

EFTA Surveillance Authority  
Rue Belliard 35  
1040 Brussels, Belgium

Your ref

Our ref  
17/335

Date  
10.11.2020

## **Notification of zero rate VAT 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) a planned prolongation of the existing measure of zero rated value added tax (VAT) for supply, import and leasing of electric vehicles and for supply and import of batteries for such vehicles.

The existing measure is approved by the Authority until 31 December 2020, cf. the Authority's Decision No. 228/17/COL.

It is the Government's position that the measure constitutes 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).

The term "electric vehicles" comprises battery electric vehicles ("BEV"), and fuel cell electric vehicles ("FCV"). BEVs 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 on BEVs, thus different types of hybrid electric vehicles are excluded from the definition. FCVs are electric vehicles that use a fuel cell instead of a battery, or in combination with a battery, to power its on-board electric motor. In the following, the terms "electric vehicles" ("EV") and "zero emission vehicles" ("ZEV"), will be used for both BEV and FCV unless it is specified otherwise.

In the following, we will first give a summary of why the measure in our view is 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 Chapters 3 and 4, before considering the question of state aid in Chapter 5. Finally in Chapter 6, the compatibility provisions of the aid measure in Article 61 (3) will be considered in details.

## **2. SUMMARY OF THE NOTIFICATION**

The sale of EVs in Norway is high relative to the number of inhabitants and has been steadily increasing during the last decade, also during 2019 and in the first quarter of 2020. Still, the EV markets are immature. The production costs, and hence the sales prices excluding taxes, are higher for EVs than for comparable gasoline and diesel cars. Furthermore there are disadvantages for EV buyers, including limitations in range and charging capacity. This can represent a significant cost of owning an EV, leading to a reduced demand.

The objective of the measure is to increase the market share of electric vehicles in order to reduce CO<sub>2</sub>-emissions from the transport sector. The measure thus has a clear environmental purpose. Norway has ambitious climate goals. Providing incentives to accelerate uptake of ZEVs in the transport sector is considered one of Norway's most important and so far most successful climate policies.

Although the sale of BEVs has increased considerably since the year of the last notification, from approximately 21 per cent in 2017 to approximately 50 per cent from January to April 2020, we are still far from achieving the contributions needed from higher EV shares in order to reach our climate goals.

There is still a need for economic incentives to promote the purchase of EVs. Norway has implemented several measures to promote EVs, including measures at the time of purchase and measures in order to reduce user costs and thus reducing expected lifetime costs of an EV ownership.

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 an ownership. The zero rate VAT for EVs is an important economic measure that gives incentives in favour of ZEVs at the time of purchase. It 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.

For the above-mentioned reasons, the Ministry hereby notifies a prolongation of the zero rate VAT for BEVs for a period of two years, until the end of 2022.

The Government has, however, made it clear that the incentives for EVs will be scaled back in the future. This scale back has started already for ferry boarding, toll roads and parking. Overviews over the development of ZEVs in all transport segments that are covered by the Government targets are published annually as part of the budget proposals. Depending on the market development, the Government will consider necessary changes in policy measures in the near future. As stated in the Granavolden-declaration, the Government has started to work on sustainable car taxation after 2025. Designing a sustainable system for car taxation is challenging, since the system need to be both financially and environmentally sustainable. It is the view of the Ministry, that a long term commitment to EV advantages and predictable

changes is an important success factor behind the high ZEV share in Norway. Previous experiences, like the introduction of registration tax for ZEVs in Denmark, indicate that these amendments in these measures may have significant consequences. The Ministry would therefore point out that it is important to have flexibility to keep the VAT exemption until the process with a sustainable system for car taxation is concluded.

### **3. BACKGROUND**

#### **3.1 Norwegian Climate Policy and implications for the transport sector**

As a part of the Paris Agreement, Norway is committed to take action to keep global warming in line with the global long-term temperature goal. Under the Paris Agreement Norway has committed to reduce emissions by at least 50 per cent and towards 55 per cent by 2030 compared to 1990-levels.

In EEA Joint Committee Decision No 269/2019 the EU, Iceland and Norway formally agreed to cooperate on fulfilling our respective emission reduction targets. By that decision, Iceland and Norway take part in all three pillars of the EU climate framework. This includes participation in the Effort Sharing Regulation, which regulates emissions not covered by the EU Emissions Trading System (EU ETS).

Through the participation in the Effort Sharing Regulation, Norway's commitment is to reduce the non-ETS emissions by 40 per cent by 2030 compared to 2005 levels. The government has an intention to reduce the non-ETS emissions by 45 per cent compared to 2005 levels. This will represent a fulfilment beyond the 40 per cent commitment Norway currently have under the Effort Sharing Regulation. The ambition is to reduce these emissions through domestic action. If strictly necessary, the flexible mechanisms within the Effort Sharing Regulation can be used.

More than half of Norwegian greenhouse gas (GHG) emissions are in the so-called non-ETS sector, where the transport sector is the primary source of emissions. Within the transport sector, the passenger car segment is the largest emitter with emissions of 4.7 million tonnes CO<sub>2</sub> eq. in 2018. This is 10 per cent more than the GHG emissions from vans, trucks and busses combined and almost a third of the total GHG emissions in the transport sector.

In the Norwegian strategy to fulfil the commitments under the Effort Sharing Regulation, uptake of ZEVs is a cornerstone. To substantially reduce transport emissions we need a large scale introduction of EVs in the passenger car segment, as this is a segment where one has seen a growing popularity of the BEV models already available.

Moreover, as Norway under the Effort Sharing Regulation, will receive an annual emission allocation for each year in the period from 2021 to 2030, it has a value to start the roll-out of available zero emission technology early.

#### **3.2 General overview of the Norwegian VAT system**

VAT was introduced in Norway with effect from 1 January 1970. The tax is levied on the final consumption of goods and services and is considered as a fiscal tax to secure state revenue.

The VAT provisions are laid down in the Act on Value Added Tax of 19 June 2009 No. 58<sup>1</sup> (hereafter referred to as the VAT Act) and the Regulation concerning Value Added Tax of 15. December 2009 No. 1540<sup>2</sup> (hereafter referred to as the VAT Regulation).

The obligation to pay VAT and the VAT rates are adopted annually by the Norwegian Parliament<sup>3</sup> (hereafter referred to as the 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.

Norwegian VAT is levied on the supply of goods and services falling within the scope of the VAT Act. The importation and self-supply of goods and services are also considered taxable events.

Persons engaged in trade or business, whose taxable supplies exceed a financial limit of NOK 50 000 over a period of 12 months, must be registered in the VAT register and are liable to pay the tax.

A registered person may deduct input VAT on goods and services for use in the business cf. section 8-1 of the VAT Act. The deduction right for businesses implies that VAT is not finally levied until the goods or services are sold to a customer without a right to deduction. Thus, VAT is a tax on the final consumption.

When reporting VAT to the tax authorities, the input VAT will be set off against the output VAT for the same period. If the input VAT exceeds the output VAT, the excess amount of input VAT shall be refunded claimed from the tax authorities.

The general VAT rate is 25 per cent of the net price (taxable base). The VAT rate on foodstuff is 15 per cent. Certain services are levied a reduced rate of 12 per cent, 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. An exemption means that no output VAT is levied on the supply of the exempted goods and services, and suppliers are not entitled to deduct input VAT.

Some goods and services, however, are levied output VAT, but at a zero rate. Suppliers of such goods and services are still entitled to deduct input VAT. Most of the zero rated groups of goods and services have existed since the introduction of the VAT in Norway, e.g. the zero rating on newspapers, books, periodicals, and electricity for domestic use in northern parts of Norway.

The zero VAT rating for the sale and import of EVs was introduced 1 July 2001, and extended to include leasing of EVs and supply/import of batteries for such vehicles 1 July 2015.

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<sup>1</sup> <http://lovdata.no/dokument/NL/lov/2009-06-19-58>

<sup>2</sup> <http://lovdata.no/dokument/SF/forskrift/2009-12-15-1540?q=merverdiavgiftsforskriften>

<sup>3</sup> Available at <https://lovdata.no/forskrift/2019-12-13-1826>

The zero rating covers the sale and import of all EVs for both public and private use, provided that they are registered in the Central Motor Vehicle Register. All producers, importers and distributors are entitled to supply and import EVs subject to zero rating, i.e. there is no discrimination between different car manufacturers and/or dealers of electric cars.

### **3.3 Other measures in favour of electric vehicles**

There are several measures adopted by the Norwegian authorities in favour of EVs. The following measures, all of them designed to stimulate the demand for EVs, are in force:

- Exemption from registration tax. All vehicles, except large lorries and buses are levied a one-off registration tax when they are being registered in the Norwegian Central Motor Vehicle Register for the first time. The registration tax is determined by three factors: weight, emissions of CO<sub>2</sub>, and emissions of NO<sub>x</sub>. EVs have been exempted from registration tax since 1991. The tax objects, tax rates and tax exemptions for the re-registration tax follows from the Parliament's decision concerning excise duties. Further regulations can be found in Regulation of 19 March 2001 No 268 on the re-registration tax.
- Exemption from re-registration tax. The re-registration tax is a fiscal tax originally meant to substitute VAT on used motor vehicles. Sales of motor vehicles previously registered in the Norwegian Central Motor Registry are subject to zero rate VAT. Instead, previously registered vehicles are subject to the re-registration tax when the vehicle is registered on a new owner. EVs have been exempted from re-registration tax since 2018. The tax objects, tax rates and tax exemptions for the re-registration tax follows 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.
- Exemption from insurance tax/annual vehicle tax for electric vehicles. The traffic insurance tax applies to motor vehicles with a weight below 7 500 kg. The tax is levied on the insurance companies and passed on to the consumers in the individual insurance premiums. The tax rate varies for different types of vehicles. The traffic insurance tax replaced the former annual tax on vehicles 1 January 2018. Under the annual tax, EVs were levied a reduced rate of NOK 455 (in 2017). The exemption for EVs in the traffic insurance tax entered into force at the same time as the tax itself. The tax objects, tax rates and tax exemptions for the traffic tax follow from the Parliament's decision concerning excise duties. The traffic insurance tax is regulated in Act 19 May 1933 No 11 concerning excise duties and Regulation 11 December 2001 No 1451 concerning excise duties.
- Favourable income tax calculation. Employees benefitting from private use of company cars are subject to employment income tax calculated on the value of the benefit. The taxable benefit from the private use of the employee's EV is 60 per cent of that of a conventional car with the same listing price as new. This measure has been in force since 2009. The favourable income tax calculation for

EVs are set out in the Norwegian Tax Act of 27 March 1999 No 14 Section 5-13(3) and section 5-13-5 of the complementary administrative regulation<sup>4</sup>.

- Favourable depreciation rules. All vans are depreciated with an annual depreciation of 24 per cent. Under the Norwegian system for depreciation for tax purposes, the depreciation rates reflect the expected economic lifetime of the operating assets. Electric vans are subject to more favourable depreciation rules with a depreciation rate of 30 per cent. This measure has been in force since 2017. The depreciation rules for electric vans are set out in the Norwegian Tax Act of 27 March 1999 No 14 Section 14-43(4).
- Reduced rates on toll-roads. According to the guidelines concerning toll-roads<sup>5</sup>, the rates for EVs must not exceed 50 per cent of those of conventional vehicles. EVs have since 1997 been granted free use of toll-roads. Reduced rates have however in later years been introduced for EVs on most toll-roads and toll rings in Norway. The rates vary.
- Reduced rates on road ferries. According to the guidelines concerning duty on ferries, point 1.3<sup>6</sup> rates for EVs must not exceed 50 per cent of those of conventional vehicles. EVs have for many years been subject to reduced or zero rates on road ferries. At first, they were usually granted a full exemption. At present, there is a national rule granting EVs at least 50 per cent reduction on most ferry routes.
- Free or reduced rate parking at public parking places. Free parking for EVs has been widely used throughout Norway since 1993. Several municipalities in Norway, including all the major cities, have recently introduced parking fees for EVs. According to a proposal not yet entered in to force, the rates for EVs must not exceed 50 per cent of those of conventional vehicles<sup>7</sup>.
- Access to bus lanes. EVs enjoy an authorisation to drive in bus lanes, according to the regulation relating to pedestrian and vehicle traffic (traffic rules)<sup>8</sup> - Section 5(2). This measure has been in force since 2006. In its Decision No .150/15/COL the Authority concluded that the authorisation granted to EVs to drive in bus lanes does not involve any commitment of State resources, and hence is not state aid. Many municipalities in Norway have watered down this measure. For instance, there are restrictions on EVs' access to bus lanes in the Oslo area during rush hours.
- Many Norwegians have garages so they primarily charge at home. However, sufficient fast charging infrastructure is a precondition for the market development of EVs. That is why Enova has provided support to 230 fast charging points in the main highway corridors in Norway. Enova has also launched a program that supports charging

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<sup>4</sup> <https://lovdata.no/forskrift/1999-11-19-1158>.

