

Scandria Clean Fuel Deployment Strategy – Excursus

Country differences in electromobility development – a comparison between Norway and Germany

Norway and Germany: Why so different?

Compared to the total number of new car registrations in the EU, the share of alternative fuels is negligible. In general, the implementation of alternative fuels for road transport is still lagging behind. Existing market structures constitute market barriers which are common to many new technologies and can be overcome through adequate policy measures. These measures can take different forms and the Scandria corridor countries have taken various steps in order to speed up the uptake of alternative fuels. The development of the alternative fuels' market share deviates from country to country. Among all Scandria Member States, Norway has by far the highest share of alternative fuels in transport. The developments for different alternative fuels shares in the respective countries are influenced by various factors. Some of the trends, however, also coincide with the implementation of certain policy instruments and it is likely that these instruments shaped the market developments in the desired way.

In order to illustrate certain key points pertaining to all types of alternative fuels, this paper limits itself to electric vehicles (EVs) and draws a short comparison between Norway and Germany. The aim is to depict the differences between the countries' EV policy frameworks. Here, Norway can serve a good example when developing practicable policy instruments for the market penetration of alternative fuels whereas in Germany, the market for EVs has not yet fully developed.

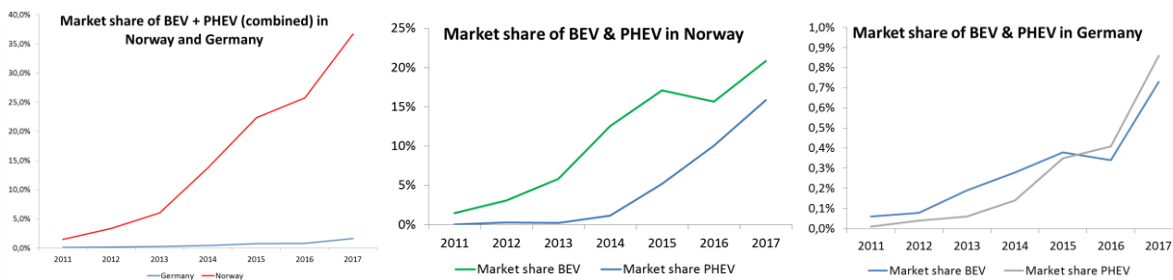


Figure 1: Market share of battery electric vehicles (BEVs) & plug-in hybrid electric vehicle (PHEVs) in Germany and Norway¹

Table 1 provides an overview of the countries' temporal development of the policy instruments for electric vehicles. Norway has promoted a range of alternative propulsion systems over time. However, as the world's largest e-vehicle market (per capita), the Norwegian policies and their impact turned out to be most successful and are thus of particular interest for other countries. Already in the 1990s, Norway started to introduce the first EV incentives in order to foster the domestic EV industry. However, the market never experienced a substantial breakthrough and the Norwegian EV industry went out of business. Nevertheless, the instruments remained in place and through import of second hand vehicles, a niche market development continued. The incentives have been introduced by shifting governments. This consensus among all parties in the parliament has made the policy framework long term and predictable for both producers and consumers. Yet, only in recent years, the main driver for the incentives became climate and environmental related issues. This shift of paradigm correlated with the new generations of battery electric vehicles (BEVs) from foreign producers, the introduction of Mitsubishi i-MiEV in 2010 and Nissan LEAF in 2011. After 2010, a sharp increase in the EV fleet could be observed as the prices of EVs were going down. Traditional Original Equipment Manufacturers (OEM) could then exploit the incentives that have been established over the last two decades.

Germany on the other hand, has taken a far more reluctant approach when it comes to supporting the uptake of an EV market. Though the German automotive sector is the engine of the economy, politics and OEMs have

1 Source: <http://www.acea.be/statistics/tag/category/electric-and-alternative-vehicle-registrations>

a high interest in stabilizing added value from vehicle production. In the past, German governments have lobbied for rather weak or moderate vehicle emission standards on the European level and opposed effective instruments favoring alternative fuels. Only in recent years, have there been some attempts to reward (nearly) zero emission vehicles. However, instruments such as the reduced annual license fee offer only small savings for the consumer and the recently introduced purchase grant provides a maximum saving of 4000€ (Umweltbonus). This is not even close enough to making alternative drives cost competitive vis-à-vis ICE models. Consequently, the purchase grant only contributes to the market ramp-up to a small extent: 18 months after the premium was introduced, only about 10% of the total funds have been used. The coalition agreement of the new German Government will speed up alternative fuels development with a “transport commission”. One instrument already planned is a reduced company car tax for battery electric vehicles and plug-in hybrid electric vehicles (PHEVs).

