

Opening discussion of recent developments in transportation

Joshua Miller, Modeling Center Manager, ICCT

7 October 2020

2020 Annual Meeting of the G20 Transport Task Group

Themes

Climate, Electrification, CO₂ standards

Canada

- British Columbia's ZEV regulation

China

- Net zero GHG commitment

Europe

- Proposed European Climate Law
- LDV and HDV CO₂ standards
- Stimulus programs

U.S.

- ZEV goals of California and other states
- CARB's Advanced Clean Trucks regulation

Air pollution, Emissions standards

Brazil, Indonesia, Mexico

- Automaker pressure to delay implementation

China

- China 6/VI standards implementation

Europe

- Euro 7 standards under development

India

- BS VI implementation
- Scrappage program under development

U.S.

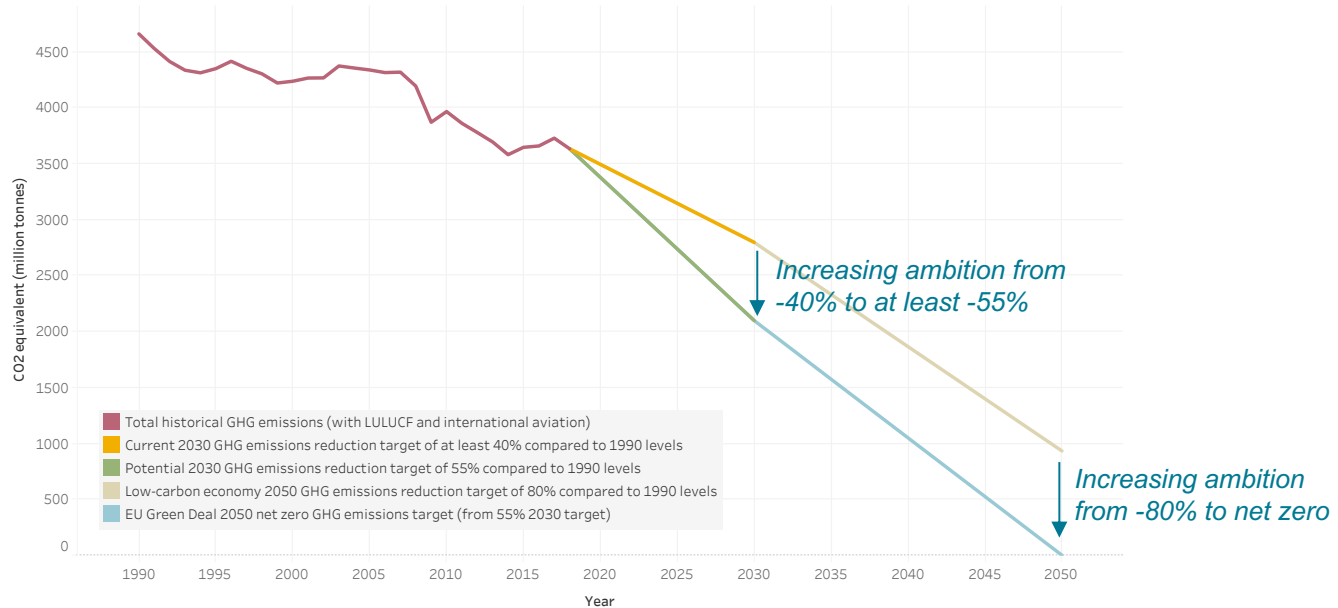
- CARB's HDV Low-NO_x regulation
- Cleaner Trucks Initiative forthcoming

China is continuing its transition to electric and hydrogen powered vehicles

	Plug-in electric vehicles (PEVs)	Hydrogen fuel cell vehicles (FCV)
Development target	2015: 500,000 annual production (~5% market share) 2020: 2 million annual production, 5 million cumulative production 2025: 25% market share	2020: 2,000 cumulative production 2025: 50,000 cumulative production 2030: 1 million cumulative production
Application sector	Passenger cars and commercial vehicles (bus, coach, logistics van, light truck, sanitation truck, cargo truck)	Commercial vehicles (bus, coach, logistics van, sanitation truck, heavy cargo truck)
Pilot program	2005: 4 cities 2010: 25 cities 2015: 88 cities 2019: nationwide	2017: 7 cities 2019: 27 cities
Sales	2010: 7,200 (0.04% market share) 2015: 379,000 (1.5% market share) 2019: 1.2 million (6.5% market share)	2017: 1,300 (0.004% market share) 2019: 2,700 (0.015% market share)
Driving policies	Clear goals in national industrial plans Pilot projects Central and local subsidies Local incentives (license plate quotas, parking, traffic control) Car-sharing fleet procurement NEV mandate for passenger cars Urban bus fleet requirement Charging infrastructure planning and incentives	Hydrogen industry development plan in pilot regions Central and local subsidies Pilot projects Urban bus fleet requirement Hydrogen refueling station incentive