<sup>5</sup> Available at: [https://www.autopass.no/\\_attachment/2746707/binary/1353516](https://www.autopass.no/_attachment/2746707/binary/1353516)

<sup>6</sup> Available at:

[https://www.vegvesen.no/\\_attachment/2886999/binary/1356924?fast\\_title=Riksregulativ+for+ferjetakster+2020.pdf](https://www.vegvesen.no/_attachment/2886999/binary/1356924?fast_title=Riksregulativ+for+ferjetakster+2020.pdf)

<sup>7</sup> The limitation for electric vehicles follows from a proposal for amendment not yet in force.

<sup>8</sup> Available at: <https://lovdata.no/forskrift/1986-03-21-747/§5>

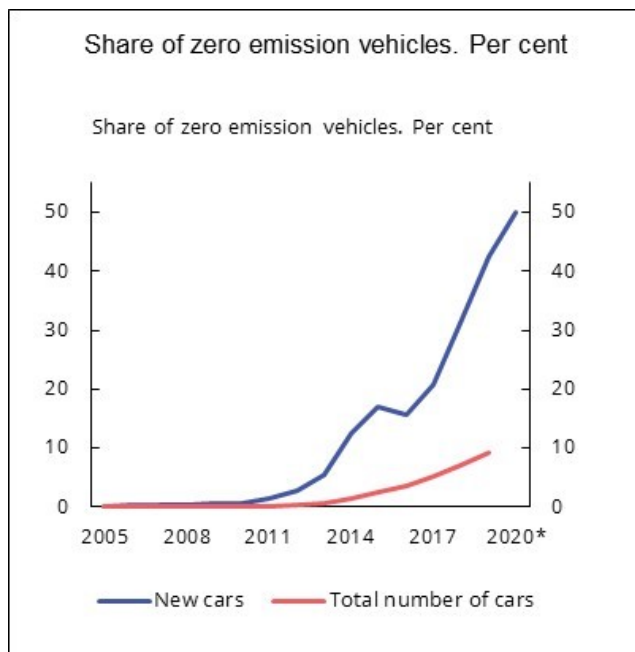
infrastructure in municipalities with less than two fast charging points. Further, recently Enova launched a new program for support charging infrastructure in specific areas – primarily areas that do not yet have a commercial market for charging infrastructure.

### 3.4 Current market status and availability

#### *Status of the battery electrical vehicle market in Norway*

BEVs are available in the Norwegian passenger car market. The sale has increased considerably over the last decade and BEVs have been sold in substantial amounts the last few years. The share of new BEVs registered in Norway, as a percentage of all new passenger cars, has been increasing during the last years. In 2015, BEVs provided 18 per cent of all new car sales, and this fell to 16 per cent in 2016. The following years the share increased to 21 per cent in 2017, 31 per cent in 2018 and 42 per cent in 2019. So far in 2020 (January–April), 50 per cent of new passenger cars sold have BEVs. The development of ZEVs, as share of registration of passenger cars, is shown in the blue line in fig 3.1.

*Fig. 3.1 Shares of electric vehicles per year of new passenger cars and of the stock of passenger cars in Norway 2005-March 2020*

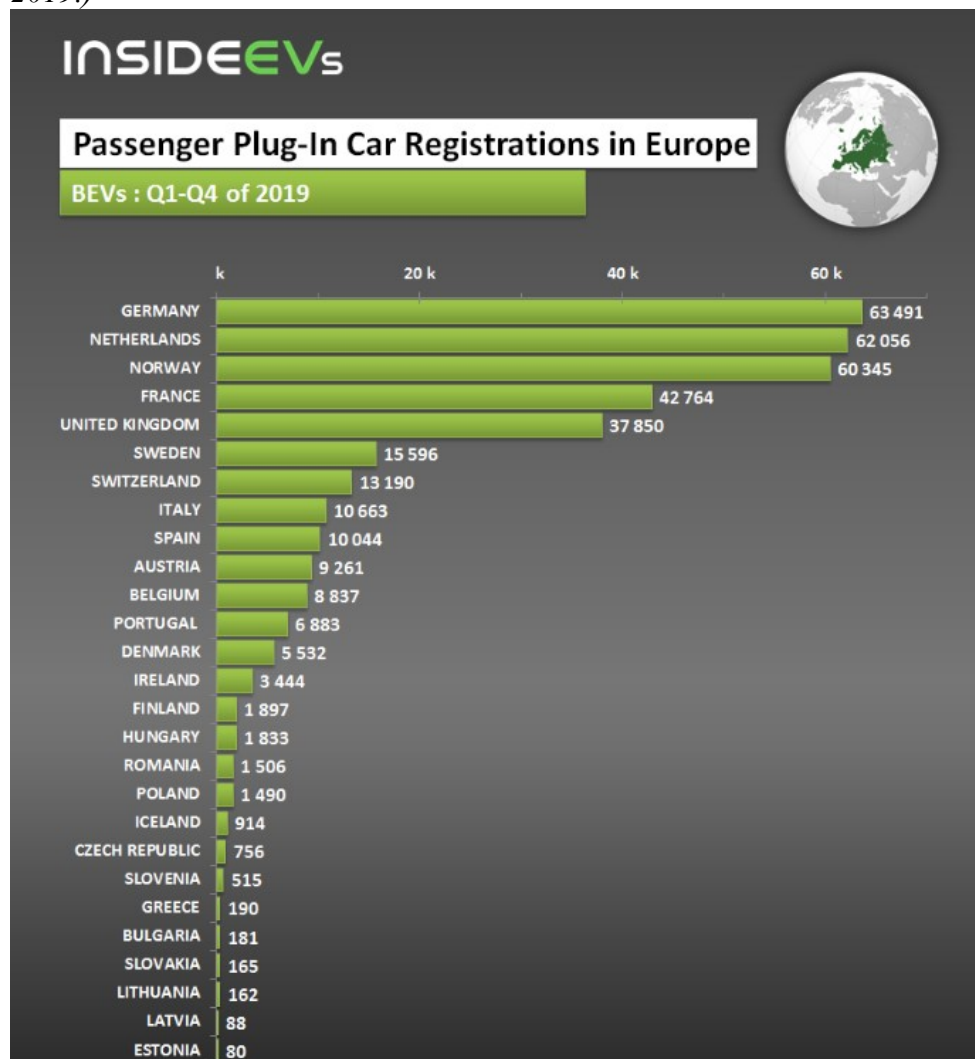


Share of zero emission vehicles of new passenger cars and total number of passenger cars. 2005–March 2020

Source: Statistics Norway and OFV.

In fig. 3.2 the number of BEVs in total sales in European countries in 2019 is shown. The figure shows that the number of sold BEVs in Norway is high in absolute terms compared to other, bigger European countries. Only Germany and the Netherlands have larger sales number than Norway, leaving these as the three countries with sales number between 60 000 and 70 000 in 2019.

Fig 3.2 Number of battery electric vehicles in total sales in European countries (1.-4. quarter 2019.)



<https://insideevs.com/news/397597/passenger-plugin-ev-sales-europe-2019/>

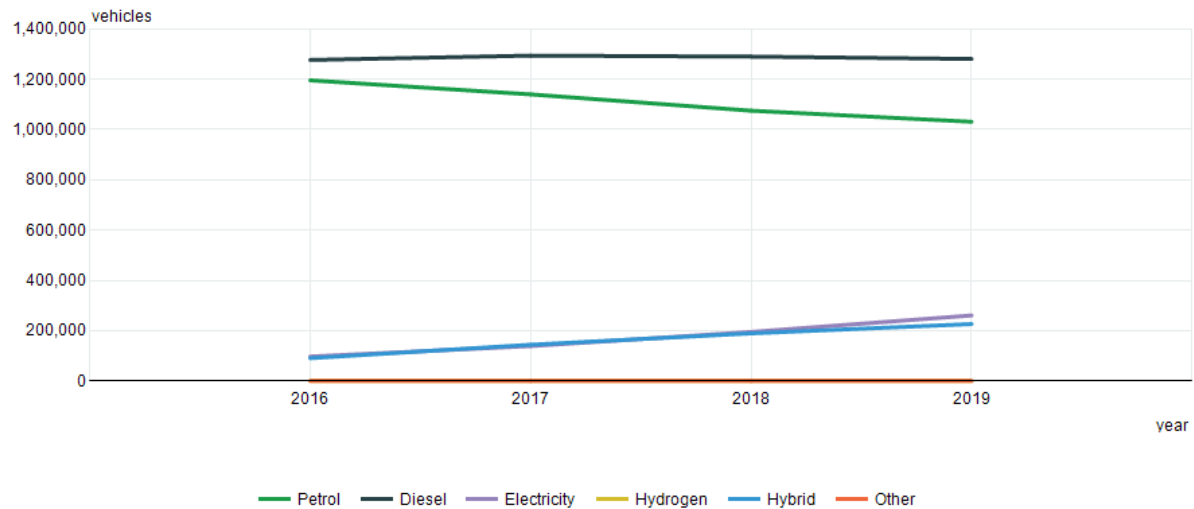
However, the total number of EVs is still small compared to the number of conventional fossil fuel vehicles in Norway. The red line in fig. 3.1 depicts the share of ZEVs of the stock of passenger cars, that reached 9.3 per cent at the start of 2020.

Furthermore, the development of registered vehicle types in the stock of passenger cars is shown in fig. 3.3. At the beginning of 2020, 261 000 BEVs were registered in Norway. The numbers of BEVs and hybrid cars have been increasing, but the total numbers are still significantly lower than petrol and diesel cars.



**Fig. 3.3 Stock of registered vehicles by type of fuel, Norway**

11823: Registered vehicles, by type of fuel and year. The whole country, Private cars.



Source: Statistics Norway

#### *Status of the fuel cell electric vehicle market*

The market for fuel cell vehicles will still be limited in 2025. In the recent analysis in Klimakur 2030, the Norwegian Environmental Agency looks at battery electric passenger cars as the only realistic zero emission technology in the passenger car segment. Both the production cost of fuel cell vehicles, fuel cells and the hydrogen itself relies on a much larger scale production than it is today

## **4. THE NOTIFIED MEASURES**

### **4.1 Previously approved measures and prolongations**

In Decision No. 150/15/COL the Authority considered the following measures 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 EVs and batteries:

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

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.

In the same decision, the Authority found that the following measures in favour EVs constituted existing aid measures, as they had been in place before the EEA Agreement entered into force in Norway on 1 January 1994.

- exemption from registration tax
- free charging at public charging stations
- free parking in public parking.

By letter dated 6 November 2017, the Ministry notified a package of several tax measures in favour of EVs, including:

- prolongation of the zero VAT rating for the supply and import of EVs
- prolongation of the zero VAT rating for the leasing of EVs
- prolongation of the zero VAT rating for the supply and import of batteries for EVs
- new full exemption for EVs from annual tax/insurance tax
- new exemption for EVs from re-registration tax
- new more favourable depreciation rate for electric cargo vans.

The measures were notified for a period of six years from 1 January 2018 until 31 December 2023, except for the zero VAT rate measures in favour of BEVs, which were notified for a period of three years from 1 January 2018 until 31 December 2020.

In its decision No. 228/17/COL, the Authority concluded that the notified measures constituted state aid within the meaning of Article 61(1) of the EEA Agreement. Since no doubts was raised as to their compatibility with the functioning of the EEA Agreement pursuant to its Article 61(3)(c), the Authority had no objections to their implementation.

The notification presented in this letter refers to the zero VAT rating for supply, import and leasing of battery electric vehicles (BEV) and for supply and import of batteries for such vehicles. The VAT zero rating is approved in the Authorities Decision No. 228/17/COL, until 31 December 2020. The prolongation is being notified for a period of two years, until the end of 2022.

As it follows from decision No. 228/17/COL, the Norwegian Government was committed to perform a mid-term review of the notified measures, no later than 1 July 2020.

