European Climate Foundation

Modelling approach for *Fuelling Europe's Future*

DATA INPUTS

Data on volume of energy required to provide service (e.g. mobility)

Data on cost & efficiency of energy-converting technology

Data on price of oil, gas and, electricity

Economic projections

EXPERT PANEL

- reviews date
- scenarios
- assumptions

STOCK MODEL

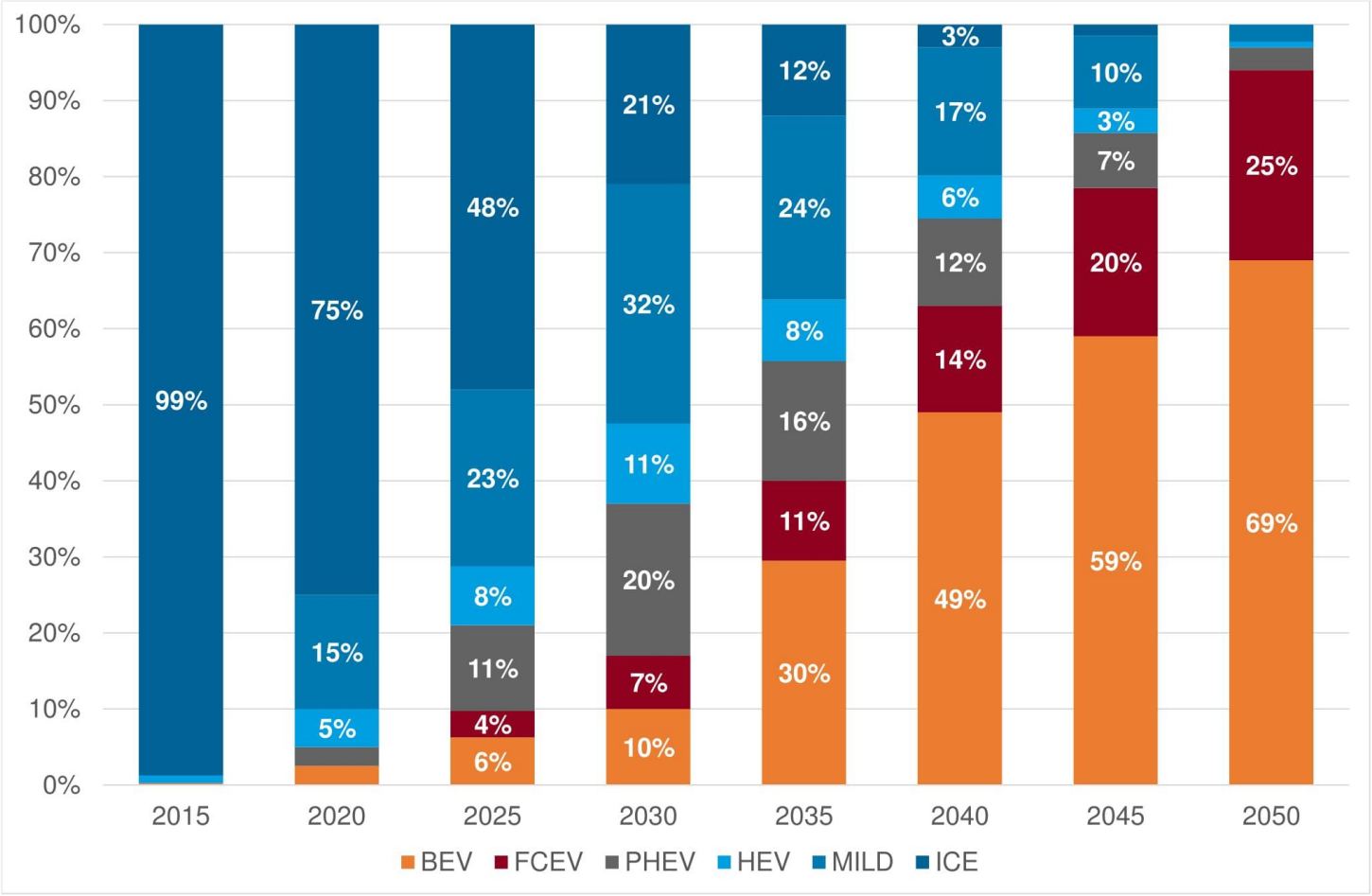
Calculates the stock of capital assets & energy consumption per sector on an annual basis