Instrument	Norway	Germany
Exemption from registration tax	✓ (1990/1996)	✗
Reduced annual license fee	✓ (1996/2004)	✓ (2011)
Exemption from road toll	✓ (1997)	✗
Free Municipal parking	✓ (1999)	✗
Reduced company car tax	✓ (2000)	✗ (planned introduction in 2018/19)
VAT exemption	✓ (2001)	✗
Access to bus lanes	✓ (2003/2005)	✗
Reduced rates on state ferries	✓ (2009)	✗
Financial support for fast charge stations	✓ (2009)	✓ (2016)
Purchase grant/ subsidy	✗	✓ (2016)

Table 1: Major electric vehicle policy instruments in Norway and Germany (date of introduction/reform)

When comparing instruments in different countries, it must be taken into account that the success of policy actions does not only depend on the instruments but also on the already existing policy framework and on the design of the instruments. It is important to notice that Germany and Norway have started to develop the BEV market differently in the past. Buying and owning an ICE vehicle in Germany is relatively cheap. For a long time, Norway has had a regulatory and financial framework making buying and owning an ICE relatively expensive. Thus, the effects of the chosen instruments over the last years were originally much stronger than they could have been in Germany. Nevertheless, due to tax shortfalls, the costs of the incentives are substantial. If Germany wanted to implement comparable effective measures – in terms of financial consumer support – it would need to introduce a fundamental car purchasing subsidy and/or reduce VAT to nearly zero. On the other hand, Germany could have started implementing measures that reduce subsidies and supporting schemes for ICE’s; like diesel taxation or company car taxation, which is independent of the car’s price or its CO₂-emissions.

What makes Norway’s EV market boom?

- In comparison to other Scandria countries, the cost of conventional vehicles and fuels are expensive.
- The high registration tax on passenger vehicles makes the tax exemption incentive very effective.
- Exemption of 25% VAT is also an effective instrument.
- Petrol and diesel is expensive in Norway, while electricity is relatively cheap. This makes the ownership cheap for BEVs.
- In larger cities, there is a drive towards heavy toll road taxes for vehicles using petrol and diesel. Fuel cell vehicles (FCEVs) and BEVs currently pay no toll road tax, but BEVs will in some areas from 2019. The tax will be limited to a maximum of half the price of ICEs.

Just copy and paste?

- While EV's purchase cost and total cost of ownership are mostly still higher than ICE, in the very early market phase financial subsidies can be an very important impulse.
- To avoid long term subsidies, and to foster competition between automotive producers, subsidies should be changed to an adapting regulatory framework which prefers clean fuels and discourages emission intensive ICEs. This also means to stop subsidies in fossil fuels and high emission ICEs. This should result in making alternative drives cost competitive vis-à-vis ICEs.
- The Norwegian experience reveals that the most effective instruments are tax breaks that make the purchasing price for EVs competitive. Research suggests that consumers react to upfront cost as a influencing factor in the buying decision rather than the total cost of ownership.
- Regional actions can support such development by giving advantages to alternative drives such as parking zones, public procurement rules, city tolls, low- and zero-emission zones.
- Support schemes should be long term and predicable for both producers and consumers.

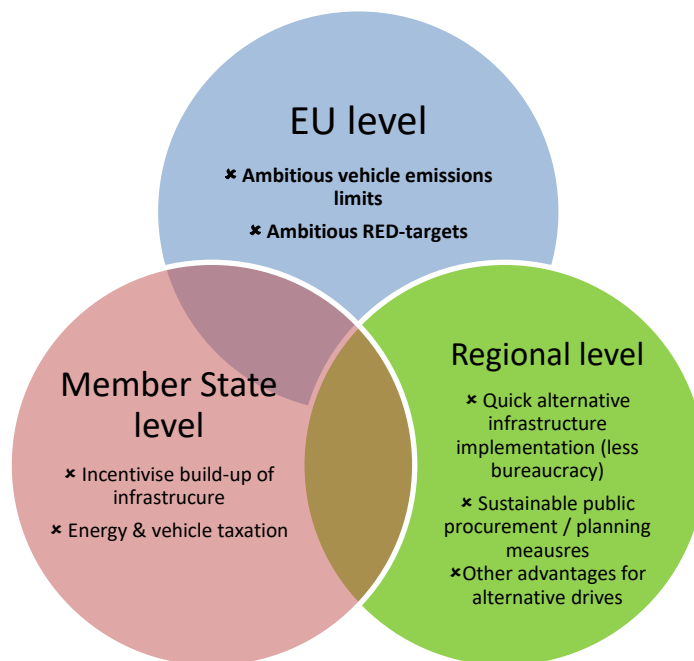


Figure 2: Measures in a multi-level governance perspective

The Scandria®2Act project aims to foster cleaner mobility in the Scandria®Corridor.

There is no time to waste! We have to join forces and act now!

For more information please check www.scandria-corridor.eu