A midterm review of the notified measures was submitted to the Authority 29 June 2020. The notification from 2017 included a comprehensive package of information and analysis with information about the EV market, segments and models available, price and cost comparisons. The midterm review contains an update of the information presented in the notification, and it assesses whether the assumptions made in the notification are still valid. The midterm review also includes an analysis of pass-through of the tax advantage and of the importance of the VAT zero rating for stimulating EV demand, that both are important to evaluate the effectiveness of the aid measures in comparison with other measures. The findings relevant for the current notification are presented and discussed in the relevant sections in this document

## 4.2 Objective

As a part of the Paris Agreement, Norway is committed to take action to keep global warming in line with the global long-term temperature goal. Under the Paris Agreement, Norway is committed to reduce emissions by at least 50 per cent and towards 55 per cent by 2030 compared to 1990-levels. In EEA Joint Committee Decision No 269/2019 the EU, Iceland and Norway formally agreed to cooperate on fulfilling their respective emission reduction targets. By that decision, Iceland and Norway are taking part in all three pillars of the EU climate framework. This includes participation in the Effort Sharing Regulation, which regulates emissions not covered by the EU ETS.

Through the participation in the Effort Sharing Regulation Norway will have a legal commitment to reduce the non-ETS emissions by 40 per cent by 2030 compared to 2005 levels. The Government intends to reduce the non-ETS emissions by 45 per cent compared to 2005 levels. This will represent a fulfilment beyond the 40 per cent commitment Norway will get under the Effort Sharing Regulation. The ambition is to reduce these emissions through domestic action. If strictly necessary, the flexible mechanisms within the Effort Sharing Regulation can be used.

In the Norwegian strategy to fulfil the commitments under the Effort Sharing Regulation, uptake of ZEVs is a cornerstone. To substantially reduce transport emissions we need a large scale introduction of EVs in the passenger car segment, as this is a segment where one has seen a growing popularity of the BEV models already available.

Moreover, as Norway under the Effort Sharing Regulation, will receive an annual emission allocation for each year in the period from 2021 to 2030 it has a value to start the roll-out of available zero emission technology early.

Reducing transport GHG emissions through introduction of zero emission technology is therefore a cornerstone of the Norwegian government's climate strategy, with EVs in the passenger car segment being the most mature technology today.

In its White paper on the National Transport Plan for 2018–2029<sup>9</sup>, the Government established several new targets:

- in 2025, 100 per cent 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 per cent of new long-distance buses, and 50 per cent 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. Among these targets, it is the target for zero emission passenger cars that by far has the largest potential when it comes to GHG emissions reduction. In order for the targets to

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<sup>9</sup> <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/>

be achieved, the Government relies on technological development. At the same time it is critical with an effective incentive regime, as we can see from the EV market share in Norway compared to other countries.

If the Norwegian Government meets the targets for ZEVs in the National Transport Plan 2018-2029, it has been calculated in a recent report, *Klimakur 2030*<sup>10</sup> that corresponding reductions could be almost 6 million tons CO<sub>2</sub>-eq. in the period 2021-2030. This is more than a quarter of the calculated emission gap for Norway in the non-ETS, given a target of 45 per cent reduction.

In addition, it is important to emphasize that while the targets for ZEVs are political goals in their own right, they play an important role in achieving the overall reduction targets. The zero rating of ZEV in the VAT system is merely one of several measures to achieve these targets.

### **4.3 National legal basis and aid granting authority**

The zero VAT rating for the supply of EVs 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.
- (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.

The VAT rates are adopted annually by the 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 aid granting authority is the Norwegian Ministry of Finance.

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<sup>10</sup> Klimakur 2030 is a report written by Norwegian public agencies, led by the Norwegian Environmental Agency. In the report, the authors have calculated the GHG reduction potential in Norway in the non-ETS in the years 2021-2030. The report also points to what measures can be implemented in order for Norway to reach the GHG reduction potential. The report was published on the 31<sup>st</sup> of January 2020.  
<https://www.miljodirektoratet.no/globalassets/publikasjoner/ml625/ml625.pdf>

#### **4.4 Beneficiaries**

The direct beneficiaries of the notified zero VAT rating on BEVs are the consumers, i.e. the final users. This includes both private individuals and businesses.

Due to the right to deduct input VAT for undertakings, VAT is in principle not an expense for undertakings registered in the Norwegian VAT system. With the exception of undertakings involved in car-hire services (including leasing) and passenger transport, the right to deduct VAT does not comprise VAT on passenger cars. As a consequence, without the zero VAT rate, VAT would be a cost for undertakings acquiring ZEVs, in the same way that VAT is a cost for undertakings acquiring conventional fuel cars. Consequently, undertakings established in Norway benefit directly from the zero VAT rating.

Manufacturers and dealers of EVs and batteries, as well as undertakings buying, importing or leasing EVs 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.

#### **4.5 Form of aid, eligible costs and intensity**

The notified aid measure is implemented by means of tax exemptions. The measure does 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 EVs for their own use. They are also able to purchase or import batteries. Consequently, all end users are eligible for the tax measures.

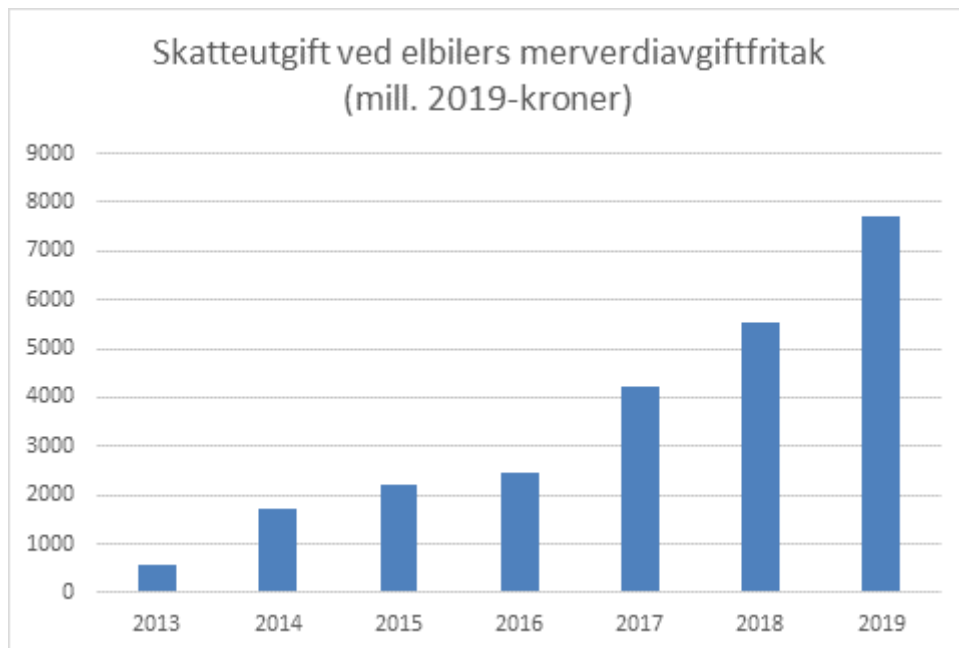
The aid measure will cover part of the expenditure incurred for the purchase, lease or import of an BEV or batteries. In particular, the measures will aim to increase the share of ZEVs and thereby reduce GHG-emissions by compensating for the extra cost and disadvantages of EVs in comparison to conventional vehicles. The Norwegian Government wishes to lower the costs of EVs for consumers by bringing BEVs to a price level comparable to that of conventional cars. Prices for EVs and batteries have decreased in recent years, but BEVs are still not competitive with conventional vehicles, without incentives, see section 6.2.

#### **4.6 Budgetary implications**

The Ministry notifies the VAT measures for BEVs and batteries for a period of 2 years from 01.01.2021 to 31.12.2022. The actual duration will depend on the annual adoption of taxes by the Parliament.

The zero rate VAT for BEVs results in a loss of revenue, the size of which depends on the changes in the vehicle sales. The estimated tax expenditure is used as a measure of the value of the zero rating for the BEVs. The value depends on the number of EVs sold as well as their sales price. In 2019, the value of the zero rating for BEVs is estimated to amount to approximately NOK 7.7 billion NOK. The estimated tax expenditure caused by the zero rating for the supply and import of EVs since 2013 is shown in fig. 4.1.

*Fig. 4.1. Estimated yearly tax expenditure from zero rating sales of electric vehicles. 2013 to 2019. Million NOK in 2019-prices.*



Source: The Ministry of Finance.

The estimated tax expenditure/revenue loss of the other advantages for EVs is presented below<sup>11</sup>. The numbers given are annual estimates for 2019 for each measure, unless stated otherwise:

- zero VAT rating for EVs, including the leasing of EVs and supply and import of batteries for EVs: around NOK 7,7 billion per year
- exemption from the registration tax: around NOK 3,6 billion per year
- exemption of electric cars from re-registration tax: Around NOK 185 million
- exemption from the annual tax/insurance tax: around NOK 700 million per year
- favourable income tax calculation for employees using corporate EVs: around NOK 200 million per year
- increased depreciation rate for electric vans from 24 to 30 pct.: NOK 1 million in 2019
- value of advantages from ZEVs in road tolls: around NOK 1 200 million in 2018
- value of transport for ZEVs on road ferries: around NOK 45 million in 2019.

## 5. ASSESSMENT OF AID

### 5.1 State aid within the meaning of Article 61(1) EEA

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

<sup>11</sup> Tax expenditures are estimated revenue losses due to special rules, advantages and exemptions compared to general rules. The estimates are calculated based on actual EV sales and other EV activity and do not take into account that changes can affect behaviour.

*(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 measure is granted by the State or through state resources
2. the measure confers an economic advantage on an undertaking
3. the measure is favouring certain undertakings or the production of certain goods (selectivity)
4. the measure distorts or threatens to distort competition and has an effect on trade between the EEA States

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 only be discussed briefly below.

### **5.2 The measure is granted by a Member 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.

VAT is mainly levied in order to raise revenue. The zero rate VAT for EVs entails a loss of State revenues, as the measures constitute foregone tax revenues for the state. The measures are also granted by the State since they are adopted by legislative acts.

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

### **5.3 The measure confers an advantage on an undertaking**

In order for a measure to constitute state aid it must confer an economic advantage on an undertaking .According to established case law an economic advantage is an economic benefit which an undertaking could not have obtained under normal market conditions, i.e. without State intervention. Hence, the definition of aid is more general than that of a subsidy, because it includes not only positive benefits, such as subsidies themselves, but also State measures which, in various forms, mitigate charges that are normally included in the budget of an undertaking and which thus, without being subsidies in the strict sense of the word, are similar in character and have the same effect.

A tax exemption can constitute an economic advantage, as well as a loss of State resource, even though it does not involve a transfer of State resources. A measure must be assessed in relation to its effects not to its form, aim or causes. As a consequence, neither the fiscal nature of a measure, nor its environmental aim is sufficient to place it outside the scope of the State aid rules. It follows that a measure, by which the public authorities grant to certain undertakings a tax or a fee exemption that places the entity to whom the exemption applies in

a more favourable financial situation than other entities, constitutes an advantage within the meaning of Article 61(1) of the EEA Agreement.

The VAT system is designed as a general tax on the final consumption of goods and services, and hence carried by the consumer. The zero-rating is a favourable position in the VAT system due to the undertakings' right to deduct input VAT without any output tax. This type of VAT benefits are shared between buyers and sellers of the product which benefits from reduced VAT. The allocation of the tax benefit depends on the market conditions amongst other factors. As follows in section 6.4, the Ministry concludes that the benefit of zero rate VAT on EVs in general is passed on to the car purchasers.

Private individuals purchasing, importing or leasing EVs or batteries are not subject to state aid rules. State aid rules are only applicable to undertakings, i.e. an entities engaged in economic activities.

However, undertakings 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.

The zero rating for EVs stimulates the demand for EVs. This increased demand for EVs translates into an indirect advantage for dealers, importers and manufacturers of EVs as compared to dealers, importers and manufacturers of conventional vehicles. Such indirect advantages, although limited in scope, may constitute an advantage, in order for a measure to constitute state aid.

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

#### **5.4 Selectivity**

In order to constitute state aid, a measure must be selective by favouring certain undertakings or the production of certain goods. When assessing the selectivity criterion it may be distinguished between state aid measures and general measures of tax or economic policy. Advantages resulting from a general measure applicable without distinction to all economic operators do not constitute state aid within the meaning of Article 61(1) of the EEA Agreement<sup>12</sup>.

According to established case law<sup>13</sup> the assessment of the condition of selectivity, which is a constituent factor in the concept of State aid, it is clear that Article 87(1) EC [equivalent to Article 61(1) EEA] requires assessment of whether, under a particular statutory scheme, a State measure is such as to 'favour certain undertakings or the production of certain goods in comparison 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.

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<sup>12</sup> Judgment in *Air Liquide Industries and others*, C-393/04 and C-41/05, EU:C:2006:403, para. 32.

