

# Forecasting the Impact of Incentives and Use Cost Differences on Finland's Electric Vehicle Fleet

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## Abstract

### Introduction and Motivation

Electric vehicles (BEV) play a vital role in reducing road transport emissions. The SALAMA model was developed to analyze car fleet renewals and emissions across scenarios, predicting EV uptake under policy conditions. When an ICE car owner buys a new car in 2025, a €5500 subsidy raises likelihood of BEV selection to 56%, while a 26-cent-per-kilometer use cost difference increases it to 62%. These measures were incorporated into this study to project BEV composition in Finland's car fleet by 2030.

### Applied Method

The SALAMA model was used to simulate three scenarios: baseline, a €5500 subsidy, and a 26-cent-per-kilometer use cost difference. Baseline assumptions were based on sales trends from 2020–2021, with switching probabilities from petrol or diesel vehicles to BEVs and PHEVs adjusted to follow these trends until 2025. Post-2025, 70–75% of PHEV interest transitions toward BEVs due to price parity and model diversity, with a full shift to BEVs by 2035.

### Results

Results show that by 2030, BEVs comprise 16.9% of the fleet in the baseline scenario, 35% with subsidies, and 39% due to use cost difference.

### Conclusions

These findings highlight the importance of financial policies in reshaping fleet compositions and accelerating BEV adoption.

### References

- Nair, S., Viri, R., Mäkinen, J., Pöllänen, M., Liimatainen, H., O'Hern, S. (2024). Effect of Policies to Accelerate the Adoption of Battery Electric Vehicles in Finland—A Delphi Study, *Future Transportation*, Vol. 4, 67-91. <https://doi.org/10.3390/futuretransp4010005>
- Viri, R., Mäkinen, J. (2024). EV-share development: speed vs interest to adopt, *European Transport Research Review*, Vol. 16(Tiedot!A1010). <https://doi.org/10.1186/s12544-024-00637-1>
- Viri, R., Mäkinen, J., Liimatainen, H. (2021). Modelling car fleet renewal in Finland: A model and development speed-based scenarios , *Transport Policy*, Vol. 112, 63-79. <https://doi.org/10.1016/j.tranpol.2021.08.012>

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