ELECTROMOBILITY FOR ALL
Financial incentives for e-cycling

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About the European Cyclists’ Federation

With over 80 members across more than 40 countries, the European Cyclists’ Federation (ECF) unites cyclists’ associations from across the globe, giving them a voice on the international level. Our aim is to get more people cycling more often by influencing policy in favor of cycling.

We stimulate and organise the exchange of information and expertise on bicycle related strategies as well as the work of the cyclists’ movement.

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# TABLE OF CONTENTS

**FOREWORD**  ....................................................................................................................................................................................... 4

**EXECUTIVE SUMMARY**  ............................................................................................................................................................................ 4

**E FOR ALL: WHY WE NEED A MORE COMPREHENSIVE ELECTROMOBILITY POLICY** ................................................................. 5

1. Benefits of e-bikes .................................................................................................................................................................................. 5
2. Electromobility promotion in Europe ............................................................................................................................................... 6
3. Recommendations.................................................................................................................................................................................. 8

**COUNTRY OVERVIEW**  ........................................................................................................................................................................... 9

**EXAMPLES FOR FISCAL AND FINANCIAL INCENTIVES FOR E-BIKES** .................................................................................................. 11

1. Austria ............................................................................................................................................................................................. 11
2. Belgium ............................................................................................................................................................................................ 11
3. France ............................................................................................................................................................................................. 12
4. Germany ........................................................................................................................................................................................ 12
5. Italy ................................................................................................................................................................................................. 13
6. The Netherlands ............................................................................................................................................................................ 13
7. Spain .................................................................................................................................................................................................. 14
8. United Kingdom ........................................................................................................................................................................... 14
FOREWORD

Dear Reader,

With this report, ECF presents the first overview of financial incentives for e-cycling in Europe to you. It shows that numerous countries, regions and local authorities in Europe have already realised that promoting electric bikes through grants is a very cost-effective way to achieve the decarbonisation of the transport system: E-bikes open up cycling to new groups of the population and have a high potential to replace car trips. They also come with a small price tag: On average, they cost less than 8% of the price of an electric car.

Therefore, ECF calls for a comprehensive and balanced electromobility policy that takes into account all modes of transport and is not only focused on improving emission values of one mode, without taking into account problems like congestion or the use of public space in our city. We are convinced that this approach will help us to make the mobility system as a whole more sustainable and to make our cities and regions more livable.

We hope that this report serves as an inspiration for decision-makers at all levels of governance to draft balanced policies and promotion strategies for electromobility that include cycling. Together with our members, our partners in the cycling industry, and our networks, we will continue our advocacy work towards this goal.

Ádám Bodor
ECF Advocacy Director

EXECUTIVE SUMMARY

E-bikes offer numerous benefits: They allow for longer distances to be cycled, make it easier to overcome natural obstacles, make it possible to transport heavier goods and open up cycling for groups that have not cycled previously. For all of these reasons, electric bikes offer an enormous potential to replace car trips in Europe.

ECF therefore recommends to adopt balanced policies and promotion strategies for electromobility that help to realise the potential of electrifying the transport system as a whole instead of only focusing on one mode. We suggest introducing subsidy schemes for e-bikes based on market conditions:

• In markets with low sales figures, a purchase subsidy of 500€ (around 10% of the current purchase subsidies of electric cars in many European countries) could help to bridge the price gap to conventional bikes and facilitate market uptake of electric bikes (including low-powered as well as speed pedelecs), which in its turn have a high potential to achieve modal shift from car trips to cycling.
• In more mature markets, more targeted subsidy schemes e.g. for speed pedelecs and electric cargobikes due to their higher price or for charging infrastructure in small businesses can be an option. Subsidies for electric bikes could also be given as a reward for cancelling a car’s registration.