SIMULATION MODEL

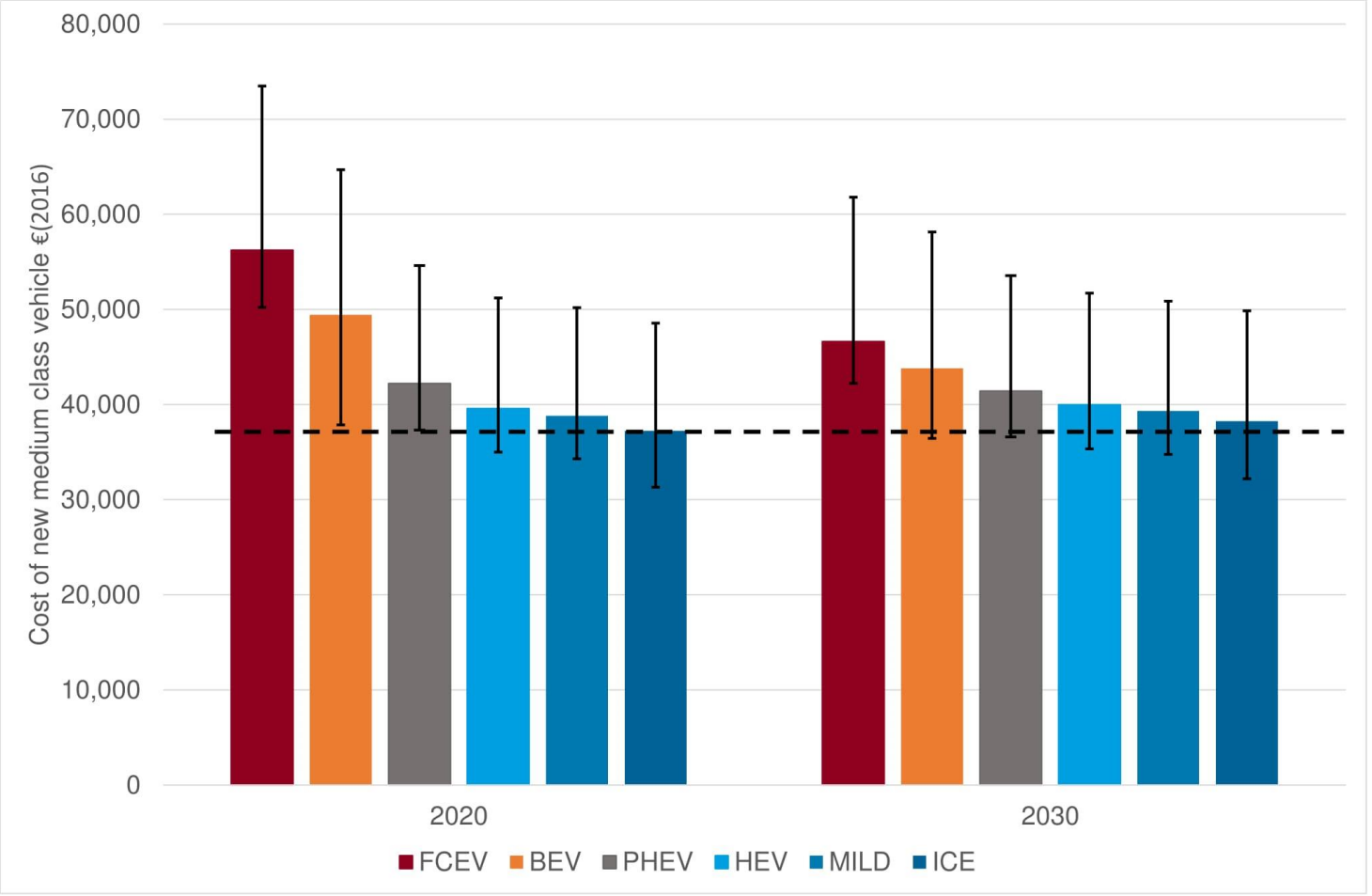
MODEL OUTPUTS

- Employment impact across sectors
- Impacts on household budgets
- Changes to consumption, GDP
- Changes to energy trade balance
- Changes to CO_2 N_2O particulates

