

# EFFECTIVENESS OF FINANCIAL INCENTIVES FOR STIMULATING BEV UPTAKE

Rob Kroon

FIER Automotive, The Netherlands

Steven Haveman | J. Roberto Reyes García | Marlise Westerhof | Maarten Bonnema

University Of Twente, The Netherlands



UNIVERSITY  
OF TWENTE.



## INTRODUCTION – Who are we?

We believe in moving from:

- Conventional to smart
- Combustion to electric
- Ownership to mobility as a service

Smart e-mobility & logistics

- International business development
- Support industry, retail/distribution & public authorities
- (EU-) project & consortia development (PPP)

Themes:

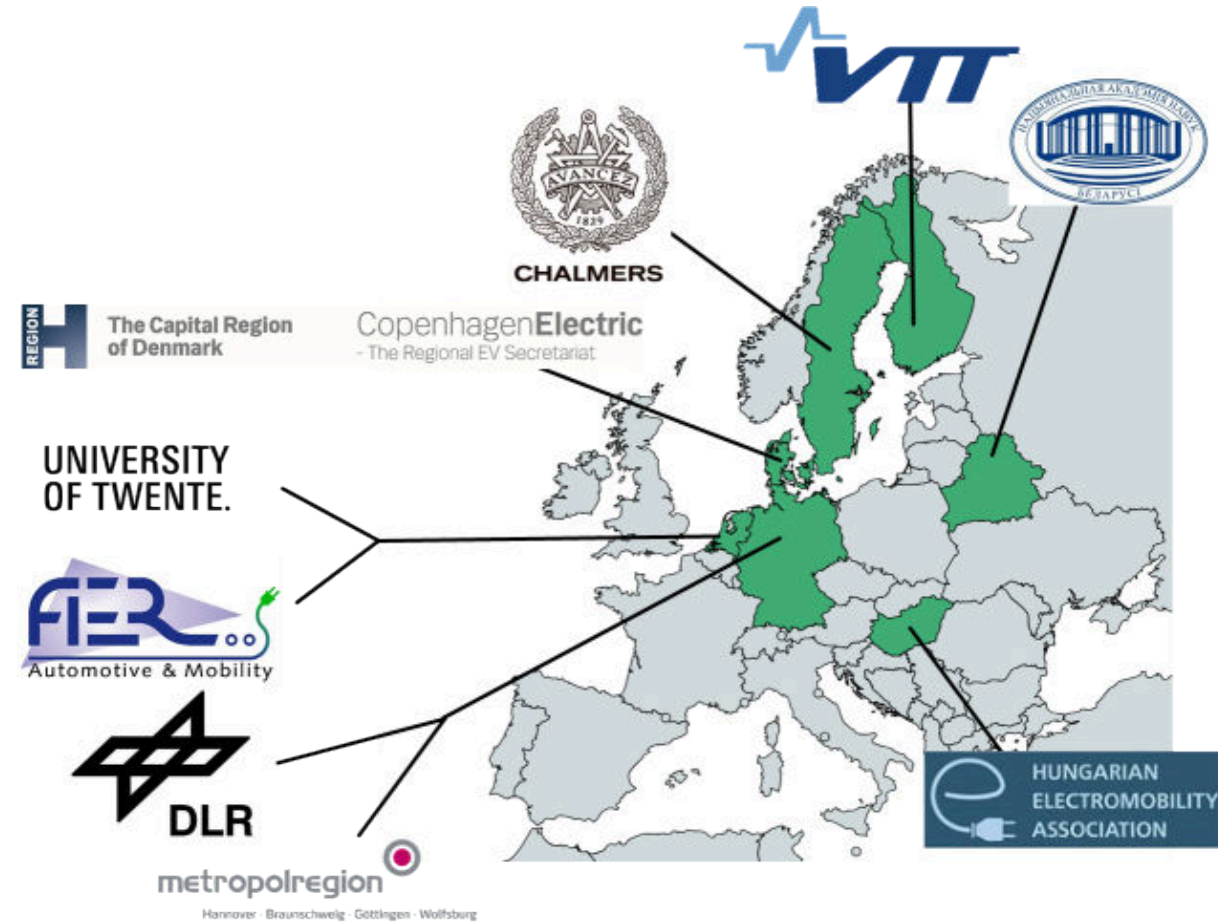


## proEME – Introduction

Overall goal is to support the uptake of EV's by building knowledge and tools to support policy makers

By:

- Bringing incentives in different countries in to perspective
- Compare effectiveness / vehicle uptake





# INTERNATIONAL ELECTRIC VEHICLE SYMPOSIUM & EXHIBITION



## proEME – Introduction

I-CVUE»

ENEVATE

FR Revue

PROMOTING  
**pro**EME  
ELECTRIC MOBILITY EUROPE





# INTERNATIONAL ELECTRIC VEHICLE SYMPOSIUM & EXHIBITION



## proEME – Introduction

proEME will advance knowledge, create critical mass in selected applications/regions and provide blueprints on accelerate EV uptake

4 fields of applications



4 lines of Actions





# INTERNATIONAL ELECTRIC VEHICLE SYMPOSIUM & EXHIBITION



## proEME – Introduction



FEDERATION  
INTERNATIONALE  
DE L'AUTOMOBILE



*The Royal Dutch Touring Club ANWB*

Federation of Danish Motorists



Automobile and Touring  
Club of Finland (ATCF)



FRAMO



Leaseurope  
The Voice of Leasing and Automotive Rental in Europe



BELKOMMUNMASH  
WWW.BKM.BY



Gemeente Rotterdam



Ministry of Economic Affairs



PBL Netherlands Environmental  
Assessment Agency



Das Land  
Steiermark

RACC

Sabancı  
Universitesi



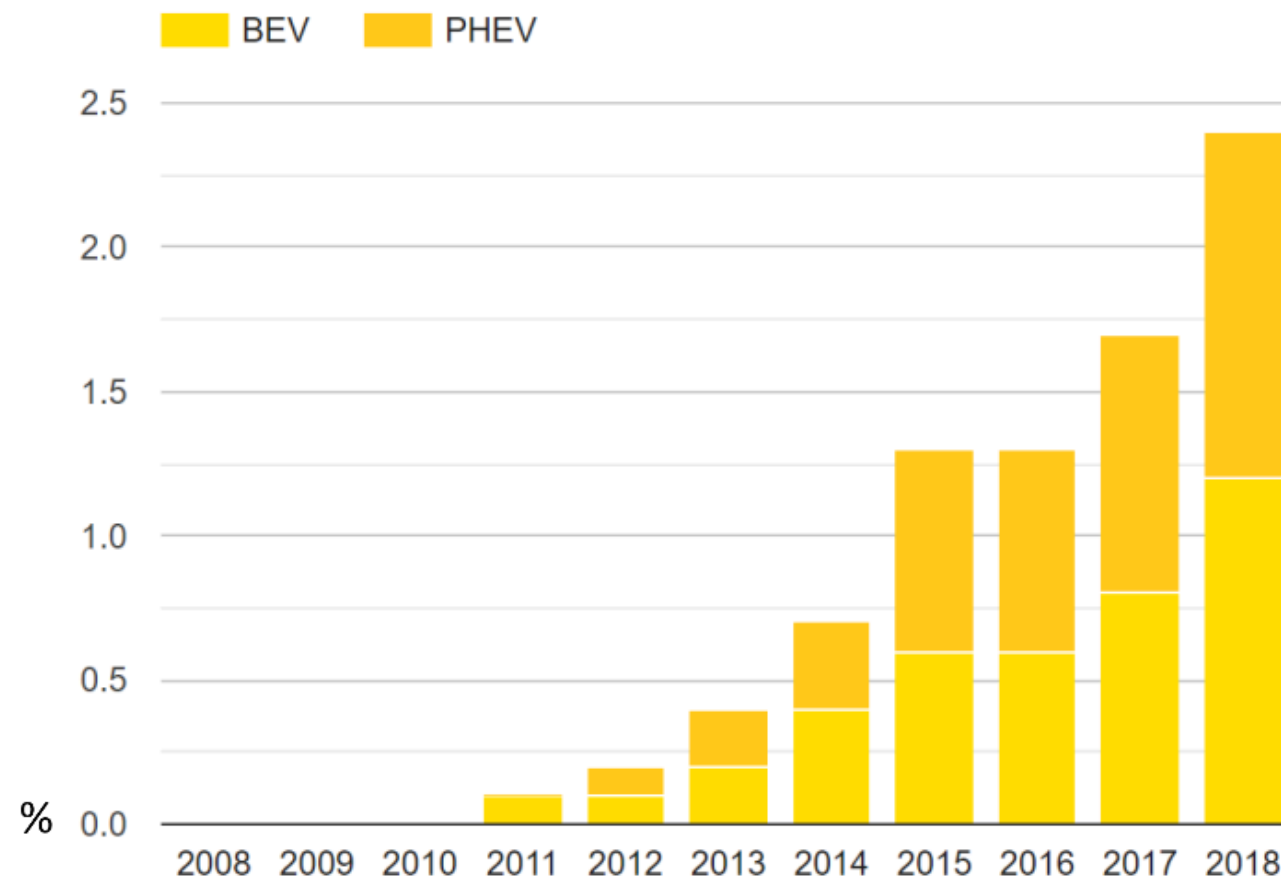
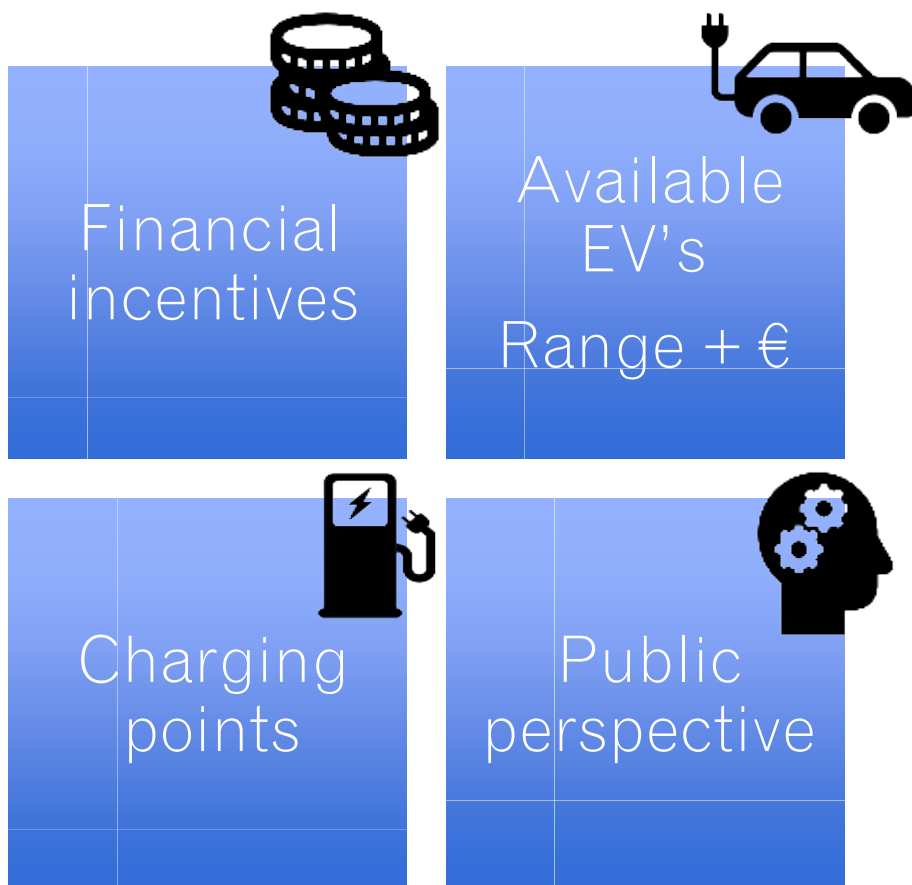
NATIONAL ACADEMY OF SCIENCES OF BELARUS

JOINT STOCK COMPANY  
"INSTRUMENT MAKING PLANT  
OPTRON"



## proEME – Overview

EFFECTIVENESS OF FINANCIAL INCENTIVES FOR STIMULATING BEV UPTAKE



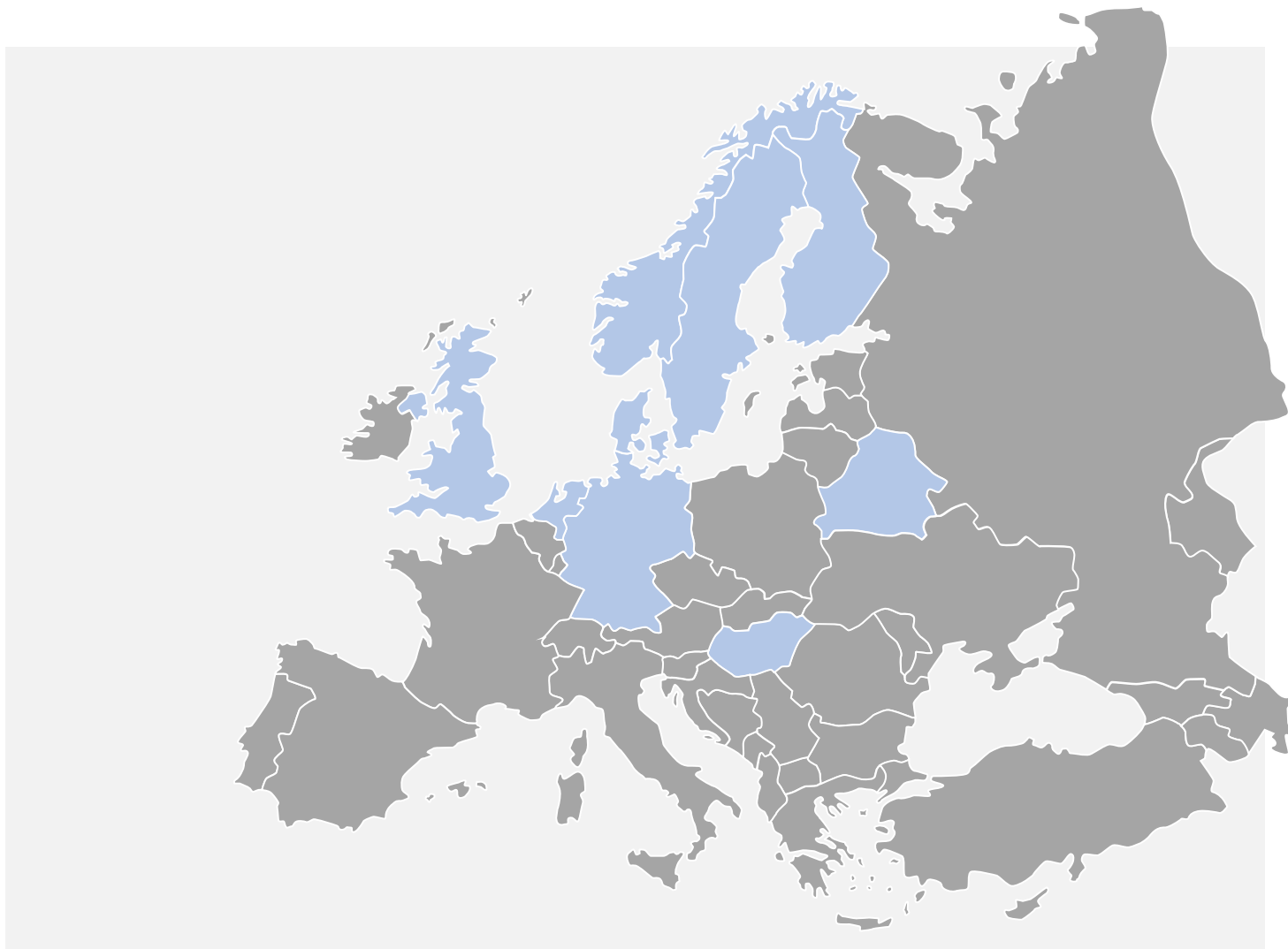
EV share new registration in Europe, source EAFO



