

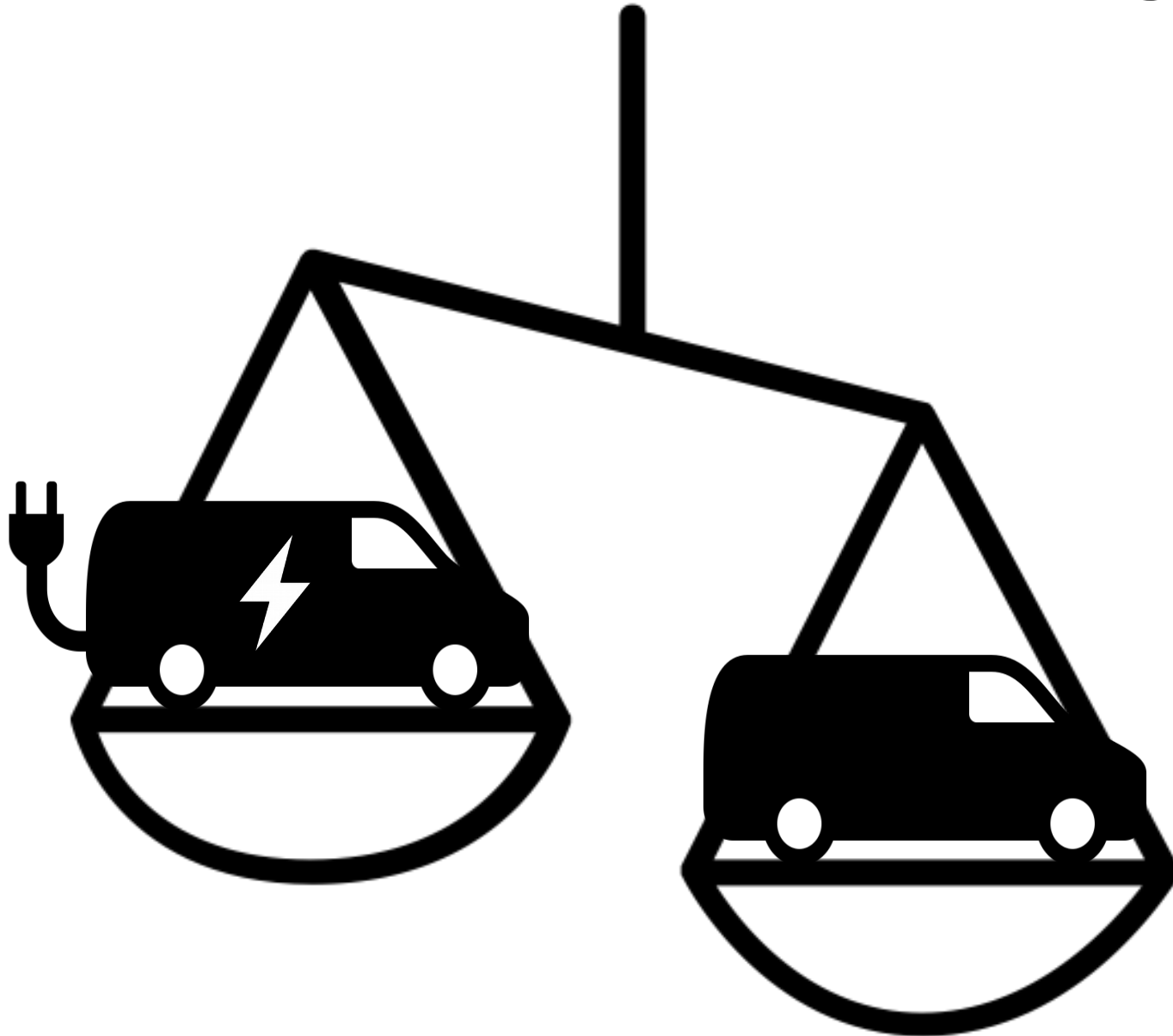


# **Is there a market for electromobility for urban freight?**

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**To urban freight operators, electric vehicles present little or no relative advantage**

