Analysis of the passenger car market in various EU Member States

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"Ensuring social inclusiveness"
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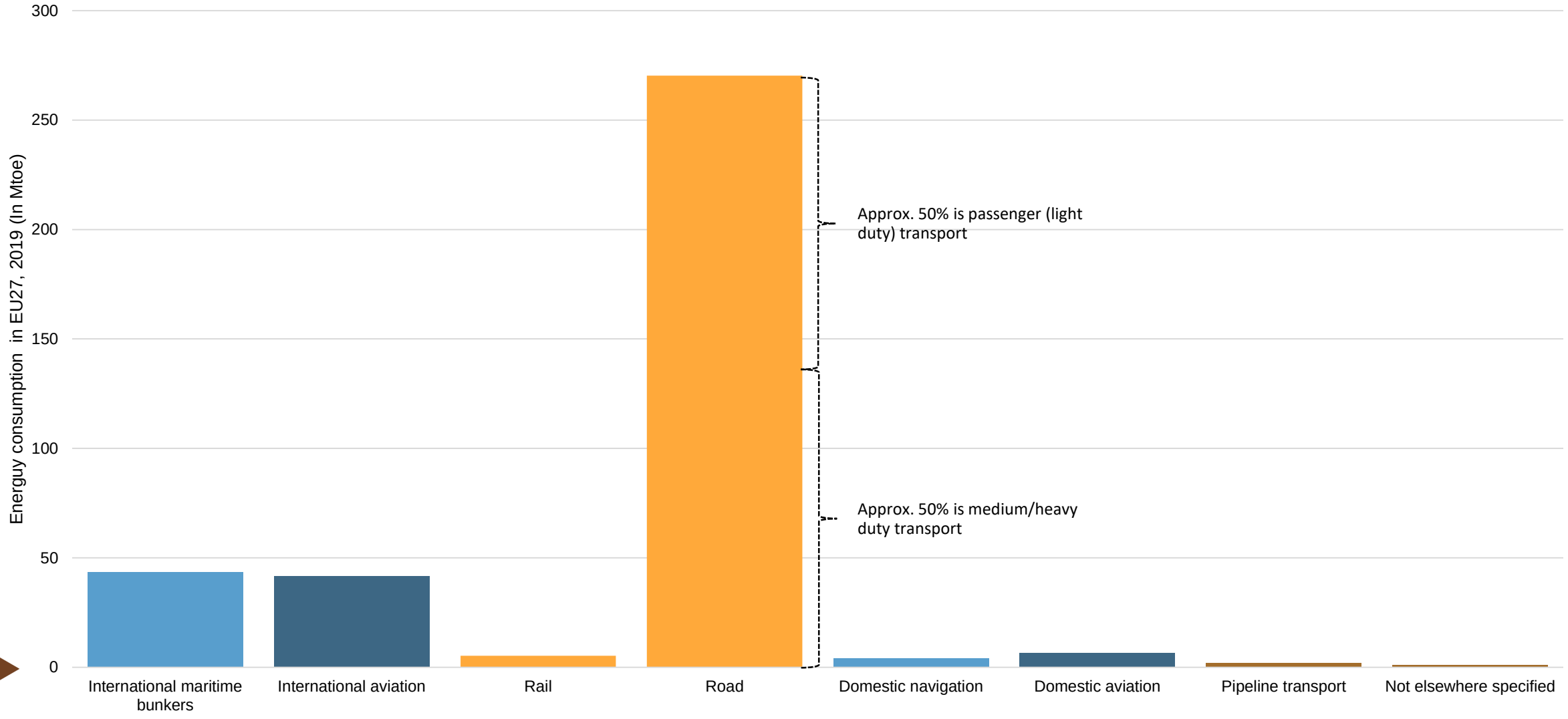
In the total energy consumption of all transport segments the road segment has by far the largest share in Europe



Source: Eurostat, (Complete Energy Balance, 2021)

Reference to Panoutsou's presentation on 8th June on biomass availability for transport

Sustainable bio-feedstock Availability in the EU: A Look into Different Scenarios towards 2050

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Imperial College London Consultants

Concawe

Conclusions

What is the sustainable biomass availability (2030/2050) with no impact on biodiversity?

- Many different publications providing different ranges with not always transparent assumptions
- Concawe has commissioned a study with Imperial College. Main results:
  - ✓ Total EU potential sustainable biomass availability (agriculture, forestry and biowastes) for all sectors of 392-533 Mtoe/y (low-high scenario) by 2030/2050.
  - ✓ Allocation to bioenergy sector of 208-366 Mtoe/y (low-high scenario) by 2030/2050.
  - ✓ These results show the total bioenergy sector, as competition in bioenergy sectors (power, industry, residential, transport) have not been explored in detail.
  - ✓ The European Commission (A Clean Planet for all, Impact Assessment) is allocating ~120-170 Mtoe/y (2030/2050) of the bioenergy to power + industry + residential sectors. This means that, even with EU COM power allocation, there is a potential of 88- 196 Mtoe/y of biomass for transport sector in 2050.
- To realise this potential, additional R&D would be required as well as the implementation of improvement management strategies. Even if the potential is there, supply chains would need to be developed to mobilise all these resources.
- Concawe will use this estimate to support our assessment on the potential deployment of low carbon fuels in the transport sector towards 2050.

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Assuming a 50% conversion factor to final biofuel, this waste and residue base represents approx. **45 – 100 Mtoe** equivalent amount of biofuels