Besides these targeted purchase subsidies, which are at the centre of this report, other, more general, funding schemes for research and development or infrastructure like charging points and secure parking can also contribute to the promotion of electric cycling. In these areas, the EU could play a more active role in the promotion of electric cycling by including it in its e-mobility policies.
1. Benefits of e-bikes

- E-bikes allow for longer distances to be cycled with the same level of effort compared to conventional bikes. A study of the German Federal Environmental Agency shows that in an urban context, conventional bikes are faster than cars for distances of up to 5 km. With e-bikes, this radius is enlarged to 10 km, and even for longer distances of up to 20 km the time difference with the car (electric or fuel-driven) is marginal.¹
- E-bikes make it easier to overcome natural obstacles to cycling, like hills or headwinds.
- E-bikes and electric cargobikes make it possible to transport heavier goods than conventional bikes and cargobikes. This is an advantage for private individuals, for example when they do their shopping by bike, but also for companies relying on fast urban logistics solutions.
- Electrically assisted bikes open up cycling for groups that have not cycled previously because of their physical condition (the elderly) or because of a lack of perceived convenience, for example commuters who do not want to transpire during their ride to work.

For all of these reasons, electric bikes offer an enormous potential to replace car trips in Europe, around half of which are shorter than 5 km.
2. Electromobility promotion in Europe

Despite these obvious benefits, many public e-mobility strategies in Europe focus exclusively on cars and do not take into account the possibilities that other forms of electric mobility like e-bikes offer for making the transport system as a whole more sustainable.

For example, Germany had already spent ca. 1.4 billion € of public subsidies on research and development of electric cars until 2014, and added another subsidy scheme of almost 1 billion €, including a buyer’s premium, in 2016. The results of this massive investment until today are rather disappointing: 25,500 purely electric cars are rolling on German streets today, and the target of having rolled out 1 million electric cars until 2020 seems almost impossible to reach. At the same time, electric bikes have known a massive uptake in Germany during the same period with practically no public subsidies involved neither for research and development nor for purchase premiums, apart from some small pilot projects. Currently, approximately 2.5 million electric bikes are in use in Germany, and the number would probably be much higher had there been the same targeted and massive public financial support as for electric cars.

What is also striking is that most of the subsidy schemes for e-bikes that exist were decided upon at the local or at most at the regional level. This shows that cities and regions seem to have a clearer picture of the development of electromobility and the needs of consumers than the national and the European level.

**E-mobility in Germany 2016**

**E-cars**

- 1.4 billion € (cumulative until 2014)
- + 0.9 billion € subsidies planned, a.o. for buyer’s premium
- 25,500 vehicles on street

**E-bikes**

- Practically none
- 2,500,000 vehicles on street

ECF - European Cyclists’ Federation | Sources: Zweirad-Industrie-Verband, Kraftfahrtbundesamt
Electromobility for all: Financial incentives for e-cycling

E-BIKES: A FEW TECHNICAL DEFINITIONS

**Pedelecs** (Pedal Electric Assisted Cycles) or EPACS (Electronic Power Assisted Cycles) are much like bicycles, however when pedalling the rider gets progressive assistance from the electric drive system.

There are many different types of electric assisted bike, the most popular and highest selling pedelec is the **sub 250 watt pedelec/ sub 25 km/h bike**. This lower power vehicle does not have to be type approved like motorised vehicles and is regulated through CEN standards, (with work ongoing to make a global ISO standard), it is seen as essentially a bicycle by all public authorities. These bikes have an assisted motor of up to 250 watts and a speed of 25 km/h before the motor cuts out.

There are also **higher powered pedelecs ("speed pedelecs")** which are regulated within type approval. Even though they are pedal assisted they are viewed as motorised vehicles by the EU authorities, here are the two relevant categories for these vehicles;

- **L1e-A** “powered cycles” – of speeds up to 25 km/h and power cut out at 1000 watts
- **L1e-B** for “mopeds” – of speeds up to 45 km/h and power up to 4000 watts


L1e-A deals mainly with **cargo type bikes**, while L1e-B deals with so-called ‘speed’ pedelecs.