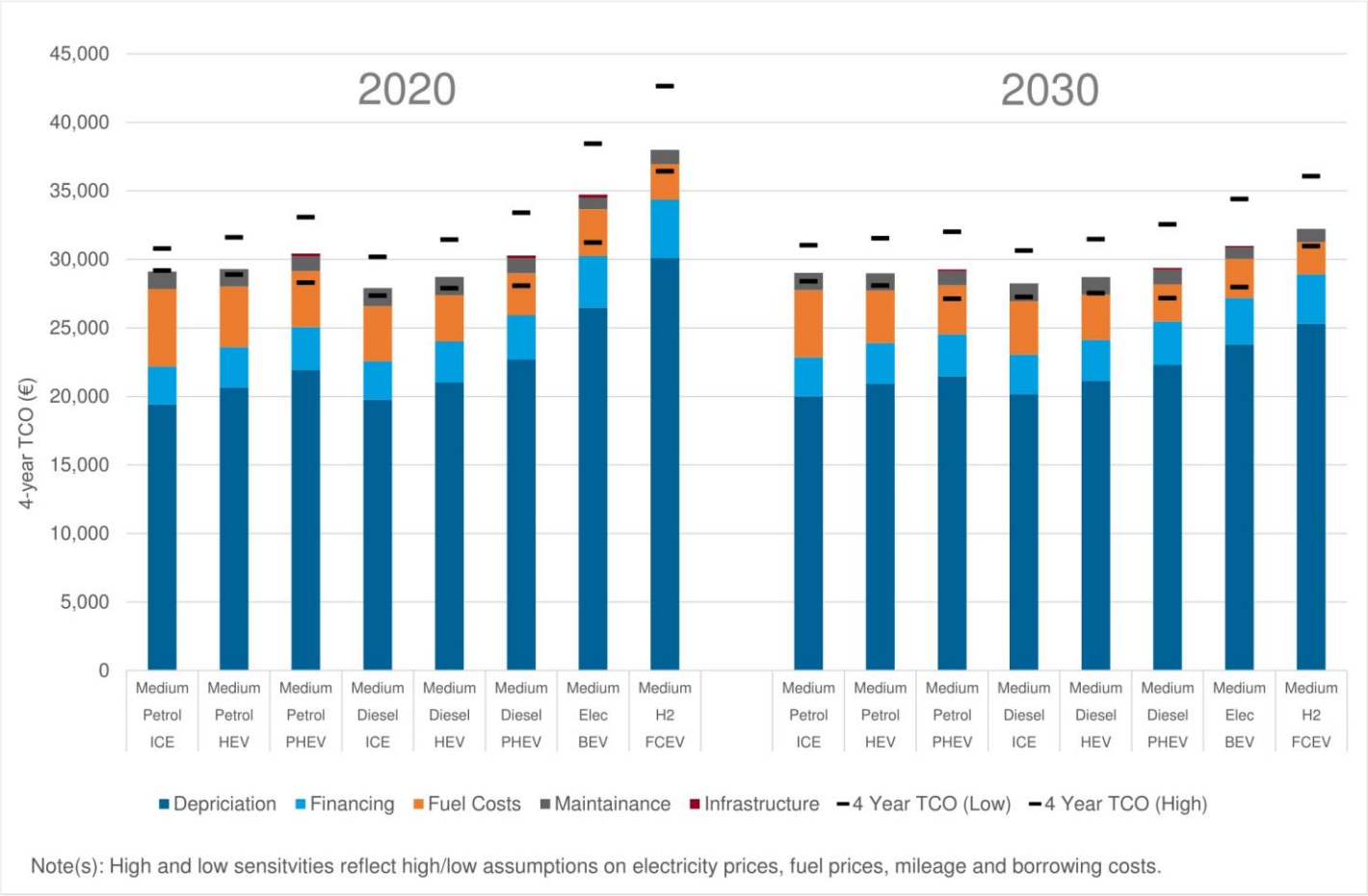
The low-carbon scenario closely mirrors EU policy, OEM announcements