<sup>13</sup> Judgments in *GIL Insurance*, C-308/01, EU:C:2004:252, paragraph 68; *Heiser*, C-172/03, EU:C:2005:130, paragraph 40; *Portugal v Commission*, C-88/03, EU:C:2006:511, paragraph 54.



In accordance with the Authority's Decision No150/15/COL and Decision No 228/17/COL the Ministry considers that the zero rate VAT is not selective for the direct beneficiaries, i.e. the undertakings purchasing, importing or leasing ZEVs or acquiring or importing batteries for these vehicles. The zero rate VAT is open to all sectors of the economy, all kinds of companies and all kinds of production. The advantages applies to all economic operators.

For the indirect beneficiaries of the zero rate VAT, i.e. the manufacturers and dealers of EVs and batteries will be selective as only certain companies will benefit, resulting in an exemption from the system of reference, which refers to the car industry in general.

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

### **5.5 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 EVs 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.<sup>14</sup> 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.

### **5.6 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 OF THE AID MEASURE**

### **6.1 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 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

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<sup>14</sup> Decision 150/15/COL paragraph 111

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.

In Decision 228/17/COL, the Authority noted that the EEAG 36 in Section 1.1 paragraph (10) states that the EEAG do not apply to “the design and manufacture of environmentally friendly products, machines or means of transport with a view to operating with fewer natural resources [...]”. The Authority therefore assessed the measures directly under Article 61(3)(c) of the EEA Agreement.

In the following, the Ministry will assess the prolongation of zero rate VAT for EVs directly pursuant to Article 61(3) (c) of the EEA Agreement. In assessing whether the aid measure can be deemed compatible with the EEA Agreement, the positive impact of the aid measure in reaching an objective of common interest must be balanced against its potentially negative side effects by distortion of trade and competition.

The assessment will be based on the following common principles:

- contribution to a well-defined objective of common interest;
- need for state intervention;
- appropriateness of state aid as a policy instrument;
- existence of an incentive effect;
- proportionality of the aid amount (aid limited to minimum necessary);
- avoidance of undue negative effects on competition and trade; and
- transparency.

The assessment presupposes a balancing of the positive impact of the measure in reaching the objective against the potential negative effects on trade and competition.

## **6.2 Objective of common interest**

State aid must aim at a well-defined objective of common interest that has been recognised by the Contracting Parties.

The objective of the proposed measure is to enhance the market share of EVs in Norway in order to reduce CO<sub>2</sub> emissions from the transport sector. In its Decision 228/17/COL as well in its Decision 150/15/COL, the Authority acknowledged that increased uptake of ZEVs will contribute to reduced emissions from new passenger cars, and concluded that the aid aims at an objective of common interest.

Reducing CO<sub>2</sub>-emissions from vehicles is one of the objectives of the EEA environmental policy. This will also be in line with the European Green Deal where one of the key objectives for sustainable transport is to boost considerably the uptake of clean vehicles and alternative fuels in order to reduce greenhouse gas emissions.

The incentive to purchase or lease EVs, by application of zero rate VAT measure, aims at increasing the market share of EVs and thus protecting the environment. A recent analysis of targets and measures needed to reduce emissions in 2030 by 50 per cent shows that reaching the targets for ZEVs will contribute to substantial reductions in emissions. It also shows that it

will be difficult to reach our climate goals without a substantial contribution from ZEVs (*Klimakur 2030*, MDIR 2020).

The Ministry concludes that increased uptake of ZEVs that contribute to reduced emissions from new passenger cars still is an objective of common interest. For further explanation of Norwegian climate commitments see section 3.1 and 4.2).

### **6.3 Need for state intervention**

State aid measures can under certain conditions, correct market failures and thereby contribute towards achieving the common objective to the extent that the market on its own fails to deliver an efficient outcome. As pointed out in the Authority's Decision 228/17/COL, in order to assess whether state aid is effective to achieve the identified objective of common interest, it is necessary first to identify the problem that needs to be addressed.

State aid should be targeted towards situations where aid can bring a material improvement that the market alone cannot deliver, for example by remedying a market failure or addressing an equity or cohesion concern.

Environmentally harmful emissions from vehicles represent a negative externality that economic agents may disregard when making the decision to buy or lease a new vehicle. Economic theory suggest that these agents may not be willing to pay for the extra costs linked to environmental protection, if those costs are not compulsory or subsidised. In other words, consumers will have little incentive to acquire (more costly) goods (in this case ZEVs) that limit environmental pollution, since consumers will typically consider only their own private costs and benefits, without taking into account the environmental effect of their choices. Negative environmental externalities therefore represent a market failure, which justifies state intervention in the market.

The cost of producing an EV is higher than the cost of producing a conventional vehicle. The tax advantages make the EVs more competitive, and may even become cheaper in purchase than fossil fuel vehicles. However, the EVs still have larger drawbacks for the consumers, and to achieve increased market shares lower prices may be necessary.

According to *Klimakur 2030*, there is an additional cost of NOK 130 000 for a battery-electric passenger car today, compared to a conventional car. In the large car segment the battery electric model is more than twice as expensive as the conventional model<sup>15</sup>. *Klimakur 2030* expects the purchase price of battery electric passenger cars to decrease by 4-5 per cent annually in the period 2021-2030.

A continued strong cost reduction for batteries, dedicated production lines for EVs and production for a broader large-scale consumer market is expected. 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. All this means that EVs should become

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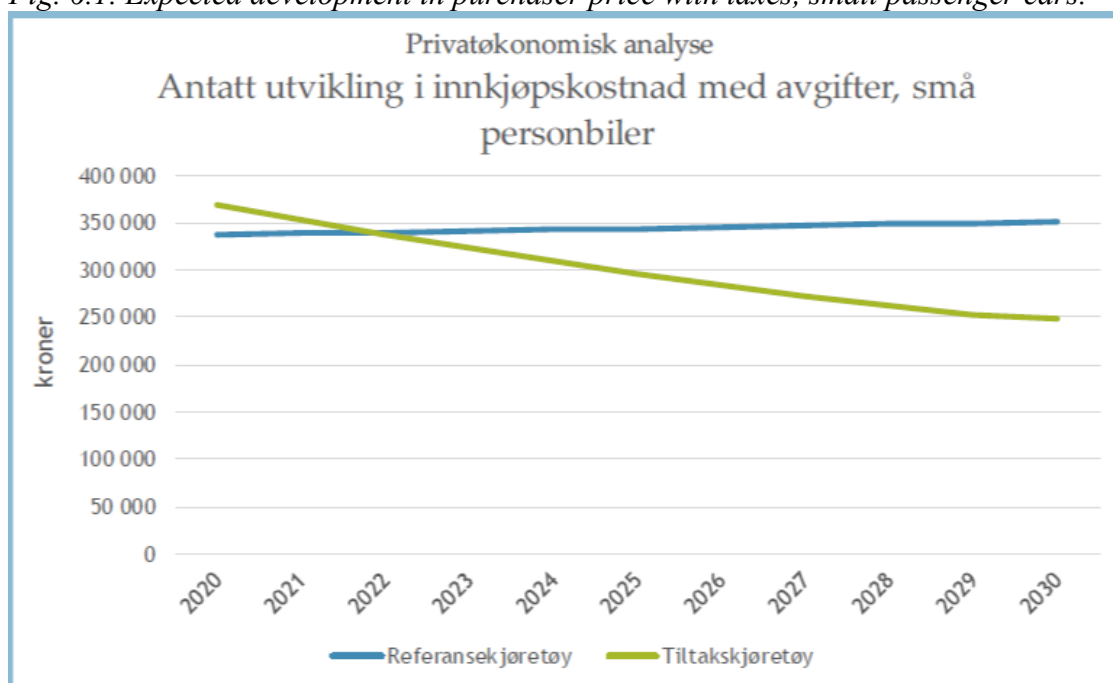
<sup>15</sup> In *Klimakur 2030*, the reference vehicle for small ICE passenger cars is a gasoline powered Volkswagen Golf. The reference vehicle for large ICE passenger cars is a gasoline powered Volkswagen Tiguan. The so called "tiltakskjøretøy" or "model vehicle" is a hypothetical battery electric version with more or less the same qualities. There exists one "tiltakskjøretøy" mirroring the small ICE passenger car and one mirroring the large ICE passenger car.

competitive in the not too distant future. A number of reports point to EVs becoming competitive, without taxes, before the end of the 2020s. (see for instance *Klimakur 2030*, Miljødirektoratet 2020; BNEF 2019<sup>16</sup>; and TØI 2020).

The four figures below from *Klimakur 2030* show expected development in investment for small and large passenger cars, with and without taxes. Estimated costs of an EV includes the purchase and installation of charging infrastructure. The calculations are based on a continuation of the current tax regime. *Klimakur 2030* assumes a battery size of 55 kWh for small cars, which corresponds to a range of over 300 km. For large cars a battery size of 80 kWh is assumed. This corresponds to a range of over 400 km.

*Klimakur 2030* finds that with current tax regime, small EVs will be monetarily profitable to buy compared to a conventional vehicle around 2022. The same scenario for larger BEVs is around 2025.

*Fig. 6.1. Expected development in purchaser price with taxes, small passenger cars.*



*Figur 12. Utvikling i innkjøpspris inkludert avgifter for små personbiler (2019-kroner).*

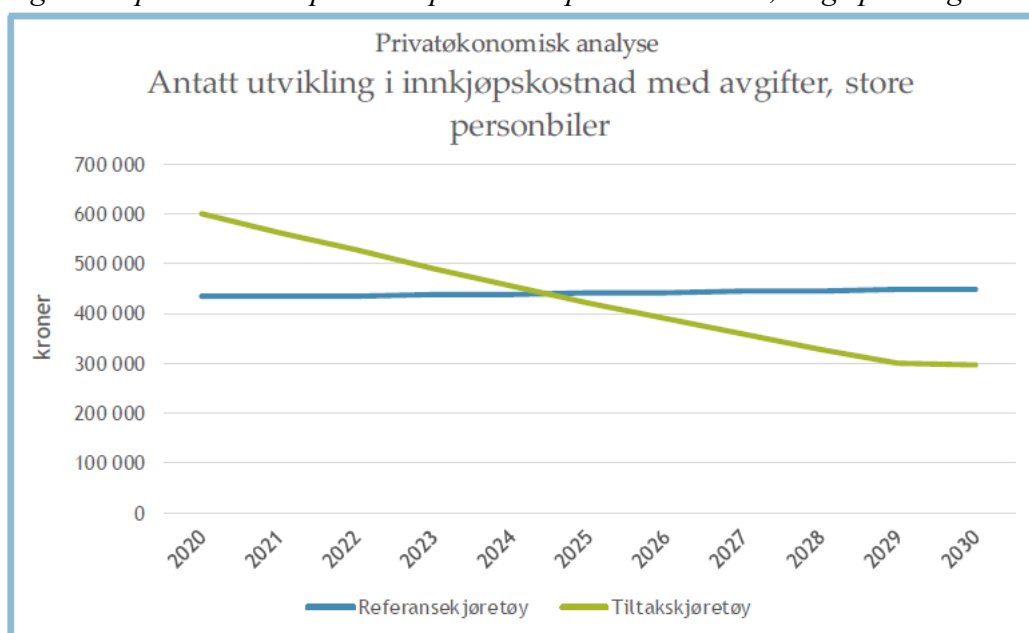
*Fig 6.2 Expected development in purchaser price without taxes, small passenger cars.*

<sup>16</sup> <https://about.bnef.com/blog/battery-pack-prices-fall-as-market-ramps-up-with-market-average-at-156-kwh-in-2019/> See also: <https://about.bnef.com/blog/electric-cars-reach-price-parity-2025/> for the same argument in 2017.