# INTERNATIONAL ELECTRIC VEHICLE SYMPOSIUM & EXHIBITION



**proEME**

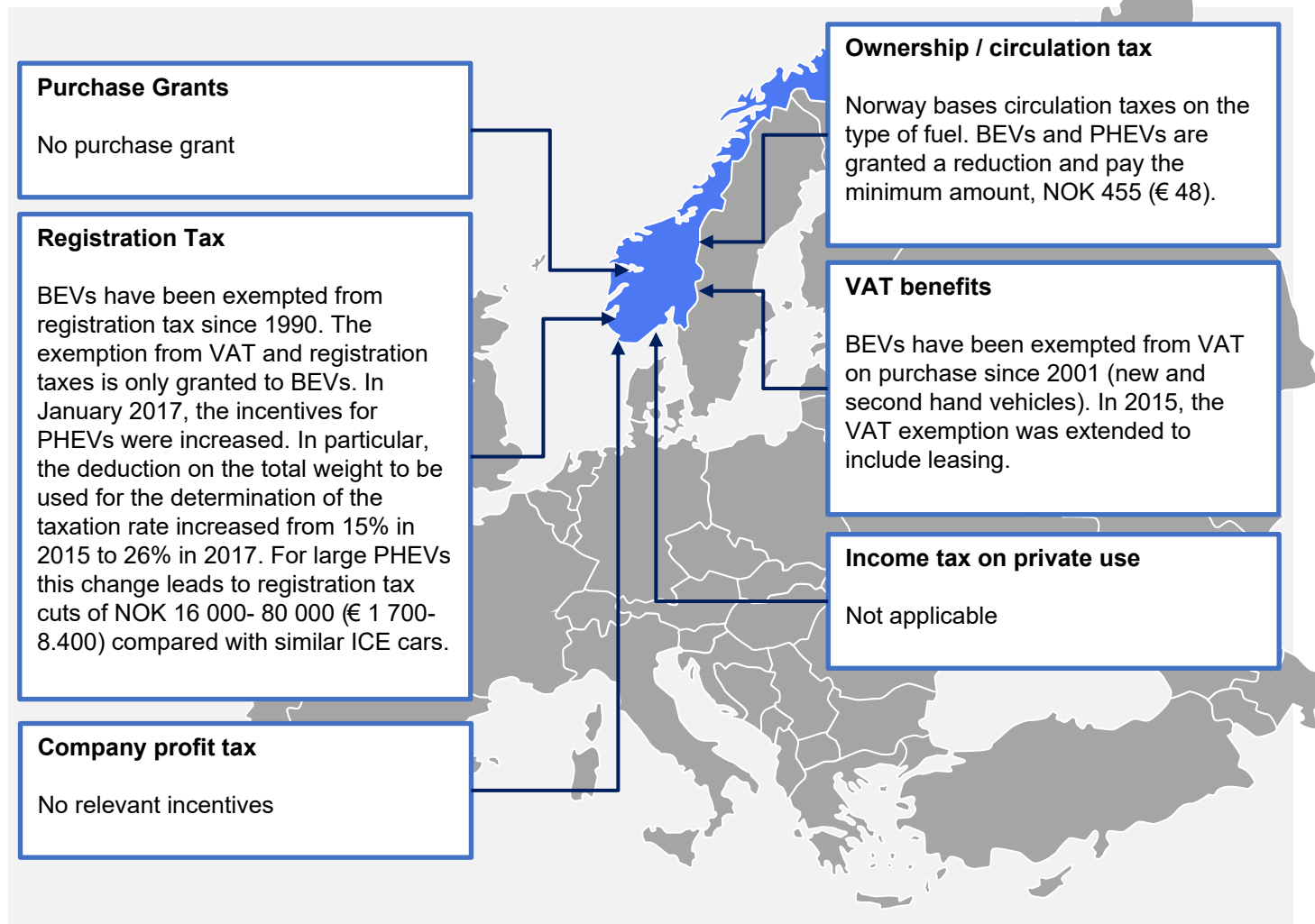




## proEME



Norway as example

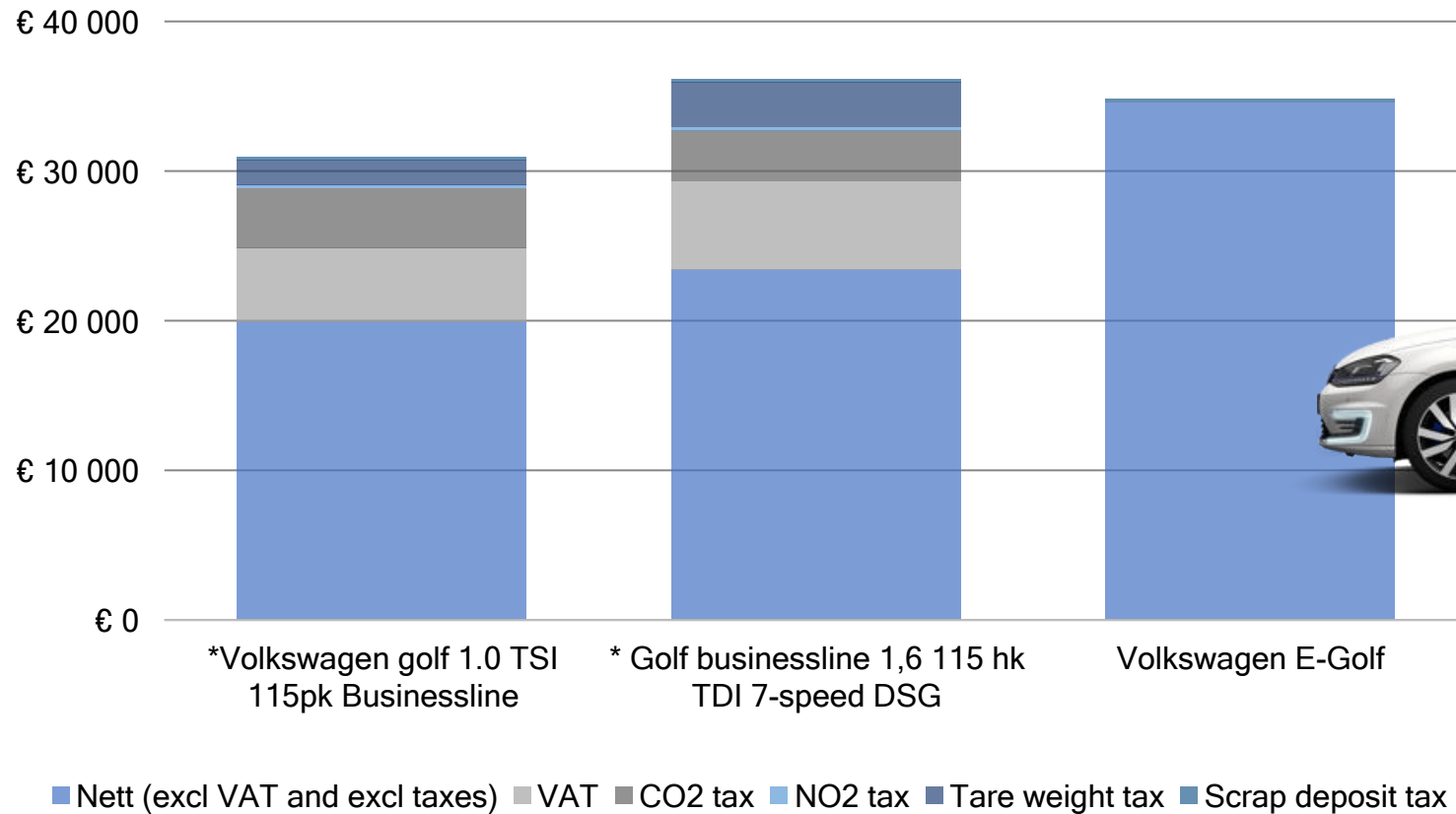


# proEME – Purchase price - private



Norway as example

VW Golf's

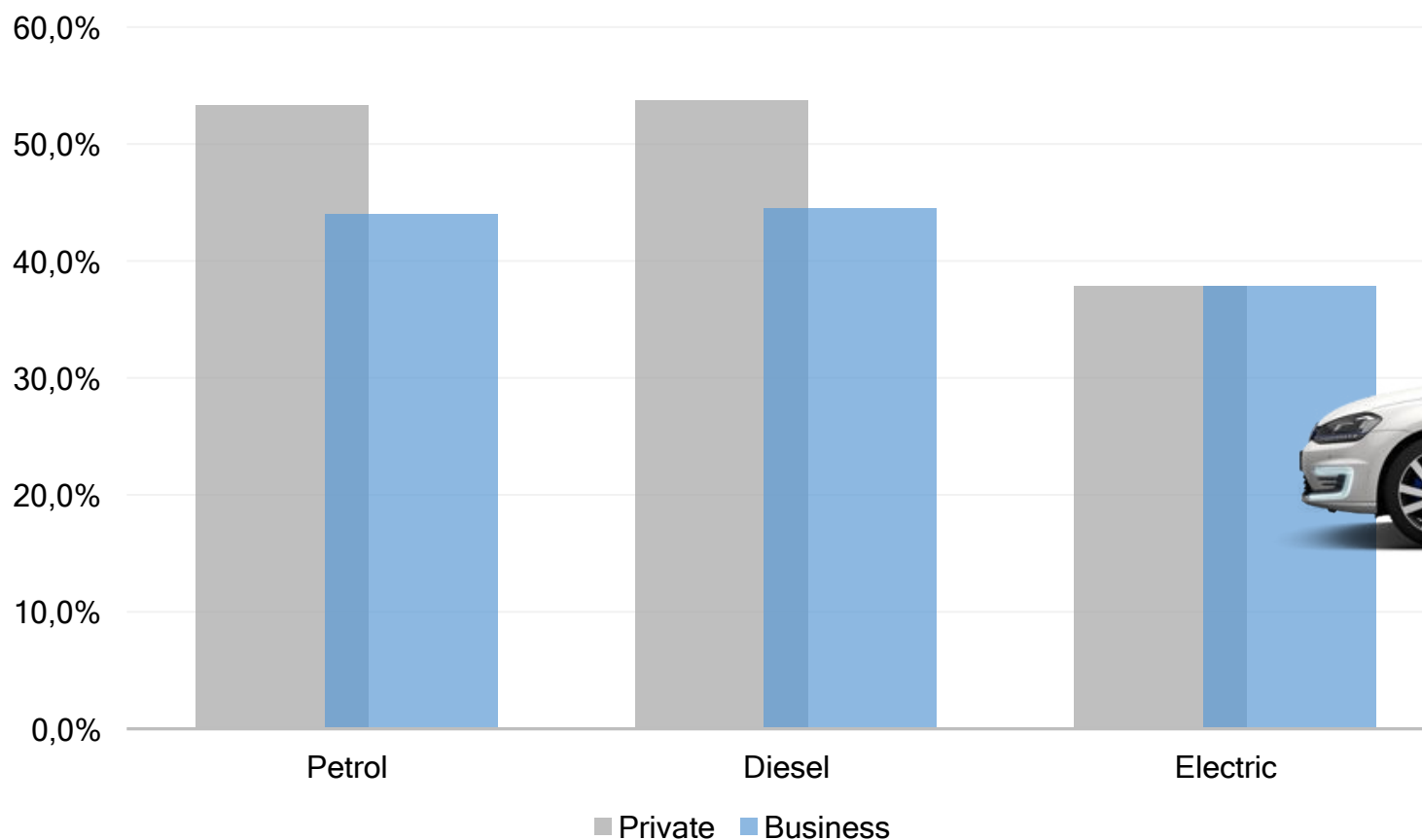


## proEME – Depreciation



Norway as example

VW Golf's  
15.000 per year  
4 year ownership

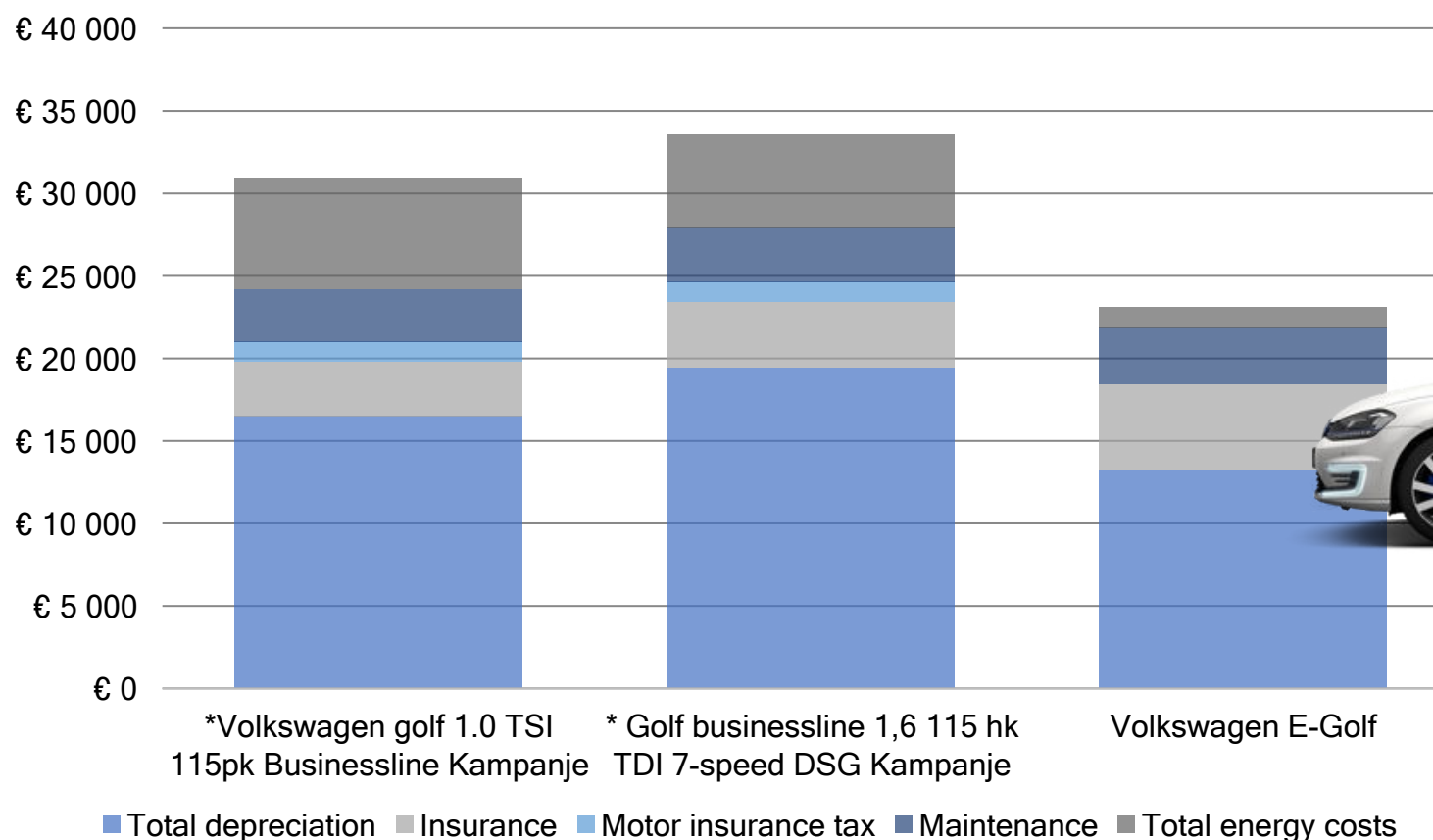


## proEME – TCO Private



Norway as example

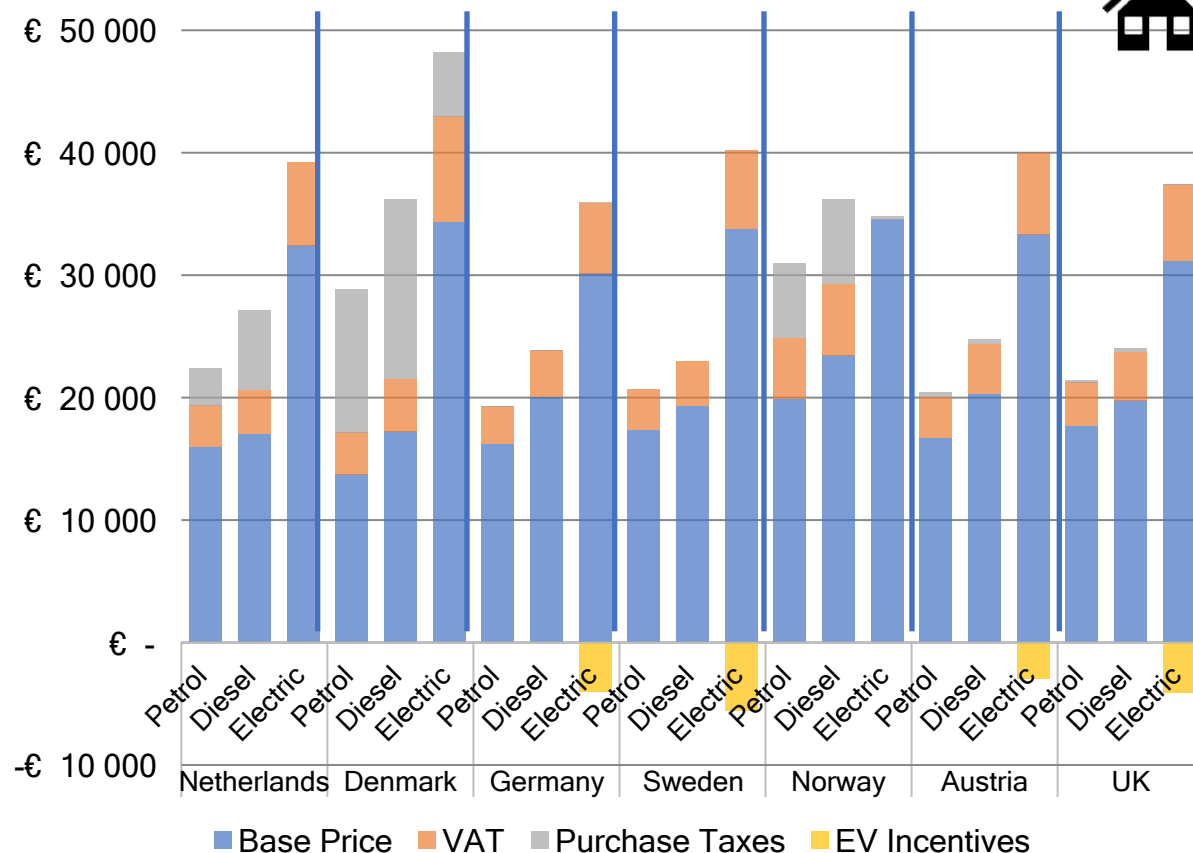
VW Golf's  
15.000 per year  
4 year ownership