Marginal cost of ICE increases to 2030; cost of e-drive reduces

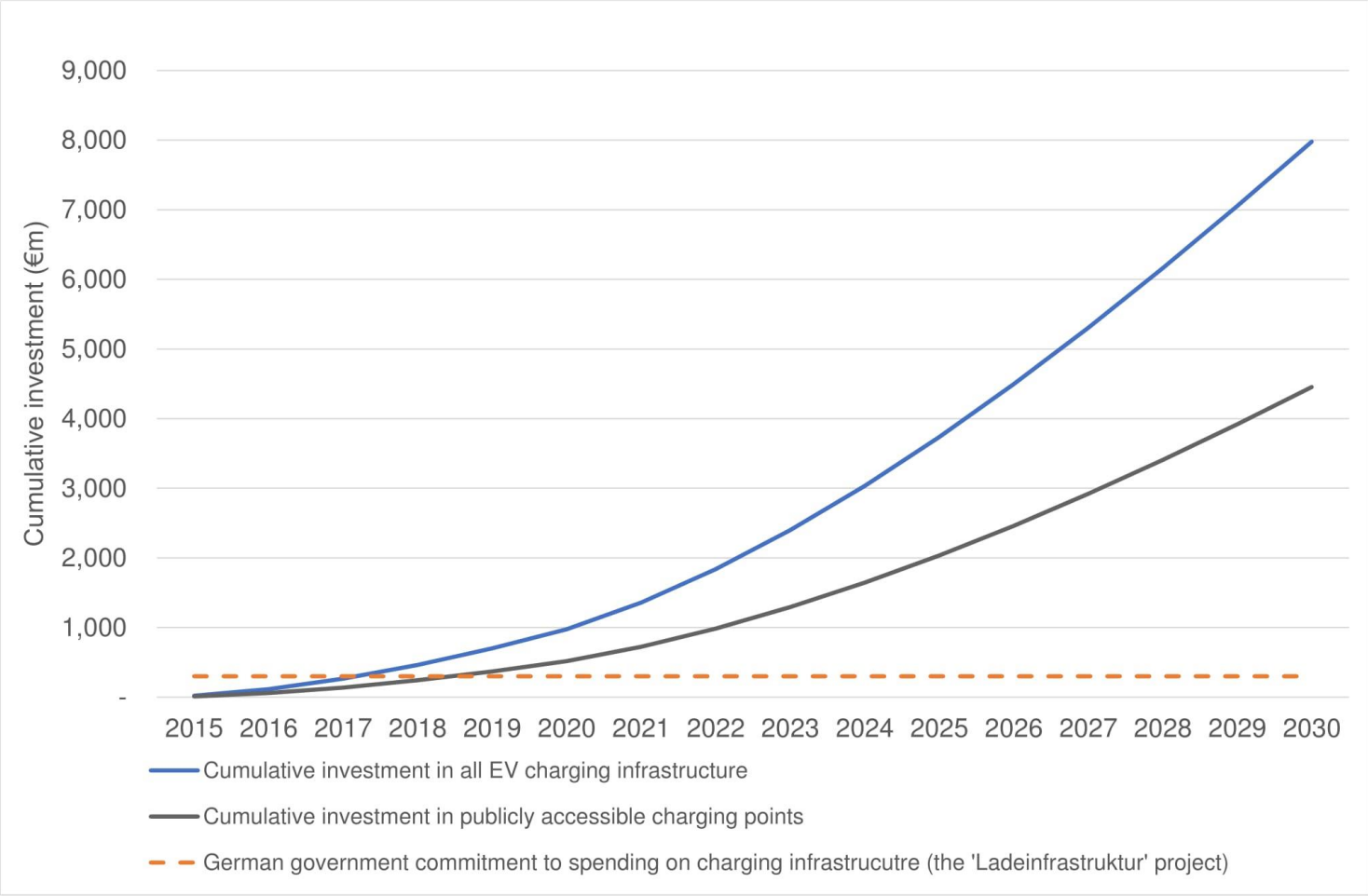


Total cost of ownership converges around 2030

