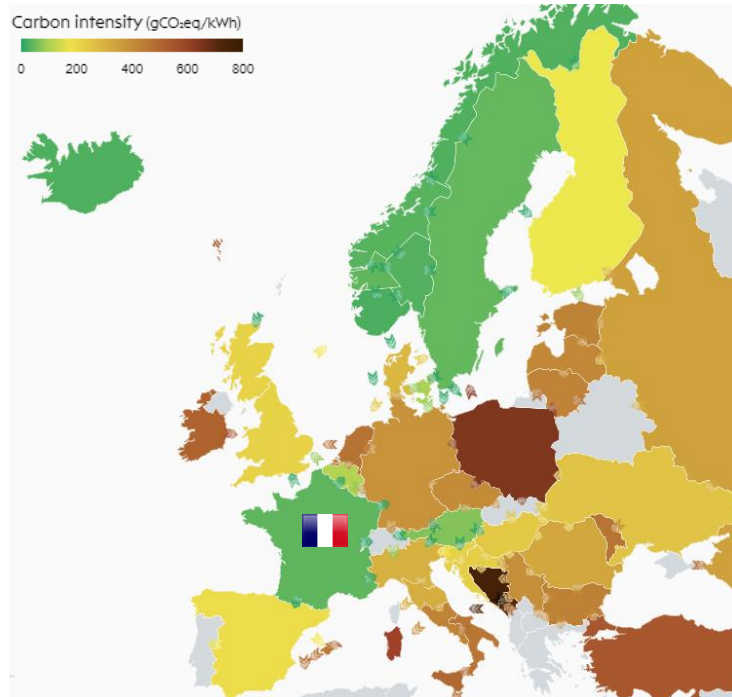


An overview of EV development and policy in France



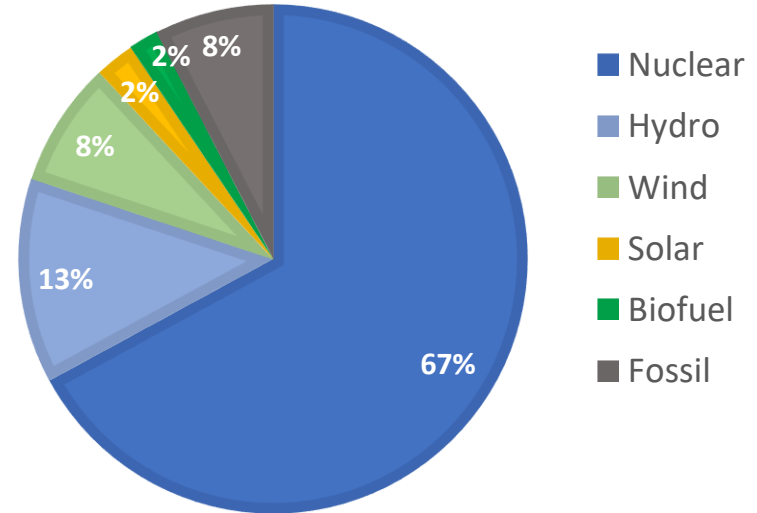
France : a low carbon power backbone

Carbon intensity of power production in Europe



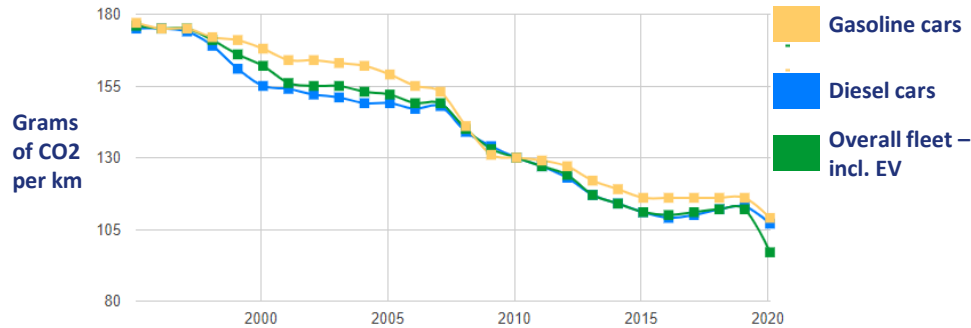
Courtesy of [Electricitymap.org](https://electricitymap.org)

France power mix : 92% low carbon production

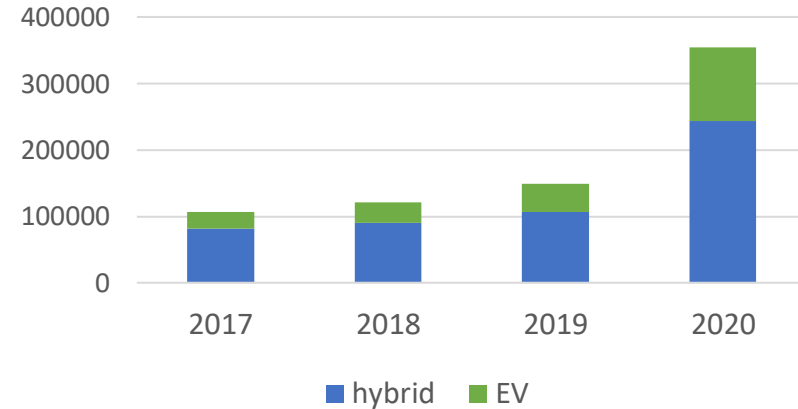


France : current status of carbon reduction in mobility

CO2 intensity of French car fleet



France low emissions vehicle sales



France's automotive fleet

- ▶ Diesel – 23,24 M vehicles
- ▶ Gasoline – 16,56M vehicles
- ▶ Hybrid – 730k vehicles
- ▶ EV – 248k vehicles

