownership and re-sale. The measure regarding depreciation rules for electric vans will lead to faster taxable deductions for investments in electric vans compared to current depreciation rules and thereby an increased present value of these deductions.

In particular, the measures will attempt to compensate for the extra cost of electric vehicles in comparison to conventional vehicles. The Norwegian authorities consider that the objective is to bring the overall costs of electric vehicles down to a price level comparable to that of conventional cars. Prices for electric vehicles and batteries have decreased in recent years, but battery electric vehicles are still not competitive with conventional vehicles. This applies even more so for fuel cell electric vehicles.

One example that illustrates the need for such measures is the recent development in Denmark, where the former differentiation for electric vehicles under the registration tax regime was removed last year. This caused the demand for such vehicles to halt, and in the first half of 2017, only 105 electric vehicles, including plug-in hybrid vehicles, were purchased in Denmark.¹⁶ This is a dramatic fall, considering 4762 electric vehicles were sold in Denmark in 2015.¹⁷

4.4 National legal basis

4.4.1 Zero VAT

The zero VAT rating for the supply of electric vehicles is laid down in the VAT Act Section 6-7 subsection (1):

"Section 6-7 Vehicles etc:

- (1) The supply and leasing of vehicles that are powered exclusively by electricity shall be exempt from VAT. This exemption shall only apply to vehicles covered by the Storting's decision on motor vehicle registration tax section 5 subsection (1) letter (i) and that must be liable to register pursuant to the Act relating to Road Traffic.
- (2) The supply of batteries to vehicles mentioned in subsection (1) shall be exempt from VAT.
- (3) The supply of vehicles covered by the Storting's resolution on registration tax shall be exempt from VAT if a vehicle has been registered here in Norway. The Ministry may issue regulations prescribing that the exemption in this subsection shall include goods other than the vehicle itself and work that is performed on the vehicle.

¹⁶ <http://ev-sales.blogspot.no/2017/07/denmark-june-2017.html>

¹⁷ <http://ev-sales.blogspot.no/2016/01/denmark-december-2015.html>

- (4) The Ministry may issue regulation prescribing what shall be considered as leasing of vehicles according to subsection (1) and batteries to vehicles according to subsection (2)."

Section 7-1 in the VAT act lays down that goods as mentioned in section 6-7 subsection (1) and (2) shall be exempted from VAT on import of goods.

4.4.2 Annual tax/traffic insurance tax

The Government has in the budget proposal for 2018¹⁸ proposed an exemption from traffic insurance tax in the Parliament's decision concerning tax of traffic insurance sec. 3:

"Section 3 Traffic insurance agreements or fees are exempted from tax if they concern: [...]

g) motor vehicles which only use electricity for propulsion, including motor vehicles where electricity is produced in fuel cells.

The Ministry may issue regulation regarding the implementation, delimitation of and conditions for the exemptions."

At the same time an alternate provision in sec. 2 is proposed to enter into force according to the Ministry's decision, for the event that the measure is not approved by the Authority.

4.4.3 Re-registration tax

The Government has in the budget proposal for 2018 proposed an exemption from traffic insurance tax in the Parliament's decision concerning re-registration tax section 2 letter m:

"Section 2 An exemption from tax is made when re-registering vehicles: [...]

m) which only use electricity for propulsion, including motor vehicles where electricity is produced in fuel cells.

The Ministry may issue regulation regarding the implementation, delimitation of and conditions for the exemptions."

The provision will enter into force according to the Ministry's decision.

4.4.4 Beneficial depreciation rules

The beneficial depreciation rules are laid down in a proposed change to the Tax Act sec. 14-43, adopted by Parliament, which will enter into force depending on the decision

¹⁸ Prop. 1 LS (2017-2018) p. 331

of the Authority concerning state aid, cf. Act 20 December 2016 no. 111 regarding changes in Act 26 March 1999 no. 14 regarding tax on wealth and income (the Tax Act):

“Sec 14-43[...]

(4) An increased depreciation rate applies to vans which only use electricity for propulsion, including vans where electricity is produced in fuel cells. This does not apply to vans where a battery can be charged while driving by an external combustion engine. The balance for such vehicles can be depreciated by up to 30 per cent. The Ministry may issue further regulations regarding details and the implementation of this paragraph, including how vans shall be delimited and transitional rules for separation from existing balance.”

The provision will enter into force according to the Ministry’s decision.

4.5 Beneficiaries

Regarding the VAT zero rate, annual tax and re-registration tax exemptions, the direct beneficiaries of the measures will be both private individuals and businesses. The beneficial depreciation rules will only benefit businesses directly.

However, it is acknowledged that (i) manufacturers and dealers of electric vehicles and batteries, (ii) manufacturers and dealers of electric vehicles and batteries, (iii) as well as undertakings buying, importing or leasing electric vehicles to use as company cars may obtain an indirect advantage. There are no geographical, sectorial or other kinds of limitations to obtaining the benefits herewith notified.

4.6 Duration and budgets

The Ministry wishes to notify all the measures for both BEVs and FCVs for a period of 6 years from 01.01.2018 to 31.12.2023, apart from the VAT measures for BEVs, which the Ministry wants to notify for a period of 3 years from 01.01.2018 to 31.12.2020. The actual duration of the measures will depend on the annual adoption of taxes by the Parliament.

The advantages for electric vehicles result in a revenue loss for the state, the size of which depends on the number of electric vehicles, both sold and in the fleet, their properties and sales price.

Estimates for the value of advantages already in place (except parking measures, where a national minimum cost reduction of 50% is to be introduced, but which is otherwise set locally, and use of bus lanes by electric vehicles) are provided below. The numbers given are yearly value of each advantage based on estimates for 2017, unless stated otherwise:

- zero VAT rating for electric vehicles, including the leasing of electric vehicles and supply and import of batteries for electric vehicles: around NOK 3.2 billions per year
- exemption from the registration tax: around NOK 700 millions per year.
- reduced annual vehicle tax: around NOK 300 millions per year.
- favourable income tax calculation for employees using corporate electric vehicles: around NOK 155 millions per year.
- revenue loss from road tolls: around NOK 700-800 millions in 2017.
- free boarding on classified national road ferries: around NOK 20,9 millions in 2017

Estimates for the value of the additional advantages for electric vehicles that are to be introduced are presented below. The numbers are yearly value of each advantage based on estimates for 2017, unless stated otherwise:

- Full exemption of electric cars from annual vehicle tax: around NOK 60 millions per year
- Exemption of electric cars from re-registration tax: Around NOK 60 millions
- Increased depreciation rate for electric vans from 24 to 30 pct.: NOK 3 mill. in 2017 as a first-year effect. Yearly value over time will be substantially lower, given current investment levels.

The estimates are uncertain. In general the value of the advantages is expected to increase in line with the number of number of electric vehicles sold and in the fleet.

5. STATE AID - ARTICLE 61(1)

Article 61(1) of the EEA Agreement Article reads as follows:

(1) Save as otherwise provided in this Agreement, any aid granted by EC Member States, EFTA States or through state resources in any form whatsoever which distorts or threatens to distort competition by favouring certain undertakings or the production of certain goods shall, in so far as it affects trade between Contracting Parties, be incompatible with the functioning of this Agreement.

In order to constitute state aid within the meaning of Article 61(1), a measure must meet the following cumulative criteria:

1. the aid is granted by the State or through state resources
2. the aid is an economic advantage
3. the aid is an advantage for undertakings engaged in economic activity
4. the aid is favouring certain undertakings or the production of certain goods
5. the aid distorts or threatens to distort competition and has an effect on trade between the Contracting Parties

The Ministry acknowledges that the proposed measures may constitute state aid within the meaning of article 61(1) of the EEA Agreement. Consequently, the criteria will be only briefly discussed below.

5.1 Granted by the State or through state resources

The form in which the aid is provided is not relevant to its assessment under Article 61(1) of the EEA Agreement. Tax reliefs or more favourable tax rules may constitute aid granted through State resources.