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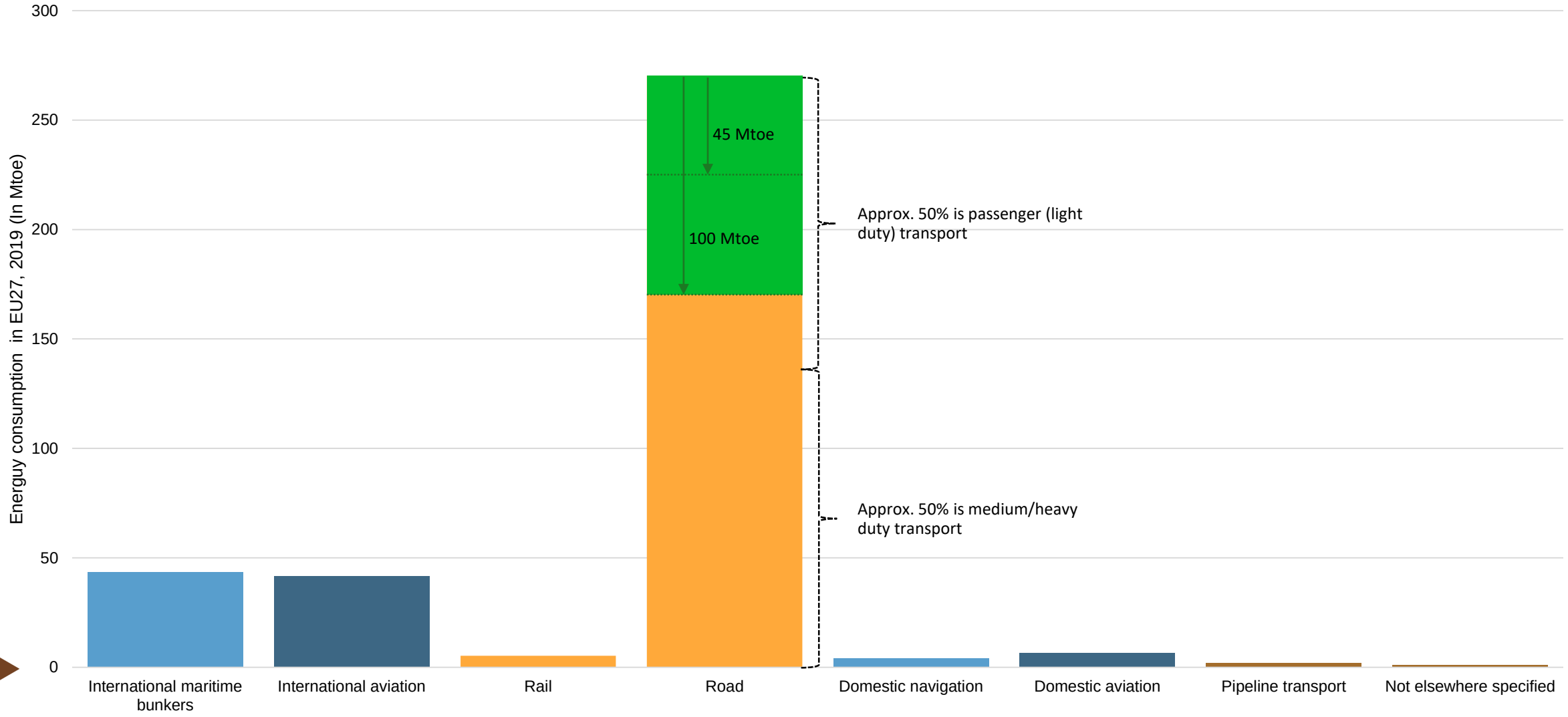
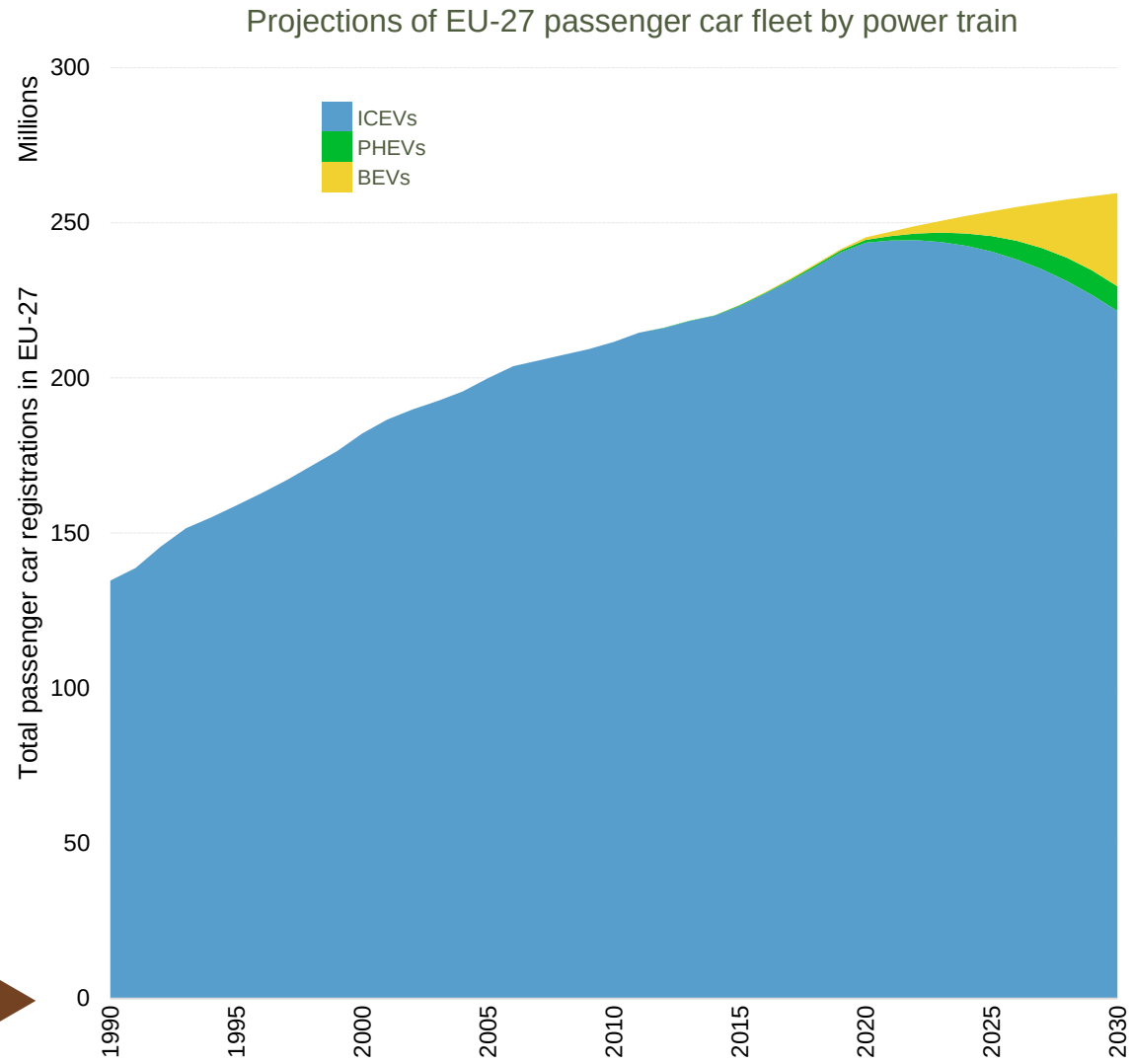
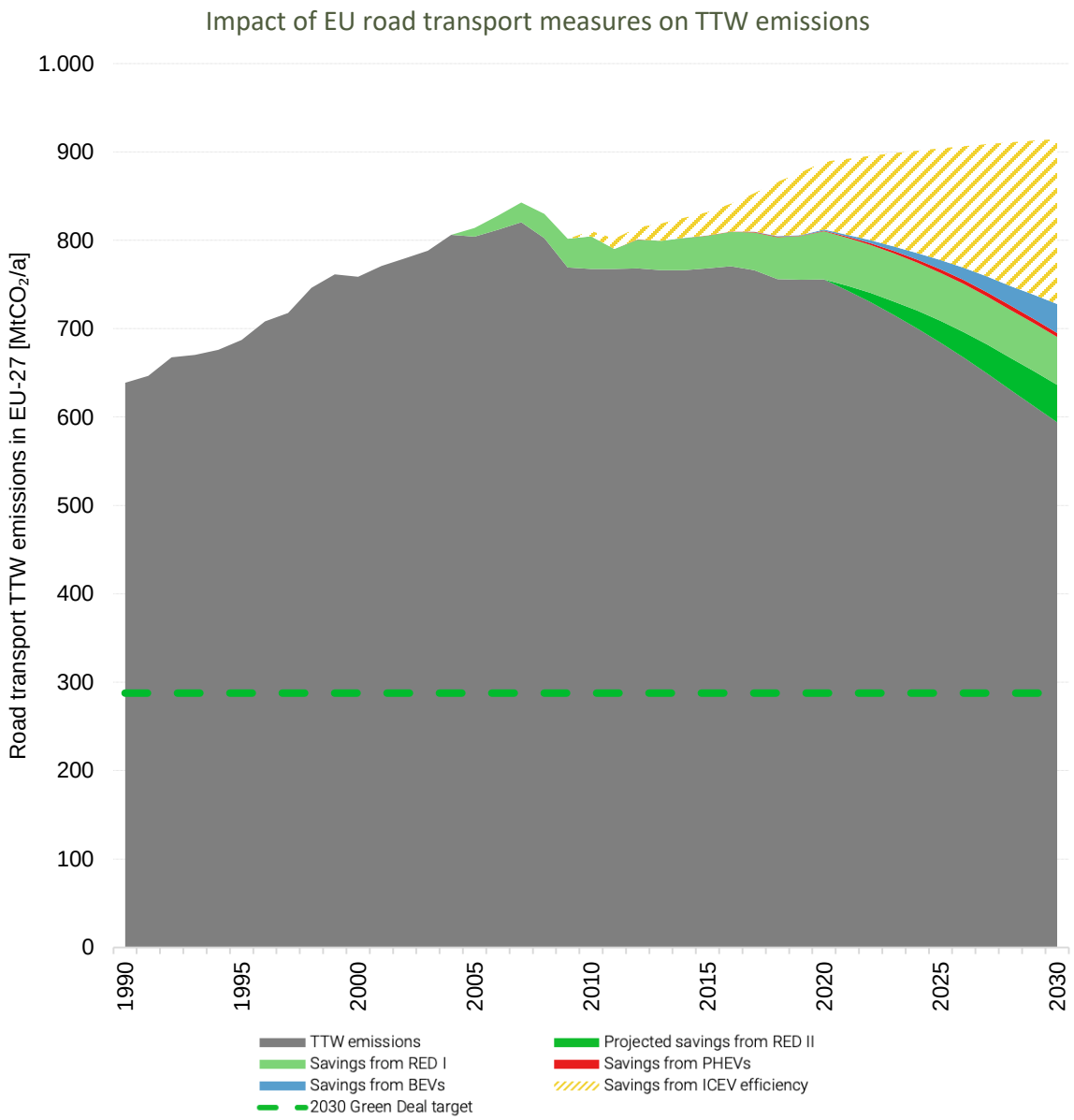


