

Annex 1: Japan

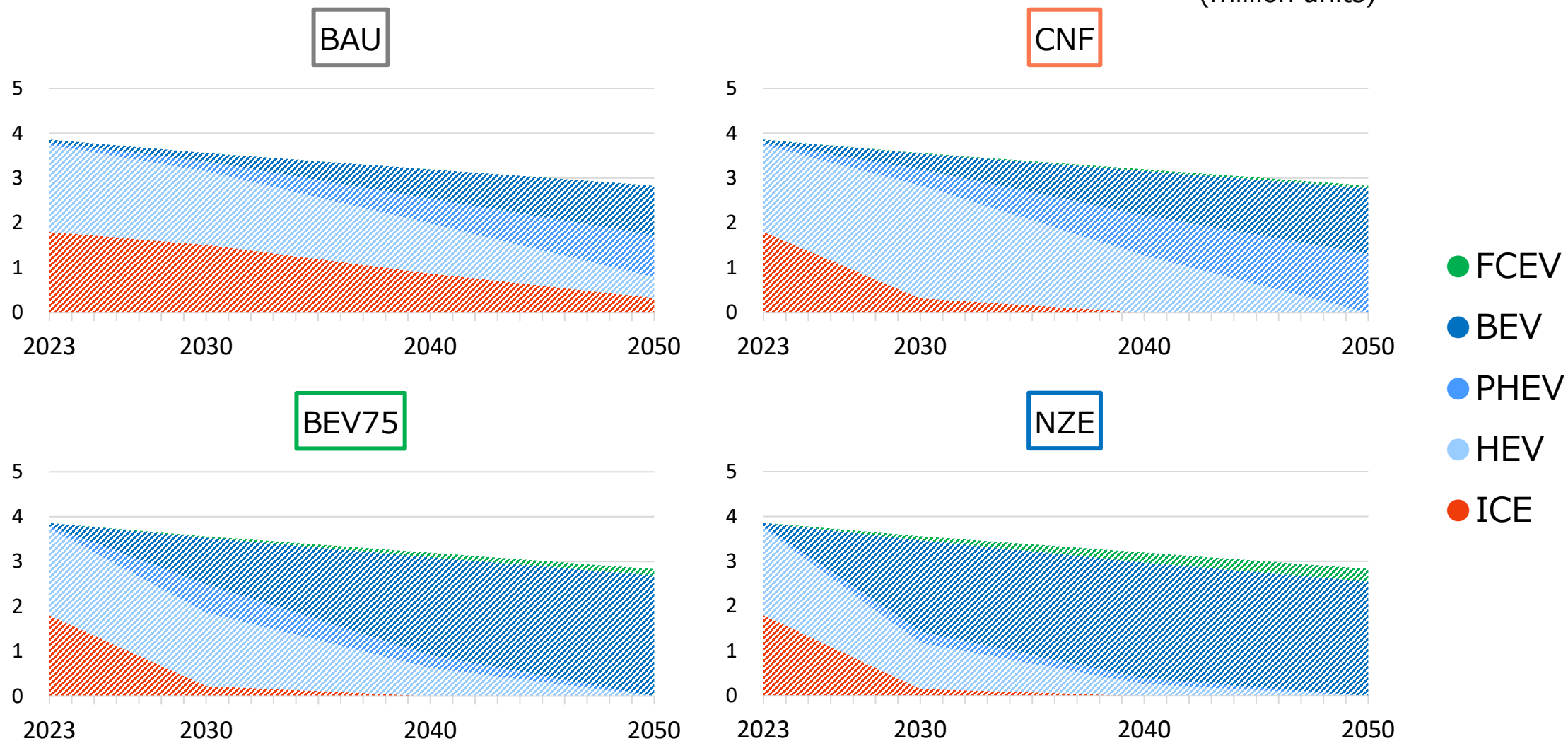
Trends in Japan @2050

Scenario	Trends in Japan		2050/2020 CO2 Emissions
All	Market	For all vehicle types: Gradual declines in both new vehicle sales and in-use fleets.	
	Energy mix	Increased supply of diversified clean energy + CCS leads to mostly decarbonization.	
CNF	Electrified vehicles	- Share of electrified vehicles in new vehicle sales: 100% for passenger cars, trucks and buses, with PHEVs accounting for 46% of new passenger car sales, and 80% for motorcycles. - Share of BEVs/FCEVs in in-use vehicle fleets: 39% for passenger cars, trucks and buses and 73% for motorcycles.	-95%
	Fuel mix	96% is CNF (synthetic fuels, biofuels) + electricity + hydrogen. - CNF share represents 28% of total liquid fuel consumption in 2023.	
BEV75	Electrified vehicles	- Share of BEVs/FCEVs in new vehicle sales: 100% for passenger cars, trucks and buses and 88% for motorcycles. - Share of BEVs/FCEVs in in-use vehicle fleets: 69% for passenger cars, trucks and buses and 81% for motorcycles.	-96%
	Fuel mix	97% is CNF (synthetic fuels, biofuels) + electricity + hydrogen. - CNF share represents 22% of total liquid fuel consumption in 2023.	
NZE	Electrified vehicles	- Share of BEVs/FCEVs in new vehicle sales: 100% for all vehicle types. - Share of BEVs/FCEVs in in-use vehicle fleets: 85% for passenger cars, trucks and buses and 100% for motorcycles.	-90%
	Fuel mix	73% is biofuels + electricity + hydrogen and assuming synthetic fuel is zero. - Biofuel share represents 2% of total liquid fuel consumption in 2023.	