Value-added tax, annual tax and re-registration tax are mainly levied in order to raise revenue. The proposed measures result in a loss of tax revenue. The new depreciation rules for vans also entail a loss of state revenues. The measures are imputable to the State since they will be adopted by legislative acts.

On this basis the Ministry finds that the first criterion is met.

5.2 Economic advantage to undertakings

The proposed measures will give a favourable economic advantage to undertakings, if the economic advantage could not be obtained under normal market conditions.

In this regard, to be fully or partly exempted from a tax burden is regarded as an economic advantage, if it provides a favourable economic advantage to undertakings, although there is no transfer of State resources. The Ministry on this basis considers the proposed measures to be a favourable economic advantage for the beneficiaries.

Private individuals purchasing, importing or leasing electric vehicles or batteries are not subject to state aid rules. However, undertakings¹⁹ purchasing vehicles or batteries may obtain a direct economic advantage through the proposed measures. Furthermore, by stimulating demand, the measures may indirectly favour other undertakings such as manufacturers and dealers, even if the direct beneficiary is not an undertaking.

On this basis, the Ministry finds that the proposed measures directly and indirectly will give undertakings an economic advantage.

5.3 Selectivity

In order to constitute state aid, a measure must be selective by favouring certain undertakings or the production of certain goods. The comparison will be made “with other undertakings which are in a legal and factual situation that is comparable in the light of the objective pursued by the system in question”.²⁰

¹⁹ I.e. entities engaged in an economic activity.

²⁰ Portugal v. Commission, C-88/03, EU:C:2006:511, paragraph 54, as quoted in the Authority Decision 150/15/COL

In accordance with the Authority's Decision 150/15/COL, the Ministry recognizes that direct beneficiaries of the proposed measures include the undertakings owning purchasing, leasing or importing electric vehicles or acquiring or importing batteries. The advantages apply to all such economic operators, however, and are therefore not selective for the direct beneficiaries.

On the other hand, the Ministry regards manufacturers and dealers of electric vehicles and batteries as indirect beneficiaries of the measures. For this group, the measures are regarded as selective, as only certain companies will benefit, resulting in an exemption from the system of reference.²¹

Against this background, the Ministry takes the view that the electric vehicle measures fulfil the selectivity criterion in Article 61(1) of the EEA Agreement.

5.4 Distortion of competition and effect on trade

According to case law and administrative practise the threshold for considering this criterion to be fulfilled is low.

Given that beneficiaries, such as manufacturers and dealers, compete in a market encompassing conventional and electric vehicles, the Ministry finds that the support for electric vehicles has a potential to distort competition.

Such distortion can be presumed to have an effect on trade if it strengthens the position of an undertaking compared to other companies competing in the EEA-trade.²² The Ministry finds that there is significant trade in both conventional and electrical vehicles and batteries in the EEA, and that manufacturers and dealers of conventional vehicles may have reduced opportunities to offer their services and trade in Norway due to the measures.

Therefore, the measures will likely distort competition and have an effect on trade between the Contracting Parties.

5.5 Conclusion

The Ministry concludes that the proposed measures constitute State aid in favour of manufacturers and dealers of electric vehicles and batteries, cf. Article 61(1) of the EEA Agreement.

6. COMPATIBILITY WITH ARTICLE 61(3)

According to the EEA Agreement Article 61 (3) (c) state aid may still be compatible with the functioning of the agreement, if the purpose is to "facilitate the development of

²¹ Decision 150/15/COL paragraph 94

²² Decision 150/15/COL paragraph 111

certain economic activities or of certain economic areas” and the aid does not adversely affect trading conditions to an extent contrary to the common interest.

Regarding state aid for environmental purposes in relation to Article 61 (3), the Authority has provided Guidelines on State aid for environmental protection (“EEAG”). According to the Guidelines’ Section 1.1 (9), they are applicable to state aid “granted for environmental protection or energy objectives in all sectors governed by the EEA Agreement”, under the condition that the measures fall under the list of accepted measures in Section 1.2.²³

A general exception is made, however, for the “design and manufacture of environmentally friendly products, machines or means of transport with a view to operating with fewer natural resources”, cf. Section 1.1 (10). In Decision 150/15/COL the Authority noted that the “the manufacturing sector” has been understood by the Commission to include both manufacturers and suppliers/dealers, and concluded that the EEAG did not apply to the measures considered in the decision, cf. paragraph 127.

In the following, the Ministry on the same basis assumes that the EEAG does not apply, and will assess the measures directly pursuant to Article 61(3) (c) of the EEA Agreement. This requires a balancing of the positive impact of the measure in reaching the objective against the potential negative effects on trade and competition. The Ministry will consider the currently proposed measures according to the steps outlined by the Authority in its Decision 150/15/COL²⁴.

6.1 There is a well-defined objective of common interest

The objective of the proposed measures is to enhance the market share of electric vehicles in Norway in order to reduce CO₂ emissions from transportation. The Norwegian target is to reduce its emissions by 40 percent by 2030 (in line with the EU target). Further, the Government recently set ambitious targets for zero emission vehicles in 2025 and 2030 as laid out in the White paper on the National Transport Plan for 2018–2029²⁵ and a working target for emission reductions from the transport sector within 2030 (please see section 3.2 for the specific targets).

The advantages for electric vehicles are intended to ensure the protection of the environment and that transportation contributes to fulfil our emission target. Reducing CO₂ emissions from vehicles is one of the objectives of the EEA environmental policy.

²³ The Ministry assumes that the Authority’s Guidelines on State aid for environmental protection (“EEAG”), can be used to consider all the proposed measures, as no aid has been granted before the EEAG was adopted on 16.7.2014, unlike in the Authority’s previous decision 150/15/COL

²⁴ Decision 150/150/COL paragraph 128

²⁵ <https://www.regjeringen.no/en/aktuelt/a-national-transport-plan-for-better-and-safer-daily-travel/id2548623/>, <https://www.regjeringen.no/en/dokumenter/meld.-st.-33-20162017/id2546287/>

In the EFTA Surveillance Authority decision of 21 April 2015 on the State aid measures in favour of electric vehicles, the EFTA Surveillance Authority acknowledged that the protection of the environment is an objective of common interest, and emphasises that:

- The Norwegian authorities decided already in 1989 to reduce the CO₂ emissions.
- The measures falling within the scope of the present decision aim at decreasing the emissions of greenhouse gases from the Norwegian vehicle fleet and at increasing the number of electric and fuel cell vehicles.
- Reducing CO₂ emissions in the transport sector is one of four priority areas drawn out in the White Paper on a "New emission commitment for Norway for 2030 – towards joint fulfilment with the EU" (Meld. St. 13 (2014-2015)).

According to Report No 21 (2011-2012) to the Parliament, Norway aims to ensure that average CO₂ emissions from new passenger cars should not exceed 85 grams CO₂ per kilometre in 2020. An increased market share for electric vehicles has and will contribute to reduced average emissions from new passenger cars.

In the Report No 33 (2016-2017) to the Parliament²⁶, the Norwegian government set goals for the sale of zero emission vehicles. The Government has set a goal that all new passenger cars and light vans shall be zero emission vehicles in 2025, and all new heavy vans shall be zero emission vehicles in 2030. In the Report No 41 (2016-2017)²⁷ to the Parliament, the Norwegian government made clear that the attainment of these goals will be very important for Norwegian emission reductions in the non-ETS sector.

6.2 The measure responds to a market failure

Today, eighteen battery electric vehicle models are available to Norwegian consumers. The price of battery electric vehicles is still higher than the price of conventional fuel cars, and such vehicles are not yet competitive. End-users are not ready to pay a higher price for battery electric cars justified solely in environmental considerations.

As regards the zero VAT rating for the sale and import of batteries to electric vehicles, it must be borne in mind that the battery is a major cost factor of an electric vehicle. Limited information is available regarding the sales price and the expected lifetime of batteries for electric vehicles. This may prevent people from buying electric cars. Zero rating for batteries to electric vehicles will reduce expected costs related to owning an electric vehicle and remedy the uncertainty for the purchasers of electric vehicles and thereby increase demand.