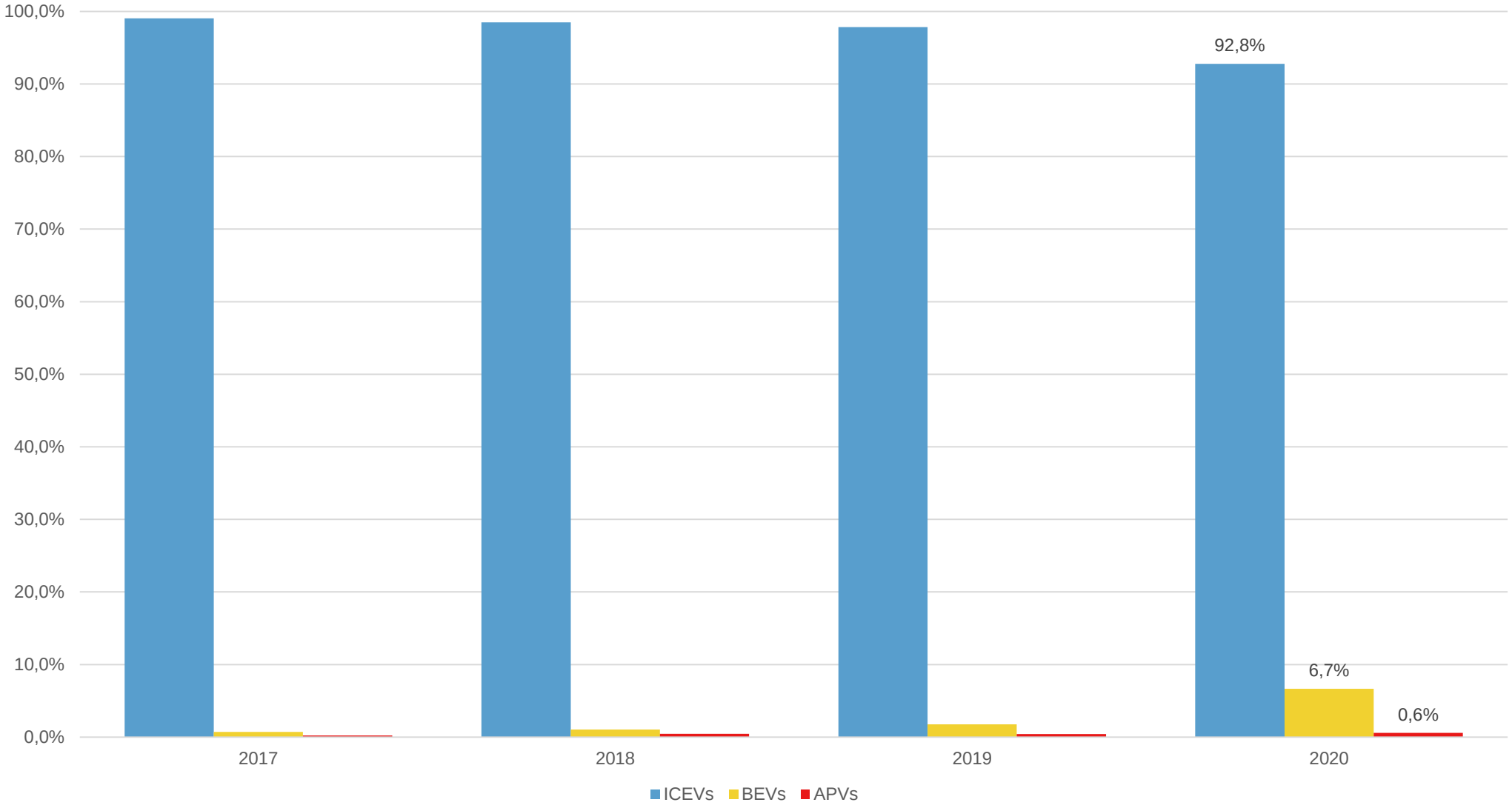
Source: Eurostat, (Complete Energy Balance, 2021)