Due to their higher maximum speeds, speed pedelecs can compete on travel time with cars for even longer distances than low-powered pedelecs. With a top speed of 45 km/h, they can now replace up to 90% of car journeys and have excellent active transport credentials. On the other hand, they bring some safety and infrastructural issues which justify treating them as a category different from conventional bikes and low-powered pedelecs.
3. Recommendations

E-bikes are still considerably more expensive than conventional bikes. While they have known a large uptake in several countries (Germany, the Netherlands, Belgium), their market development is still in the take-off phase in others. Purchase subsidy schemes could help to bridge this price gap. We suggest an approach adapted to market conditions:

- In markets with low sales figures, a purchase subsidy of 500€ (around 10% of the current purchase subsidies of electric cars in many European countries) could help to bridge the price gap to conventional bikes and facilitate market uptake of electric bikes (including low-powered as well as speed pedelecs), which in its turn have a high potential to achieve modal shift from car trips to cycling.
- In more mature markets, more targeted subsidy schemes e.g. for speed pedelecs and electric cargobikes due to their higher price or for charging infrastructure in small businesses can be an option. Subsidies for electric bikes could also be given as a reward for cancelling a car’s registration.

Besides these targeted purchase subsidies, which are at the centre of this report, other, more general, funding schemes can also contribute to the promotion of electric cycling:

- When drawing up national electromobility strategies according to the EU’s Alternative Fuel Directive, due attention and adequate financial support should be given to L-type vehicles. Speedpedelecs and electric cargobikes fall into this category. This includes charging infrastructure, but above all infrastructure for safe parking (which is important due to the higher value of these vehicles compared to conventional bikes) and adapted road infrastructure (which is important due to the higher speed that can be reached). While low-powered pedelecs do not fall under the scope of the directive, they would also benefit from these measures.
- Research funding for electromobility, be it at the European (Horizon 2020 and its successor programme) or the national level, should move from focusing only on developing new forms of cars to an approach that looks at the mobility system as a whole, and includes electric cycling as an innovative form of transport and an integral part of the smart cities of the future.

By adopting these measures, the EU and its Member States would establish a level playing field between modes of transport in the field of e-mobility. Since e-bikes have a high potential to replace car trips, this would also help to make the mobility system as a whole more sustainable instead of just improving one mode of transport. Finally, giving financial support to e-bikes is very cost-efficient way to achieve the goal of decarbonising the transport system: An e-bike costs on average ca. 2350€ (Germany 2014), less than 8% of the price of an average electric car (30'000€).

PURCHASE PREMIUMS WORK: THE CASE OF AUSTRIA

The examples from this report also show that financial incentives can make a difference for the deployment of electric bikes. This is the case in Austria for example, where numerous local incentive programmes had been in place during the last years and which now counts among the countries with the highest sales rates of e-bikes per capita in Europe, despite leaning more towards the EU average both for all bike sales and cycling modal share. During the market uptake phase, in 2010, 20,000 e-bikes were sold in Austria. The incentive scheme of the capital Vienna alone subsidised 2540 of these e-bikes. If we estimate conservatively that the numerous other schemes around the country subsidised the same amount of e-bikes, around one quarter of e-bikes purchases during this crucial phase would have been supported by financial incentives. This was most probably a decisive factor for the subsequent breakthrough of e-bikes in the country.
### COUNTRY OVERVIEW

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>INCENTIVE SCHEMES AT E-BIKES SOLD IN 2015 (TOTAL)</th>
<th>E-BIKES SOLD IN 2015 (PER 1000 INHABITANTS)</th>
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<td>Regional level</td>
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<td>Yes (most schemes discontinued)</td>
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<td>Only pilot projects</td>
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<tr>
<td>Italy</td>
<td>Discontinued</td>
<td>One (Friuli-Venezia Giulia)</td>
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<td>The Netherlands</td>
<td>Discontinued</td>
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<td>One (Barcelona)</td>
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<tr>
<td>United Kingdom</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

NUMBER OF E-BIKES SOLD IN 2015

Number of e-bikes sold in 2015 (per 1000 inhabitants)
NATIONAL LEVEL
In Austria, there is a national subsidy programme for electric bikes, cargobikes, and bike trailers. The grant is decided upon on a yearly basis. The beneficiaries are private enterprises, non-profit and religious organisations as well as local authorities – private individuals are not included. The amount of the subsidy for 2016 is:
- 300 € for electric bikes
- 500 € for electric cargobikes.

REGIONAL LEVEL
At the regional level, most subsidy programmes that were in place in the years 2010 and 2011 have already expired. Depending on the region, subsidies ranging from 160 € to 500 € were granted to private individuals, enterprises, local authorities, or all three groups.