²⁶

<https://www.regjeringen.no/contentassets/7c52fd2938ca42209e4286fe86bb28bd/no/pdfs/stm201620170033000dddpdfs.pdf>

²⁷

<https://www.regjeringen.no/contentassets/7d3c209f821248da8d4727713ab9619c/no/pdfs/stm201620170041000dddpdfs.pdf>

Today, only two models of fuel cell electric vehicles are available to consumers in Norway; Hyundai's ix35 and Toyota's Mirai. The price of fuel cell electric cars is still higher than the price of conventional fuel cars. As with battery electric vehicles, consumers are not ready to pay a higher price for FCVs justified solely in environmental considerations.

Today, four models of electric vans are available to consumers in Norway. The price for electric vans is correspondingly higher than the price for conventional vans. End-users are not ready to pay the higher price without state intervention. The measures will make electric van investments somewhat more profitable after-tax and can be expected to increase investments in these at the expense of fossil fuel vehicles.

6.2.1 Design of the measure and the need to limit distortion of competition

6.2.1.1 Aid is the appropriate measure and provides the right incentives

Norway has had in place numerous measures to promote the uptake of zero emission vehicles for many years. Since the 1990s, battery electric vehicles have been exempted from registration tax, benefitted from free parking and have been exempted from tolls etc. The zero VAT rate for the supply and import of electric vehicles was adopted in 2001. Norway has the highest rate of BEVs in the world. In 2016, the market share of zero emission cars amounted to 15 percent. 24 245 new BEVs and 23 FCVs were registered in 2016. 1543 fewer battery electric vehicles were registered in 2016 compared to the year before. In the first half of 2017 (January-June), 16 610 new BEVs and 19 new FCVs have been registered, implying a market share of zero emission cars of 18.6 percent. The market shares of BEVs and FCVs have thus been relatively stable in 2016 and 2017 (see chart 6.1), despite the support measures in place.

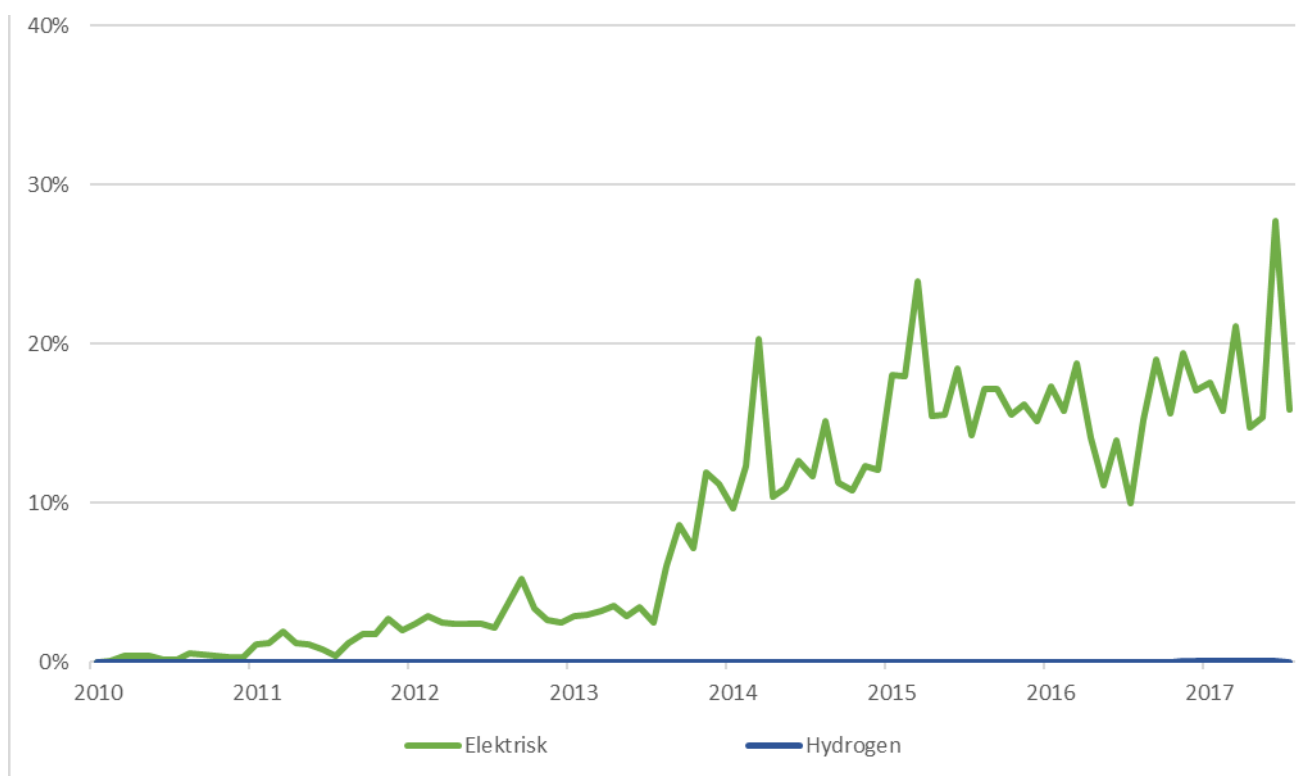


Chart 6.1 – Sales of zero emission cars as share of the total new car sales in Norway.
Source: The Norwegian Road Traffic Information Council (OFV)

The price difference between zero emission vehicles and conventional fuel vehicles is a significant limitation for zero emission vehicles in Norway. For *BEVs*, we have seen a reduction in battery costs over the past years. However, still the cost of producing an electric vehicle is higher than the cost of producing a conventional vehicle. Therefore, the sales price (without tax exemptions) is higher for an electric car than for a comparable diesel or gasoline car.

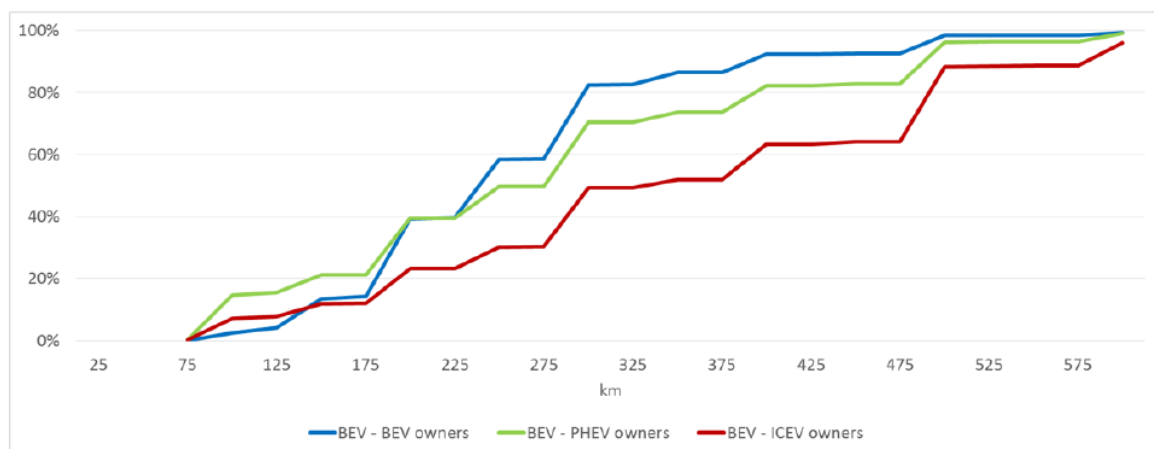
Furthermore, there are important disadvantages related to buying an EV. Consumers are still worried about their driving autonomy. Norway is a sparsely populated country with long distances, and the battery range of electric vehicles is a big concern. Charging electric vehicles might be challenging due to limited availability of charging stations. Recharging the battery of BEVs takes longer time than refuelling a tank with petrol or diesel. With the fast charging station, which is still relatively rare, it takes minimum 20 minutes to fully recharge an EV. More common chargers take between 5 and 8 hours, leaving the vehicle out of service for several hours a week. Furthermore, if fast charging stations are out of service, the EV user might risk running out of energy for the car.