Contribution of European measures to lower TTW emissions in transport by 2030 largely rely on efficiency improvements and renewable fuels





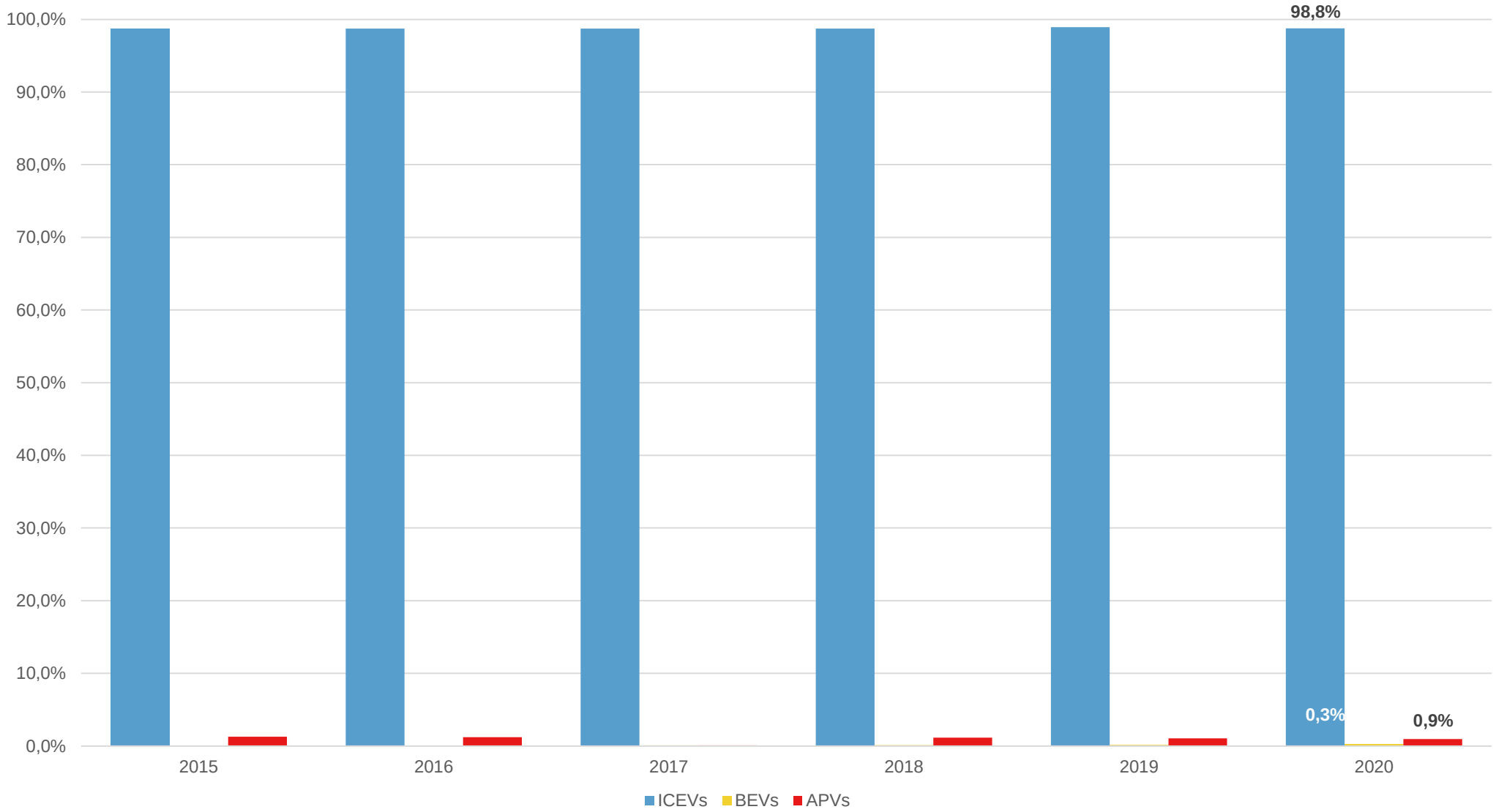
New passenger car registrations: Case Germany



Source: ACEA (2018-2021): Statistics - Alternative fuel vehicle registrations

APV = includes natural gas vehicles (NGV), LPG-fueled vehicles and ethanol (E85) vehicles