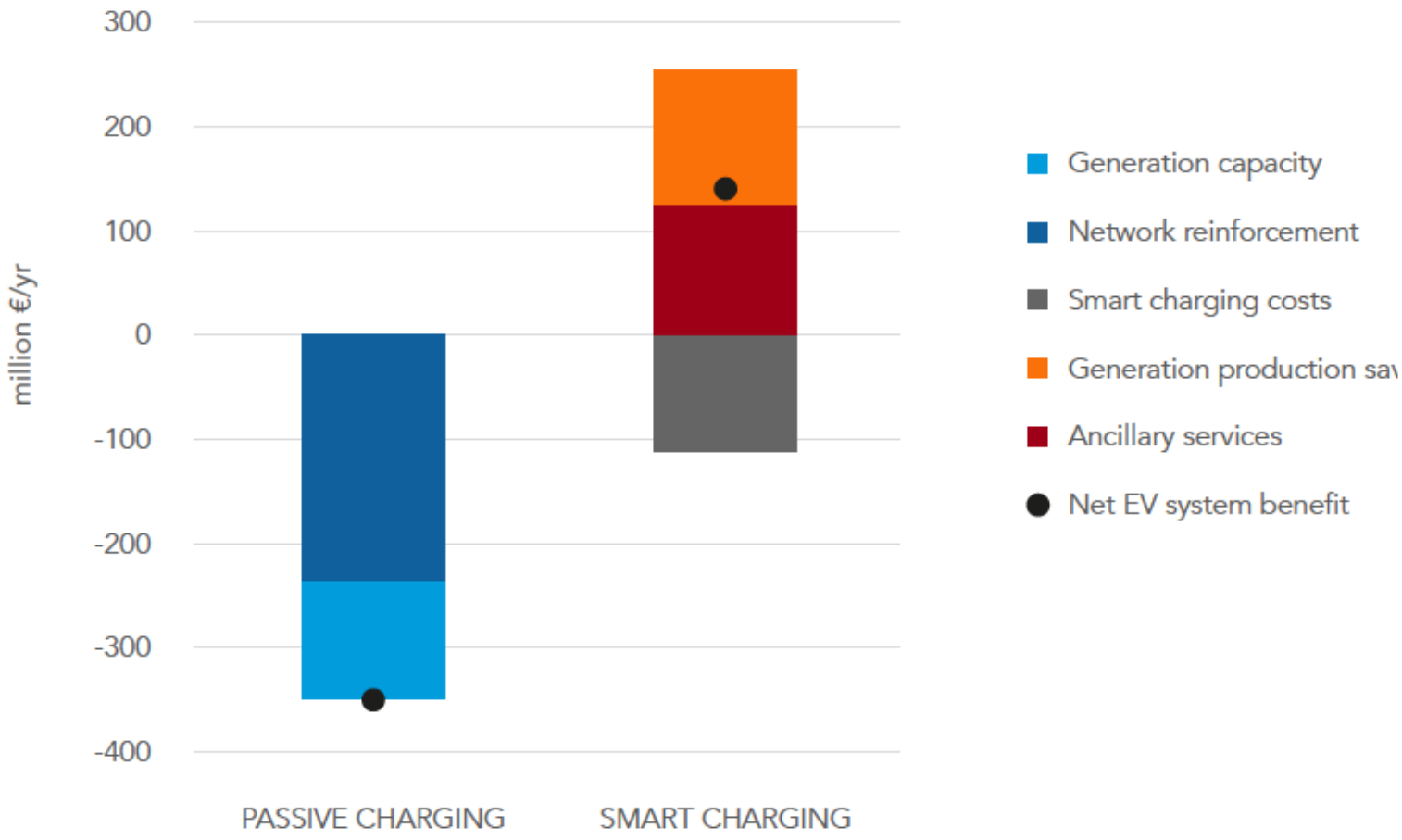


Note(s): High and low sensitvities reflect high/low assumptions on electricity prices, fuel prices, mileage and borrowing costs.