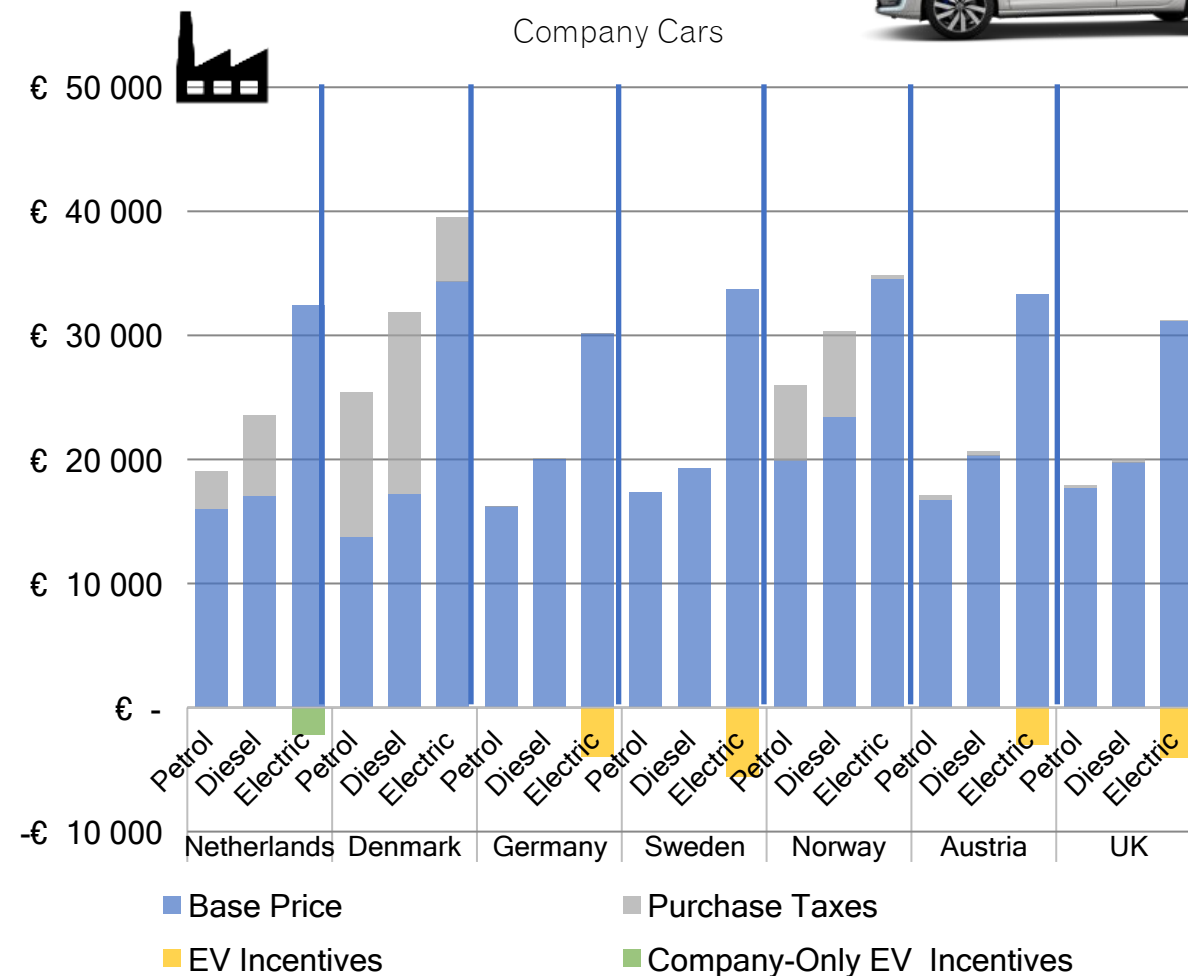


## proEME – Purchase costs

Private Cars



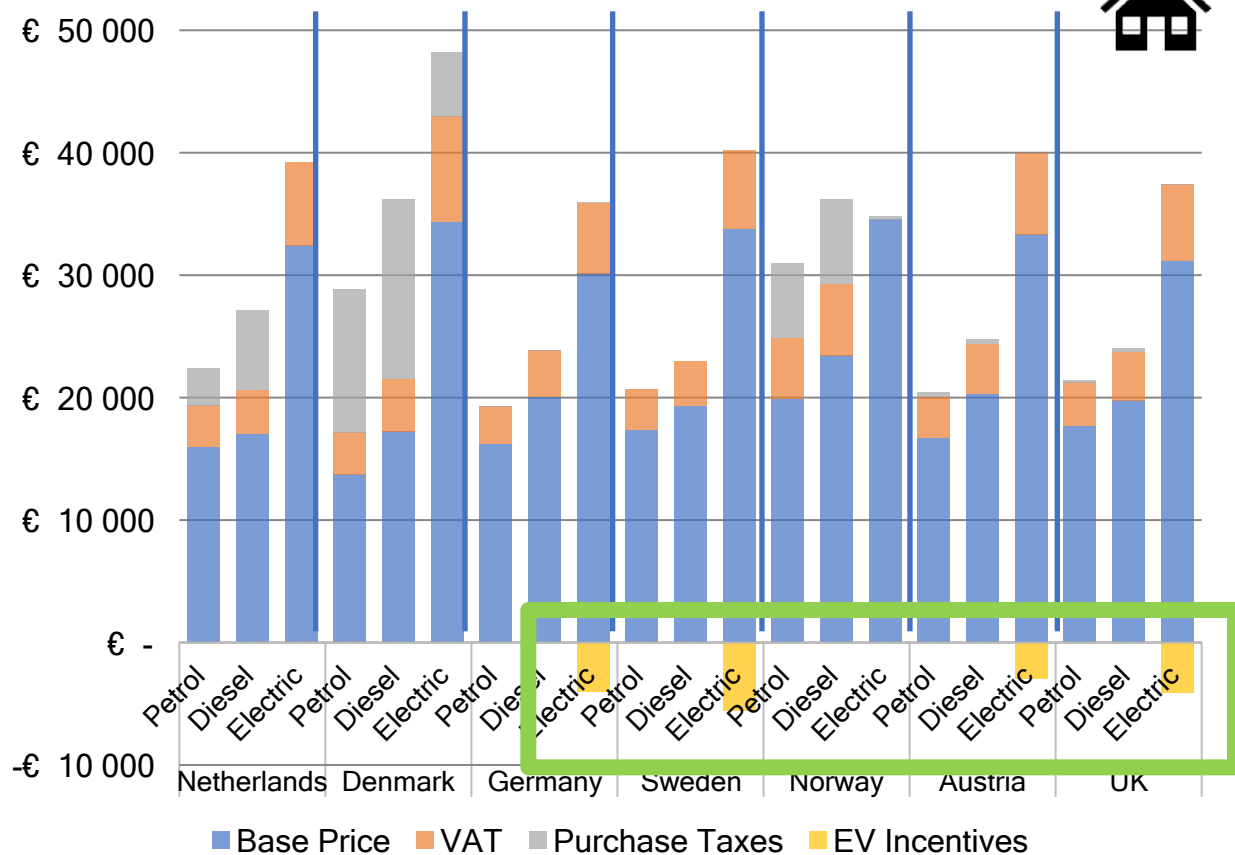
Company Cars



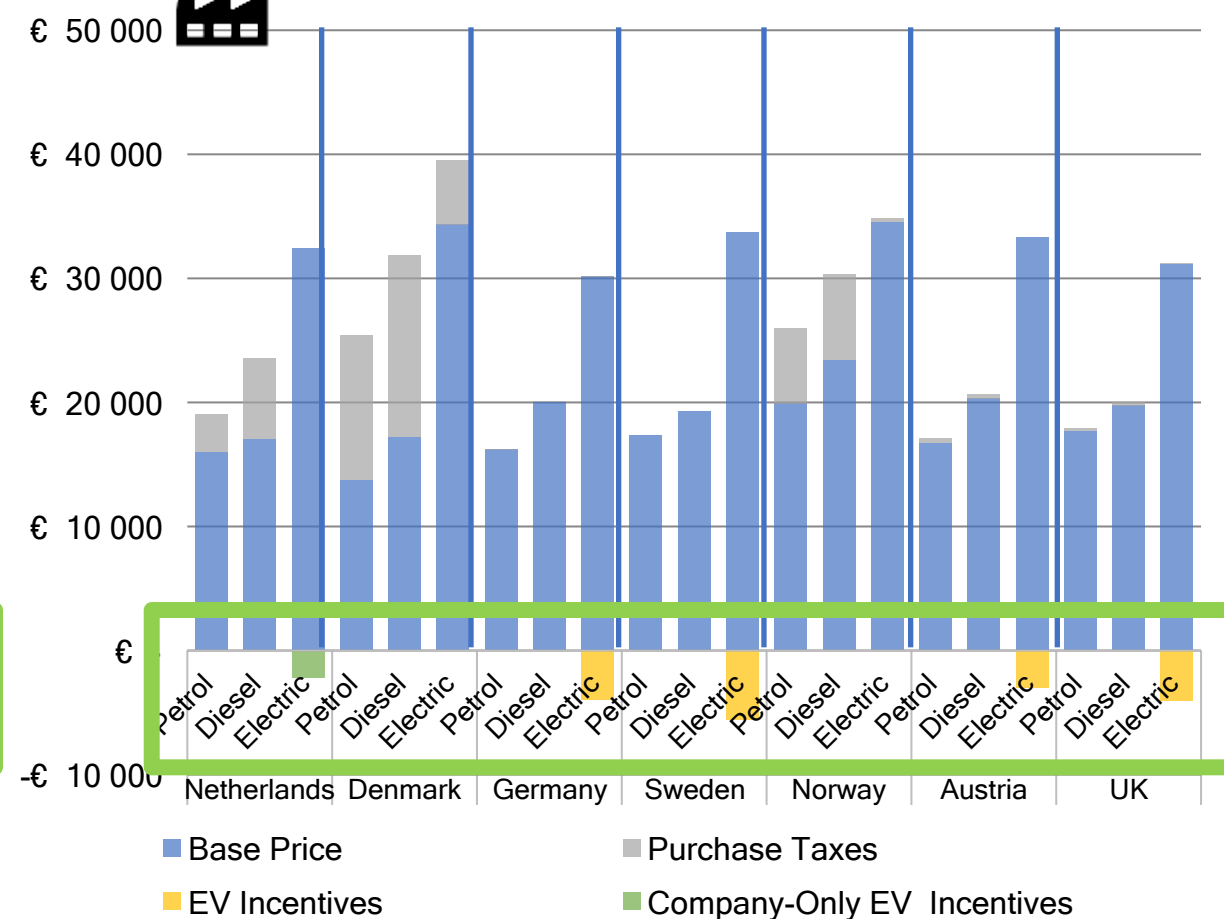


## proEME – Purchase costs

Private Cars



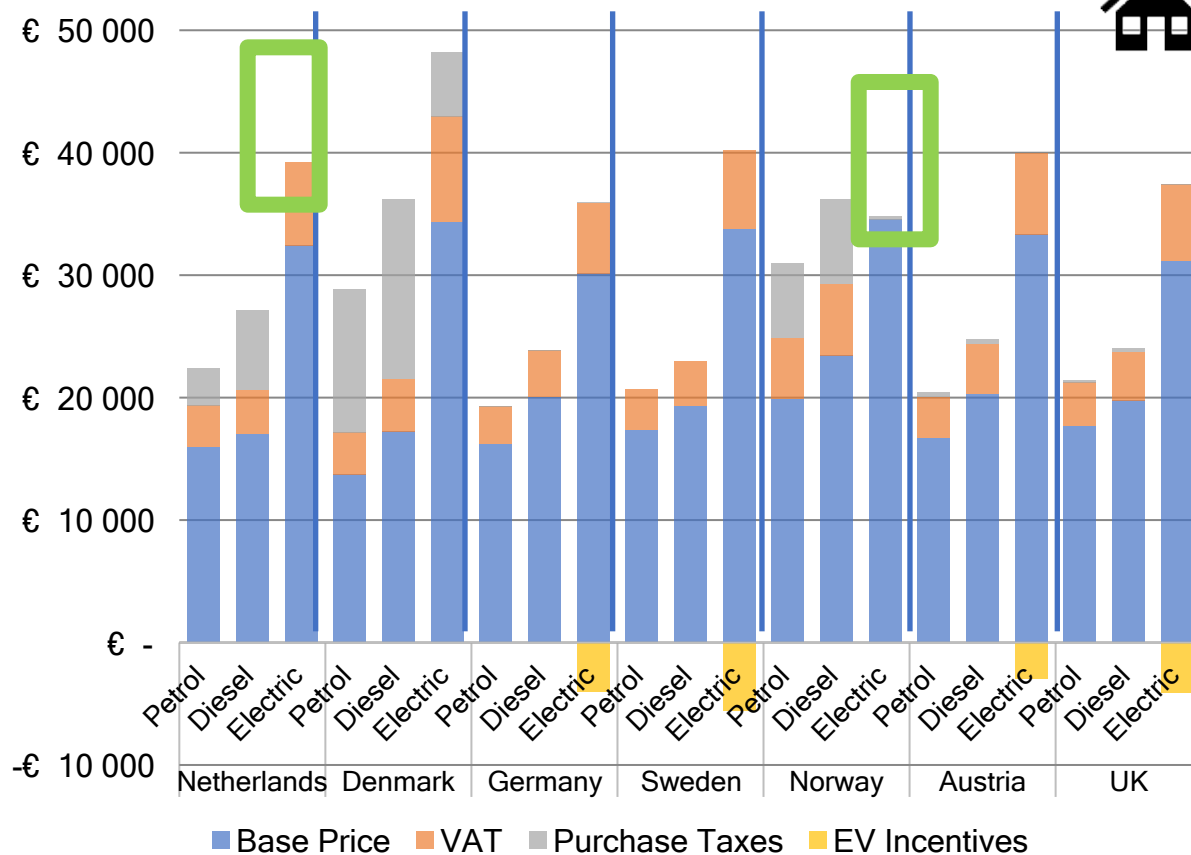
Company Cars



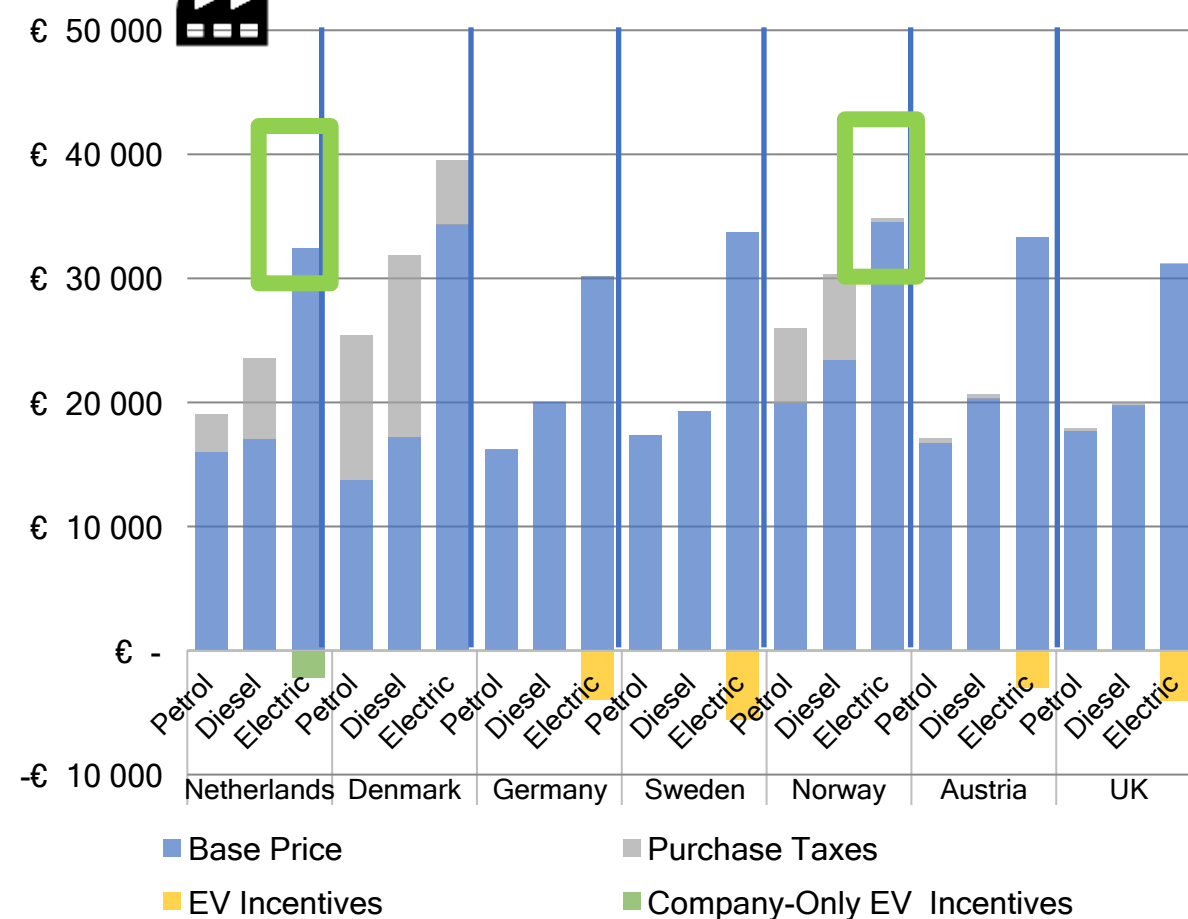


## proEME – Purchase costs

Private Cars



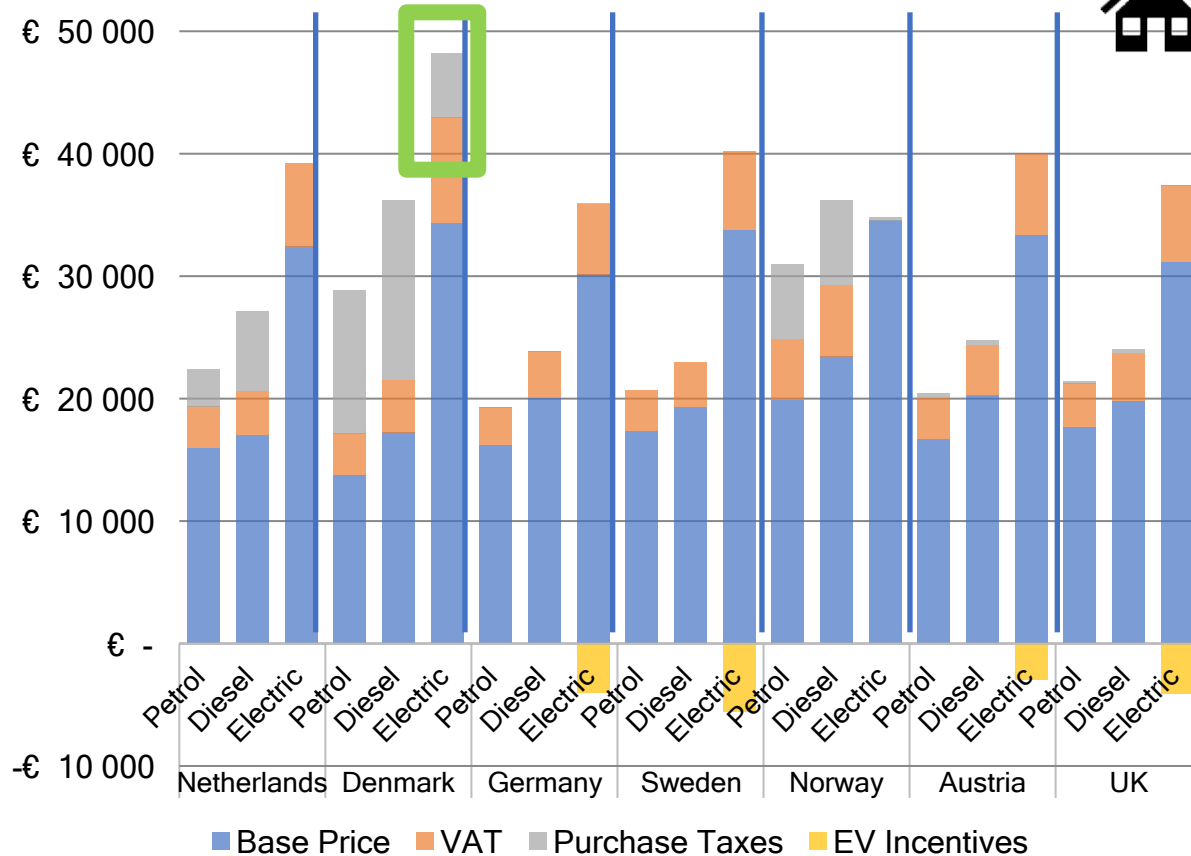
Company Cars



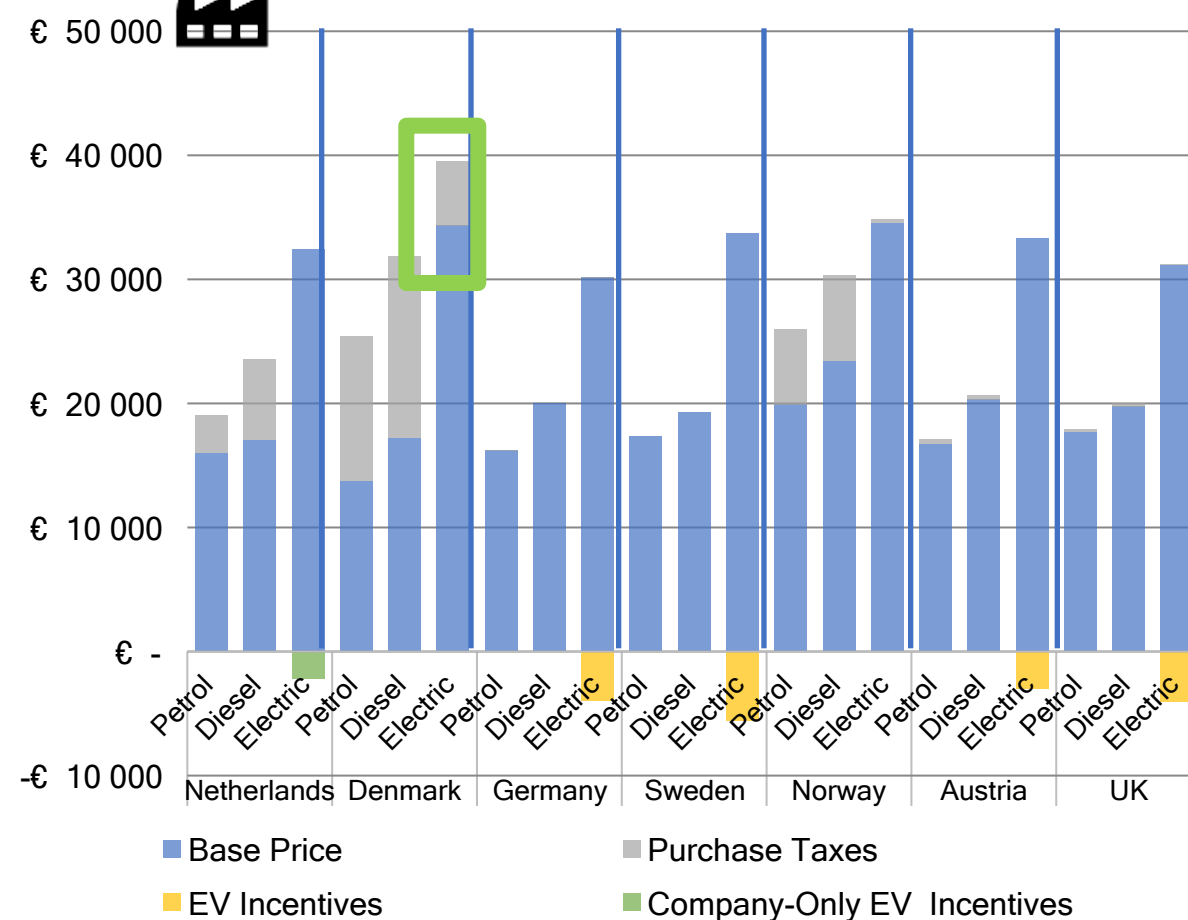


## proEME – Purchase costs

Private Cars



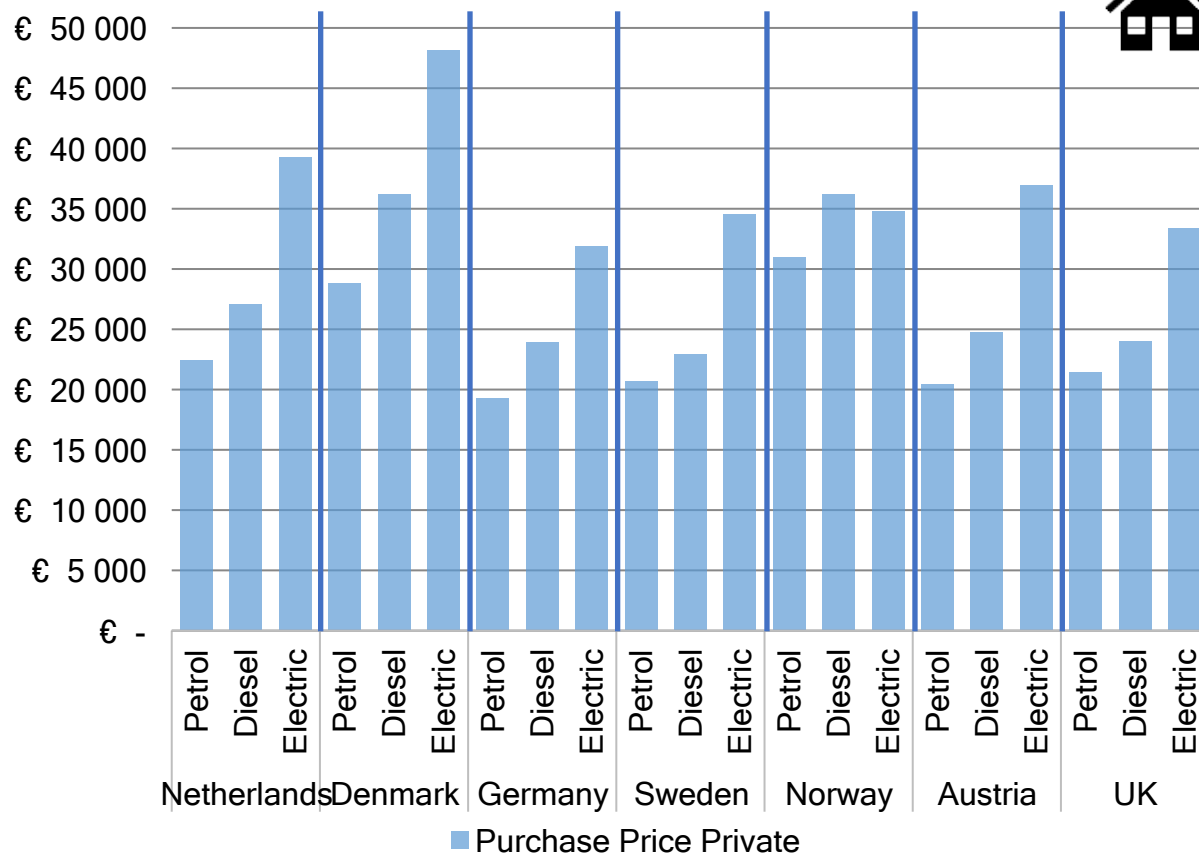
Company Cars



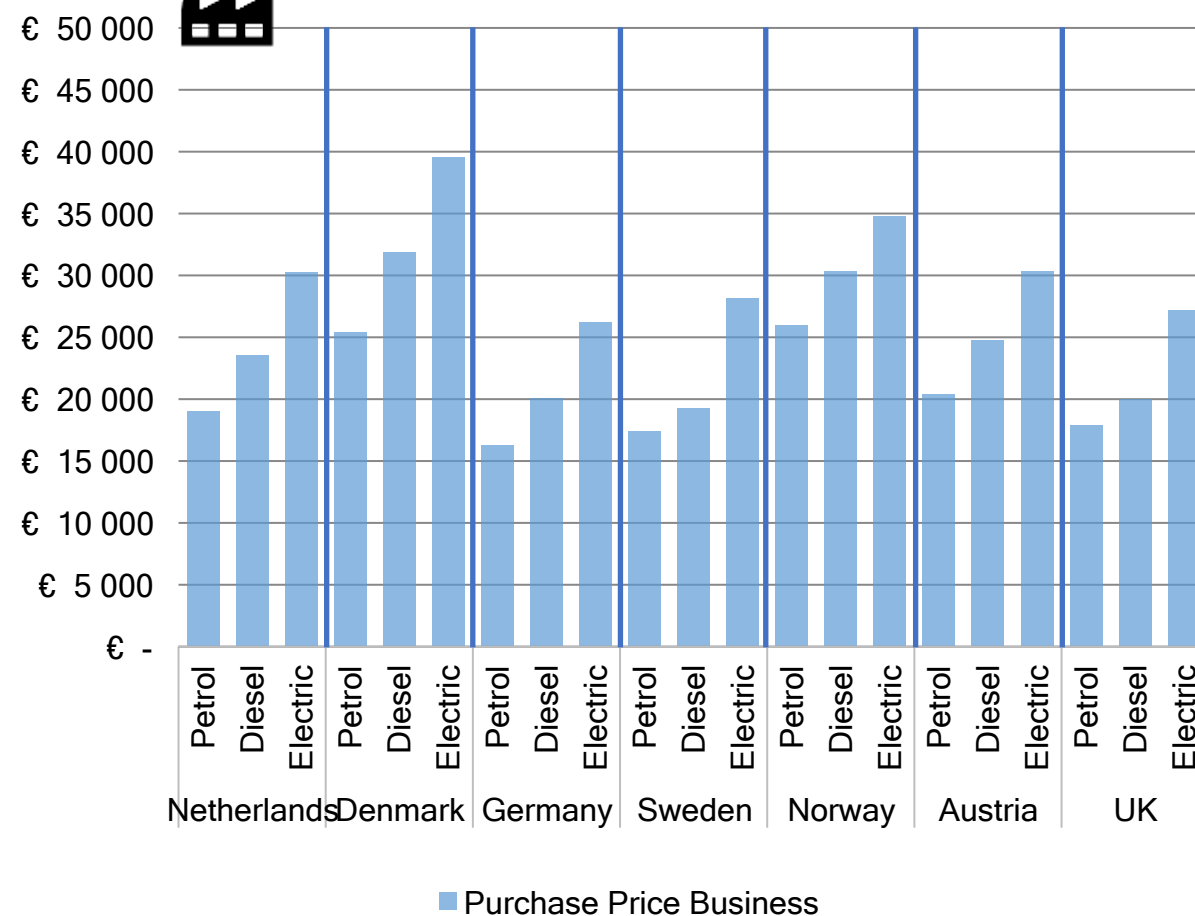


## proEME – Total purchase costs

Private Cars



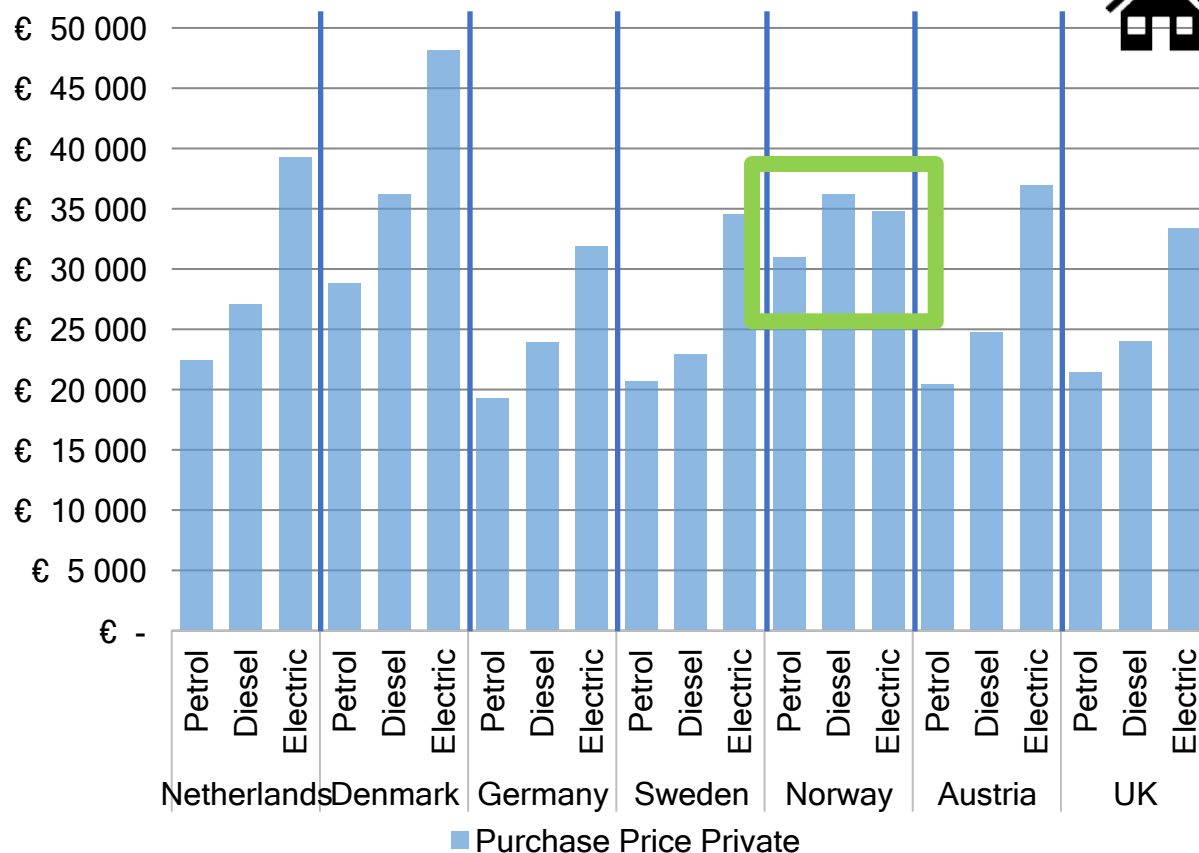
Company Cars