In all non-BAU scenarios, CO2 emission levels are close to carbon neutrality.

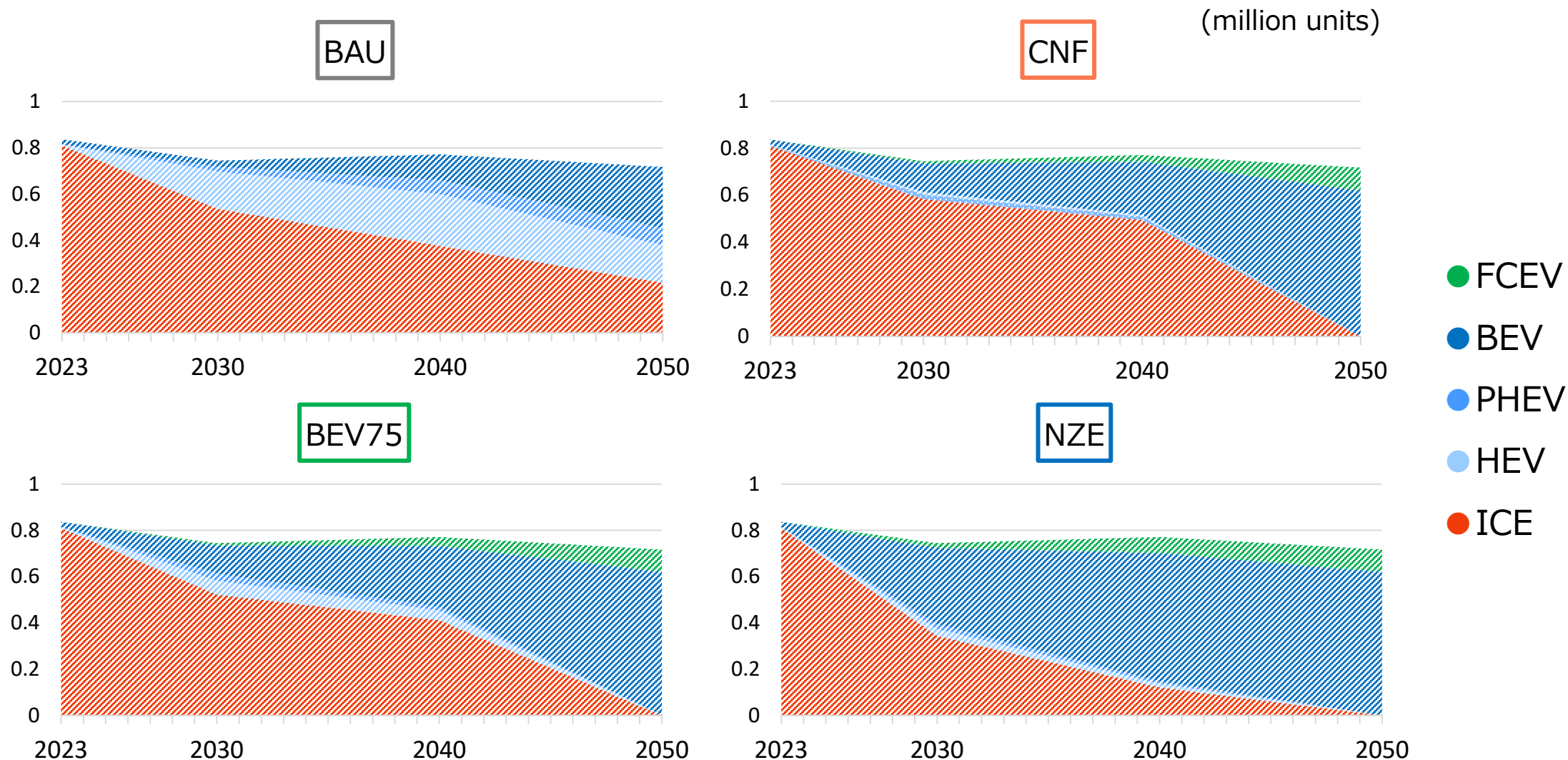
New Passenger Car Sales (Japan)

(million units)



Note: Historical values are based on estimates by the IEEJ's Energy and Data Modelling Center (EDMC). Future total new vehicle sales are EDMC estimates, and EDMC estimated the powertrain mix using assumptions from JAMA scenarios.