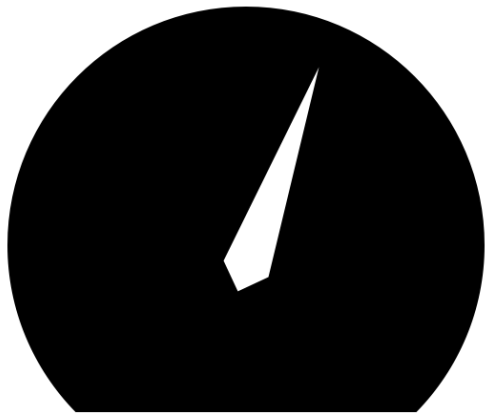


- **Lower environmental impact and driving comfort do not compensate for higher costs**
  - Very competitive market with low margins
  - Most customers (businesses and households) not willing to pay more for clean deliveries
  - One current exception: public tenders
- **Norway (first hand market)**
  - Electric passenger cars 25% market share
  - Electric commercial vans 2% market share

- **Changing to an electric urban freight operation is complex**
  - Limited range can impose new processes, new route management
  - New software, staff training
  - Charging requires specific parking spots, mostly on company premises, the vehicle is immobilized during charging
- **A risk of loss of opportunity is unacceptable**
  - Long freight trips are usually the most profitable

# Modeling market potential forecasts

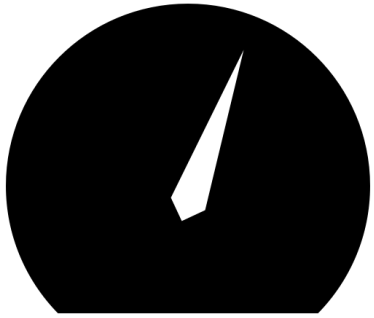
A model based on market constraints: electric vans must have a level of service at least equivalent to that of conventional vehicles



**Range constraint**

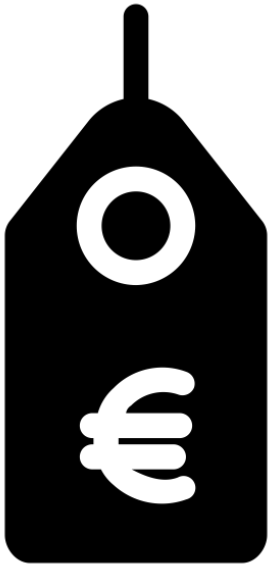


**Economic constraint**



Constraint #1 : most of the trips must be covered by the range (all except one per year)

- The difficulty is the lack of data: **longitudinal data on daily vehicle kilometers traveled is scarce**, all the more for commercial vehicles.
- An original statistical vehicle use model has been developed, and fitted on a database on French light commercial vehicles



Constraint #2 : **the Total Cost of Ownership (TCO) of electric operation must be equal or less than with conventional vehicles**

- **The economic competitiveness of electric vehicles is case-dependent.**

TCO computations need to take into account real driven distances, not an average on the whole fleet.

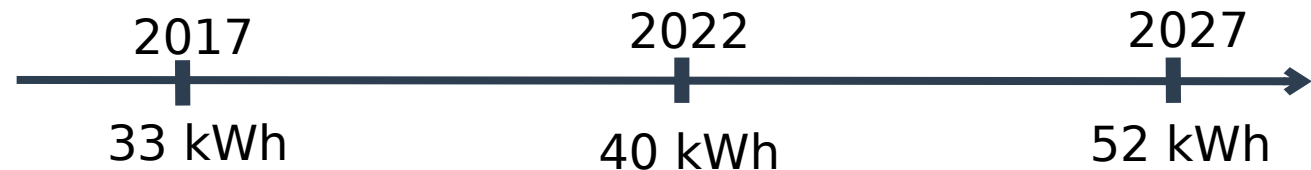
- **Thanks to the modeling of vehicle kilometers traveled, TCO is compared for each specific use profile.**

# Quickly evolving constraints



- **8 %/year decrease on battery costs per kWh**

Reference scenario (small vans):