The region of Styria has started a new grant programme in 2016 focusing on (electric) cargobikes. The amount of the subsidy is 400 € for companies and 500 € for private individuals. It can be combined with local subsidies.

In Tyrol, the regional electricity provider Tiroler Wasserkraft offered a grant of 150 € for the acquisition of an e-bike to its customers in 2016. The subsidy is set off against their electricity bill.

LOCAL LEVEL
Like at the regional level, most of the numerous local subsidy schemes for the purchase of e-bikes that had been put in place around the year 2010 have been discontinued. For example, until 2011, the city of Vienna offered a grant of 30% of the purchase price, maximum 300 €, for particular individuals (not for companies).

2. Belgium

NATIONAL LEVEL
There are currently no subsidy schemes available at national level for electric bikes. However, as of September 2016, the Belgian ministry of mobility has started negotiations with the health and finance ministries to make electric bikes tax deductible. There is also a law proposal on the table to include speed pedelecs (which can reach speeds between 25 and 45 km/h) in the existing scheme of a tax-free kilometrical reimbursement for cycling to work.

REGIONAL LEVEL
The Brussels Capital Region offers a prime consisting of a variety of different sustainable mobility packages to inhabitants who hand in their car number plate and scrap their car. The packages include a subsidy of up to 1010 € for the purchase of an (electric) bike.

The province of Walloon Brabant offers a purchase subsidy of 20% of the acquisition price, with a maximum of 200 €, to inhabitants who buy an electric bike.

LOCAL LEVEL
Like in Brussels, inhabitants of Ghent can receive a grant for the purchase of an electric bike if they hand in the number plate of their car. The amount of the subsidy is:
- 250 € for electric bikes
- 400 € for electric cargo bikes.

The city of Antwerp offers a subsidy of up to 400 € for buying a conventional or an e-bike if the bike is used for commuting, which is controlled during one year using a GPS tracking system.

Also in Wallonia, several local authorities offer subsidy schemes for the purchase of electric bikes as of September 2016, the biggest one being the city of Namur. Amounts vary between 50 and 200 €.
3. France

NATIONAL LEVEL
There is currently no subsidy scheme at the national level for electric bikes, other than the general tax breaks for the kilometric reimbursement for cycling to work and the possibility to deduct 25% of the costs for an (electric) bike fleet for companies from their corporate tax.16

REGIONAL LEVEL
The region of Corsica has introduced a subsidy scheme for private inhabitants who buy an electric bike in May 2016. The amount of the aid is 500 €; speed pedelecs and e-mountainbikes are excluded from the scope of the scheme.17

LOCAL LEVEL
A number of local authorities in France, including many of the bigger cities, currently offer subsidy schemes for private individuals wanting to buy an electric bike. These include, amongst others:

• Paris: 33% of the acquisition price, max. 400 € 18
• Rennes: e-bike renting for one year (150 €); after that: acquisition price of 365 € 19
• Nantes: 25% of the acquisition price, max. 300 € 20
• Bordeaux: 25% of the acquisition price, max. 300 € for an electric bike and max. 600 € for an electric cargobike 21
• Nice: 25% of the acquisition price, max. 150 € 22

4. Germany

NATIONAL LEVEL
There is currently no subsidy scheme for electric bikes at the national level in Germany, other than the general income tax advantage that is granted for bikes given by companies to their employees. However, in its opinion on the law proposal on the promotion of electromobility, the Federal Council (Upper House of Parliament) recommended to consider the introduction of purchase premiums not only for electric cars, but also for electric bikes.23 This recommendation has not been taken up in the final text of the law.

REGIONAL LEVEL
Apart from several pilot projects where e-bikes were rented to commuters or introduced in public services,24 there are currently no subsidies for electric bikes at the regional level in Germany.