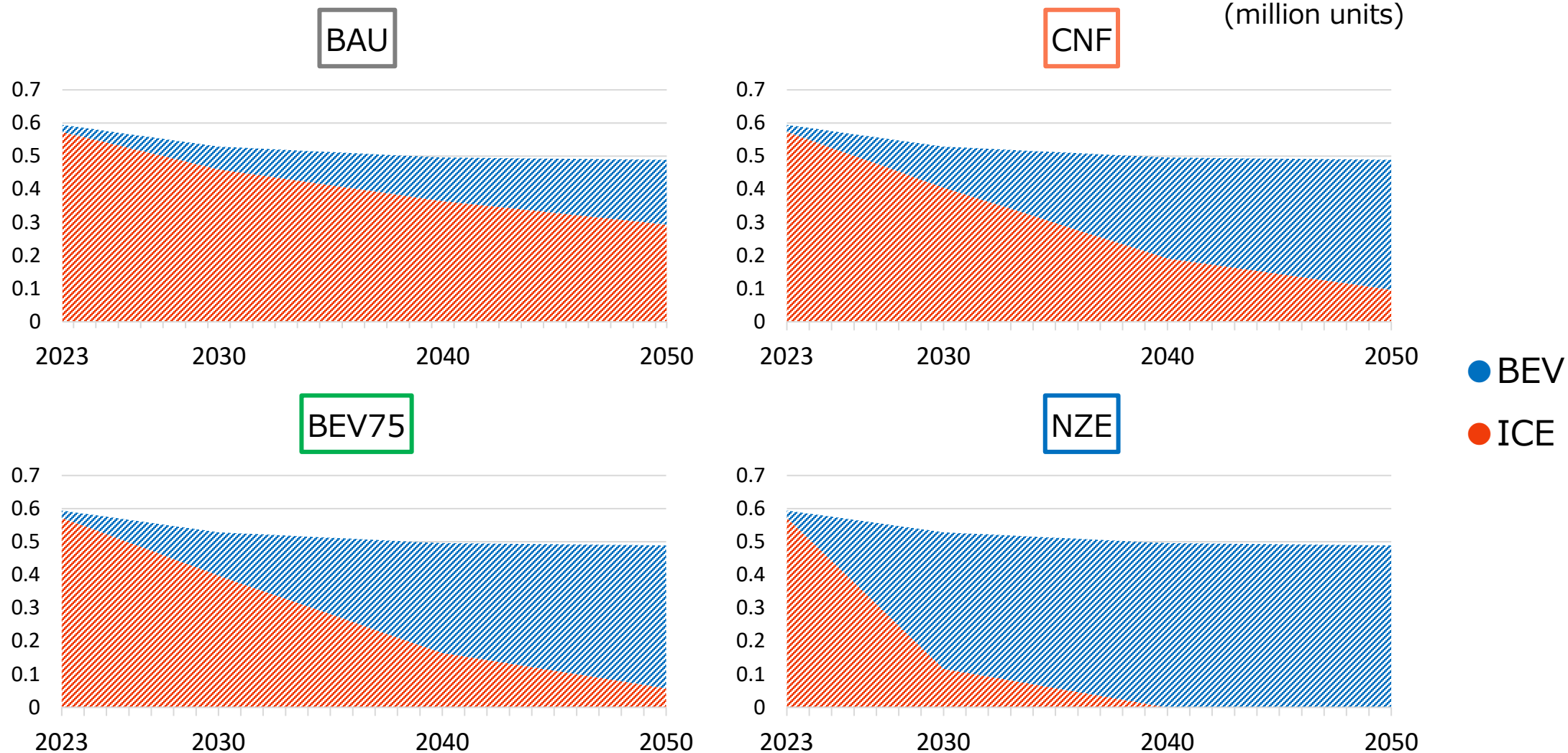
New Truck and Bus Sales (Japan)



Note: Historical values are based on EDMC estimates. Future total new vehicle sales are EDMC estimates, and EDMC estimated the powertrain mix using assumptions from JAMA scenarios.

New Motorcycle Sales (Japan)