Even with Enova's co-financing, the competition for building fast charging infrastructure in Northern Troms and Finnmark had no bidders. Thus, the main corridors of the most Northern region do not have a fast charging network. Finnmark is also a region with long distances between the main cities and towns. This makes the lack of fast charging stations a major drawback for a prospective buyer of an electric

vehicle. Further, there are still almost 300 municipalities without fast charging infrastructure.

Electric vehicles are still more suitable for urban areas than for long-distance driving. This implies that consumers may opt for an electric vehicle as a second car rather than a main or only vehicle. Furthermore, most BEV models are still small and might not be attractive for families or people living outside the major urban areas.

The fact that the current BEV models have limited range (kilometre) is considered to be a disadvantage for car owners, and thereby is to be considered a cost component for car owners. A report from the Environment Agency (p. 56), shows the minimum requirements of range for an EV for consumers, based on a consumer survey conducted by TØI (Norwegian Center for Transport Research):



Figur 16 Minimum elbil rekkevidde vinterstid som ulike bileier oppgir som nødvendig for at flere skal bli interessert i å kjøpe elbil. Figuren viser resultater fra spørreundersøkelse med svar fordelt mellom elbileiere, hybridbileiere, og bensin- eller dieselbileiere. Forkortelser: BEV-Battery electric vehicles (elbil), PHEV-Plug-in hybrid electric vehicles (hybridbil), ICEV-Internal combustion engine vehicles (bensin- eller dieselbil).

Chart 6.2 – Relationship between range of EVs and the share of consumer that wishes to purchase an EV. Source: TØI (Norwegian Center for Transport Research) and Miljødirektoratet (Norwegian Environment Agency)

The survey shows that for current owners for a fossil vehicle (ICEV owner – red line), they would need an EV with range of minimum 300 km in winter conditions for 50% of those owners to change to an EV. For 80% of the current ICEV owner to switch to an EV, they would need a range of almost 500 km. To compare, Volkswagen e-Golf as has a measured range (NEDC) of 300 km, where the actual range, especially during winter time, will be somewhat lower than that.

Also, the limited number of BEV models in the market could to some extent force BEV owners to buy a car that not fully compensate for the characteristics they are searching for. This can also be considered as an extra cost of owning a BEV. There are also perceived safety concerns, including issues of crashworthiness and post-impact vehicle

safety. There is also uncertainty about whether there will be a functioning second hand market for EVs. These disadvantages are difficult to quantify, and they will also differ to a large degree between consumers.

A BEV owner will, however, have lower expenditures related to fuel costs and maintenance (regular motor services for example).

The above-mentioned cost and benefits will burden each buyer and owner of BEVs. In addition, there are costs and benefits related to BEVs that in many cases will have to be covered by the public sector (Government, local authorities etc) – cost of necessary infrastructure and health benefits are examples of this. Most of the limitations and disadvantages mentioned above for passenger cars are also valid for electric vans; the price is still high, driving autonomy is a big disadvantage and few models are available.

As for *FCVs*, there are as of now no large-scale production of these kind of vehicles. The production costs are high, and although estimated to fall drastically before 2030, will still remain considerably higher than the production costs for gasoline and diesel cars:

Figur 13: Estimert produktkostnad for hydrogenkjøretøy. Eksempel personbil klasse D

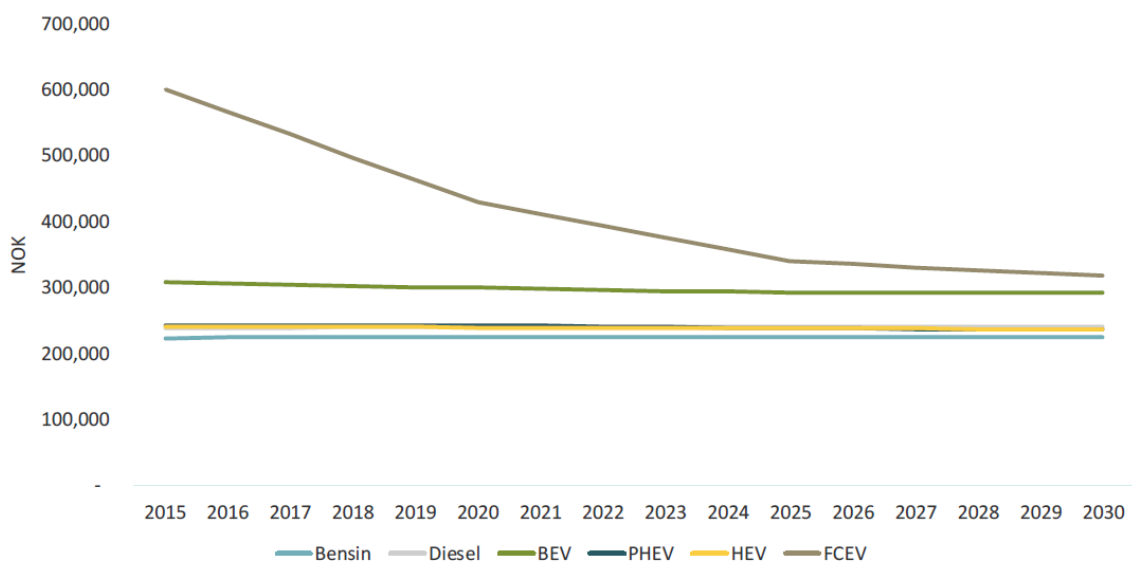


Chart 6.3 – Estimated production costs of hydrogen vehicles. Source: THEMA (2016), <http://www.thema.no/store-utslippskutt-kjoretoyteknologi-bidra-norge/>

There are only six filling stations that offers hydrogen to fuel cell electric vehicles, and five of them are located within 150 km of Oslo. This means that fuel cell technology vehicles are not available to the majority of the population. For FCVs the refuelling takes the same amount of time as for a conventional fuel vehicle.

The Government's targets of zero emission vehicles in 2025 and 2030 (see section 3.2 for more specification) implies a introduction rate of new zero emission vehicles that by

far exceeds what is expected with existing measures. In the White Paper Meld. St. 29 (2016–2017) Long-term Perspectives on the Norwegian Economy 2017²⁸, the Government has published official estimates for economic growth and environmental progress assuming existing measures. Chart 3.7 shows the rate of introduction of zero emission vehicles in the new sales of passenger cars as assumed with existing measures (blue bar) compared to what is expected to be necessary to reach the target of all new car sales to be zero emission in 2025 for passenger cars (as estimated by Miljødirektoratet). The high introduction rate to reach the target of all new car sales to be zero emission in 2025, implies stronger economic measures than what is currently in place.