France & Europe : plans for 2050 low carbon society



OBJECTIVES AND MEANS

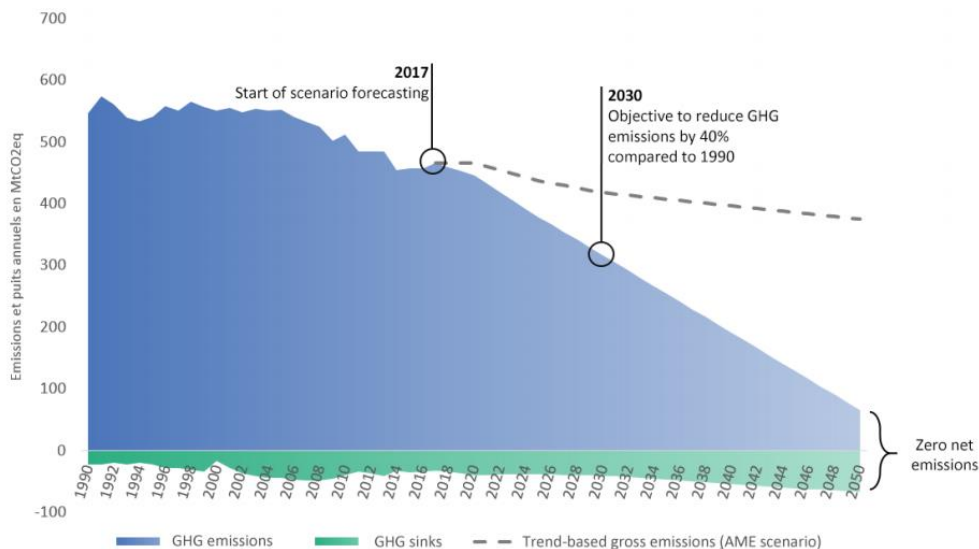
- ▶ At least -85% GHG emissions nationwide by 2050
- ▶ Goals for the transport sector :
 - -28% GHG emissions by 2030 / 35% of EV & FCEV in new car sales
 - Carbon neutral by 2050 / 100% of EV and FCEV in new car sales
- ▶ 2023 onward : \$45 Bn annual investments
- ▶ 300,000 to 500,000 new jobs by 2030

OBJECTIVES AND MEANS

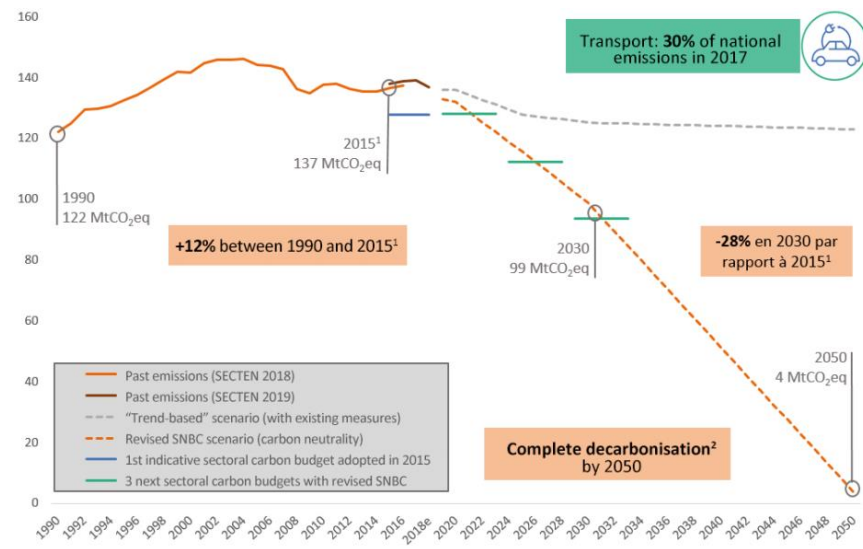
- -40% GHG emissions by 2030 / at least -80% by 2050
- Goals for the transport sector :
 - -55% GHG emissions by 2030 / 30M zero carbon cars on the roads
 - -90% GHG emissions by 2050 / 100% of zero emissions new car sales

France plans for 2050 low carbon society

Nationwide roadmap



Transport sector roadmap



EV technology and industry in France



RENAULT-NISSAN ALLIANCE

- ▶ 6th largest EV maker in the world
- ▶ 10 new EV models by 2025 / 1M EV produced by 2030
- ▶ Vertical integration – in-house manufacturing for batteries & motors
- ▶ First French gigafactory in 2024
- ▶ 2025 : 65% of electrified vehicles in EU sales / 2030 : 90% of EVs in EU sales



PEUGEOT - CITROEN - STELLANTIS

- ▶ 4th largest EV maker in the world
- ▶ Vertical integration roadmap – 80% of added value in-house : battery cells & packs, motors, software, AS services
- ▶ Two gigafactories by 2023 (France & Germany)
- ▶ 2025 : 38% of electrified vehicles in global sales / 2030 : 70% of electrified vehicles in global sales

EV technology and industry in France



4,000 companies



\$7 Bn annual R&D

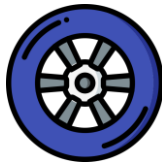
FRENCH EV SUPPLY CHAIN



Nickel,
Manganese
mining & refining



Cells &
batteries
manufacturing



EV grade
tires



Weight
reduction
technology



Powertrain,
inverter,
converter, BMS,



Vehicle
assembly

French-Korean partnerships in EV



**Twizy model
assembled at
Renault Busan plant**



LG Energy Solution



**On-going battery
supply deal**

**Battery core
materials supply**

감사합니다!!