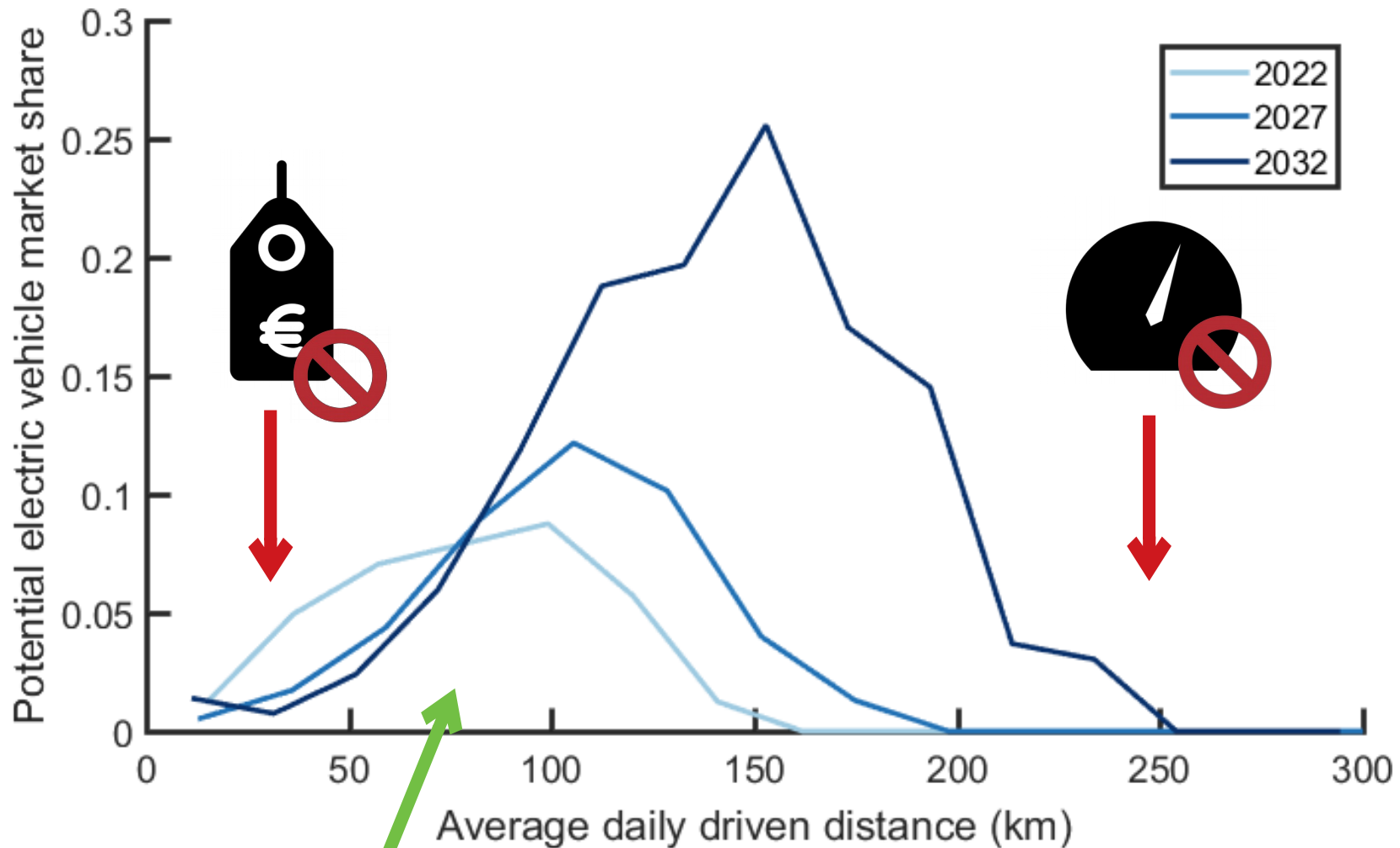
- **The currently significant subsidies are likely to decrease in the future**