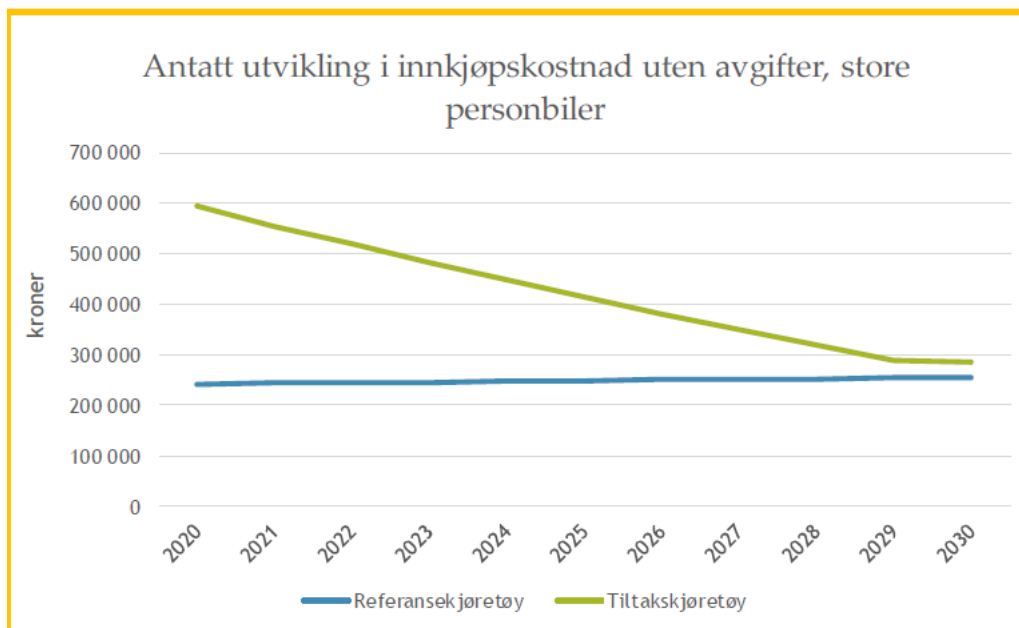
Figur 14. Utvikling i innkjøpskostnad uten avgifter for små personbiler (2019-kroner).

Fig 6.3 Expected development in purchaser price with taxes, large passenger cars.



Figur 13. Utvikling i innkjøpspris inkludert avgifter for store personbiler (2019-kroner).

Fig 6.4 Expected development in purchaser price without taxes, large passenger cars.



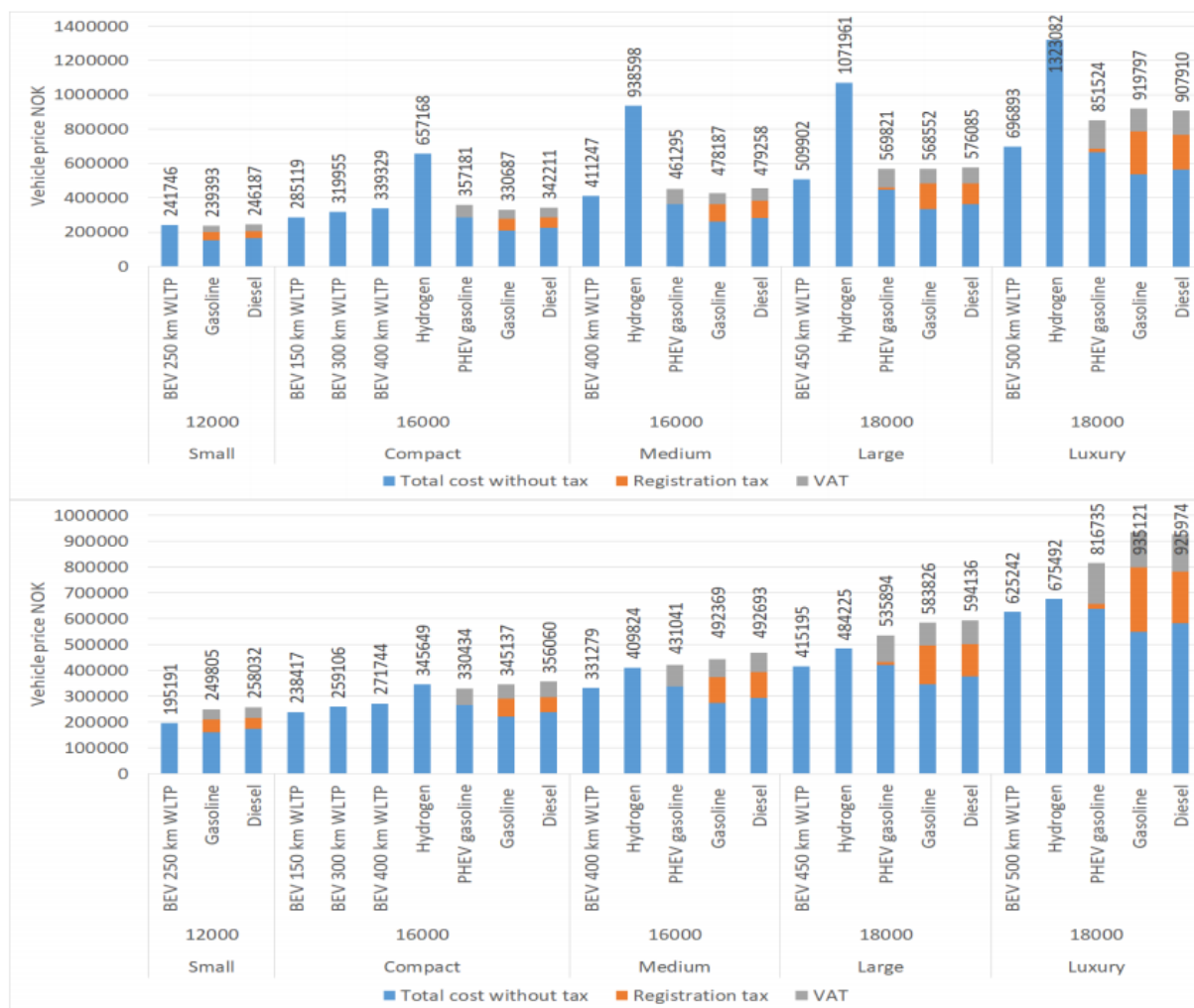
Figur 15. Utvikling i innkjøpskostnad uten avgifter for store personbiler (2019-kroner).

In the report “360 graders analyse av potensialet for nullutslippskjøretøy” TØI has used the model TCO to estimate purchase price and taxes for ZEVs and conventional fuel vehicles in 2019 and 2025 in different segments. The results are presented in the charts below.

TØI finds that in 2019 small and compact cars have approximately similar purchaser prices as conventional fuel cars, due to the current tax regime. In the larger segments the prices of EVs are a little lower compared to conventional cars. TØI shows that without the tax regime EVs are a substantially more costly alternative, both in 2019 and 2025.

The production cost for hydrogen cars are far higher than for other vehicle technologies.

*Fig. 6.5. Estimated purchase prices and taxes for passenger cars in 2019 (upper) and 2025 (lower) for passenger cars of different size and different engine technology,*



Figur 10.1: Estimerte kjøpspriser og avgifter på biler i 2019 (øverst) og 2025 (nederst) for personbiler av ulike størrelse og med ulike drivsystemer. BEV=Elbil, PHEV=Ladbar hybridbil, Gasoline=Bensin. NOK. Kilde: Egne beregninger med TØI-TCO.

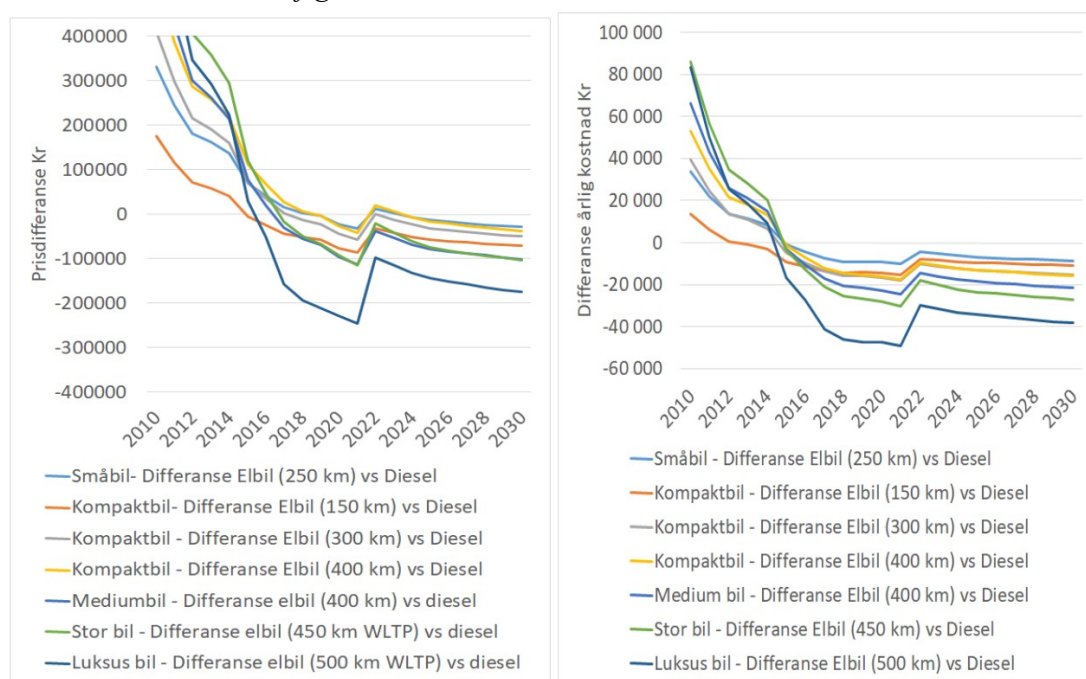
The prices are different in the report from TØI and in Klimakur 2030. One reason is that the latter includes the purchase of a charger, which is about NOK 20 000. It should also be noted that prices in the TØI-report are estimates based on their own cost-model. However, the most important reason is probably that the different reports compare different vehicles. The purchasing price is therefore merely instructive. It is not straightforward, for instance, to conclude what model of a car that is equivalent a certain BEV. The choice of the concrete model will affect the comparison. In the luxury cars segment, there are few electric options, and it is therefore more difficult to make valid comparisons, for instance a high range Tesla is not necessarily comparable to, say, a fossil fuelled Porsche sports car. For the remaining segments, the TØI-report also shows that when disregarding tax, the price of purchase for an EV in all segments would be higher than a fossil fuelled alternative.

These graphs and analyses above show the purchase price of different types of vehicles and do not take into account any difference in cost between BEVs and conventional cars over the lifetime of the car. A EV owner will have lower expenditures related to fuel costs and maintenance (regular motor services for example) over the lifetime of the car.

In addition to comparisons of purchaser prices, TØI (2020) presents calculations of total cost of ownerships over the lifetime of the vehicle, based on their cost model TØI-TCO. This includes expenditures related to fuel costs and maintenance (regular motor services for example) over the lifetime of the car. One comparison is shown below in fig 6.6, where the left panel shows development in purchaser price differences and the right panel shows total annual cost differences (both different in prices and annual costs). TØI (2020) has several different scenarios with different set of changes in tax advantages. Figure 6.6 shows a scenario where the zero rate VAT is removed and replaced by the general VAT rate at 25 per cent in 2022. In the years previous to 2022, the calculations are shown with the current tax benefits in place.

The left panel shows that the purchaser price of BEVs, with zero rate VAT in place, according to TØI are lower than the compared diesel car in all segments already today. This is earlier than Klimakur 2030, as presented above, that finds that with the current tax regime, small EVs will be monetarily profitable to buy compared to a conventional vehicle around 2022 and similar for larger BEVs around 2025. It is worth noting that also TØI finds that if the zero rate VAT is removed in 2022 (or earlier), BEVs become more expensive in some of the segments. The right panel shows that the total annual cost are lower for BEVs. Removing the zero rate VAT would significantly increase the total annual cost of BEVs and reduce the advantage compared to conventional diesel vehicles. However, there is still a positive total cost advantage for BEVs over the lifetime of the car.

*Fig. 6.6. Differences between price (left) and annual cost (right) between diesel vehicles and BEVs with introduction of general VAT rate in 2022.*



*Figur 13.23: Effekt av full MVA sats på elbiler med 25 prosent fra 2022. Kjøpspris (venstre). Årlig kostnad (høyre). Kilde: Egne beregninger med TØI-TCO.*

There are, however, important disadvantages related to buying a BEV – perceived and real. Such disadvantages are to some degree non-quantifiable, such as range limitations and long charging time. Other disadvantages related to buying an EV are uncertainties regarding the



expected lifetime of batteries and the EVs value in second hand market. The continued technological development are expected to reduce these disadvantages, but they will remain an important factor in the time span of this notification. Due to such disadvantages, EVs may still be considered by car buyers as an inferior alternative to fossil fuel vehicles. To offset such disadvantages in this period, EVs may have to be cheaper than a conventional car, in order to reach a significantly higher market share in the coming few years.