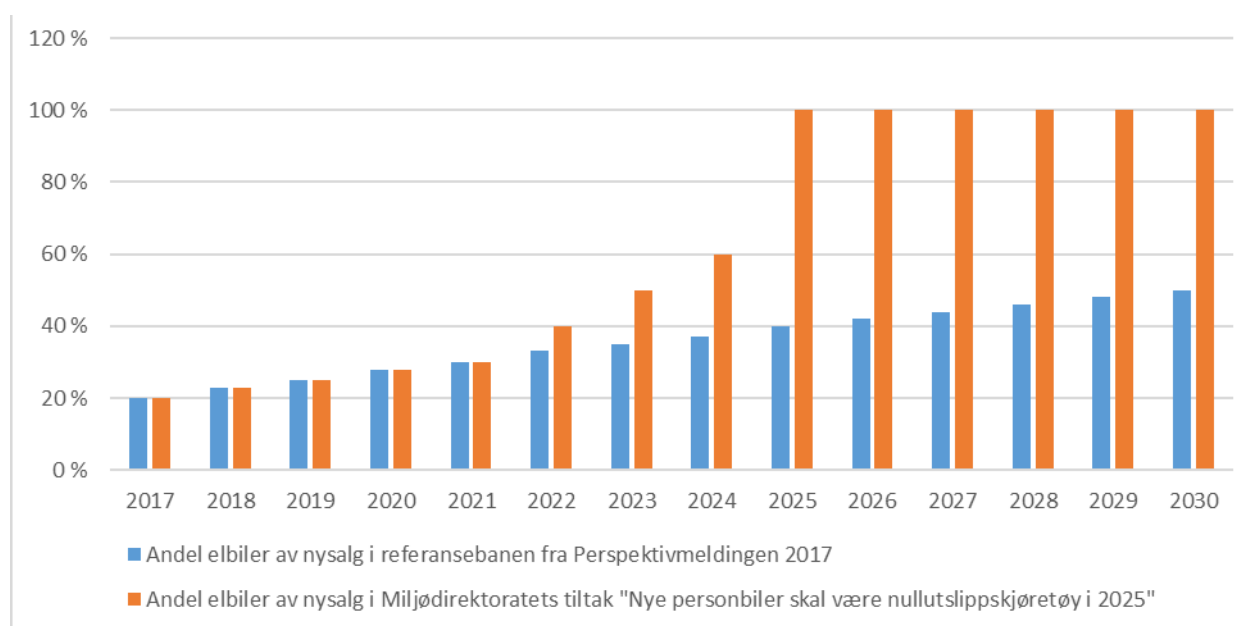


Chart 6.4 – Rate of introduction of zero emission vehicles, without existing measures (from White Paper Meld. St. 29 (2016–2017) Long-term Perspectives on the Norwegian Economy 2017) relative to assumed rate of introduction in Miljødirektoratets analysis of 100% new passenger cars will be zero emission vehicles in 2025. Source:

<http://miljødirektoratet.no/Documents/publikasjoner/M782/M782.pdf>

As for *electric vans*, the sales numbers have kept relatively low during the past years, see chart below. The share of electric vans of the total new sales of vans in Norway has kept below 2 % for 2016 (year as a whole) and so far in 2017.

²⁸ <https://www.regjeringen.no/en/dokumenter/meld.-st.-29-20162017/id2546674/>

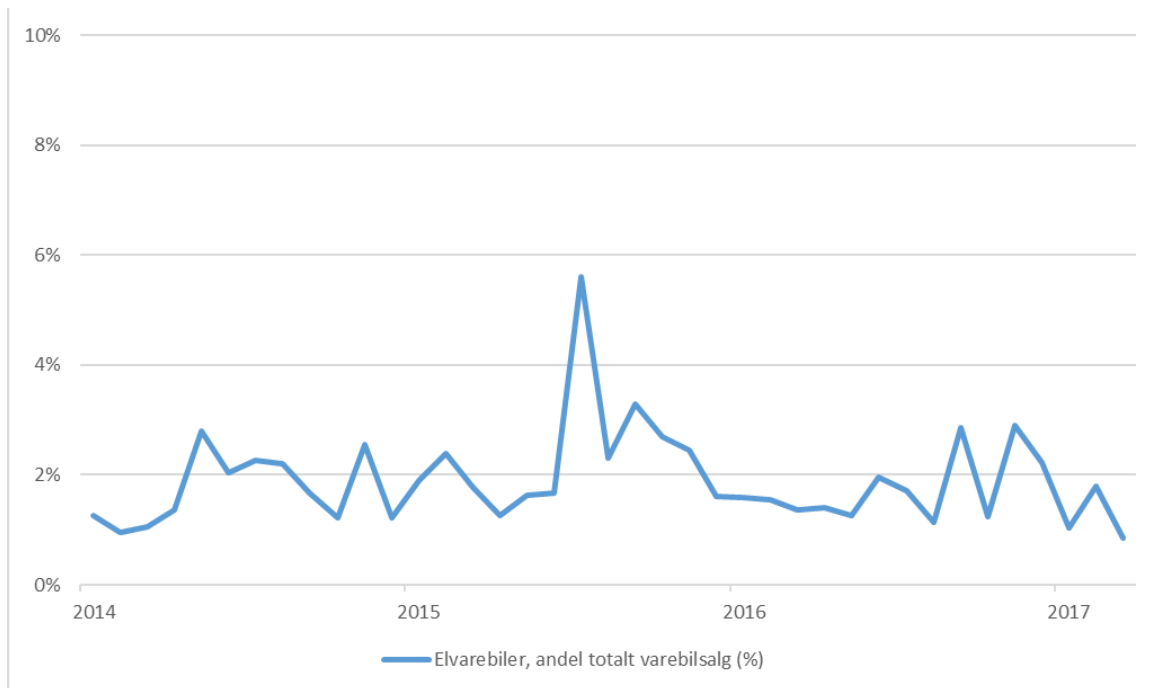


Chart 6.5 – Sales of zero emission vans as share of the total new sales of vans in Norway.
Source: The Norwegian Road Traffic Information Council (OFV)

A recent report from the Norwegian Institute of Transport Economics (TØI)²⁹ analyses the use of electric vehicles among crafts and service workers in Norway. They find that currently the adoption of EVs among the enterprises they have looked at is low, but there seems to be a strong interest for a wider use in the future. For the smaller craft enterprises today's financial incentives are particularly important for their motivation to adopt electric vehicles, while for the somewhat larger service enterprises benefits related to environmental issues and greener company images are of greater importance.

6.2.1.2 The aid is proportionate

The measures aim to reduce national CO₂ emissions from the transport sector through an increased share of zero emission vehicles. The aid measures' main objective is to reduce the price difference between conventional fuel vehicles on the one hand and zero emission vehicles on the other and to make zero emission vehicles more attractive in general.

This is in line with the ambitious goals on the area. In June, the Government issued a White Paper on climate policies³⁰, where the Government set a working target of a cut of 35-40 % in emissions from the transport sector by 2030 compared with 2005. In its

²⁹ <https://www.toi.no/publications/pathways-to-sustainable-transport-among-norwegian-crafts-and-service-workers-article34019-29.html>

³⁰

<https://www.regjeringen.no/contentassets/7d3c209f821248da8d4727713ab9619c/no/pdfs/stm201620170041000dddpdfs.pdf>

White paper on the National Transport Plan for 2018–2029³¹, the Government established several new targets:

- In 2025, 100 percent of new private cars and light vans will be zero-emission vehicles. All new city buses will be zero-emission vehicles or use biogas.
- By 2030, all new heavy vans, 75 % of new long-distance buses, and 50 % of new lorries will be zero-emission vehicles.
- By 2030, the distribution of goods in major city areas will be more or less emission free.

Although the sale of battery electric vehicles increased considerably until 2014/2015, the share of total new car sales has kept relatively stable during the last years. This has been the case despite unchanged tax benefits under technological progress. In 2015, battery electric vehicles made up 17.7 % of the new car sales, and this fell to 15.7 % in 2016. So far in 2017 (January–August) 18.8% of new passenger cars were electric vehicles, slightly higher than in 2015. Still, only 0.02 % of new sales so far in 2017 were hydrogen cars. Also, in the car fleet as a whole the number of electric vehicles is still very small compared to the number of conventional fossil fuel vehicles (3,7 per cent of the total car fleet in 2016³²). In the first half of 2017, only 19 fuel cell electric vehicles have been registered.³³

Electric vehicles are still more expensive and have larger potential drawbacks for consumers, including range and a limited number of models on the market.

Chart 6.6 gives a comparison of average sales prices for electric passenger cars relative to petrol and diesel passenger cars in 2017, including taxes.

³¹ <https://www.regjeringen.no/en/aktuelt/a-national-transport-plan-for-better-and-safer-daily-travel/id2548623/>, <https://www.regjeringen.no/en/dokumenter/meld.-st.-33-20162017/id2546287/>

³² <https://www.ssb.no/transport-og-reiseliv/statistikker/bilreg/aar/2017-03-28>

³³ Numbers from OFV.