Our assumption: constant total budget for public subsidies on electric vans

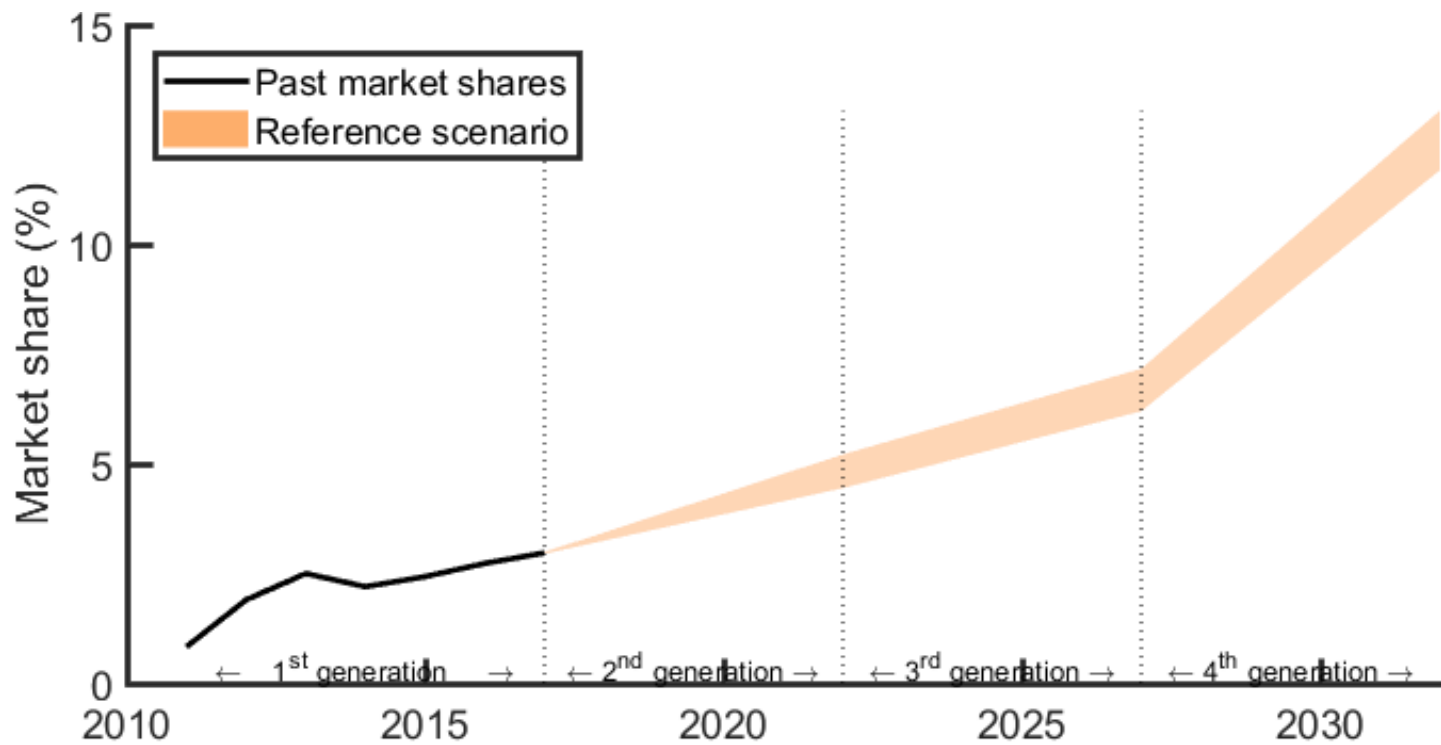
As a result when the market grows, subsidies/veh decrease