Proposed European Climate Law would set a legally binding target of net zero GHG emissions by 2050

EU-27 (2020) total GHG emissions and reduction targets to 2030 and 2050



More countries and regions are setting increasingly ambitious targets for electric and zero-emission vehicles

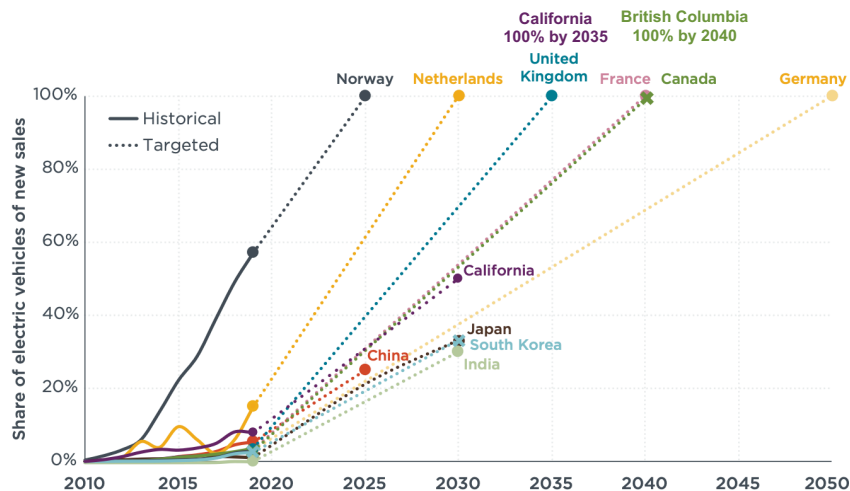
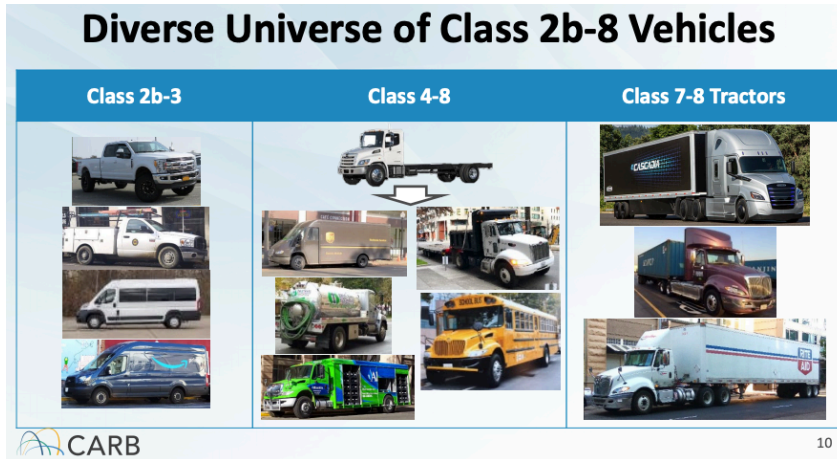


Figure 5. Historical and targeted electric shares of new passenger vehicle sales by markets.

Selected targets for heavy-duty vehicles

Government	Vehicle type	Target year	Target for new sales	Source
Norway	Long-distance coaches	2030	75% electric vehicles	Government document
	Trucks	2030	50% electric vehicles	Government document
Hainan, China	Sanitation vehicles	2020	50% electric vehicles	Government document
	Buses	2020	No gasoline or diesel vehicles	Government document
	Coaches	2025		
15 U.S. states and D.C.	All medium- and heavy-duty vehicles	2030	30% ZEVs	NESCAUM MOU
		2050	100% ZEVs	
California	Transit buses	2029	100% ZEVs	Regulation
	All medium- and heavy-duty vehicles	2045	100% ZEVs for all operations where feasible	Executive Order N-79-20