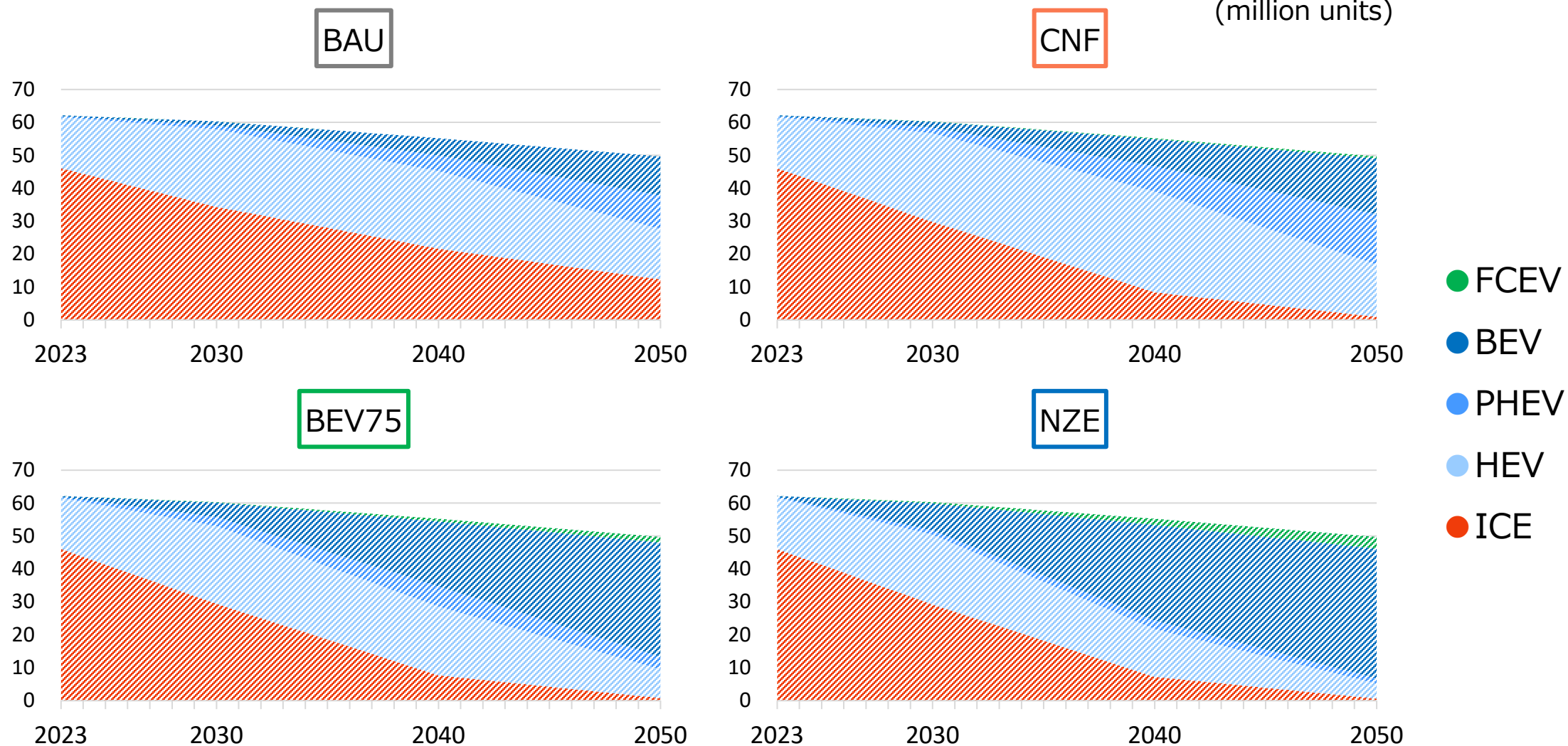
(million units)



Note: Historical values are based on EDMC estimates. Future total new vehicle sales are EDMC estimates, and EDMC estimated the powertrain mix using assumptions from JAMA scenarios.

In-Use Passenger Car Fleet (Japan)

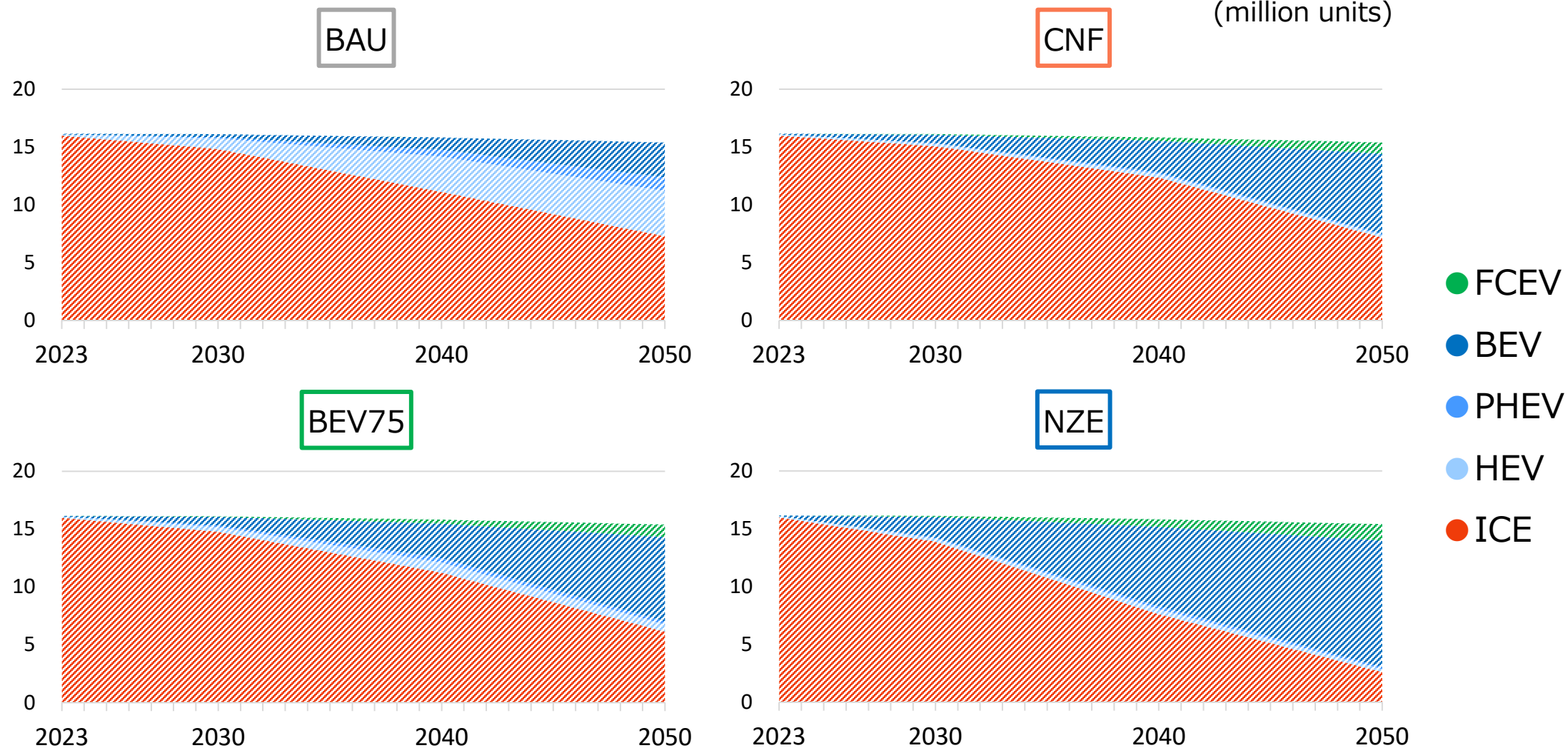
(million units)