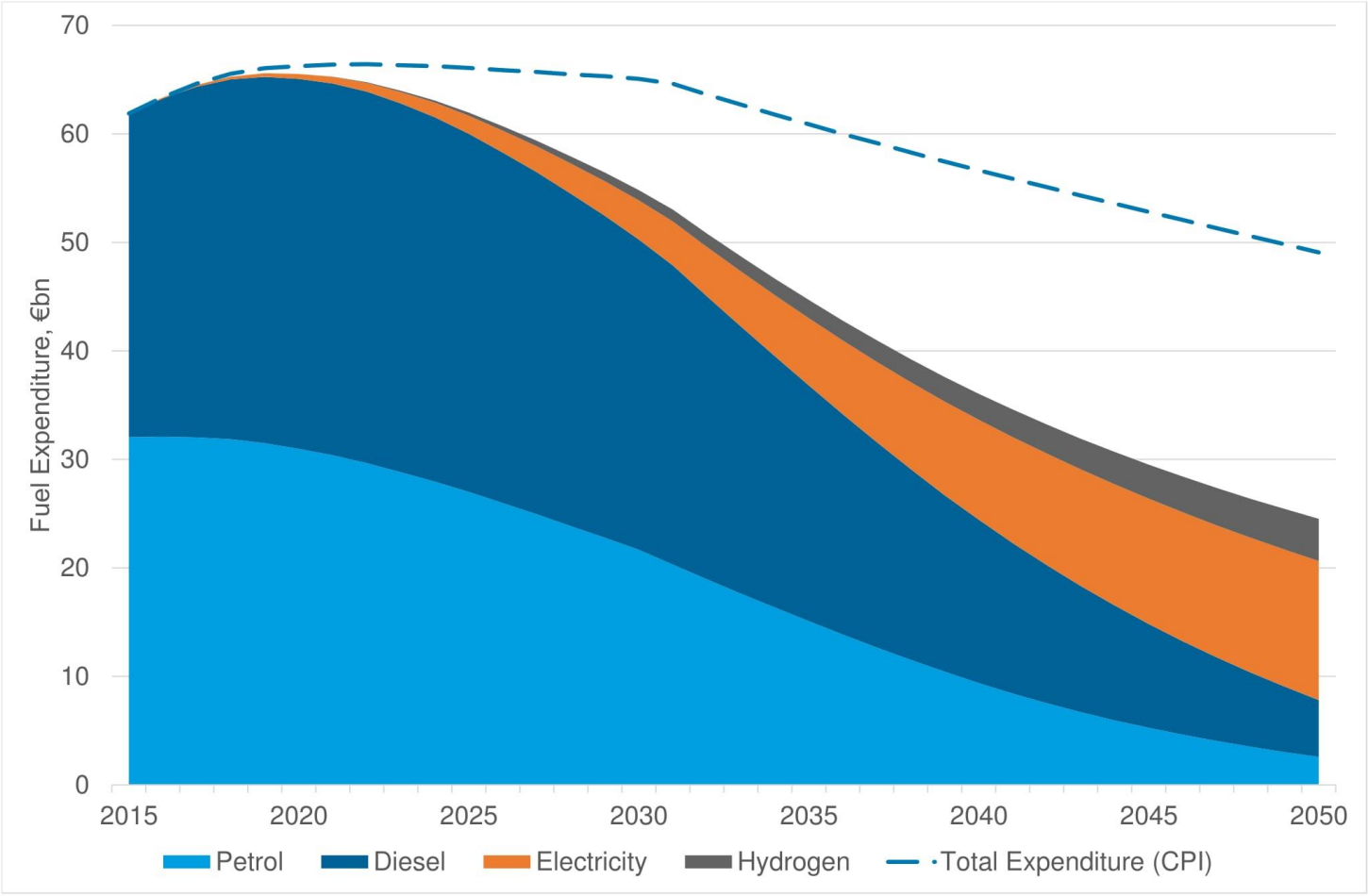
Several €billion on charging infrastructure by 2030