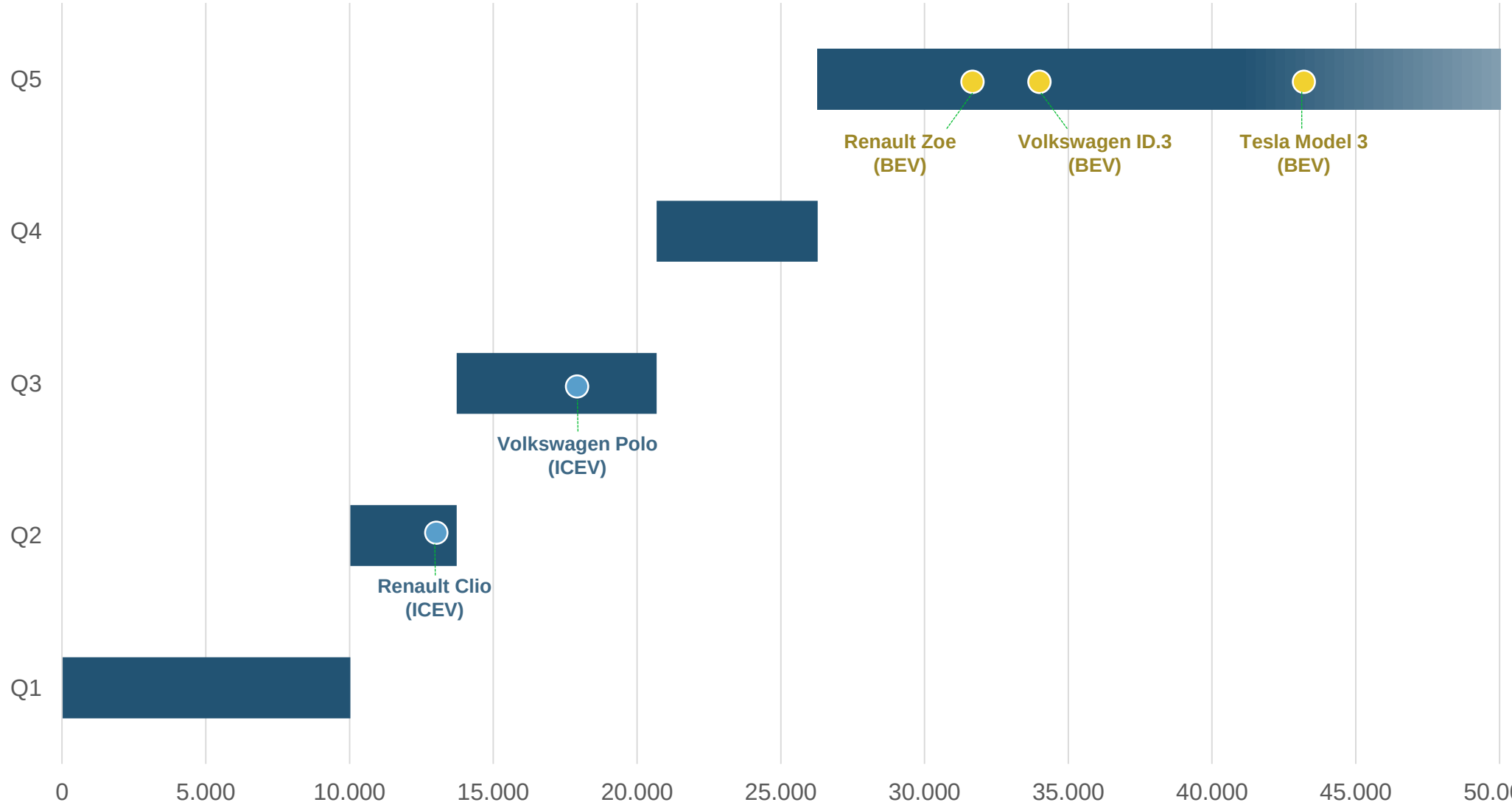
Second hand market: case Germany. EVs in the used car segment essential for the accelerated uptake of EVs in the market.



Source: KBA (2015-2020), Besitzumschreibungen von Kraftfahrzeugen und Kraftfahrzeuganhängern

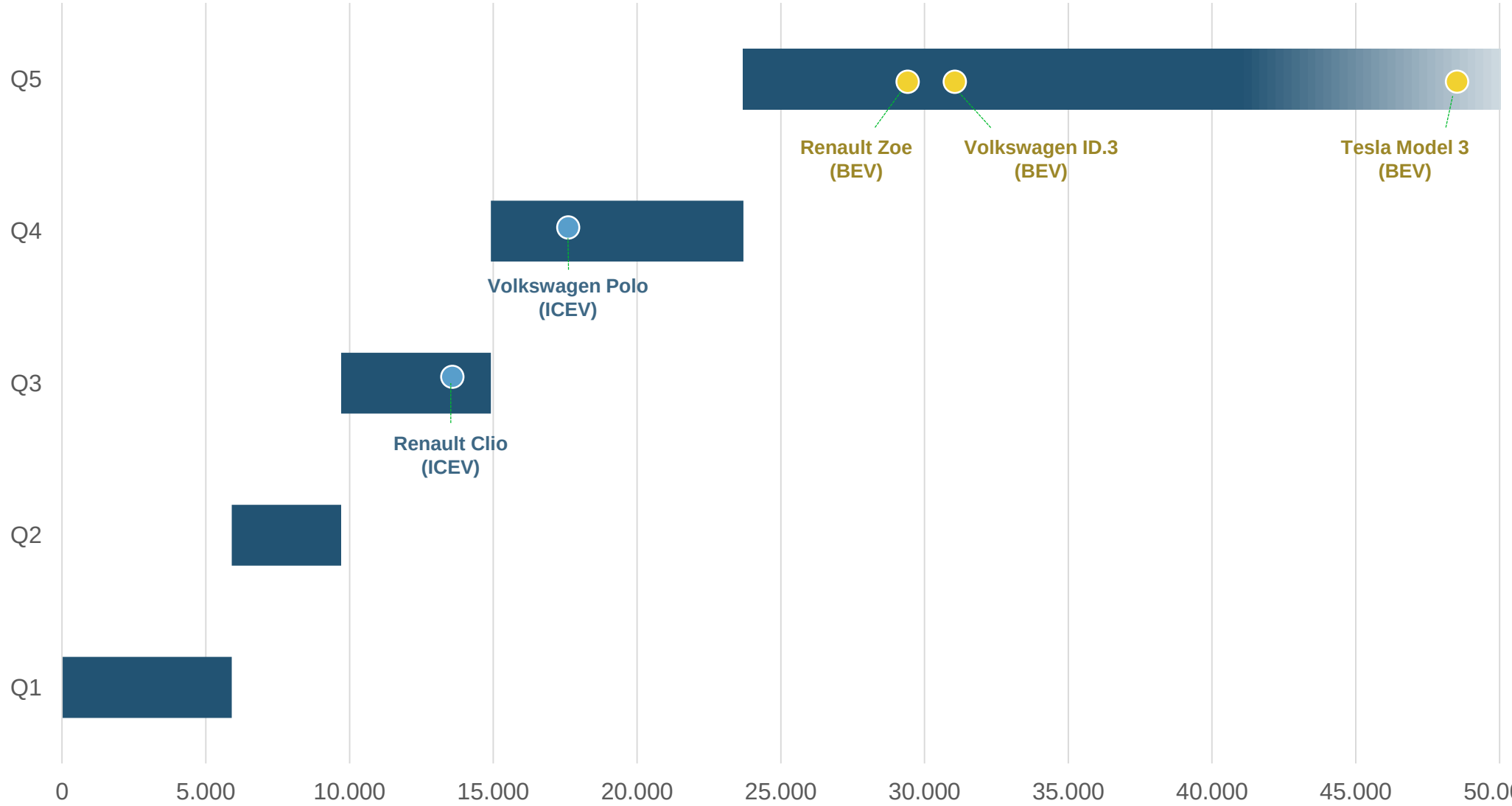
APV = includes natural gas vehicles (NGV), LPG-fueled vehicles and ethanol (E85) vehicles