Note: Historical data based on the 2026 edition of the EDMC Handbook of Japan's & World Energy & Economic Statistics (JAMA's previous analysis was based on the Handbook's 2022 edition); in-use car fleet projections based on [IEEJ Outlook 2026](#) (published 2025); powertrain mix projections based on JAMA scenarios.

In-Use Truck and Bus Fleets (Japan)

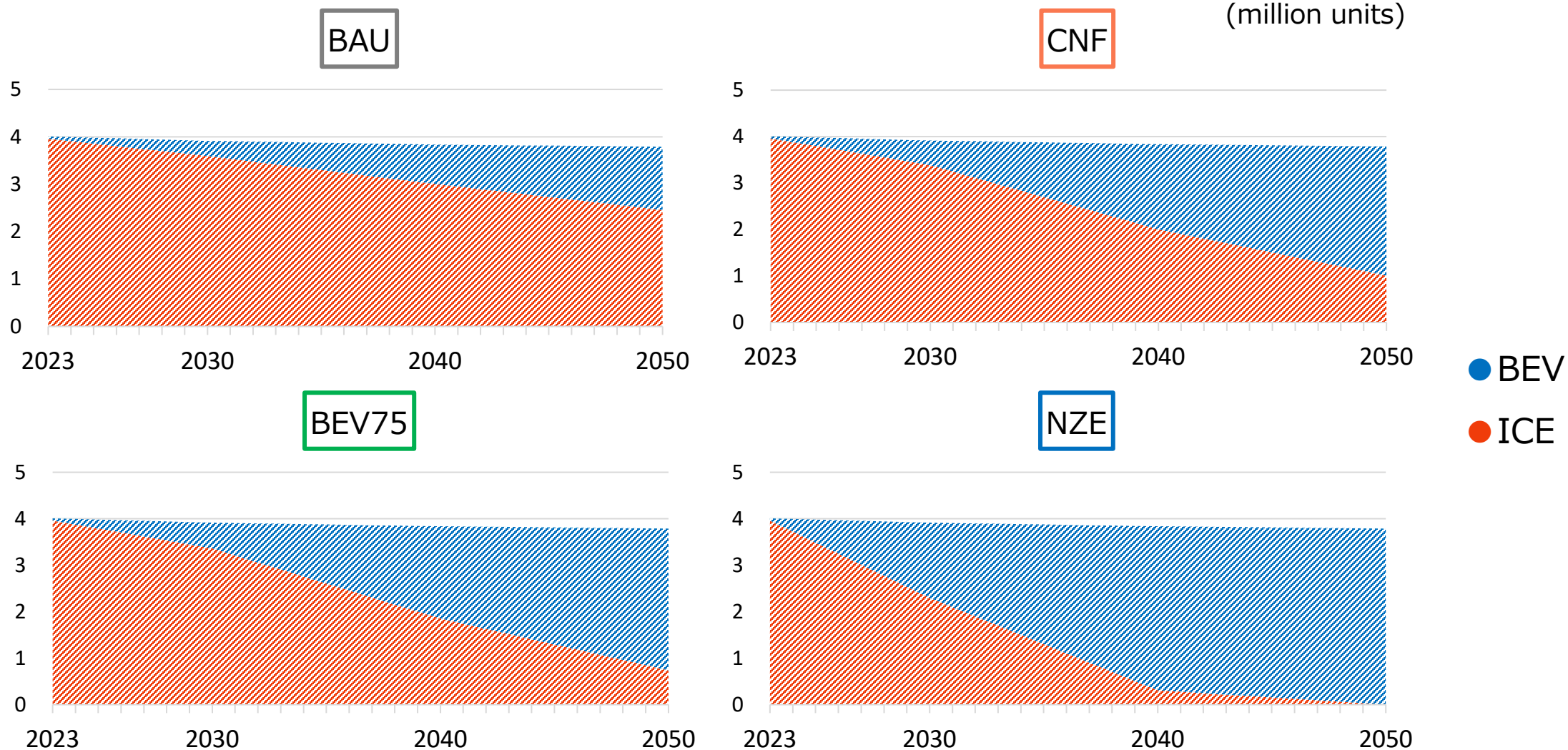
(million units)



Note: Historical data based on the 2026 edition of the EDMC Handbook of Japan's & World Energy & Economic Statistics (JAMA's previous analysis was based on the Handbook's 2022 edition); in-use car fleet projections based on [IEEJ Outlook 2026](#) (published 2025); powertrain mix projections based on JAMA scenarios.