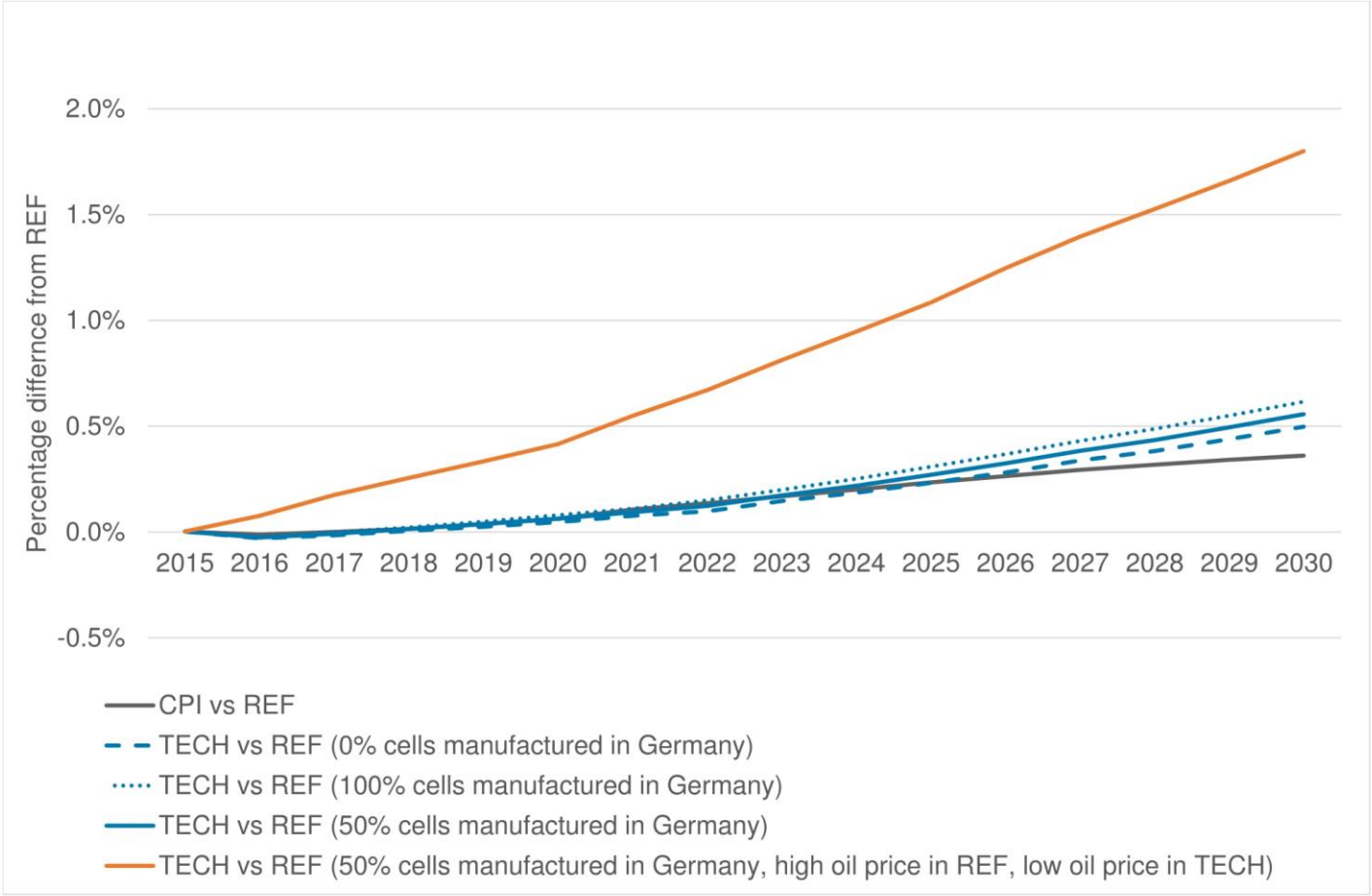
Smart charging can offset grid reinforcement costs