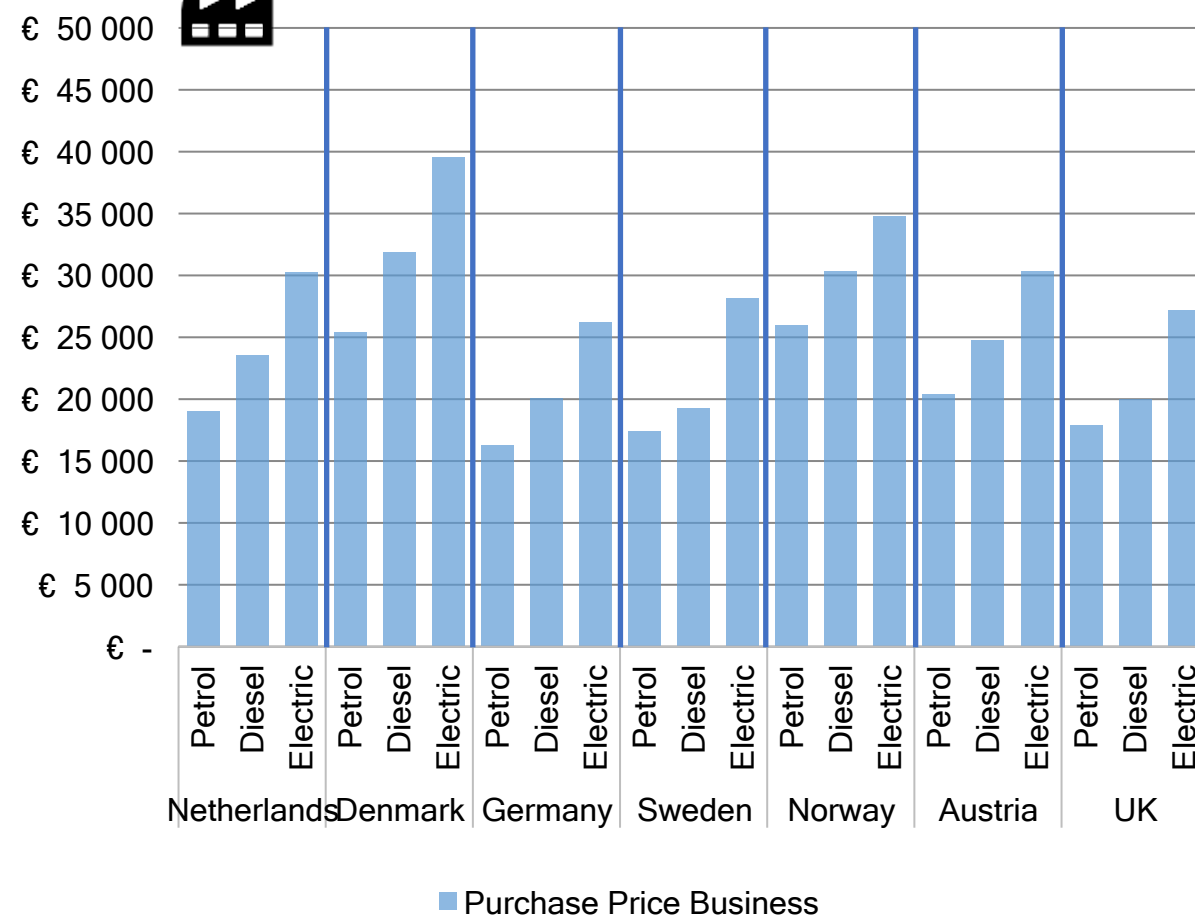


## proEME – Total purchase costs

Private Cars

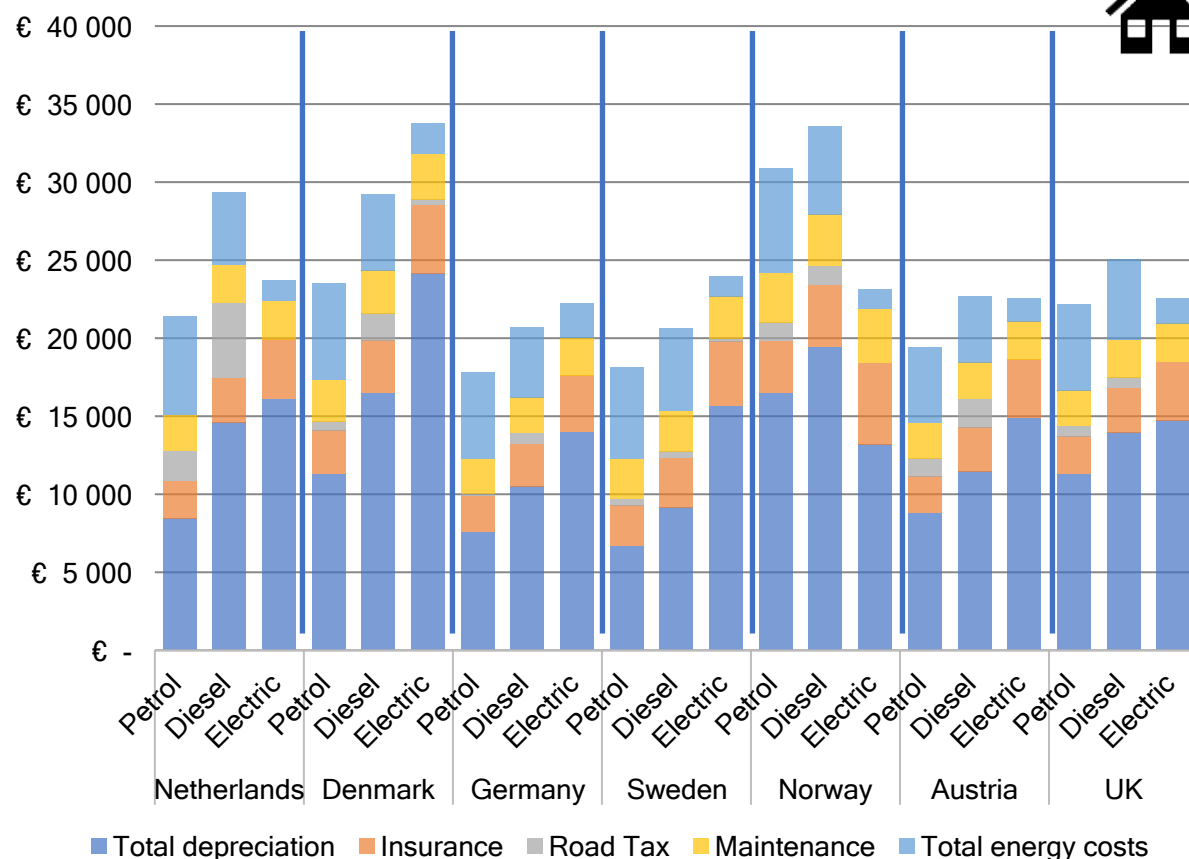


Company Cars

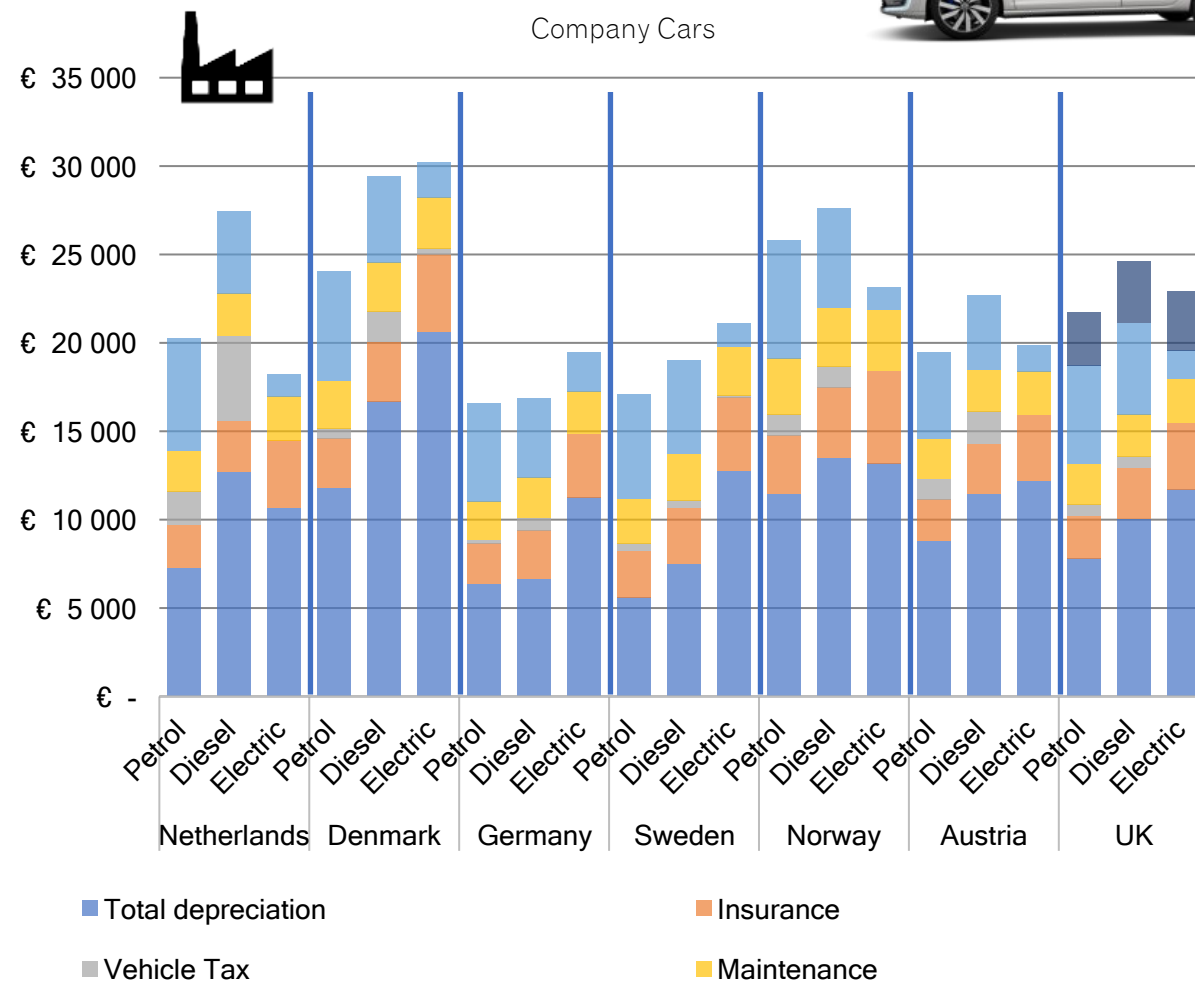


## proEME – TCO

Private Cars



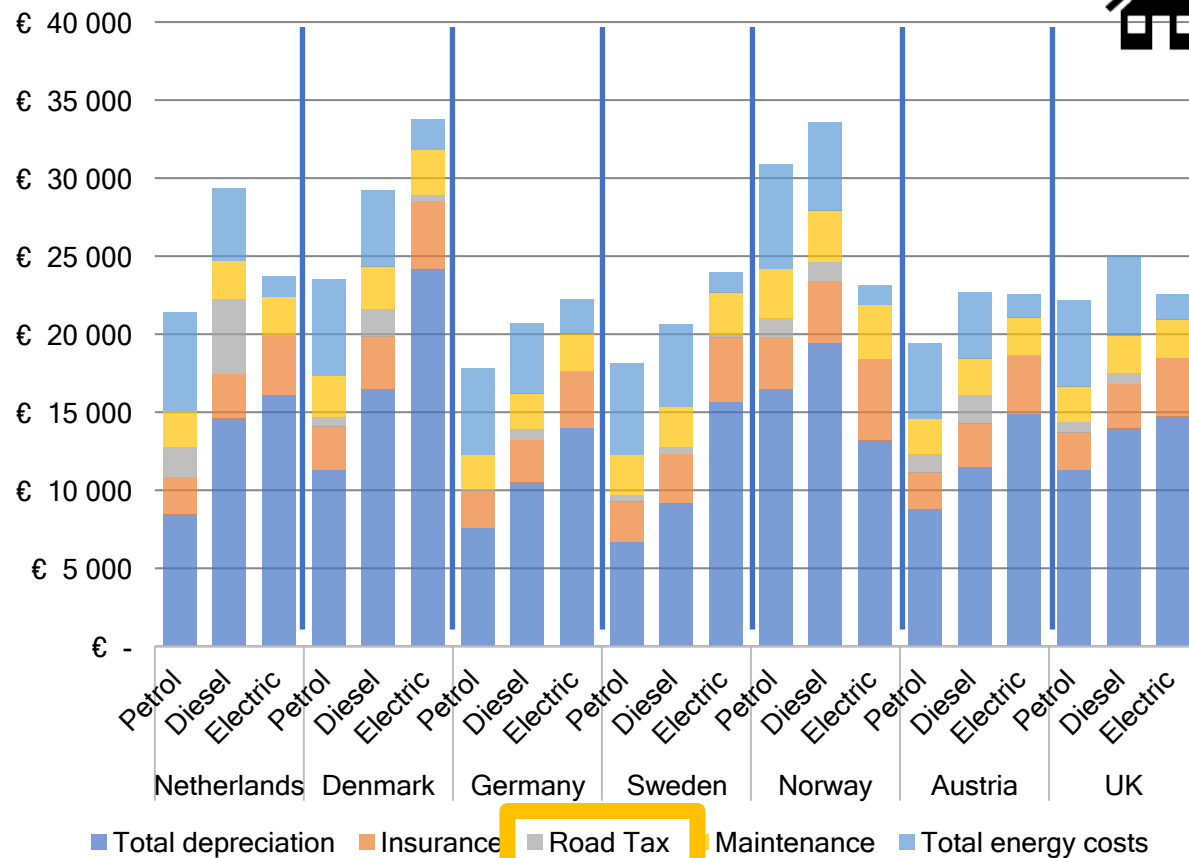
Company Cars



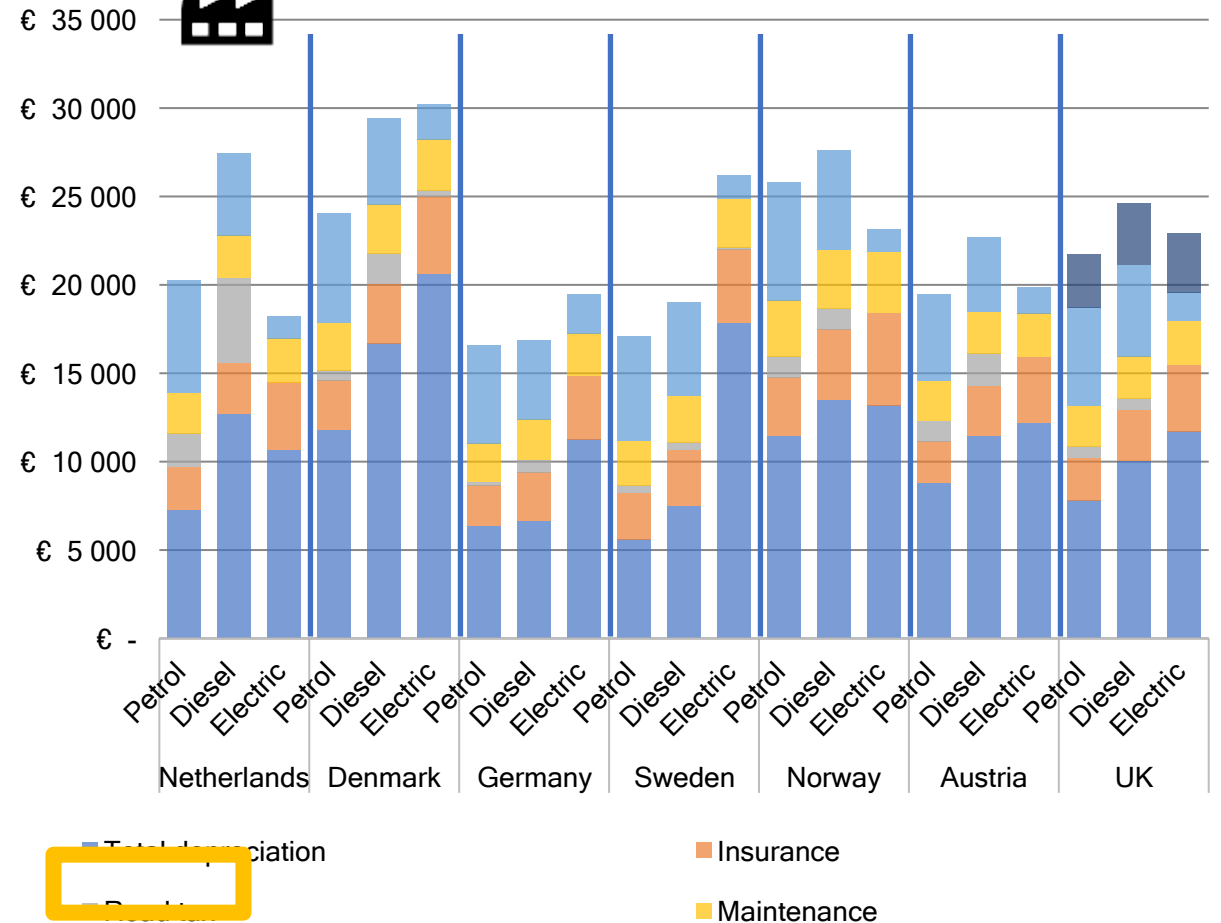


## proEME – TCO

Private Cars



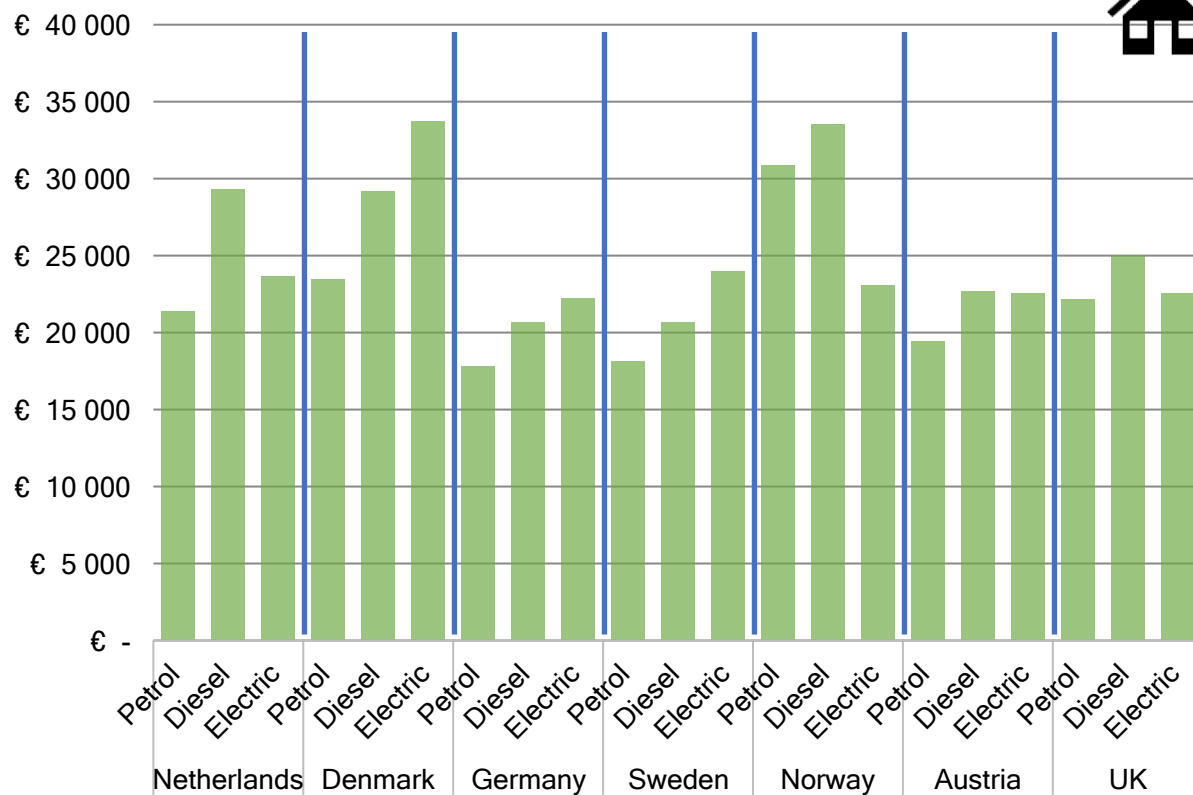
Company Cars



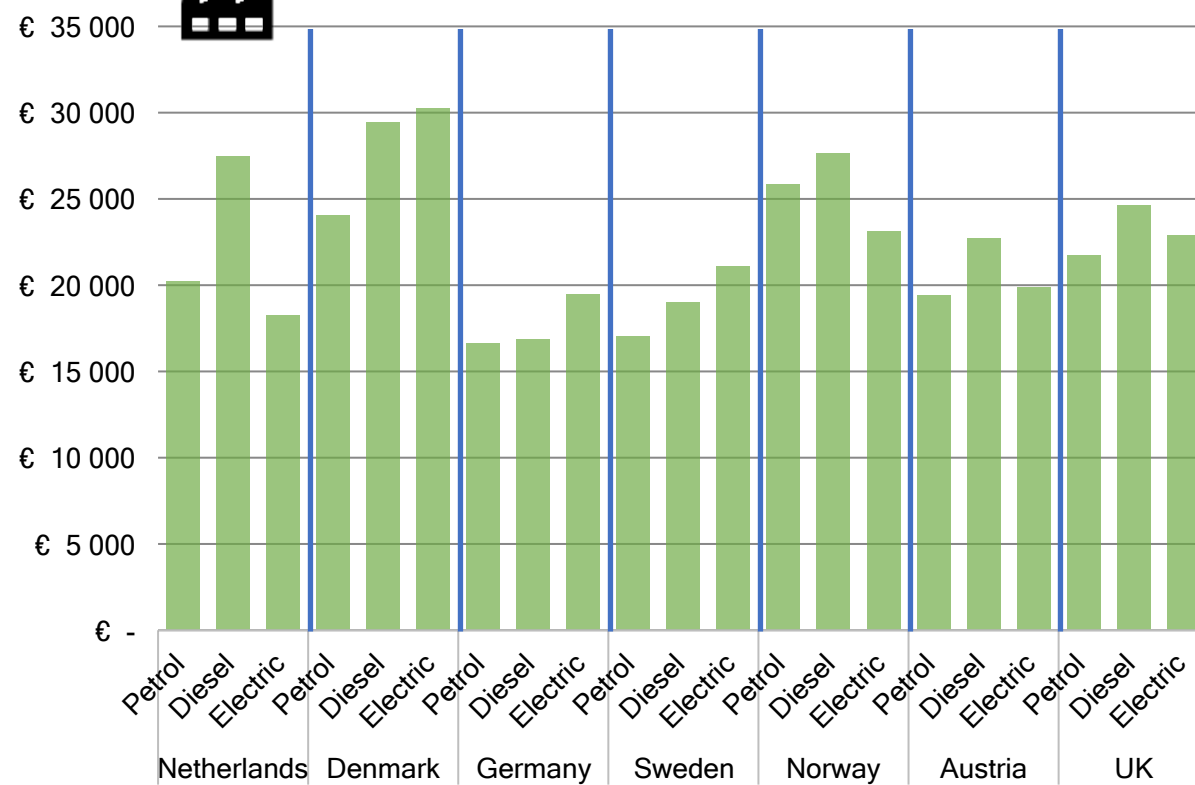


## proEME – TCO

Private Cars

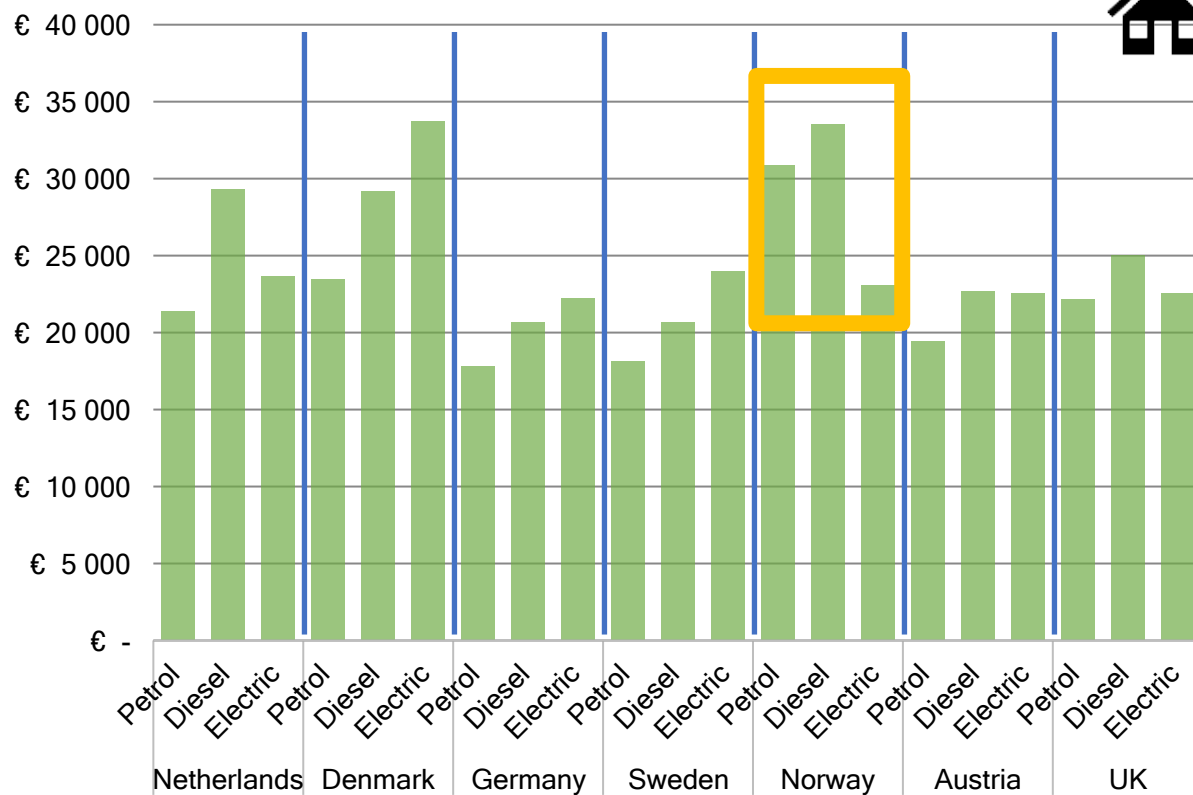


Company Cars

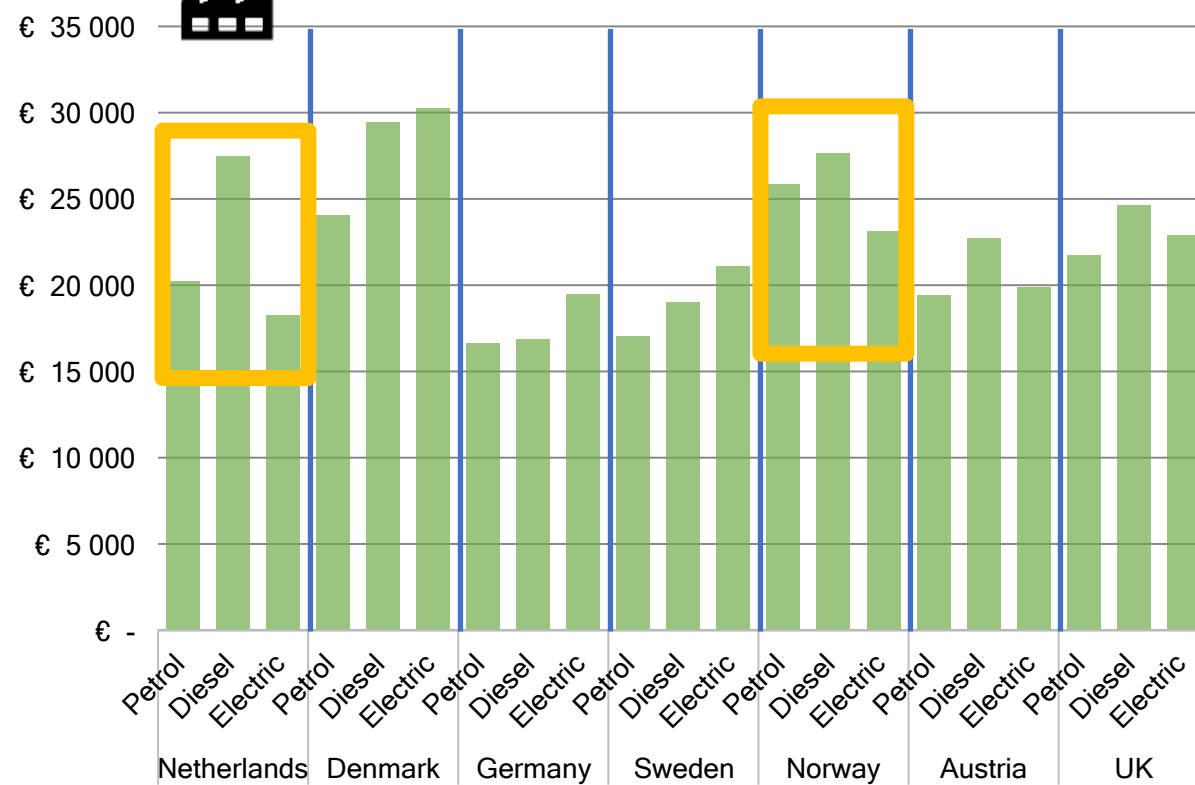


## proEME – TCO

Private Cars



Company Cars

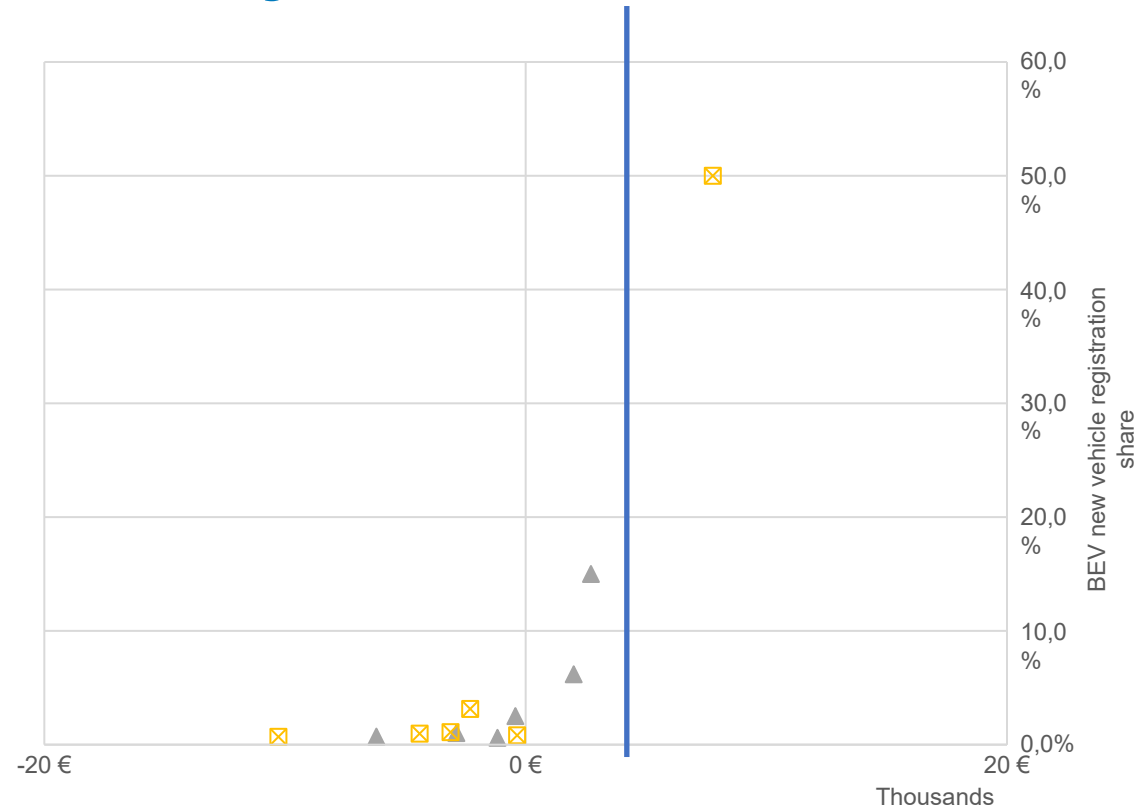




## proEME – Price elasticity

DRAFT version

VW Golf  