California's Advanced Clean Truck Regulation



10

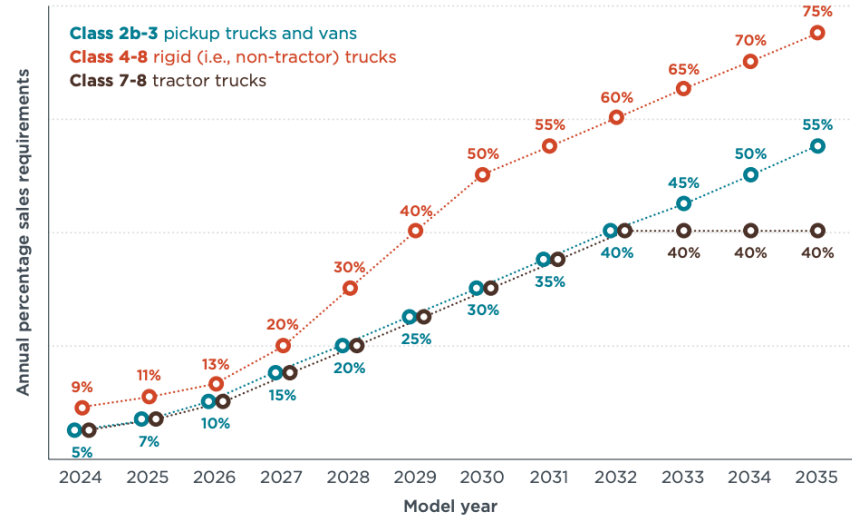
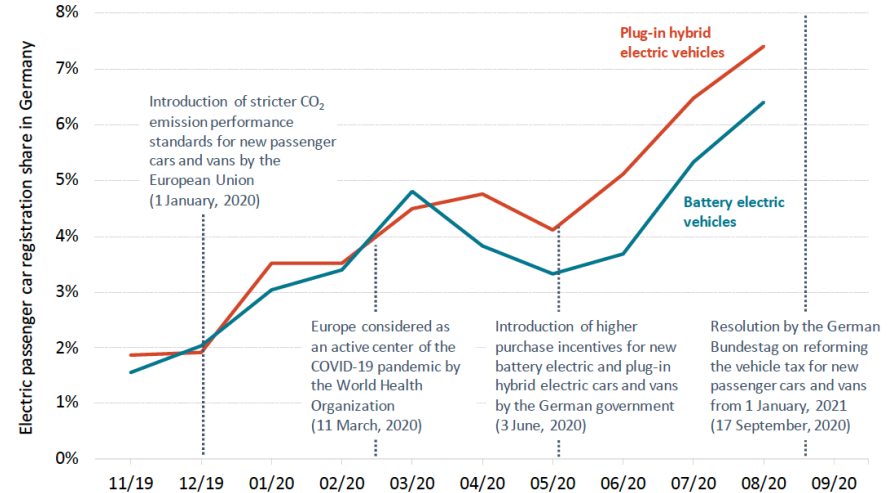
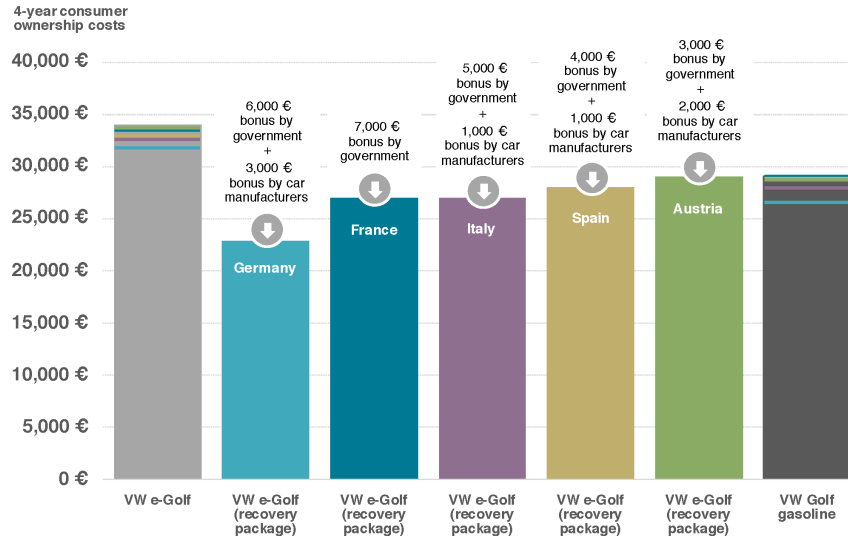


Figure 1: Zero-emission sales percentage schedule by vehicle group and model year.