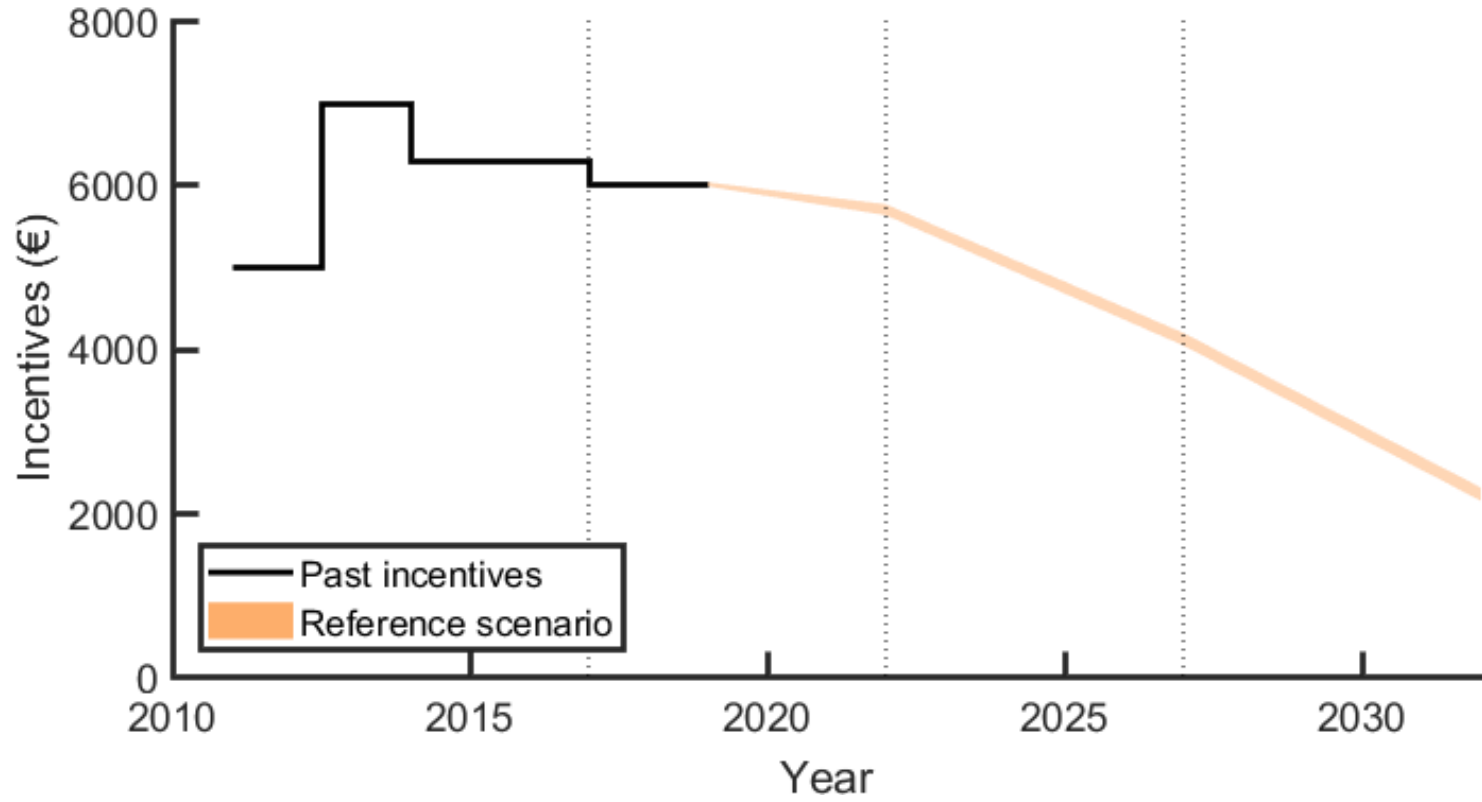
# Reference scenario for small vans



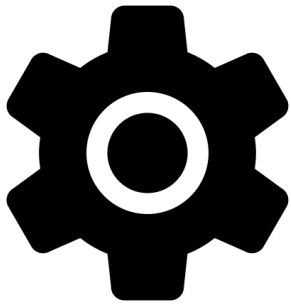
Relatively slow increase of the market (13% market share expected in 2032...)



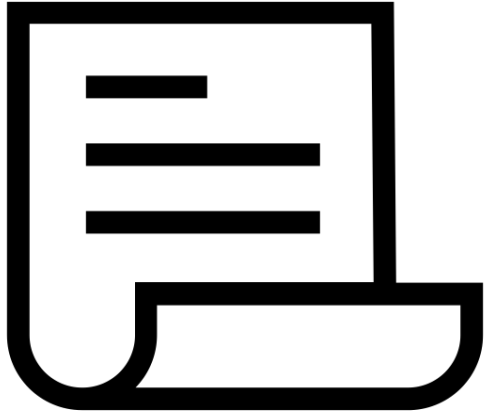
... provided there are subsidies for many more years)



# Additional mechanisms may improve the deployment of electric vans



- Public charging adds complexity but prevents from the risk of loss of opportunities
- Diversification of battery capacities
- A technological breakthrough on batteries



- Local regulations :
  - low emission zones or traffic restrictions
  - additional local subsidies
- National regulations :
  - clean vehicle quotas imposed to car manufacturers



Such regulations are politically difficult to adopt because they penalize economic activities, but seem inevitable to achieve the objectives currently under discussion by the European institutions: sales targets of 20% in 2025 and 35% in 2030



# Thank you

Icons from the Noun Project by: Olivia, Alexander Gruzdev, Ben Davis, Eagle Eye, Vignesh Nandha Kumar, Adrien Coquet, Bieutuong Hai, Guru