15.000 per year  
4 year ownership

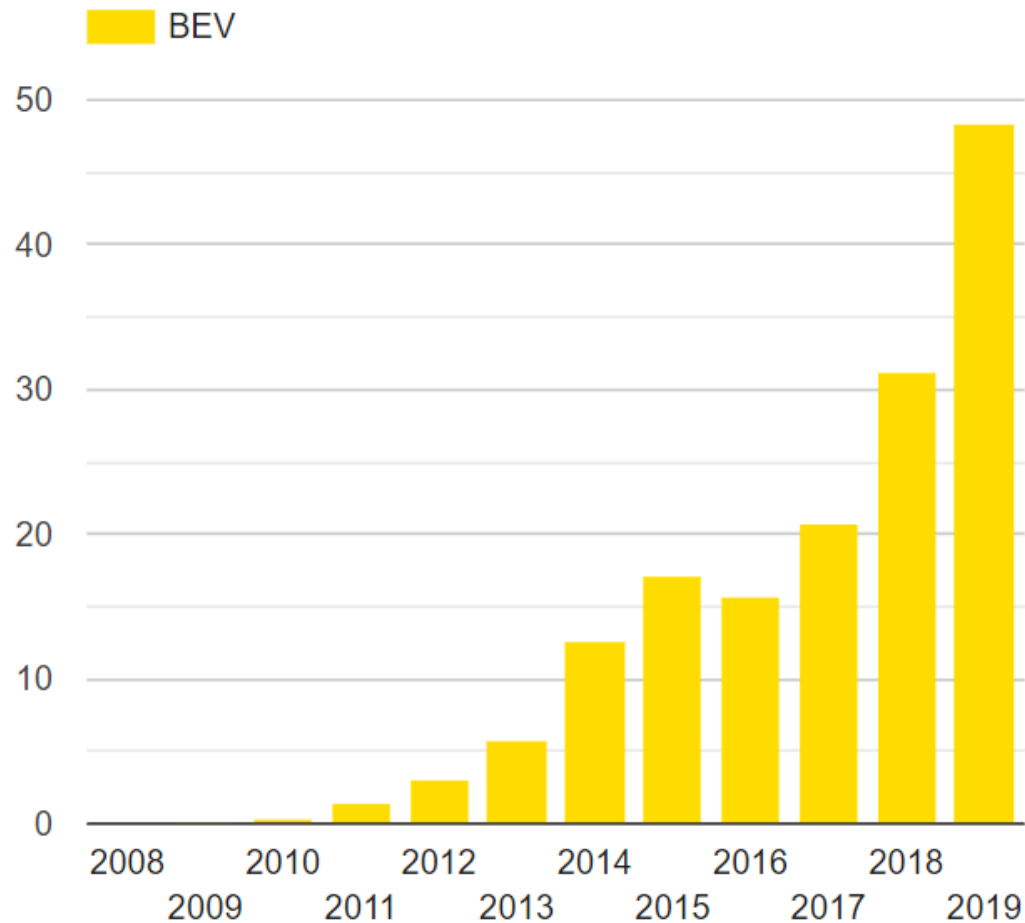


# proEME – Only financial incentives?

BEV market share new registrations (2019)  
Source: EAFO



Norway





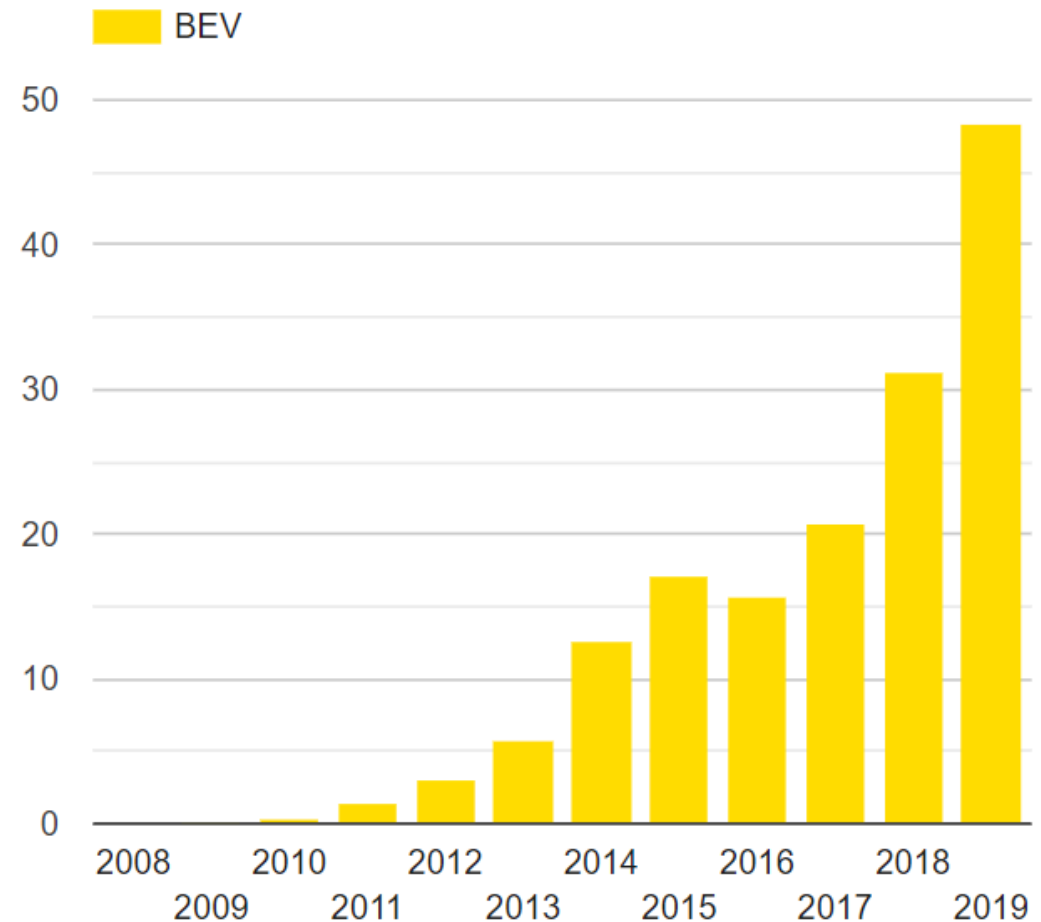
# proEME – Only financial incentives?

BEV market share new registrations (2019)  
Source: EAFO



Norway

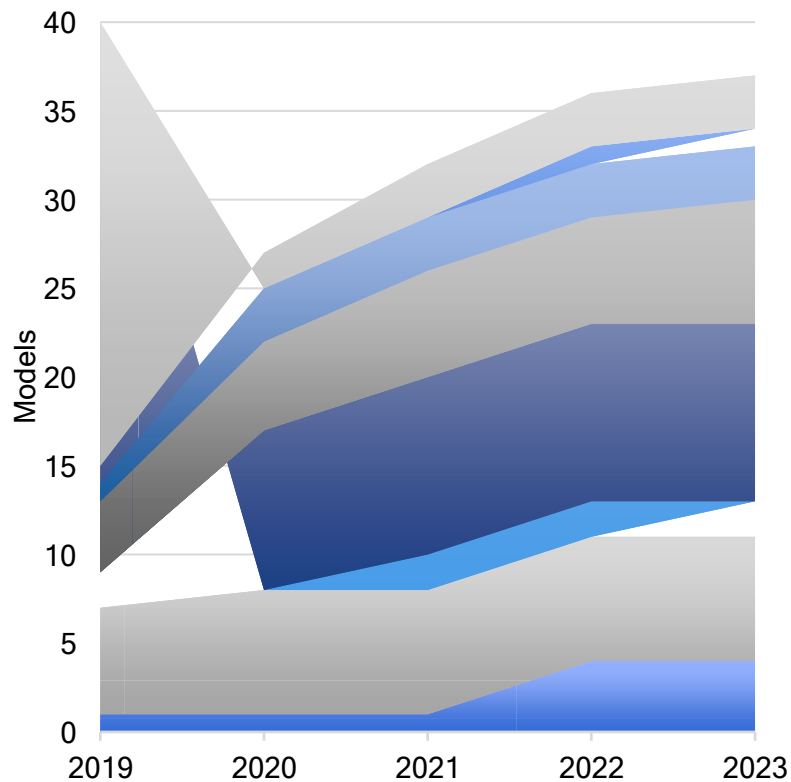
- 1990: No import and purchase taxes
- 1996: Exemption from annual road tax
- 1997-2017: Exemption from road and ferry toll
- 1997-2017: Free municipal parking
- 2000: Reduced company car tax
- 2001: 0% VAT
- 2005: Access to bus lanes



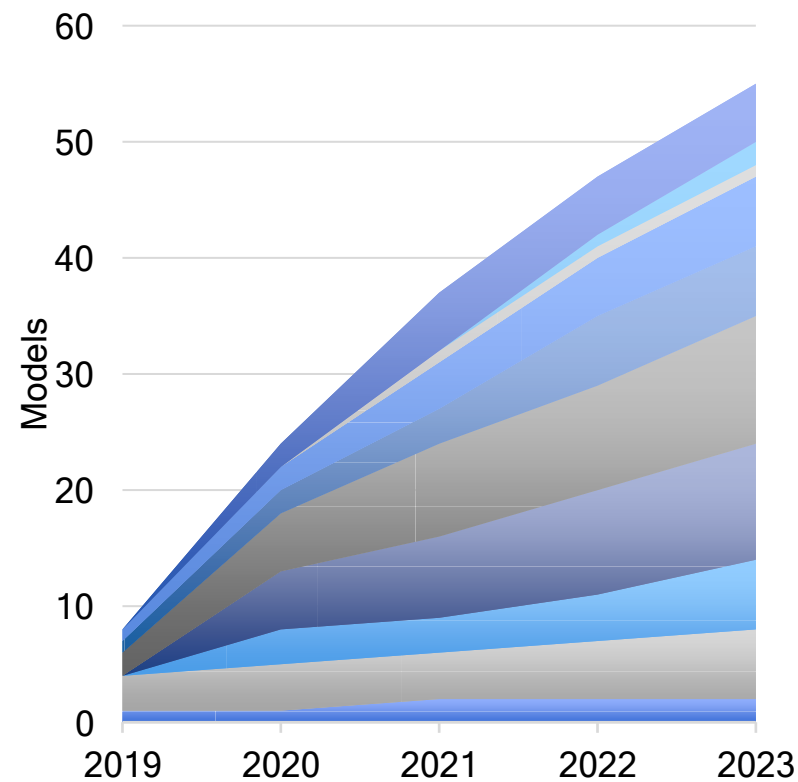
# proEME – Future availability of BEV's

New BEV models cumulative (EU established brands)