France | Average budgets of various income groups for new car purchase (sales prices June 2021) (5 income groups: Q1: 20% lowest income to Q5: 20% highest income group)



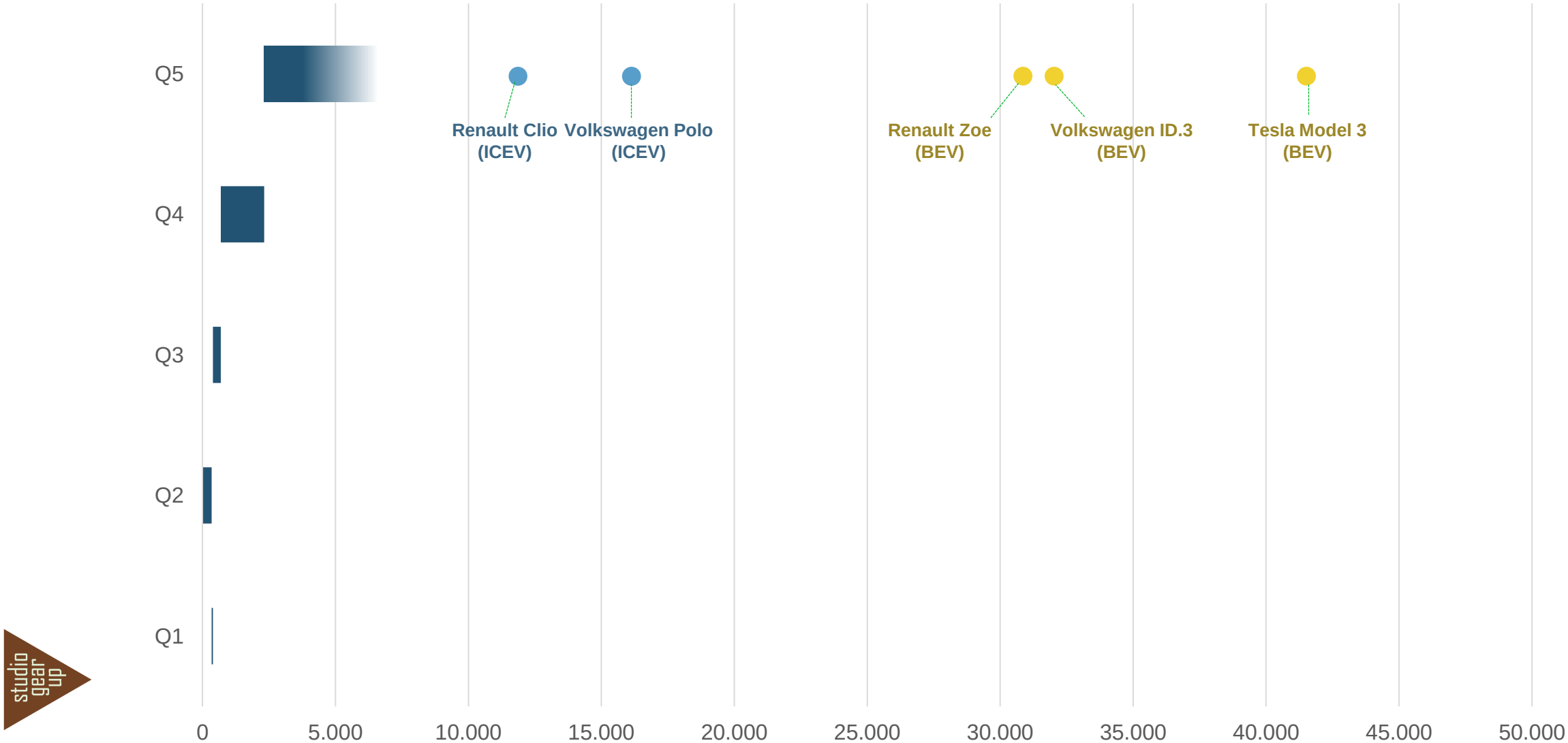
Available budget for new car purchase on basis of Eurostat household income data and the share of mobility expenses

Germany | Average budgets of various income groups for new car purchase (sales prices June 2021) (5 income groups: Q1: 20% lowest income to Q5: 20% highest income group)



Available budget for new car purchase on basis of Eurostat household income data and the share of mobility expenses

Hungary | Average budgets of various income groups for new car purchase (sales prices June 2021) (5 income groups: Q1: 20% lowest income to Q5: 20% highest income group)



Available budget for new car purchase on basis of Eurostat household income data and the share of mobility expenses