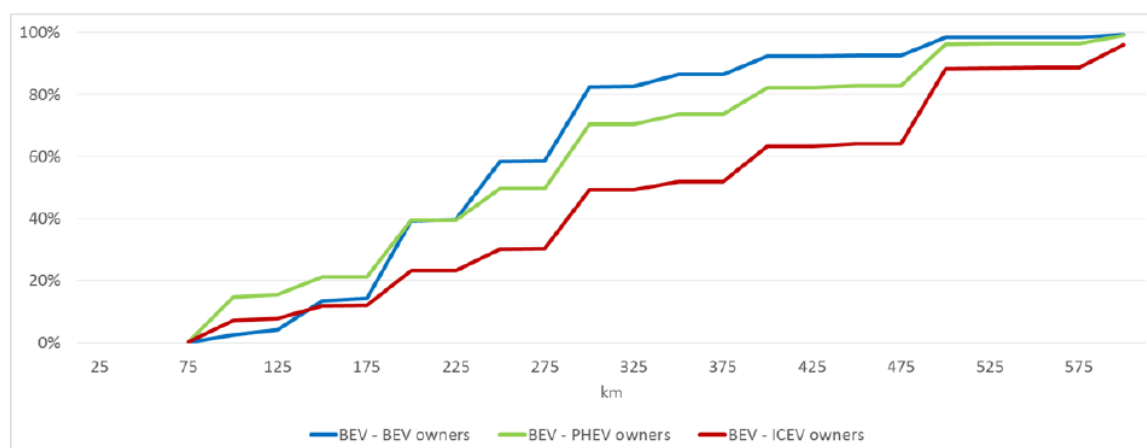
Consumers are still worried about their driving autonomy. Norway is a sparsely populated country with long distances, and the battery range of EVs is a big concern. Charging EVs might be challenging due to limited availability of charging stations. Recharging the battery of BEVs takes longer time than refuelling a tank with petrol or diesel. With the fast charging station, it takes minimum 20 minutes to fully recharge a BEV. 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 occupied or out of service, the BEV user might risk a long wait or running out of energy for the car.

In the study 'Battery electric vehicle user experiences in Norway's maturing market'. (TØI-report 1719/2019), TØI has collected user experiences and opinions from both owners of ZEVs and owners of conventional fuel vehicles. Owners of conventional fuel vehicles lists the following as the most important disadvantages with ZEVs: Driving range, car size, practical characteristics like size of the storage/luggage space and missing possibilities for tow bar ('tilhengerfeste'), important for long travels and flexible car use. EV owners list driving economy ('biløkonomi') as the most important factor for the choice of car. The share that want to choose EVs in their next car purchase is increasing compared to a study performed two years earlier.

Most EVs are still more suitable for urban areas than for long-distance driving. This implies that many consumers may opt for an EV as a second car rather than a main or only vehicle. Furthermore, there are variations in the availability of BEV models in different segments and price ranges, that might result in BEVs still not being attractive for families or people living outside the major urban areas.

The fact that the current EV 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):

*Fig. 6.7 – Relationship between range of EVs and the share of consumer that wishes to purchase an EV.*



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).

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 per cent of those owners to change to an EV. For 80 per cent of the current ICEV owner to switch to an EV, they would need a range of almost 500 km. To compare, the table below gives an overview over listed (WLTP) and actual range, summer and winter, for different models of EVs. The large majority of the models do have driving range below 300 km during winter time.

Table 6.1 Technical characteristics of BEVs in sale in Norway in 2019 and coming models.

Tabell 6.4: Tekniske karakteristika elbiler i salg i Norge 2019, og kommende modeller.

Modell og variant	Batteri			Lading			Energiforbruk (kWh/100 km)		Rekkevidde (km)			
	Størrelse nominell (kWh)	Størrelse utnyttbar (kWh)	Type	Om bord-lader (kW)	Hurtig-lading (maks) (kW)	Hurtigladdings-hastighet Sommer/Vinter* (km/min lading)	Sommer (reell)	Vinter*	WLTP	Reell sommer	Reell vinter*	
Audi e-tron 55 Quattro	95,0	83,6		11,0	155	9	6	23,2	30,2	417	360	252
Audi e-tron 50	71,0									> 300		
Audi e-tron 55 Sportback (2020)	95,0									477		
Audi e-tron 50 Sportback (2020)	71,0									372		
BMW i3 120 Ah	42,2	37,9		11,0	49	4	3	16,1	20,9	310	235	165
BMW iX3 (fra 2020)	75,0	75,0	C/NMC-LMO	11,0	150	8	6	21,4	27,8	400	350	245
Chevrolet Bolt	Sold as Opel AmperaE		C/NCM									
Citroen Berlingo Multispace	22,5	20,5		3,7	40	7	5	18,6	24,2		110	77
Citroen C-Zero	16,0	14,5	LMO/ NCM	3,7	40	5	3	16,1	20,9		90	63
DS 3 Crossback E-Tense (fra 2020)	50,0	47,5		7,4	100	8	5	17,0	22,1	320	280	196
Ford Mustang Mach-E (fra 2020) 75 kWt	75,0			Ukjent	115					420		
Ford Mustang Mach-E (fra 2020) 99 kWt	99,0			Ukjent	150					600		
Honda E Advance (fra 2020)	35,5	32,0		6,6	60	6	4	16,0	20,8	220	200	140
Hyundai Ioniq	28,0		C/NMC									
Hyundai IONIQ Electric	38,3	38,3	NCM	7,2	44	6	4	14,5	18,9	311	265	186
Hyundai Kona Electric 64 kWh	67,1	64,0		11,0	77	7	5	16,2	21,1	449	395	277
Jaguar I-PACE	90,0	84,7	NMC432	7,4	104	14	10	22,9	29,8	470	370	259
Kia e-Niro 64 kWh	67,1	64,0		7,2	77	10	7	17,1	22,2	455	375	263
Kia Soul EV (-2019)	33,0	30,0	C/NMC	6,6	100	5	4	17,1	22,2		175	123
Kia e-Soul 64 kWh (fra 2020)	67,1	64,0		7,2	80	11	7	17,3	22,5	452	370	259
Mercedes EQC 400 4MATIC	85,0	80,0		7,4	112	13	9	22,2	28,9	417	360	252
MG ZS EV	44,5	44,5		7,4	60	7	5	19,3	25,1	263	230	161
Mitsubishi I-MiEV	16,0	14,5	LMO/ NMC	3,7	40	5	3	16,1	20,9		90	63
Nissan e-NV200	40,0	38,0		6,6	46	7	5	20,0	26,0	200	190	133
Nissan Leaf	40,0	36,0	C/NMC	3,6	46	12	8	16,4	21,3	270	220	154
Nissan Leaf e+	62,0	56,0	NMC	6,6	100	10	7	17,0	22,1	385	330	231

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Modell og variant	Batteri			Lading			Energiforbruk (kWh/100 km)			Rekkevidde (km)		
	Størrelse nominell (kWh)	Størrelse utnyttbar (kWh)	Type	Om bord-lader (kW)	Hurtig-lading (maks) (kW)	Hurtigladdings-hastighet Sommer/Vinter* (km/min lading)	Sommer (reell)	Vinter <sup>r</sup>	WLTP	Reell sommer	Reell vinter <sup>*</sup>	
Opel Ampera-e	60,0	58,0	C/NMC	7,4	46	9	7	16,8	21,8	380	345	242
Opel Corsa-e (fra 2020)	50,0	47,5	LMO/ NCM	7,4	100	8	5	16,4	21,3	330	290	203
Peugeot iOn	16,0	14,5		3,7	40	5	3	16,1	20,9		90	63
Peugeot e-208 (fra 2020)	50,0	47,5		7,4	100	8	5	16,1	20,9	340	295	207
Peugeot e-2008 (fra 2020)	50,0	47,5		7,4	100	8	6	17,3	22,5	310	275	193
Peugeot Partner Tepee Electric	22,5	20,5		3,7	40	7	5	18,6	24,2		110	77
Polestar 2 (fra 2020)	78,0	75,0		11,0	150	8	6	16,7	21,7	500	450	315
Porsche Taycan Turbo (fra 2020)	93,4	83,7		11,0	270	9	6	20,2	26,3	450	415	291
Renault Kangoo Maxi ZE 33	33,0	31,0		7,4		5	4	18,8	24,4		165	116
Renault Zoe ZE50 R110	55,0	52,0		22,0	45	3	2	16,3	21,2	390	320	224
Seat Mii	32,3				40					258		
Skoda Citigo	32,3				40					258		
Smart ForFour	17,6	16,7	C/NMC	4,6		5	3	18,6	24,2		90	63
Smart ForTwo	17,6	16,7	C/NMC	4,6		5	3	15,9	20,7		105	74
Tesla Model 3 Long range performance	75,0	74,0	NCA	11,0	250	8	6	16,4	21,3	530	450	315
Tesla Model S Long range	100,0	95,0	NCA	16,5	200	7	5	18,1	23,5	610	525	368
Tesla Model X Long range	100,0	95,0	NCA	16,5	200	7	5	20,7	26,9	505	460	322
Tesla Model Y Long range (fra 2021)	75,0	74,0	Trolig NCA	11,0	145	8	6	16,8	21,8	540	440	308
VW E-Golf	35,8	32,0	C/NMC	7,2	40	5	4	16,8	21,8	230	190	133
VW E-up!	18,7	16,0	NMC	3,7	40	5	4	16,8	21,8	133	95	67
VW E-Up 2020	32,3				40					258		
Volkswagen ID.3 Long range (2020)	82,0	77,0	NMC	11,0	125	8	6	17,1	22,2	550	450	315
Volkswagen ID.4 (fra 2020)			NMC						0,0			0
Volvo XC40 P8 AWD Recharge (fra 2020)	78,0	75,0		11,0	150	8	6	20,0	26,0	425	375	263

TØI (2020:74)

The numbers of BEV models in the market have increased and are expected to increase further, but still there are variations between segments and price ranges, that to some extent can 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.

The *Norwegian Automobile Federation* (NAF), the Norwegian association for car owners, often presents reports about car owner's preferences and concerns. One of the issues is prospective car ownership. According to the latest figures, from April 2020, about a third of the respondents in the NAF survey answered that their next car would be battery electric. This result was quite stable from last year's result. However, the respondents in this year's survey was actually more negative toward BEVs than what was the case last year. This year, 22 per cent of the respondents were very negative to BEVs, compared to 12 per cent last year. According to NAF this is an indication that the Government will have to continue offering fiscal incentives in order to be close to reaching the target of all new passenger cars being BEVs by 2025<sup>17</sup>.

<sup>17</sup> <https://www.naf.no/elbil/aktuelt/hver-tredje-vil-fortsatt-ha-elbil/>

The share of BEVs is still low in most countries, due to the price difference and the disadvantages related to buying an EV. The comprehensive set of measures in place has led to Norway having the highest rate of BEVs in the world. In 2019, the market share of ZEVs amounted to 42 percent. 60 316 new BEVs and 29 FCVs were registered in 2019. In the first quarter of 2020 (January-March), 16 347 new BEVs and no new FCVs have been registered, implying a market share of ZEVs of 51 per cent. The market shares of BEVs have increased over the last years (see fig.3.1). However, yearly increases in line with those experienced in the past years are necessary to achieve the Government's targets.

Even though EVs have lower expenditures related to fuel costs and maintenance, there are still both uncertainty and non-quantifiable disadvantages related to buying an EV. Taking this into account the Ministry concludes that there still is a need for state intervention up the end of 2022. State intervention is still necessary to stimulate further increases in ZEVs sales to reach the very ambitious climate goals of the Norwegian government.

#### **6.4 Appropriateness of state aid**

State aid must be an appropriate instrument to address the identified market failure and help reach the identified objective of common interest. An aid measure is not compatible with the functioning of the EEA Agreement if the same positive contribution is achievable through other less distortive policy instruments, or other less distortive types of aid instruments. As stated, the main objectives of the notified measure is to enhance the market share of EVs in Norway in order to reduce CO<sub>2</sub> emissions from the transport sector.

There is no production of EVs in Norway, and the support instruments must therefore primarily be aimed at the consumers. Norway has had in place numerous measures to promote the uptake of ZEVs for many years. Since the 1990s, BEVs 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 EVs was adopted in 2001.

In large part because of these measures, Norway has the world's highest share of BEVs as percentage of the passenger car fleet. However, EVs still have a number of perceived disadvantages as compared to petrol and diesel cars. None of the above mentioned measures would alone enable EVs to compete with conventional cars, and a package consisting of several measures is therefore considered necessary.