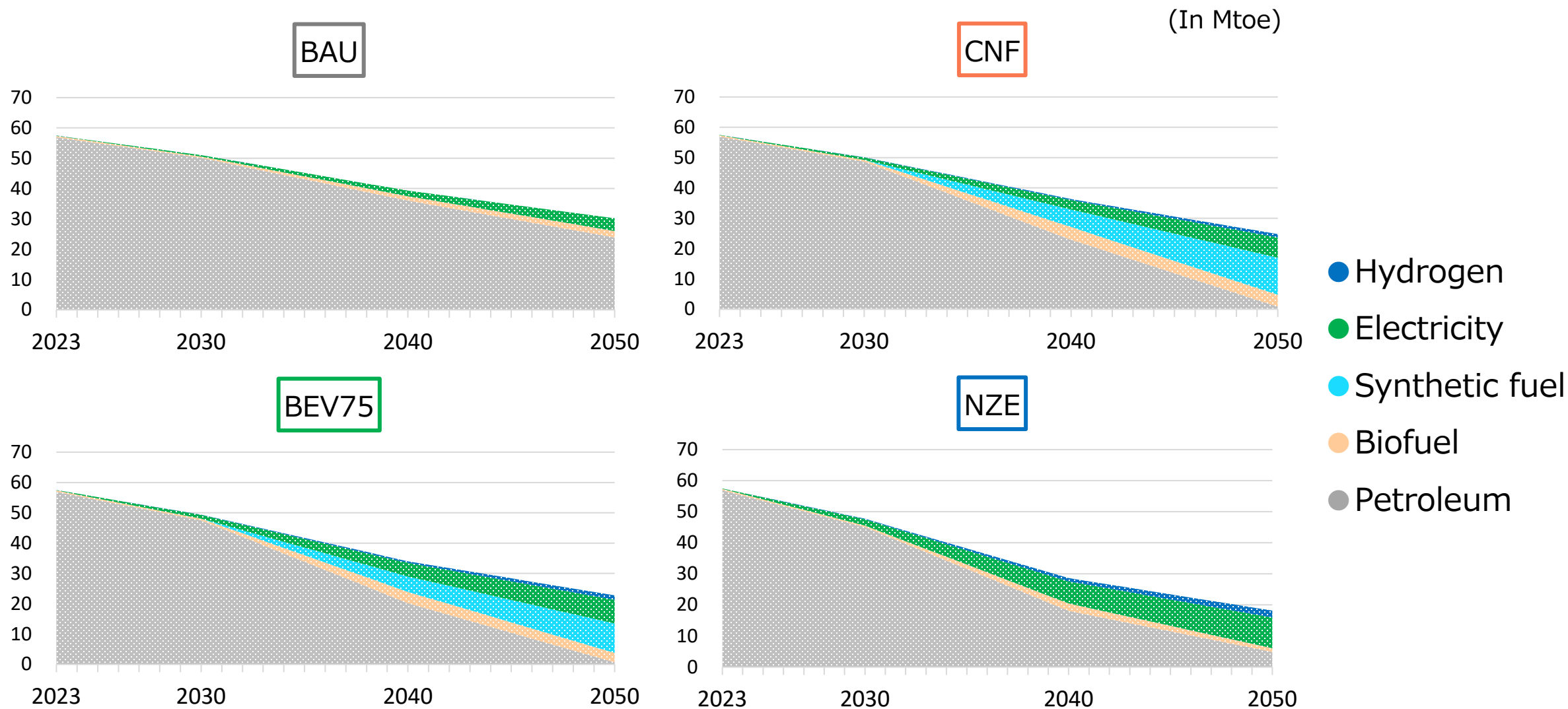
In-Use Motorcycle Fleet (Japan)

(million units)



Note: Historical values are EDMC estimates using [IRF World Road Statistics](#) and national statistics. In-use fleet projections are EDMC estimates, and EDMC estimated the powertrain mix using JAMA scenarios.