National governments in Europe have launched stimulus packages that promote EV sales and vehicle replacement

Four-year ownership costs of select passenger car models



Development of new electric passenger car registration shares in Germany since November 2019.

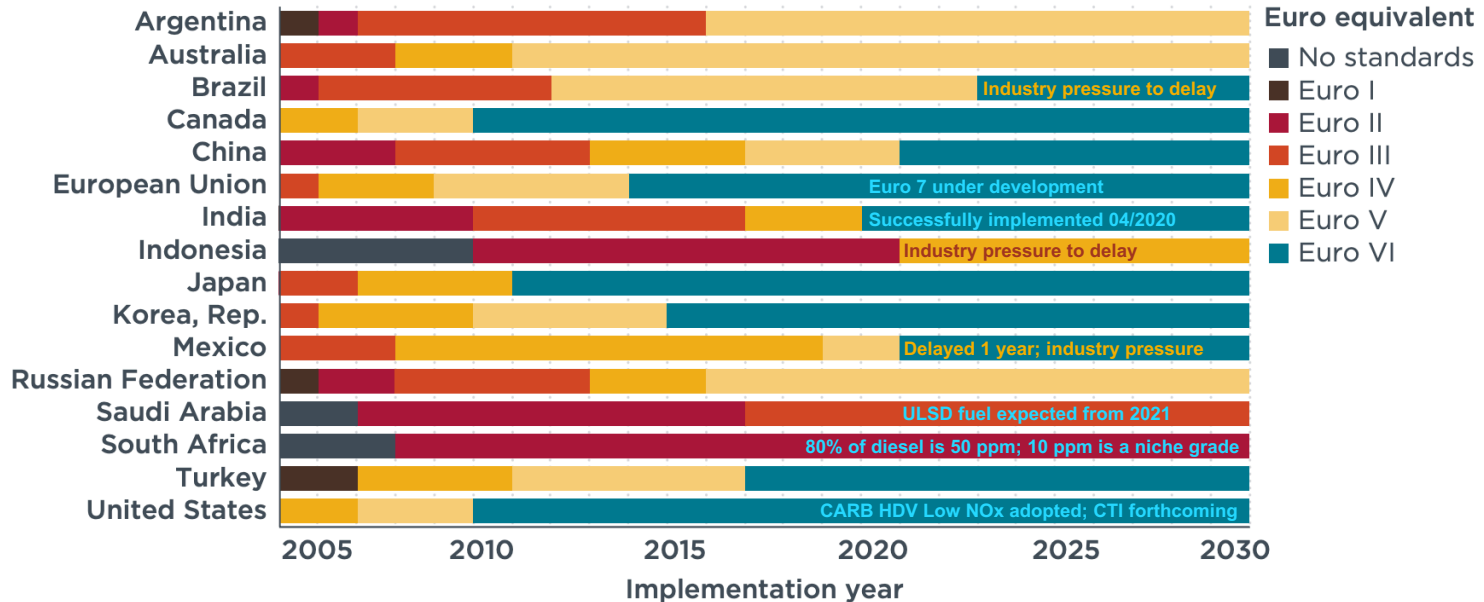
Sources:

<https://theicct.org/blog/staff/economic-recovery-covid-19-ev-europe-aug2020>

<https://theicct.org/blog/staff/germany-vehicle-tax-system-sept2020>

Varied progress on HDV emissions standards

Implementation year (all sales and registration) of heavy-duty diesel engine emission standards in G-20 economies



Resources

- TransportPolicy.net
 - Maintained by ICCT, focuses on clean vehicle and fuels regulations
 - *Thank you for your responses to the prework task!*
- DieselNet.com
 - Monthly newsletter with policy, technology, business updates
- EnergyPolicyTracker.org
 - Tracks public funding for energy in recovery packages
 - Focuses on G20 countries
- IEA Policies Database
 - Large number of policies covering multiple energy sectors

Questions?
Contact josh@theicct.org

icct

THE INTERNATIONAL COUNCIL
ON CLEAN TRANSPORTATION