The impact of the different support instruments for EVs have been subject to several surveys. Survey results of consumer choices indicate that economic aspects (the exemption from registration tax and the zero VAT rate) have been decisive for many people in the choosing of an EV over a conventional car. According to the survey Elbilisten<sup>18</sup> the zero VAT rate is the most important EV advantage. When asked to choose the three most important EV advantages for themselves the zero VAT rate is chosen by the highest share, 69 per cent. Following second and third are the exemption from the registration tax (58 per cent) and free or low toll roads (50 per cent). When asked if they would buy an EV today without the zero VAT rate, 28 per cent answer 'yes', 47 per cent 'no' and 24 per cent answer 'not relevant/unsure'. When

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<sup>18</sup> Elbilisten is an annual survey (spørreundersøkelse) by the Norwegian EV Association since 2013. In 2019 the survey was sent to 70 000 EV owners (both member and non members of the association) and received 16 125 answers. The purpose of the survey is to examine Norwegian EV owners car use, attitudes and experiences with EV and charging.

asked what they would buy without zero VAT rate and exemption for registration tax, 41 per cent answered 'EV', 34 per cent answered 'new or used petrol or diesel car', 6 per cent would not buy a car and 19 per cent answered 'do not know'.

A Nordic survey "Elbilbarometeret" by Opinion in collaboration with the Norwegian EV Association finds that while the price is the most important barrier in Denmark, Sweden and Finland, lack of range is most important in Norway (and Iceland). The surveys indicates that the VAT advantages are considered as an important, maybe even the most important, measure to increase the purchase of EVs.

EVs have until quite recently been granted free use of toll-roads, free use of road ferries, free parking and access to bus lanes. As follows from section 3.3, these benefits have been scaled back in later years. Payment for toll-roads at reduced rates now applies for EVs on most toll-roads and toll rings in Norway. The same goes for payment on road ferries. Several municipalities in Norway, including all the major cities have introduced parking fees (at reduced rates) for EVs, and the access to bus lanes for EVs have been subject to limitations. Charges on toll-roads and road ferries are primarily payment for the use of infrastructure, while separate bus lanes and parking fees are established to facilitate public transport, and regulate congestion. The scale back is a consequence of the increasing share of the EVs in Norway, and necessary to uphold the sustainability in these systems. The scale back will on the other hand reduce the incentives to purchase EVs, and consequently reduce the impact of these measures. This in turn will enhance the importance of the zero rate VAT for EVs in the future.

The market share of EVs could be enhanced by regulatory measures. In a letter to the Danish Parliament, dated 18th of December 2018, the European Commission has addressed the legality on imposing a ban on the sales of new conventional passenger cars. Commissioner Bienkowska concluded that such a ban would not be in line with the rules of the Single Market:

*"More concretely, under current Union type-approval legislation, a complete ban of the marketing, import or registration of new petrol and diesel cars in a Member State is not compatible with EU law. This is why Member States are under an obligation to duly register the placing on the market or entry into service of vehicles, which are type-approved under Directive 2007/46/EC and the other relevant acts by the responsible authorities of Member States."*

Article 11 of the EEA Agreement prohibits quantitative restrictions on imports and all measures having equivalent effect between Member States. Article 13 of the EEA Agreement rules that "The provisions of Articles 11 and 12 shall not preclude prohibitions or restrictions on imports, exports or goods in transit justified on grounds of public morality, public policy or public security; the protection of health and life of humans, animals or plants; the protection of national treasures possessing artistic, historic or archaeological value; or the protection of industrial and commercial property. Such prohibitions or restrictions shall not, however, constitute a means of arbitrary discrimination or a disguised restriction on trade between the Contracting Parties." Hence, regulatory measures on non-electrical passenger cars might be acceptable in order to reduce CO<sub>2</sub> emissions from transportation if they are justified and proportionate. In the Ministries opinion, any regulatory measures possible within the scope of

the EEA agreement would not have a comparable effect to a zero VAT rate as regards to enhance the market share of EVs in Norway.

The zero VAT rate is both a substantial economic incentive to favour of ZEVs and also a tool that is intuitive to understand and calculate the impacts of. In order to correct for consumers' inclination to disproportionately favour short term costs and benefits related to EVs, incentives at the time of buying a vehicle can be more effective than incentives over the lifetime of owning a vehicle. The zero VAT rate for EVs is an economic measure to give incentives at the time of buying a vehicle in favour of ZEVs.

The Ministry concludes that the zero VAT rate together with other measures, has been important for the steadily growing increase in the share of BEVs and will continue to be so ahead. In particular, the zero VAT rate is well suited to reduce the price difference between BEVs and conventional fuel vehicles. The ministry concludes that the zero rate VAT for BEVs is an appropriate measure.

### **6.5 Incentive effect**

State aid is only compatible with the functioning of the EEA Agreement if it has an incentive effect. An incentive effect occurs when the aid induces the beneficiary to change its behaviour to further the identified objective of common interest, a change in behaviour which it would not undertake without the aid.

The objective of the zero rating is to enhance the market share of EVs in Norway in order to reduce CO<sub>2</sub> emissions from the transport sector. The general proposition is that the price on vehicles influences the consumption level: lower prices are expected to lead to higher consumption, while increased prices are expected to lower consumption. The zero VAT rate on EVs is meant to result in a higher demand for EVs at the expense of conventional cars.

There are several studies that concern the effect reduced VAT rates have on the pricing and the demand of certain goods and services. In a paper published by the European Commission, Copenhagen Economics<sup>19</sup> states the following: *“It is important from the outset to stress that there is little doubt that permanently lowering the VAT rate on a particular good (or service) sooner or later will lead to a reduction in the price of the good more or less corresponding to the monetary equivalent of the lower VAT rate”*.<sup>20</sup> Consequently, the zero VAT rate on EVs will lead to lower prices for the consumers, compared to a situation with a VAT charged at 25 per cent.

TØI (2020) also has a short discussion of who benefits from the zero VAT rate. They point to several factors that may influence the distribution, among them the elasticity of the supply, how fierce competition there are, risk of parallel import, transport costs as well as differences in car models and level of extra equipment. They also include a comparison of price without taxes on one model, VW E-Golf, in several European countries (blue bars in the chart below).

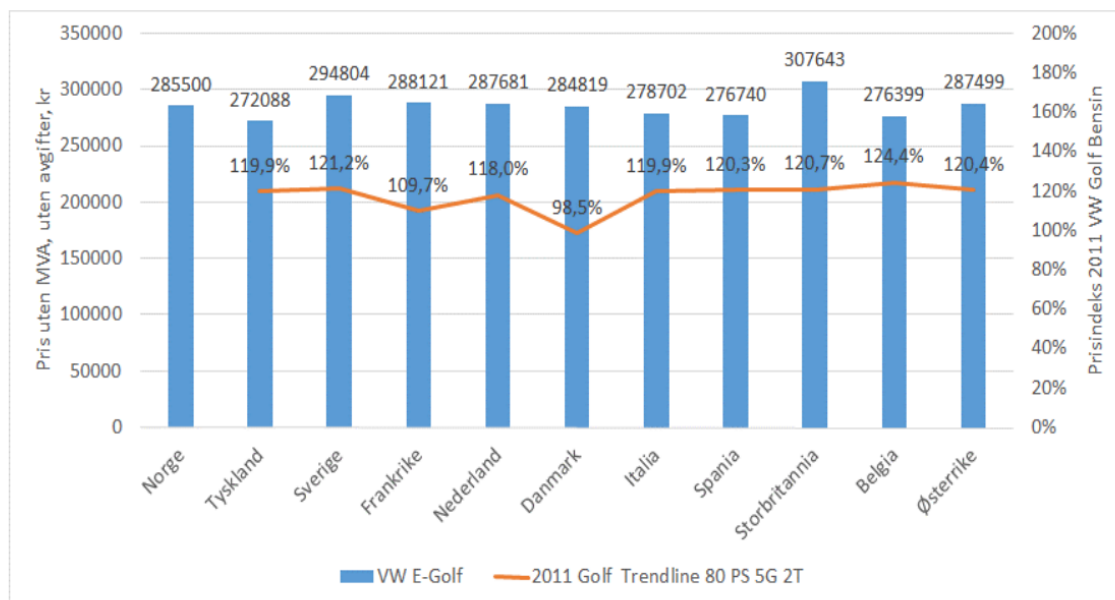
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<sup>19</sup> Copenhagen Economics (2007) Taxation Papers, Study on reduced VAT applied to goods and services in the Member State of the European Union, Working Paper NO 13 2007, European Commission, available at: [http://ec.europa.eu/taxation\\_customs/resources/documents/taxation/gen\\_info/economic\\_analysis/tax\\_papers/taxation\\_paper\\_13\\_en.pdf](http://ec.europa.eu/taxation_customs/resources/documents/taxation/gen_info/economic_analysis/tax_papers/taxation_paper_13_en.pdf).

<sup>20</sup> Copenhagen Economics study, page 10

They find small price differences between the countries, commenting that small differences in price is not necessarily evidence against a higher margin some places than other, but that it is an indication that if an effect like that exists, it is small.

Fig. 6.7 Price of Volkswagen E-Golf without taxes in different countries.



Figur 13.31: Pris Volkswagen E-Golf uten avgifter i ulike land, det vil si det bilen ville kostet ut til forbruker uten MVA og uten andre avgifter. Kilder: E-Golf: Listepriiser i henhold til fabrikantens nettside i hvert enkelt land, hentet inn 19.11.2019, fratrullet MVA og eventuelle avgifter. Bensin-Golf: Data hentet fra konkurranse rapport laget av EU (EU 2011), prisindeks uten avgifter. Kilde: Egne beregninger.

As part of the midterm review, the Ministry has provided empirical evidence that supports our claim that the VAT zero rate results in lower price for the consumer. Our empirical model uses a similar setup to the difference-in-difference strategy known from causal empirics. By comparing the price difference between conventional and battery electric cars in Norway and Sweden we account for any factors affecting either both types of vehicles in one of the countries. Such factors may be different market conditions and sales costs, or one type of vehicle in both countries, such as production costs, transportation costs etc. The Ministry argues that our model effectively isolates the effect of the zero VAT rate on prices, and that it can be interpreted as a causal effect.

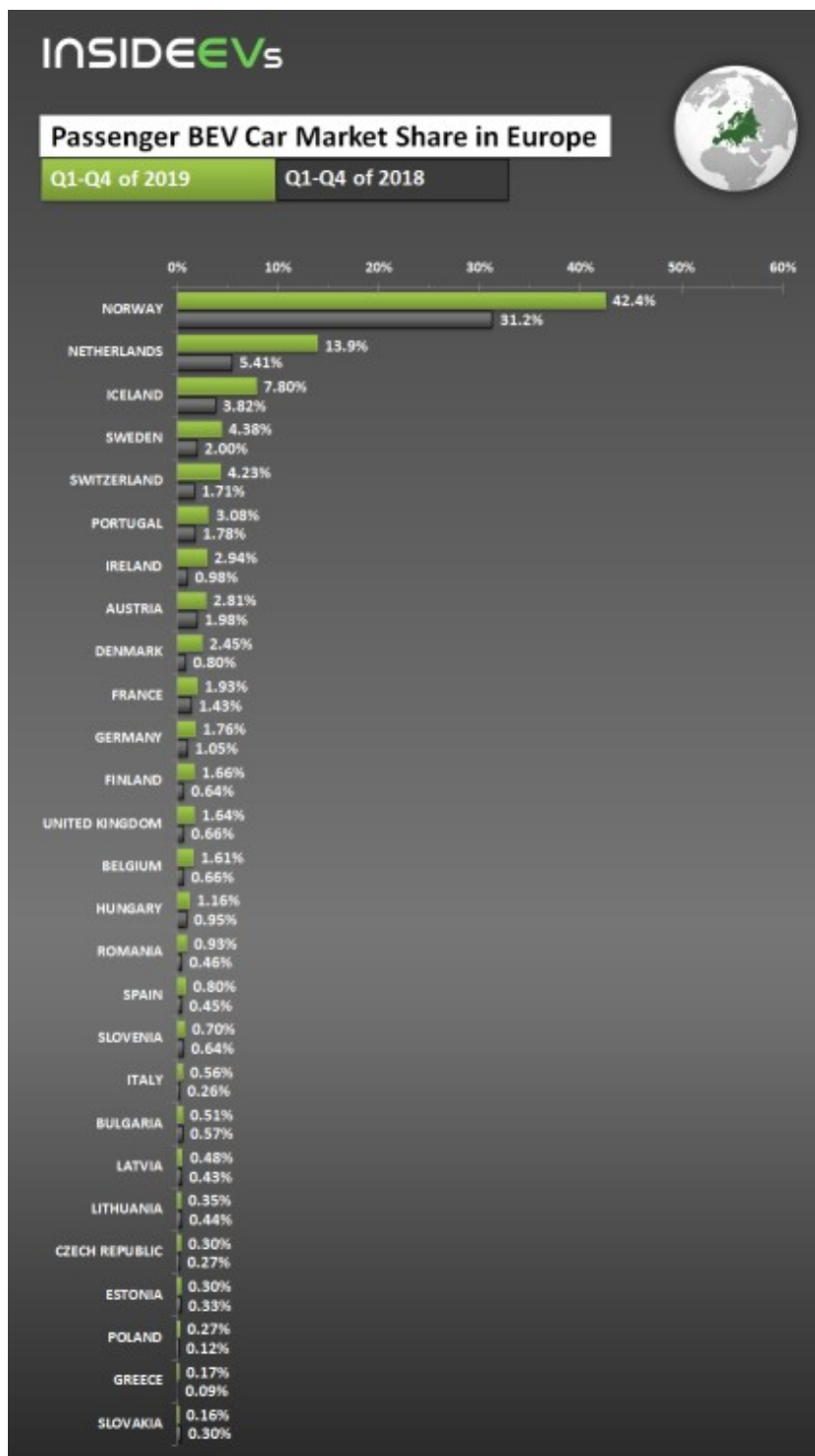
The Ministry also gives a brief summary of existing theoretical and empirical literature on tax incidence. Both the theoretical predictions and empirical findings are heterogeneous, supporting the notion that both the level and the direction of pass-through depends heavily on specific market conditions. Using empirical studies on other markets or products to determine pass-through in the Norwegian market for EVs should only be done with caution. Furthermore, the zero VAT rate was introduced before any substantial market for EVs existed, which further invalidates any use of empirical findings from existing markets as predictive tools on the Norwegian market.