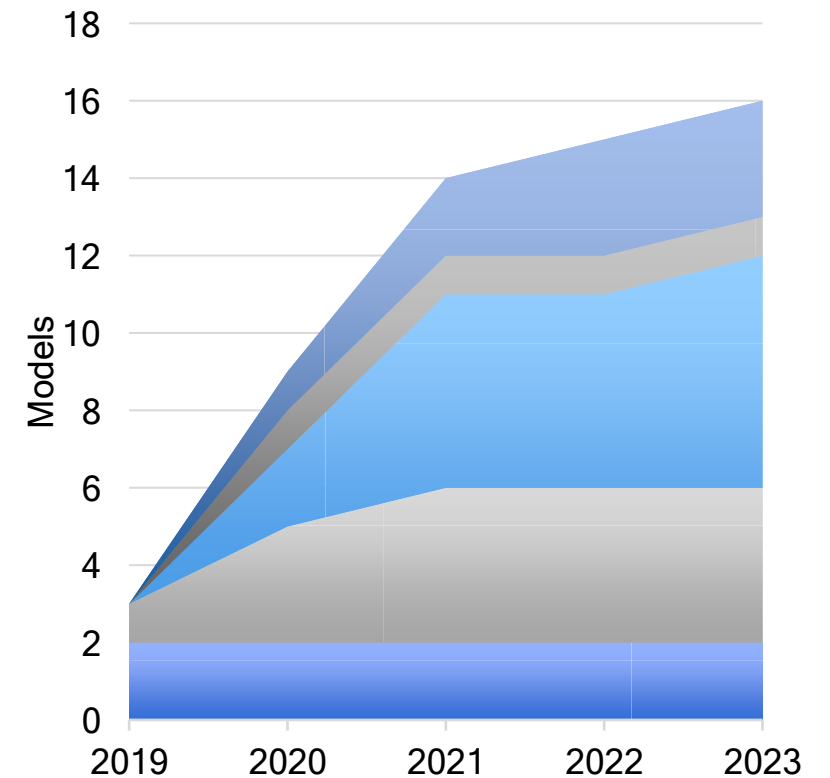
Economy



Premium



Luxury



# proEME – Future availability of BEV's

New BEV models cumulative (EU established brands)

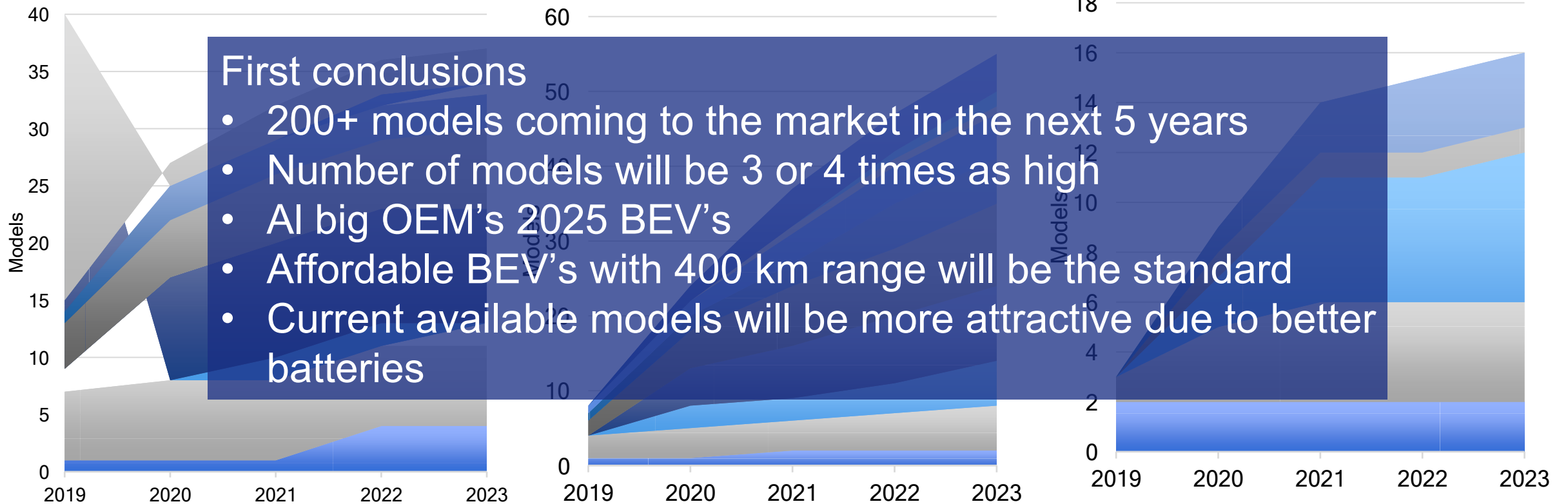
Economy

Premium

Luxury

## First conclusions

- 200+ models coming to the market in the next 5 years
- Number of models will be 3 or 4 times as high
- All big OEM's 2025 BEV's
- Affordable BEV's with 400 km range will be the standard
- Current available models will be more attractive due to better batteries





# INTERNATIONAL ELECTRIC VEHICLE SYMPOSIUM & EXHIBITION



## proEME – Findings

Market share new EV  
grows, relative  
growth is still limited.

Interesting  
differences in  
incentives (business  