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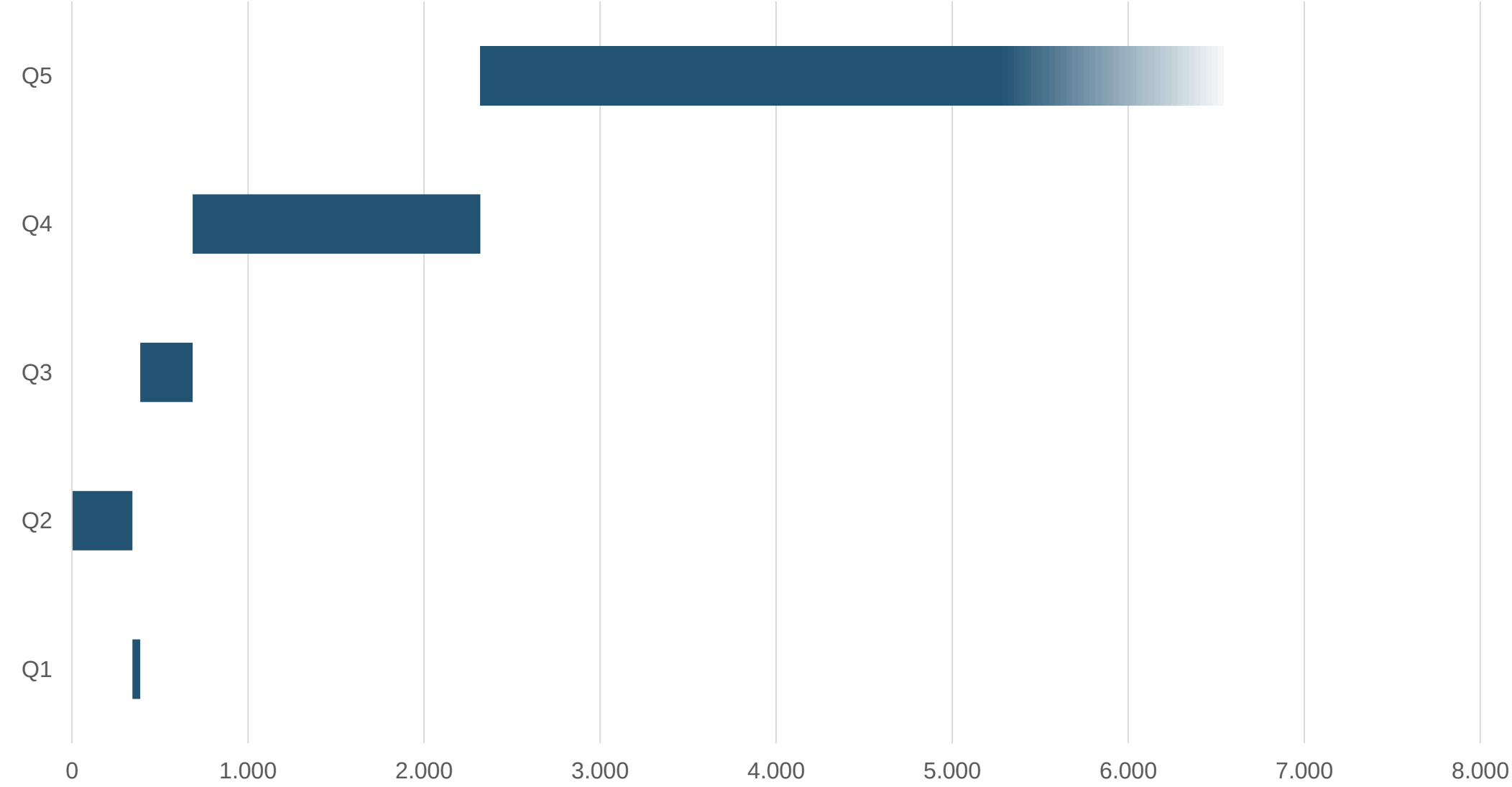
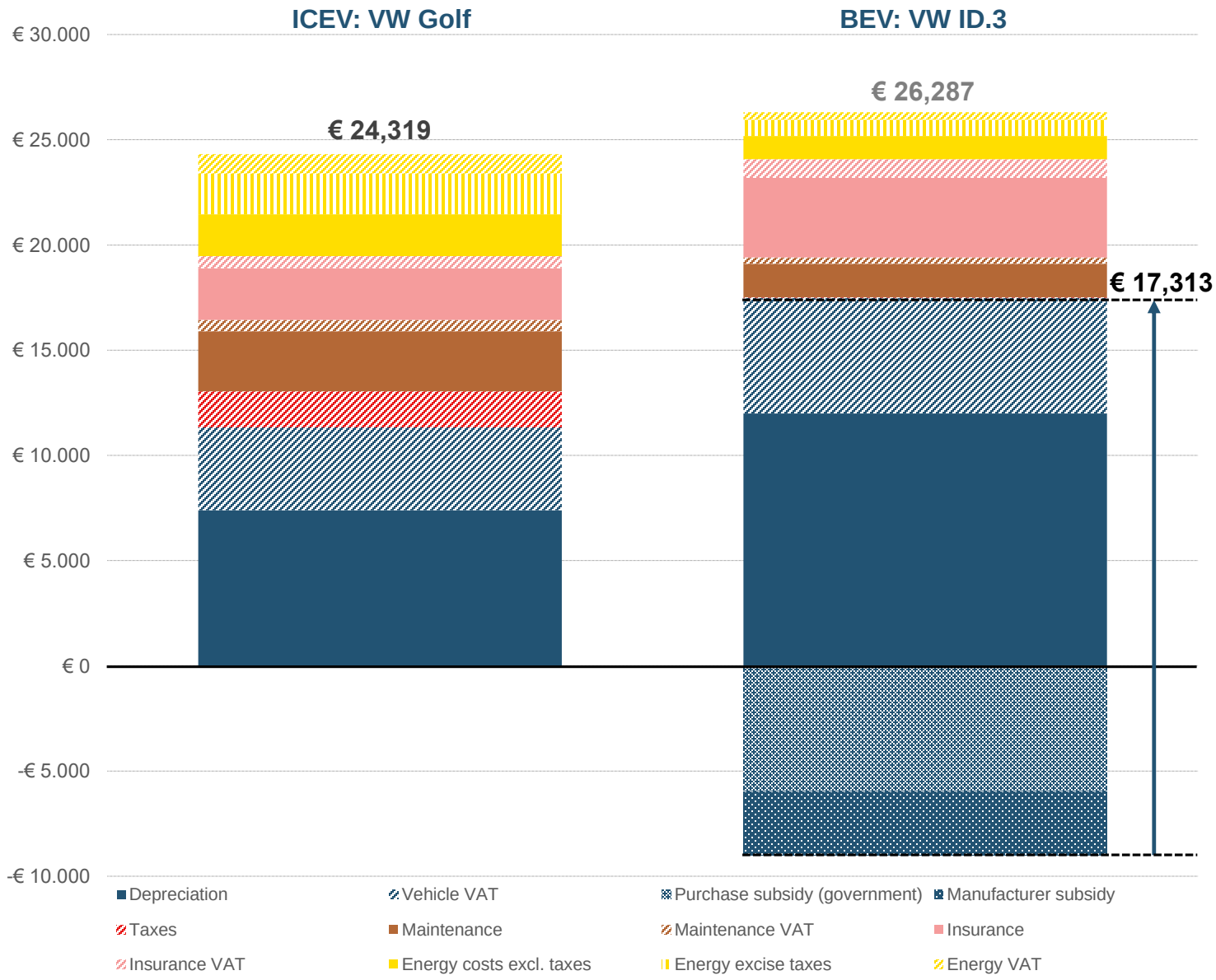
Case for Hungary: Average budgets of various income groups for new car purchase (sales prices June 2021) (5 income groups: Q1: 20% lowest income to Q5: 20% highest income group)