As described in section 3.3, Norway has in place numerous measures to promote the uptake of ZEVs. The incentive effect of the combined measures is reflected by increased market shares of BEVs the last decade, leaving Norway with a higher share than other countries, as shown in fig. 6.8. The increase is to a large degree considered to be a result of the support measures



in place. TØI (2020) investigates goals, incentives and results with regard to EVs in Finland, Sweden, Denmark, Germany, France and China. All these countries have incentives in place, which can have a value of up to EUR 60 000, but typically less. Many of the incentives take form of favourable taxation rules for the private use of electric company cars. None of the countries comes close to Norway when it comes to market shares for EVs, as shown in fig. 6.8. A conclusion of the report is that countries with the most incentives have the highest EV shares. Further, a finding which is reported is the importance of the long-term nature of the Norwegian EV incentives, and the relative predictability. This has been very important for there to be a functioning second hand market, which is imperative when taking a decision of buying a car.

*Fig 6.8 - Share of battery electric vehicles in total sales in European countries (1.-4. quarter 2019 in green, 1.-4. quarter 2018 in grey).*



Source: <https://insideevs.com/news/397600/european-countries-plugin-market-share-2019/>

In an EEA-study from "The European Topic Centre on Air Pollution and Climate Change Mitigation"<sup>21</sup> in 2019 one of the conclusions is the following: Countries such as Norway and the Netherlands, which have promoted EVs more than any of the other countries in the study, managed to achieve significant reductions in emissions, both in terms of CO<sub>2</sub> and air

<sup>21</sup> <https://www.eea.europa.eu/publications/fiscal-instruments-favouring-electric-over>

pollutants. Many EVs were introduced into these countries' fleets, because policies specifically target these technologies. The leading country in terms of emission savings is Norway. One likely reason for this relatively high performance is strong incentives for promoting purchase and ownership of BEVs.

It is difficult to separate the effect of the zero rate VAT, but in a study from 2018 TØI uses the model BIG to predict changes in composition of car sales with different tax changes. One of the tax changes they estimate is removing of the zero VAT rate, finding that this would result in a 70 per cent reduction of the EV-sales. Furthermore, in studies by for example Vista Analyse<sup>22</sup> and Yan S. and G. S. Eskeland (2018)<sup>23</sup> the introduction of environmental differentiation of the registration tax is analysed. The findings that the CO<sub>2</sub>-component in the registration tax have had significant influence on the CO<sub>2</sub>-emissions from new cars, also strengthens the hypothesis that tax advantages at the time of purchase, like the zero rate VAT impact the composition of car sales.

In section 6.3, results from different surveys are presented. These results leave little doubt that the VAT advantage is an important measure to increase the purchase of EVs. The answers from surveys of existing EV-owners in Norway, indicate that a significant share of the EVs would not have been purchased without the zero rate VAT.

The Ministry concludes that the zero VAT rate therefore has an incentive effect for consumers by bolstering their demand for BEVs.

## **6.6 Proportionality**

State aid is proportionate if the aid amount is limited to the minimum needed to achieve the identified objective of common interest.

The objective of the measures is to increase the market share of EVs in order to reduce CO<sub>2</sub>-emissions from the transport sector. The measure reduces the price of ZEVs, and compensates for the disadvantages of using a ZEV for the consumers (such as limited range, longer charging time, limited number of models and uncertain second hand market). In practice, this will make ZEVs more attractive to consumers, and make EVs able to compete with conventional vehicles.

The measure thus has a clear environmental purpose. Norway has ambitious climate goals. Reduced emissions from the transport sector will substantially contribute to achieve Norway's climate targets for 2030. Providing incentives to accelerate uptake of ZEVs in the transport sector is considered one of Norway's most important and so far most successful climate policies.

Although the sale of BEVs has increased considerably since the year of the last notification, from approximately 21 per cent in 2017 to about 50 per cent from January to April 2020, we are still far from achieving the contributions needed from higher EV shares in order to reach our climate goals.

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<sup>22</sup> Report by Vista Analyse: <https://vista-analyse.no/no/publikasjoner/evaluerer-av-endringer-i-kjopsavgiften-for-nye-biler-fra-2006-2011/>

<sup>23</sup> <https://www.sciencedirect.com/science/article/pii/S0095069617301249>

The sale of BEVs has increased considerably over the last decade, even though there have been some fluctuations. However, the total number of EVs is still small compared to the number of conventional fossil fuel vehicles (9.3 per cent at start of 2020)<sup>24</sup>. The share of new BEVs registered in Norway as a percentage of all new cars, has been increasing during the last years. In 2015, BEVs made up 18 per cent of the new car sales, and this fell to 16 per cent in 2016. The next years the share increased to 21 per cent in 2017, 31 per cent in 2018 and 42 per cent in 2019. So far, in 2020 (January–April) 50 per cent of new passenger cars have been EVs.

The numbers above imply that Norway is ahead of other countries, but the transition to sales of mainly ZEVs in accordance with political goals is demanding. Even though we have witnessed substantial increases in the share of ZEVs the last years, still around half of the new passenger cars are not ZEVs. To reach the 2025-target, continued strong growth in the share of ZEVs in the years ahead will be necessary.

As discussed in section 6.2, electric vehicles still are more expensive to produce. The charts (in 6.2.) from Klimakur 2030 and TØI show that that with tax advantages, the prices of EVs are not too different from comparable conventional fuel cars, and any price difference is expected to disappear. The zero rate VAT might therefore lead to lower purchase prices on EVs, than those of comparable conventional vehicles. However, the EVs may still have drawbacks for consumers for some time. In order to enhance the EVs marked share further, measures beyond levelling out the price gap between conventional and electric may be needed.

User benefits (toll road tax exemption, lowered rates on ferries, access to bus lanes, free public slow charging, free public parking) that so far have been important advantages, are being scaled back, for reasons discussed in 6.3

As explained above in section 6.2, there are important disadvantages related to EVs, including limitations in range and charging capacity. Some of the models may, for example, have less comfort and possibilities for extra equipment. The disadvantages can represent a significant non-monetary 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.

Part of the explanation of why more consumers do not choose EVs is that consumers seem to favour immediate cost and benefits more than future costs and benefits (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. EVs represents a new and rapid changing technology and the lack of necessary information and uncertainty about future costs and benefits as well as disadvantages 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 EV. There might, for example, be uncertainty about the future maintenance costs and second hand value of an EV. There may also be uncertainty for many purchasers whether

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<sup>24</sup> <https://www.ssb.no/transport-og-reiseliv/statistikker/bilreg/aar>

the tax advantages and other policy measures towards EVs will exist over the lifetime of the car at the time of purchase.

In TØI (2020), the prospects of reaching the 2025-target is summarized as follows: *“The passenger car target for 2025 is demanding due to the wide variation in user preferences. Strong measures will be required.”* The current and future system of car taxation is the topic in TØI (2019)<sup>25</sup> and the zero rate VAT is considered decisive for the competitiveness and marked share of the ZEVs. The Government said in the White Paper on Climate Policies, that it would build upon current policy measures to stimulate use of ZEVs, and by that contribute to reaching the targets for ZEVs in the National Transportation Plan 2019-2029. The Government also stated that it will facilitate to make ZEVs competitive, and that economic measures should support this. The discussion of incentive effect in section 6.4 supports the important role of economic incentives. Model results show that tax advantages at the time of purchase affects behaviour and that removing the zero rate VAT would lead to a significant drop in the ZEVs’ share. Furthermore, surveys and questionnaires show that the zero rate VAT is perceived as a very important advantage.

The zero rate VAT implies a substantial and increasing revenue loss for the Norwegian government. As discussed in section 6.4, both existing knowledge of mechanisms of pricing in the car market and a new analysis comparing differences in car prices in Norway and Sweden, makes it reasonably safe to conclude that the majority of the zero rate VAT is passed on to the car purchasers. Hence, the measure at hand only entails state aid for the indirect beneficiaries, i.e. the manufacturing sector including dealers. As a consequence, the state aid intensity received by those beneficiaries is limited to the indirect aid caused by a higher demand for their products. It must also be recalled that the lack of discrimination between manufacturers or dealers contributes to ensuring the proportionality of the measure.

The Ministry considers the zero rate VAT an integral and necessary part of the policy to give incentives to reach the target for the transition to ZEVs and achieve the goal to reduce CO<sub>2</sub>-emissions. Furthermore, evidence supports the conclusion that the negative effects are relatively limited. The policy is now regarded necessary to reach the ambitious climate goals. The Ministry concludes that the notified measure is proportionate.

The Ministry has, however, made it clear that the incentives for EVs will be scaled back in the future. The development is being monitored. Annual overviews over the development of ZEVs in all transport segments that are covered by the Government targets are published every year as part of the budget proposals. Depending on the market development, the Government will consider necessary changes in policy measures.

However, the Norwegian government has, as stated in the White Paper on climate policies, underlined predictability and long-term thinking in policy measures for ZEVs. In the Granavolden declaration, it is stated that the Government will keep the tax advantages on purchase, namely the exemptions for VAT and registration tax, for BEVs this (parliamentary) period in order to reach the targets for 2025.

Although, it is of limited relevance to the assessment under Article 61 (1) of the EEA Agreement, long term commitment to EV advantages and predictable changes is important success factors behind the high ZEV share in Norway high ZEV. If the advantages were

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<sup>25</sup> <https://www.toi.no/publikasjoner/dagens-og-morgendagens-bilavgifter-article35804-8.html>

removed, the responses can be large and unpredictable. One example that illustrates this is the development in Denmark, where the former differentiation for EVs under the registration tax regime was removed in 2016. This caused the demand for such vehicles to halt, and in the first half of 2017, only 105 EVs, including plug-in hybrid vehicles, were purchased in Denmark.<sup>26</sup> This is a dramatic fall, considering 4762 EVs were sold in Denmark in 2015.<sup>27</sup>

### **6.7 Avoidance of undue negative effects on competition and trade**

For state aid to be compatible with the functioning of the EEA Agreement, the negative effects of the aid measure in terms of distortions of competition and impact on trade between Contracting Parties must be limited and outweighed by the positive effects in terms of contribution to the objective of common interest.

As noted by the Authority in Decision 228/17/COL, the Norwegian state only grants State aid to the indirect beneficiaries of the measures, not to their direct beneficiaries. This implies in itself that the potential distortion of competition and trade is limited. Further, there is no discrimination between operators in the manufacturing sector.

The Authority also underlined that the benefits obtained by those indirect beneficiaries, i.e. the increase of demand for ZEVs, is necessary for achieving the objective pursued by the scheme. On these grounds the Authority concluded that the measures do not entail undue distortions of competition and trade and the overall balancing exercise has a positive outcome.

### **6.8 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](http://www.lovdata.no), as they are approved and enter into force.

## **7. CONCLUSION**

It is the Ministry's position that the zero rate VAT is compatible with the functioning of the EEA Agreement according to Article 61(3)(c).

The Ministry hopes that the provided information will enable the Authority to start an assessment of the notified measures.

Yours sincerely,

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<sup>26</sup> <http://ev-sales.blogspot.no/2017/07/denmark-june-2017.html>

<sup>27</sup> <http://ev-sales.blogspot.no/2016/01/denmark-december-2015.html>

Frédéric Wilt  
Deputy Director General

Rune Nygaard  
Senior Tax Adviser

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