vs private)

More taxation on  
regular vehicles,  
more steering from  
government



# INTERNATIONAL ELECTRIC VEHICLE SYMPOSIUM & EXHIBITION



## proEME – Findings

Market share new EV  
grows, relative  
growth is still limited.

Interesting  
differences in  
incentives (business  
vs private)

More taxation on  
regular vehicles,  
more steering from  
government

Incentives →  
favourable TCO's =  
better uptake

Threshold where the  
sales of BEV's will  
show progressive  
uptake

Large & visible policy  
for EV's priorities



## proEME – Findings

Market share new EV  
grows, relative  
growth is still limited.

Interesting  
differences in  
incentives (business  
vs private)

More taxation on  
regular vehicles,  
more steering from  
government

Incentives →  
favourable TCO's =  
better uptake

Threshold where the  
sales of BEV's will  
show progressive  
uptake

Large & visible policy  
for EV's priorities

Consistency and long  
-term stability appear  
to be crucial

Understanding of  
incentives

Impact of incentives  
depends on BEV  
availability



# INTERNATIONAL ELECTRIC VEHICLE SYMPOSIUM & EXHIBITION



# Thank you for your attention!

Rob Kroon  
[rkroon@fier.net](mailto:rkroon@fier.net)



UNIVERSITY  
OF TWENTE.



EMEurope is co-funded by the European Commission as part of the ERA-NET Confund scheme under Horizon 2020 Programme for EU funding programme for research and innovation under grant agreement no. 723977.