Available budget for new car purchase on basis of Eurostat household income data and the share of mobility expenses

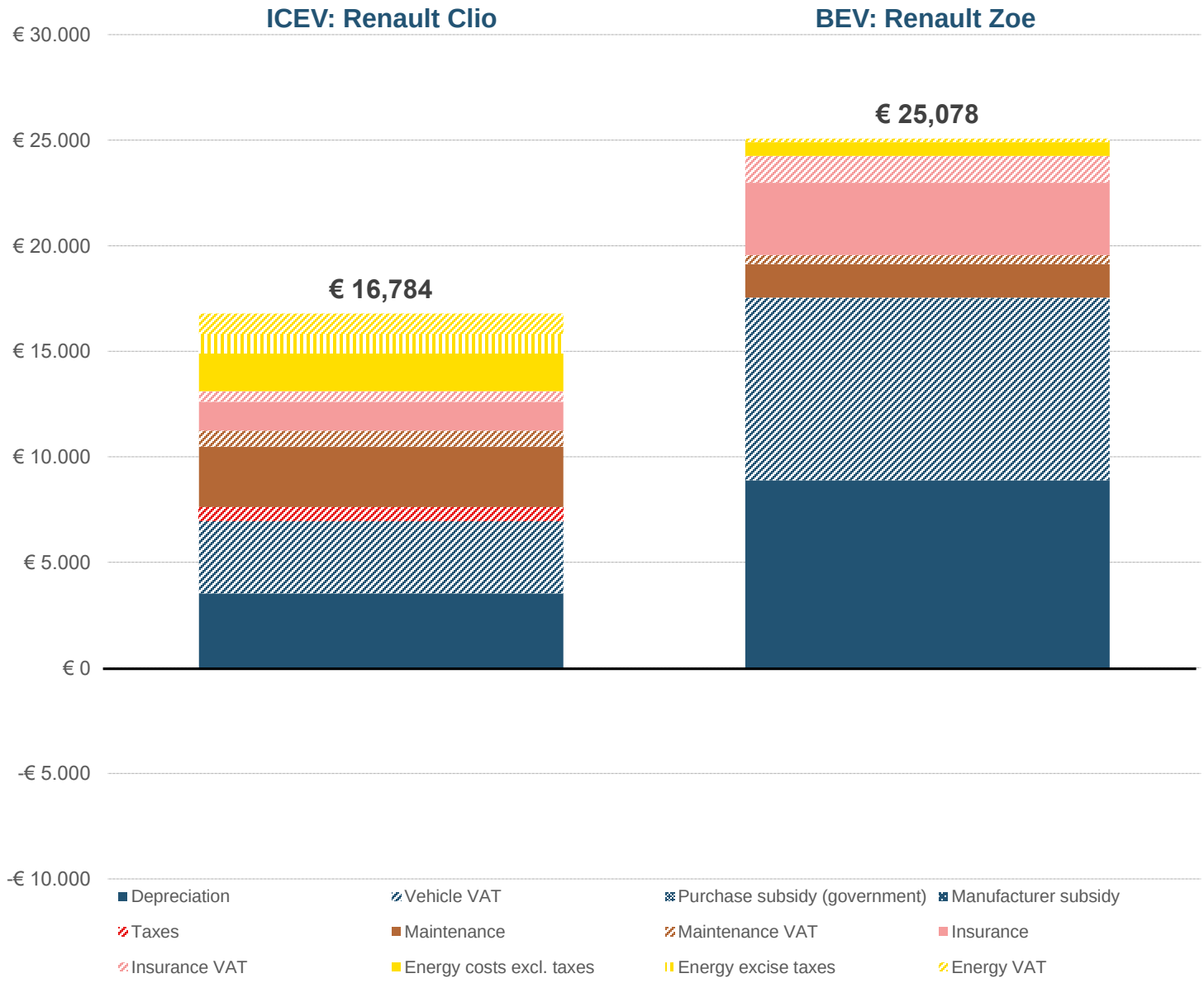
Comparing total cost of ownership – for the 1st 5 years – in a West-European country
Example of a VW model : Golf lower in cost than ID.3



Assumptions:

- Vehicles purchase costs based on June 2021 prices
- Total cost of ownership calculated for a 5 years period
- Based on annual distance driven of 12,000 km/a
- Charging: at home

Comparing total cost of ownership – for the 1st 5 years – in a Central-European country
Example of Renault: Zoe 1,5 times more expensive than its ICEV-equivalent Clio



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In reflection

- A substantial amount of public funding is spent on stimulating consumers to buy an electric vehicle.
- In our analysis we see amounts of €6000,- over a 5 years period of time. This would equal a fuel subsidy of approx. €1,5 a liter (gasoline).
- Just imagine this budget is used to cover the extra costs to shift to the use of 100% low carbon fuels.
- (For instance, in the Netherlands we know the extra costs for renewable fuels are in the range of 0,50 cent a liter)
- Such an amount of subsidy would cover for the extra costs of 100% renewable fuels for 15 years (on basis of 12.000 km a year)
- With the same amount of support a significant climate reduction can be realised.
- It is not that we should spend this money in this way, but it makes clear we have more options for green mobility.
- Equal treatment of options from the perspecive of climate reductions could mean to have any car driver on board in the sustainable mobility transition

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