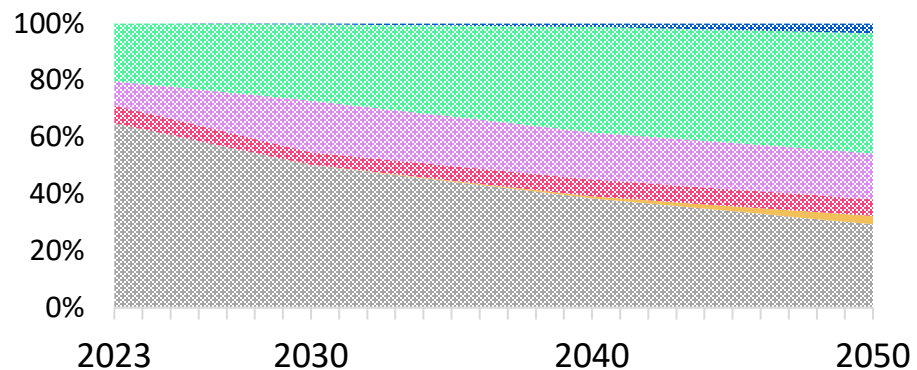
Automotive Fuel Mix (Japan)



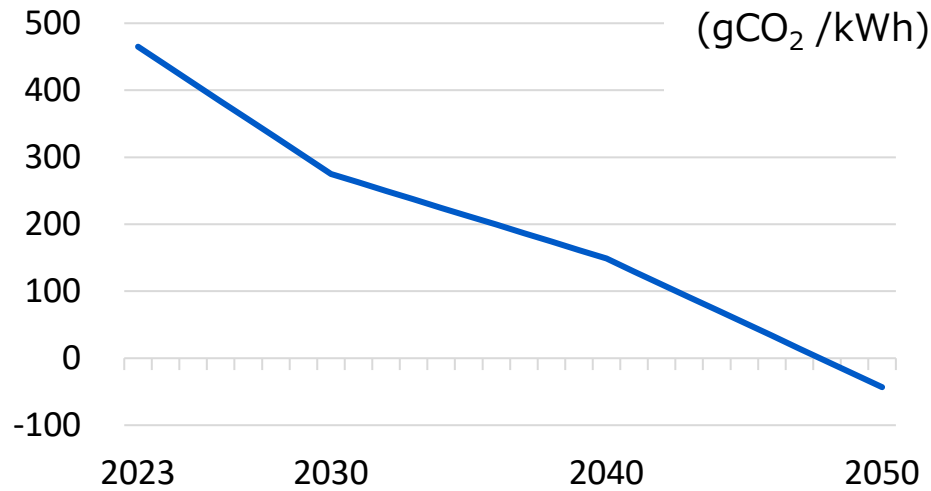
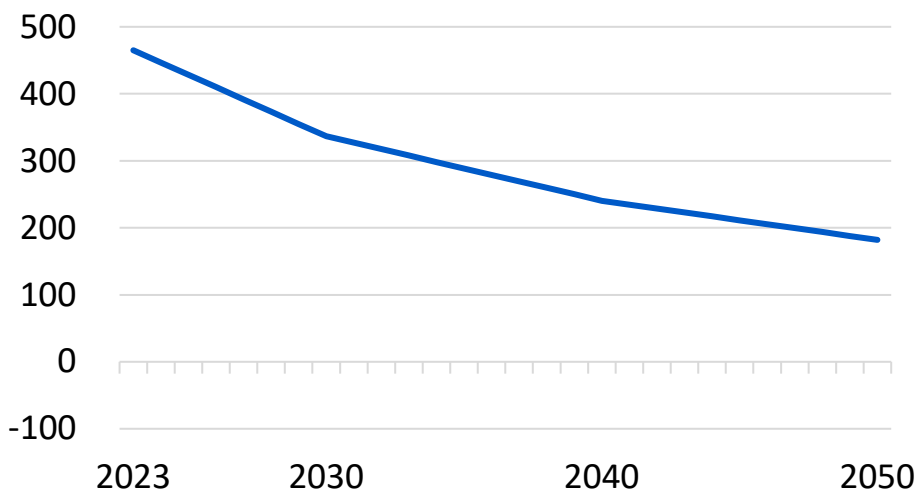
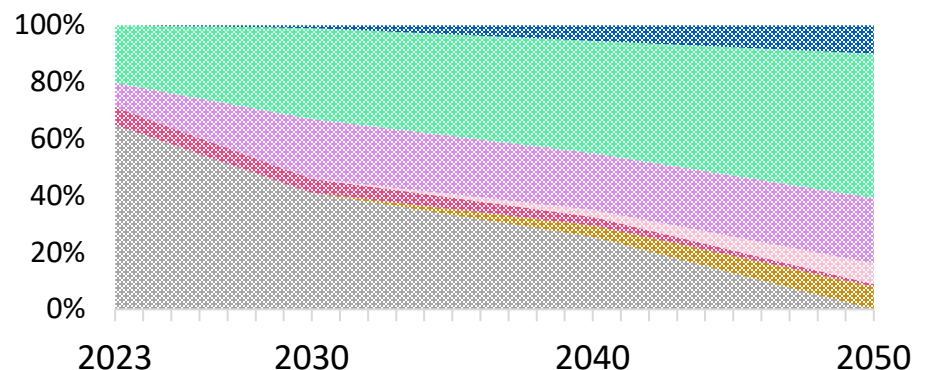
Note: Historical values are EDMC estimates. EDMC also estimated future values, based on JAMA scenarios.