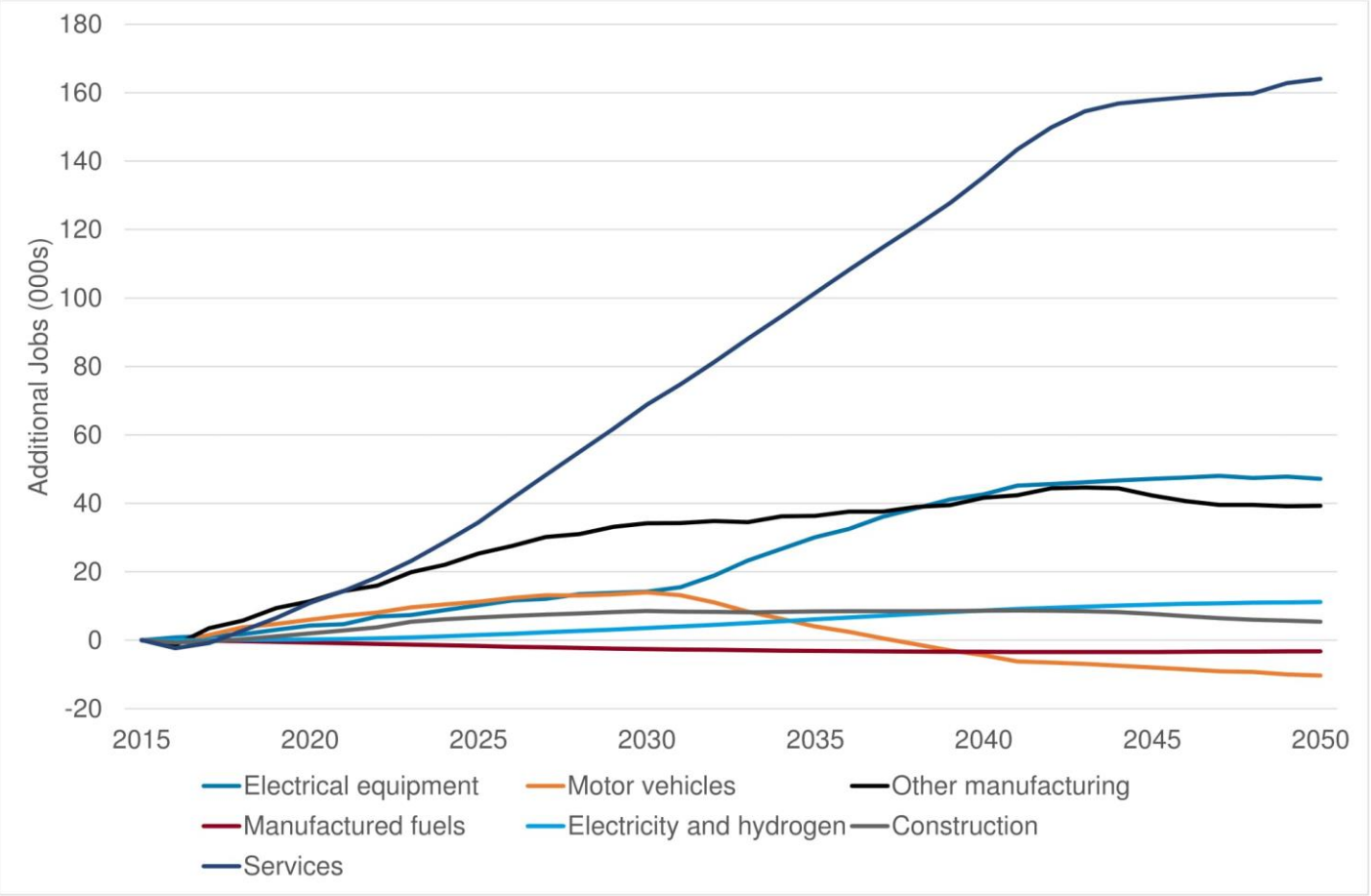
National fuel spending declines sharply in central case



GDP gains due to efficiency, e-mobility, crude prices



Employment impacts are felt across multiple sectors



The net economic impact has been positive where studied

	GDP 2030	Employment 2030
European Union	+0.2-0.4%	+ 850,000
France	+0.2-0.4%	+66,000 – 71,000
Britain	+0.1%	+7,000 – 19,000
Germany	+0.5-0.6%	+145,000

Key findings:

- E-drive cars should reach cost parity during 2020s
- Infrastructure costs are high, but manageable
- Low-carbon mobility can deliver economic benefits BUT requires €billions in charging network
- Overall net employment is increased BUT skills/training challenges occur in auto sector
- Smart charging is essential to capture economic and environmental benefits