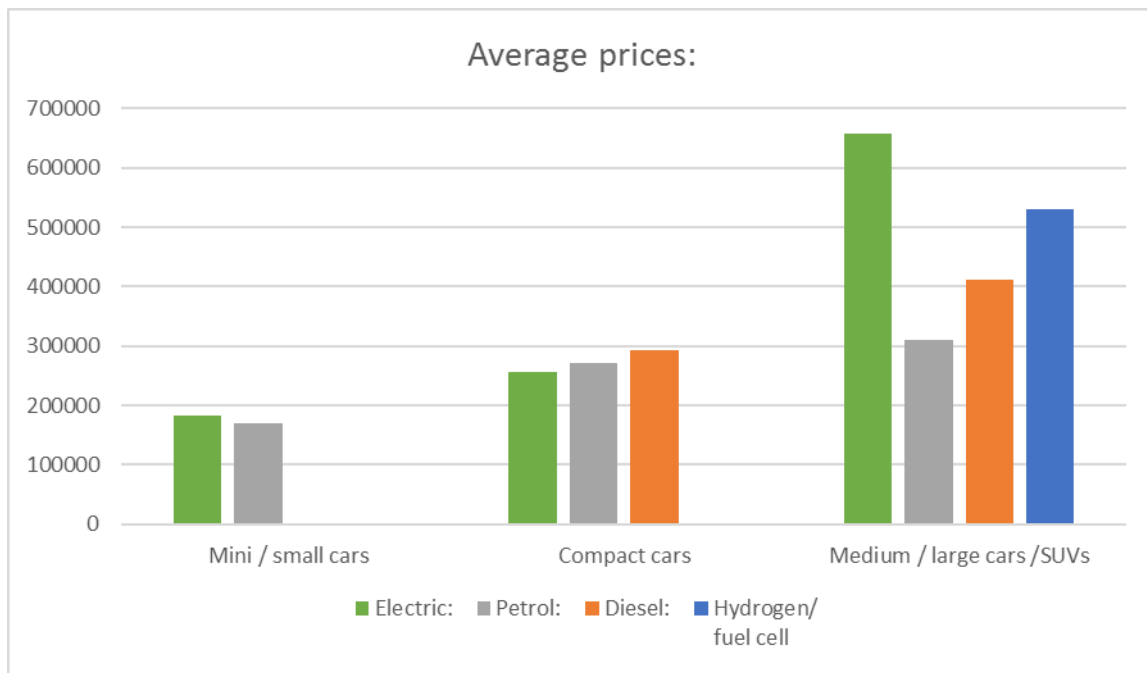


Chart 6.6: Average sales prices of electric vehicles (18 models all together) compared to the most sold petrol and diesel vehicles in different car segments.

Source: Opplysningsrådet for veitrafikken (Norwegian Information Council for the Road Traffic)

The chart shows that the sale prices of electric cars in the segment of mini and small cars, as well as compact cars, are almost the same as the prices of similar petrol and diesel cars. In the large car segment, the sales prices for electric and hydrogen vehicles are significantly higher than comparable petrol and diesel cars. Note that we base our calculations on the most basic (i.e. least expensive) versions of the electric, petrol and diesel models.

One can also look at comparable models: Volkswagen Up!, Volkswagen Golf, Ford Focus and Mercedes Benz B-class. The selection of the Volkswagen Golf models is especially instructive, as the electric, diesel and petrol versions are all the most popular new vehicles in their fuels segments among the compact cars. When looking at comparative models of EVs and ICEVs (Volkswagen Up!, Volkswagen Golf, Ford Focus and Mercedes Benz B-class), we find that the Volkswagen EV models have a higher guiding price than the comparable fossil models. EV models of Ford Focus and Mercedes Benz have a somewhat lower guiding price than the comparable fossil models:

Table 6.1 – Guiding sales prices and taxes on EVs with comparable petrol and diesel models

	Volkswagen e-up! (EV)	Volkswagen up! (petrol)
Price incl. taxes	192 000	147 500
Registration tax	0	33 979
VAT	0	22 224
Scrap deposit	2 400	2 400

<i>Before taxes</i>	189 600	88 897
<i>Taxes</i>	2 400	58 603

	Volkswagen e-Golf (EV)	Volkswagen Golf (petrol)	Volkswagen Golf (diesel)
<i>Price incl. taxes</i>	302 500	301 100	310 500
<i>Registration tax</i>	0	55 056	57 134
<i>VAT</i>	0	48 729	50 193
<i>Scrap deposit</i>	2 400	2 400	2 400
<i>Before taxes</i>	300 100	194 915	200 773
<i>Taxes</i>	2 400	106 185	109 727

	Ford Focus (EV)	Ford Focus (petrol)	Ford Focus (diesel)
<i>Price incl. taxes</i>	233 000	246 000	251 000
<i>Registration tax</i>	0	52 572	44 060
<i>VAT</i>	0	38 206	40 908
<i>Scrap deposit</i>	2 400	2 400	2 400
<i>Before taxes</i>	230 600	152 822	163 632
<i>Taxes</i>	2 400	93 178	87 368

	Mercedes Benz B-class (EV)	Mercedes Benz B-class (petrol)	Mercedes Benz B-class (diesel)
<i>Price</i>	254 380	328 000	308 000
<i>Registration tax</i>	0	81 837	65 420
<i>VAT</i>	0	48 753	48 036
<i>Scrap deposit</i>	2 400	2 400	2 400
<i>Before taxes</i>	251 980	195 011	192 144
<i>Taxes</i>	2 400	132 989	115 856

Source: Opplysningsrådet for veitrafikken (Norwegian Information Council for the Road Traffic)

Please also see Annex 1 for a full table of comparison of zero emission vehicles with the most sold petrol and diesel models.

The guiding sales prices of electric vehicles are, hence, not too different from comparable cars within the small and compact car segment. Also, owning an electric vehicle will give reduced fuel expenditures and reduced expenditures on maintenance. In addition, there are important user benefits (toll road tax exemption, lowered rates on ferries, access to bus lanes, free public slow charging, free public parking) that also should be taken into consideration. Still, the sales of electric cars are significantly lower than the sales of petrol and diesel cars, see chart in section 6.2.1. This can be somewhat explained by other costs/disadvantages for the consumer.

As explained above, there are important disadvantages related to buying an EV, related to limited range, charging time, an uncertain second hand market and limited number of models. Some of the models may, for example, have less comfort and possibilities for extra equipment. The disadvantages can represent a significant cost for an EV buyer and needs to be included in the calculation of costs and benefits of buying an EV relative to a fossil car.

Some of the explanation why not more consumers choose electric vehicles is that consumer may favour cost and benefits today more than costs and benefits in the future (positive discount rate). With a high degree of uncertainty regarding the future development, consumers are expected to place a lower weight on future costs and benefits. Also, some consumers may disproportionately favour effects in the near term relative to mid and long term effects. This is called myopic behaviour. Electric vehicles represents a new and rapid changing technology and the lack of necessary information and uncertainty about future costs and benefits may be substantial.

Both real and perceived uncertainty regarding the expected costs and benefits may make consumers unable to take fully into considerations the future costs and benefits of buying and owning an electric vehicle. There might, for example, be uncertainty about the future maintenance costs for an EV or the uncertainty about the lifetime of the battery. There may also be uncertainty for many purchasers whether the tax advantages and other policy measures towards EVs will exist over the lifetime of the car at the time of purchase.

In order to correct for the consumers inclination to disproportionately favour short term costs and benefits related to electric vehicles, incentives at the time of buying a vehicle can be more effective than incentives over the lifetime of owning a vehicle. The VAT exemption electric vehicles is an economic measure to give incentives at the time of buying a vehicle in favour of zero emission vehicles.

Today, when taking tax exemptions into account, the electric vehicle models are priced relatively similar to its fossil counterparts. If the exemptions were removed, the electric models would become more expensive.

The Norwegian government has, as stated in the White Paper on climate policies, underlined predictability and long-term thinking in policy measures for zero emission vehicles. Under the current market conditions there can be up to a 1.5-2-year delivery time for new battery electric vehicles (BEV). Since VAT is paid at the time of registration, and not at the time of order, delivery time is an important factor when assessing the appropriate time length of the measure. Unfortunately, there exists no single overview of delivery time for the electric car models that are sold in Norway. However, there are indications given in relevant information news articles etc. on this topic, that delivery time can be significant at least for certain EV models. Opel Ampera-

E and Tesla Model 3 seem to have a particularly long expected delivery time, up to two years.³⁴ Furthermore, Hyundai Ioniq EV and the next generation of Nissan Leaf also have ½-1 year expected delivery time.³⁵ One of the reasons for the lengthy delivery time is that the electric vehicle market is still immature which means that there is a lack of scale in the production of electric vehicles. Note that there is uncertainty regarding the delivery dates given in these articles. Long delivery time, as well as myopic behaviour, are both arguments for predictability in future policy measures.