Energy Mix (Japan)

BAU



Other than BAU

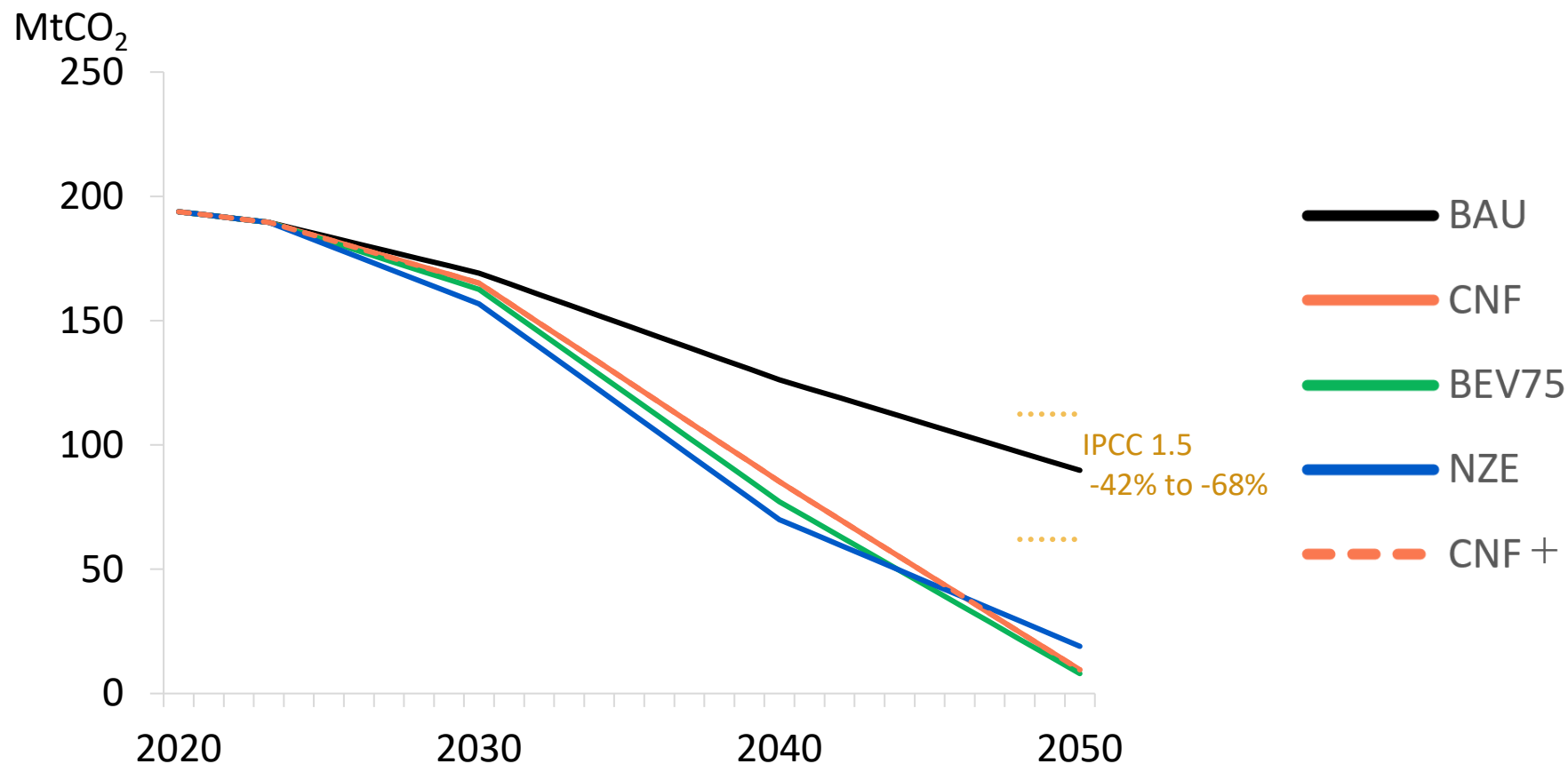


- Hydrogen
- Renewable energy
- Nuclear
- Biomass with CCS¹
- Biomass
- Fossil fuels with CCS¹
- Fossil fuels

¹CCS: Carbon capture and storage is a technology used to reduce atmospheric CO2 emissions by capturing CO2 emitted from power plants, factories, and other sources and storing it underground or in other locations.

Note: Historical data based on [IEA World Energy Balances](#); future projections based on [IEEJ Outlook 2026](#) (published 2025).

CO₂ Emissions (Japan)



Note: Since the results for the CNF and CNF+ scenarios are identical for Japan, the two lines overlap in both graphs. "IPCC 1.5°C (-42% to -68%)" refers to the interquartile range of scenarios, presented in Chapter 10 of the IPCC WG III Sixth Assessment Report, that limit global warming to 1.5°C with no or limited overshoot. In those scenarios, CO₂ emissions from the global transport sector are reduced by approximately 42% to 68% by 2050 relative to 2020 levels. Values within or below this range can be regarded as consistent with the IPCC 1.5°C goal.

In all non-BAU scenarios, CO₂ emission levels are close to carbon neutrality.