LOCAL LEVEL
The city of Tübingen offers a prime to inhabitants who scrap their conventionally powered two-wheeler and buy an electric bike instead. The amount of the prime ranges from 200 to 500 €, depending on the pollution level of the scrapped vehicle.25

In 2016, the city of Munich has started a subsidy scheme for electromobility that includes electric bikes. The subsidy of 25% of the purchase price can be granted to private companies and non-profit organisations, with the following maximum amounts:

• 500 € for electric bikes;
• 1000 € for electric cargo bikes.26
5. Italy

**NATIONAL LEVEL**
The Italian government put in place a one-off incentive scheme for bike and e-bike purchases for private individuals in 2009. The scheme provided a prime of 30% of the purchase price, up to a maximum of 700 €. The scheme was discontinued in 2014.27

**REGIONAL LEVEL**
The region of Friuli Venezia Giulia offers an incentive scheme for private individuals with a prime corresponding to 30% of the purchase price, with a maximum amount of 200 €.28

**LOCAL LEVEL**
In Italy, numerous municipalities provide subsidy schemes for the purchase of electric bikes, mostly for private individuals. Some examples of these schemes are:29
- Bologna: 300 € for electric bikes, 600 € for electric cargobikes
- Florence: 200 €
- Venice: 350 - 500 €
- Modena: 14% of acquisition price, max. 310 €
- L’Aquila: 10% of acquisition price
- Catania: 250 €
- Santorso: 100 €
- Grosseto: 200 - 250 €

6. The Netherlands

**NATIONAL LEVEL**
In the Netherlands, there is currently no national level subsidy for the purchase of electric bikes. There is a national programme on congestion reduction ("Beter Benutten") that had included subsidies ranging from 100 to 400 € in different provinces during its first phase, focusing on e-bike commuting to work.30

**REGIONAL LEVEL**
Also several regions in the Netherlands have subsidised the purchase of e-bikes for commuters previously. For example, the region of Arnhem-Nijmegen granted a subsidy of 30% of the purchase price with a maximum of 600 € in 2012. The evaluation of the project showed that the purchase of an e-bike had a substantial diminishing effect on car commuting: Whereas all the commuters used the car for commuting before the project, only 6 % did so after it finished, with 84 % choosing their new electric bike instead. A similar project in the region of Twente showed that 97 % of the new owners of an e-bike were satisfied or very satisfied with their purchase, and 99 % would recommend buying an e-bike to their colleagues.31

**LOCAL LEVEL**
The city of Utrecht offers two subsidy schemes:
- grants of 1000 € per vehicle for companies that purchase speed pedelecs for employees who live at least 10 km away from their workplace32
- grants of 1500 € for the leasing or 1000 € for the purchase of speed pedelecs or electric cargobikes by companies or organisations for their daily business use (at least 3000 km per year, excluding travel from home to the workplace by employees).33
7. Spain

**NATIONAL LEVEL**
In Spain, the national government has included cycling in its annual subsidy schemes for electromobility during the last years. For 2016, a total amount of 200,000 € was granted, with a subsidy of 200 € per electric bike.34

**REGIONAL LEVEL**
A similar annual subsidy scheme has been granted by the government of the Basque Country during the last years. In 2016, the subsidy amount was 20% of the purchase price for electric bikes, with a maximum of 300 €. E-bikes that cost more than 2500 € (VAT excluded) were excluded from the scheme.35 The grant for 2016 is currently already exhausted.36

**LOCAL LEVEL**
In addition to the national scheme, the Barcelona Metropolitan Area has set up its own annual grant for the purchase of e-bikes, which can be combined with the former. The amount of the subsidy is fixed at 250 € for 2016; the maximum price of the electric bike cannot be higher than 1350 € (VAT included); like the Basque scheme, this grant is already exhausted for 2016.37

8. United Kingdom

**NATIONAL LEVEL**
There is currently no specific national subsidy scheme for electric bikes in the UK. The cycle-to-work scheme, whereby employers can lease bikes free of tax to their employees, also applies to electric bikes in theory; however, a price ceiling of £1000 (ca. 1160 €) for consumer credit licences linked to the scheme complicates the application of the scheme to e-bikes in practice.38

**REGIONAL LEVEL**
There are currently no subsidy schemes for electric bikes at the regional level in the UK.

**LOCAL LEVEL**
The States of Jersey (technically not a part of the United Kingdom, but a crown dependency), have introduced a subsidy scheme for electric bikes on the island. The amount of the grant is 20% of the purchase price with a maximum of £300 (ca. 350 €).39
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