The VAT exemption is also a tool that is intuitive to understand and calculate the impacts of. While the other measures are smaller, they give significant incentives. The measures have direct economic effects for consumers, and only indirect economic effect for producers. As previously noted by the Authority³⁶, the state aid intensity received by indirect beneficiaries is significantly reduced, which must be taken into account.

The Government has a clearly stated target that all new passenger vehicles in 2025 shall be zero emission vehicles. In 2016, this share was 15,7 %. In order to reach its targets, efficient measures need to be in place. Due to disadvantages related to electric vehicles, as well as information uncertainty related to future costs and benefits may lead to myopic behaviour, incentives at the time of buying a vehicle – such as the VAT exemption – are effective to create demand for buying electric vehicles.

The Government said in the White Paper on Climate Policies that it would build upon current policy measures to stimulate use of zero emission vehicles, and by that contribute to reaching the targets for zero emission vehicles in the National Transportation Plan 2019-2029. The Government also stated that it will facilitate to make zero emission cars competitive, and that economic measures should support this.

The Government has, however, made it clear that the incentives for electric vehicles will be scaled back in the future. In the White Paper on climate policies, the Government signaled that annual overviews over the development of zero emission vehicles in all transport segments that are covered by the government targets will be published. Depending on the market development, the government will consider necessary changes in policy measures. The Ministry would also in this regard

³⁴ Opel Ampera-E ordered is expected to be delivered in 2019, but the distributor cannot signal for certain when a car ordered today can be delivered. Tesla Model 3 ordered today is expected to be delivered at the earliest October 2018. Please see for example <https://www.op.no/kjor/bil/elbil/det-har-dukket-opp-et-elbil-problem-ingen-liket-a-snakke-om/s/5-36-431427> and <https://www.ringeriksavisa.no/arkiv/item/2386-leveringstider-pa-elbiler-i-norge>

³⁵ Hyundai Ioniq EV ordered today expected to be delivered in about a year, and the new Nissan Leaf expected to be delivered from March 2018 at the earliest (please see for example <http://www.tv2.no/a/9241924/> and <https://www.op.no/kjor/bil/elbil/det-har-dukket-opp-et-elbil-problem-ingen-liket-a-snakke-om/s/5-36-431427>). Also other models have delivery time that is expected to be more than just a few months, for example Volkswagen e-Golf, Volkswagen e-up!, Tesla Model S/Model X, Renault Zoe.

³⁶ Decision 150/15/COL paragraph 159

emphasise the commitment to a mid-term evaluation of the measures, cf. chapter 6.4 below.

Electric vans

584 electric cargo vans under 3.5 tonnes (out of 33 844 cargo vans in total) were registered in Norway in 2016. TØI³⁷ looks at the economics of using electric vans in Norway. They find that the cost gap between electric and diesel vans is between NOK 45,000 and NOK 75,000 when registration tax is included and VAT excluded, and NOK 60,000 and NOK 85,000 when all taxes are excluded. When all taxes in Norway are factored in, the difference is between NOK 0 and NOK 20,000, as diesel vehicles are heavily taxed. Moreover, TØI finds that when adding the annual tax, fuel/electricity cost, financial cost and an annual oil change on diesel vehicles, the total costs of ownership over 5 years are evened out when VAT is excluded from the calculation, as shown in the figure below. Companies are eligible for a 100% VAT refund. In their calculation, TØI assumes the time of ownership of 5 years, and the value loss of the vehicle is set to 70% over the 5 years. In reality, TØI argues, it is likely that battery electric vans will have a higher value loss, as this is new technology with uncertain residual value.

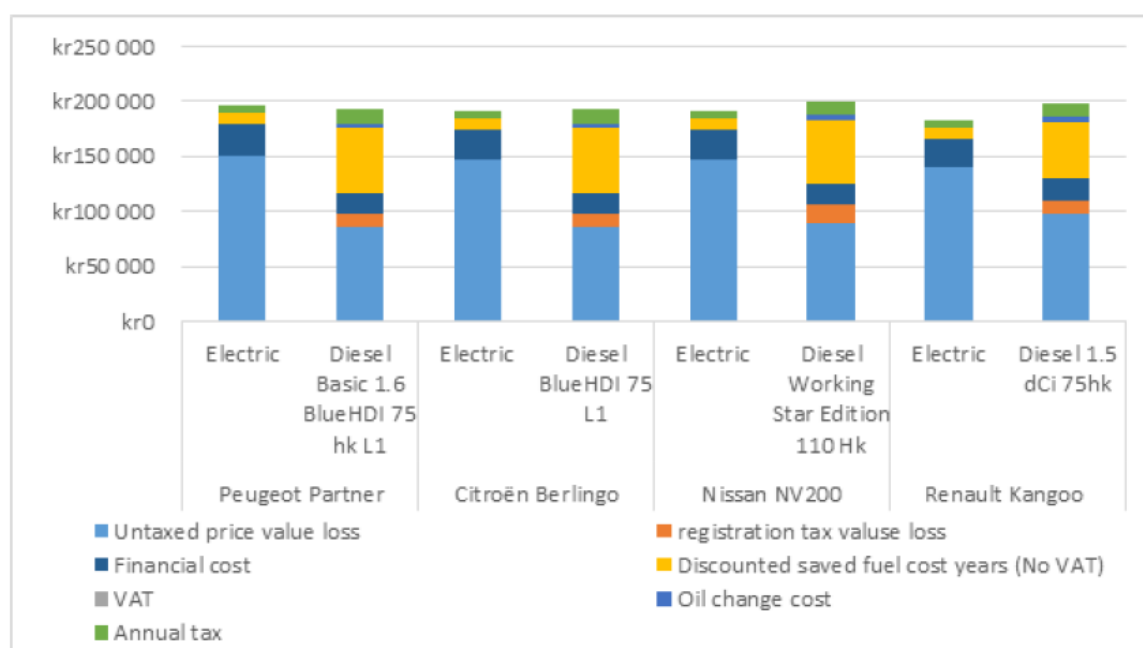


Chart 6.7 – Economics of electric vans in 2015-2016. Total cost of ownership over five years. Source: Norwegian Institute of Transport Economics (TØI)

The notified depreciation rule implies that the beneficiaries will receive deductions in taxable income at an earlier point in time than what is the case under the currently

³⁷ <https://www.toi.no/publications/pathways-to-sustainable-transport-among-norwegian-crafts-and-service-workers-article34019-29.html>

applicable legislation. Faster depreciation increases the taxpayers' tax-deductible expenses in the first years of investments, which they can deduct from their income when calculating their taxes due. However, at a later point in time, tax-deductible expenses will be lower and income tax will be higher. In sum, the beneficiaries gain an increase in the present value of deductions. The Ministry will also argue that this new incentive for vans should be evaluated in light of the fact that the VAT exemption does not give any incentive for businesses subjected to VAT to purchase electric vehicles, since paid input VAT is recovered.

The amount of aid would in this case be directly linked to the cost of the investment (i.e. the costs of a van). At the time of an investment, the net present value of total taxable depreciation of an asset, given that the threshold for the write-off of the residual value (NOK 15,000) is never reached for the relevant depreciation account, and that the taxpayer has a positive taxable income each year and that corporate taxes are payable the year after the income year, can be written as follows:

$$\frac{I * d * t}{1 + r} + \frac{I * (1 - d) * d * t}{(1 + r)^2} + \frac{I * (1 - d)^2 * d * t}{(1 + r)^3} + \dots + \frac{I * (1 - d)^\infty * d * t}{(1 + r)^\infty}$$

where I equals the initial investment expense, d the rate for taxable depreciation under the declining balance method, t the tax rate and r the discount rate. The net present value of the deductions can thus be expressed as

$$\frac{I * d * t}{r + d}$$

Increasing the depreciation rate from d_1 to d_2 will increase the net present value of total depreciations as a share of the initial investment expense, by

$$t * \left(\frac{d_2}{r + d_2} - \frac{d_1}{r + d_1} \right)$$

Increasing the depreciation rate from 24 to 30 pct. will thereby, given a tax rate of 24 pct. and a discounting rate of 6,6 pct., increase the net present value of depreciations on an investment with 0,85 pct. of the initial investment expense. A benefit somewhat smaller than one pct. of the investment expense, can be regarded as relatively modest. The benefit will decline if the corporate tax rate is lowered from 24 to 23 pct. in 2018, according to the parliamentary agreement on tax reform from 2016.

Under these assumptions, increasing the depreciation rate from 24 to 30 pct. for electric vans will increase the net present value of depreciations for a Nissan NV200, which has a listing price of NOK 202 500 (<https://www.nissan.no/biler/nye-biler/nv200.html>), by approximately NOK 1 700. In comparison, the first-year effect of the increased depreciation rate will for a Nissan NV200-aquirerer be

$$NOK\ 202\ 500 * (0,30 - 0,24) * 0,24 * \frac{1}{(1+0,066)} \approx NOK\ 2700.$$

Parts of the initial advantage is, however, offset by lower depreciations later in the asset's lifetime.

According to the *Guidelines on state aid for environmental protection and energy 2014-2020 3.2.4 Incentive effect*, an incentive effect occurs when the aid induces the beneficiary to change its behaviour to increase the level of environmental protection or to improve the functioning of a secure, affordable and sustainable energy market, a change in behaviour which it would not do without the aid. It also states that “...aid does not present an incentive effect for the beneficiary in all cases where work on the project had already started prior to the aid application by the beneficiary to the national authorities.”

The purpose of the measure is to stimulate to investments in electric cargo vans in Norway. Thus, the new depreciation rules will only be applicable for new investments. To ensure that the measure will have the required incentive effect, the Norwegian government has decided to clearly state in the rule that the new depreciation rules only will be applicable for electric vans bought on or after 20th of December 2016. The proposal is part of the Government's proposed national budget for the year 2018, see Prop. 1 LS (2017–2018) chapter 6.2. The measure was adopted in Parliament on 20th of December 2016, and based on a previous case by the Authority, *Decision No 150/16/COL – Amendments to the Norwegian Tax Act concerning changes in the depreciation rules for wind power plants*, Norwegian authorities read that the incentive effect also in this case are fulfilled. This clarification of the rule is expected to be approved by the Parliament this year.

In the preparatory works of the new depreciation rules, the rules state that they are made conditional upon approval from the Authority. The date for entering into force of the new legislation depends on a decision by the Council of State. As a consequence, the rules will not enter into force until the state aid question has been clarified. In the case mentioned above (Decision No 150/16/COL) the Authorities stated that:

“For measures subject to the regular notification procedure, States cannot establish the incentive effect of a measure at any given time by having it enter into force. Indeed, the measure cannot enter into force before the Authority approves it, as this would breach the standstill obligation. There is, however, no reason why the standstill obligation must thus prevent any incentive effect of a properly adopted measure pending the Authority's approval. Where the entry into force of the measure is conditional upon the Authority's approval, States can therefore establish a cut-off date prior to the Authority's approval, going back to the date of adoption.”

Based on the above, the Norwegian Government have proposed amendments to the current rules to the Parliament. Norway is notifying the scheme based on the premise

that the Tax Act will be amended and only investments as of 20th of December 2016 will be eligible for aid.

The new depreciation rules are, as most tax legislation, in principle objectively, neutrally and generally designed, which means that any tax payer with taxable income/deductible loss in Norway may benefit from the rules. Thus, no application will be required.

There is no discrimination between manufacturers and dealers of electric vans.

6.3 Undue negative effects on competition and trade are avoided

As noted by the Authority in Decision 150/15/COL, the Norwegian state only grants State aid to the indirect beneficiaries of the measures, not to their direct beneficiaries. This should imply that the potential distortion of competition is limited. In addition, there is no discrimination between manufacturers or dealers of zero emission vehicles, and the benefits obtained by those indirect beneficiaries are in the Ministry's view necessary for achieving the objective pursued by this scheme. For this reason, undue negative effects on competition and trade are in our view avoided.

6.4 Evaluation of the measures

The Norwegian system for encouraging the uptake of zero emission vehicles is regarded a success far beyond Norway's borders and several European countries have adopted similar measures over the last few years. The fact that more than 100.000 battery electric vehicles have been registered, supports that the measures do work and will continue to do so.

One way to evaluate the existing measures is to look at the share of electric vehicles in other European countries. According to Bloomberg New Energy Finance (2017)³⁸ these were the sales of BEVs and PHEVs in the first quarter of 2017:

Table 6.2 - Share of electric vehicles (incl. plug-in hybrids) in total sales in European countries:

Norway	35.4%
Iceland	12.8%
Sweden	4.4%
Switzerland	2.3%
Belgium	2.0%
France	1.9%
Finland	1.8%
Netherlands	1.7%
Austria	1.7%
UK	1.5%
Germany	1.2%

³⁸ Bloomberg New Energy Finance, 2017. Global Electrified Transport Market Outlook, May 26.

Portugal	1.0%
Ireland	0.6%
Spain	0.3%
Denmark	0.2%
Italy	0.2%

Source: Bloomberg New Energy Finance

Norway's share of BEVs in January–August 2017 was 18.8 per cent. Norway is the country in Europe that has the highest share of EVs as a total of new passenger car sales. It is very unlikely that this would be the case if incentives were not in place, including the VAT exemption. However, if one looks at the share of BEVs in the new passenger car sales, one sees that the share has remained relatively stagnant: 12.5 per cent in 2014, 17.1 per cent in 2015, 15.7 per cent in 2016, and 18.8 per cent in the period of January-August 2017. These numbers indicate that the market for BEVs in Norway has yet to reach the point where one can say that there is no longer a need for incentives.

We also underline that the policy measures should contribute to reaching the political targets in this area. The Government, supported by the Parliament, has set the target that all new passenger cars in 2025 shall be zero emission vehicles. Today we are at a rate of almost 20%, and although this is a higher share of new sales than any other country in Europe, we still are far from reaching the target of 100% new sales to be zero emission vehicles in 2025.

The Norwegian Government has made clear that the incentives for electric vehicles will be scaled back in the future. In the White Paper on climate policies³⁹, the government signaled that annual overviews over the development of zero emission vehicles in all transport segments that are covered by the government targets will be published. Depending on the market development, the government will consider necessary changes in policy measures.

The Government has performed a general policy review of vehicle taxation in 2015⁴⁰, as noted in the Authority's previous decision (150/15/COL, paragraph 170). The Ministry is furthermore committed to perform a specific mid-term review of the proposed measures, with data until 31 December 2019, and final delivery before 1 July 2020. The review will take into account the Commission staff working document "Common methodology for State aid evaluation". The Ministry wishes to develop the evaluation plan in dialogue with the Authority, with a part of the evaluation dedicated to evaluating the effectiveness of the aid measures in comparison with other measures.

³⁹

<https://www.regjeringen.no/contentassets/7d3c209f821248da8d4727713ab9619c/no/pdfs/stm201620170041000dddpdfs.pdf>

⁴⁰ Meld. St. 2 (2014-2015) p. 75-92

6.5 Transparency

According to the Environmental Guidelines paragraph (99) information concerning the measure and the beneficiaries shall be published on a comprehensive State aid website. The Ministry will make sure that this obligation will be fulfilled. Furthermore the relevant rules and regulations will be published on www.lovdata.no, as they are approved and enter into force.

Yours sincerely,

Grethe H. Dahl
Deputy Director General

Dag Bjørke Bremer
Senior Tax Adviser

This document has been signed electronically and it is therefore not signed by hand.

Annexes

- 1) Overview of guiding sales prices for electric vehicles and fossil vehicles
- 2) Notification form Part I
- 3) Relevant rules and regulations