FACT SHEET EUROPE

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MARKET MONITOR

EUROPEAN PASSENGER CAR AND LIGHT COMMERCIAL VEHICLE REGISTRATIONS: JANUARY–SEPTEMBER 2022

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THE INTERNATIONAL COUNCIL ON CLEAN TRANSPORTATION

At around 2,214,000, the number of new car registrations during the third quarter of 2022 was about the same as during the same time period in 2021. For the entire year to date, new registrations were 10% lower than last year. The Tesla-Honda pool, so far, saw an increase in new registrations (+13%) compared to 2021. Registrations for Volvo (-20%) and Stellantis (-18%) were significantly lower than last year. The average share of battery-electric vehicles (BEVs) increased from 11% in the second quarter to 13% in the third quarter of 2022. The share of plug-in hybrid vehicles (PHEVs) remained constant. Year-to-date, 12% of new cars were BEVs, which is one percentage point more than in 2021. The largest year-to-date advances compared to 2021 were made by Volvo (+10 percentage points), reaching a 21% BEV share, and BMW (+5 percentage points), reaching a 14% BEV share. The Mazda-Subaru-Toyota pool continues to have the lowest share of BEVs, at a level of only 1%. All manufacturers are on track to reach their specific 2022 CO_2 targets. On average, over-compliance is estimated to be at least 7 g/km.

Table 1. New passenger car registrations, by manufacturer pool.

New car registrations				
	Q3/2022	vs. Q3/2021	2022 YTD	vs. 2021
VW-SAIC	586,839	4%	1,759,043	-12%
Stellantis	428,475	-2%	1,394,154	-18%
Renault-Nissan-Mitsubishi	267,378	-6%	867,331	-8%
Mazda-Subaru-Toyota	190,148	1%	583,965	-4%
BMW	142,019	-5%	459,336	-11%
Mercedes-Benz	133,241	15%	404,767	-3%
Hyundai	106,863	-8%	323,168	1%
Kia	103,599	-5%	324,452	6%
Ford	95,174	0%	307,768	-10%
Tesla-Honda	49,626	5%	132,439	13%
Volvo	40,969	-5%	148,192	-20%
Other	69,454	-4%	199,453	-13%
ALL	**2,213,785**	**0%**	**6,904,068**	**-10%**

Table 2. Share of plug-in hybrid and battery electric passenger cars, by manufacturer pool.

Share of plug-in hybrid and battery electric cars						
	Q3/2022		2022 YTD		2021	
	BEV	PHEV	BEV	PHEV	BEV	PHEV
Tesla-Honda	**83%**	0%	**77%**	0%	**78%**	0%
Volvo	**25%**	30%	**21%**	34%	**11%**	38%
BMW	**15%**	17%	**14%**	19%	**9%**	19%
Hyundai	**15%**	8%	**15%**	7%	**14%**	6%
Renault-Nissan-Mitsubishi	**14%**	3%	**12%**	4%	**11%**	4%
VW-SAIC	**13%**	7%	**11%**	7%	**11%**	9%
AVERAGE	**13%**	**9%**	**12%**	**9%**	**10%**	**9%**
Mercedes-Benz	**12%**	23%	**13%**	21%	**12%**	24%
Kia	**11%**	16%	**13%**	13%	**12%**	12%
Stellantis	**11%**	5%	**10%**	7%	**7%**	5%
Ford	**5%**	9%	**5%**	10%	**5%**	10%
Other	**4%**	15%	**4%**	14%	**2%**	8%
Mazda-Subaru-Toyota	**1%**	4%	**1%**	3%	**2%**	3%

Table 3. New passenger car fleet average CO_2 emission level, by manufacturer pool.

	Target gap	New car fleet average CO_2 (in g/km)						
		Q3/2022	2022 YTD	Compliance credits		Status 2022	Target 2022	Target gap
		WLTP	WLTP	eco-innovations	super-credits	WLTP	WLTP	WLTP
Tesla-Honda	-79%	20	28	0.2	0.0	28	129	-101
Volvo	-36%	85	86	0.3	0.0	85	133	-48
BMW	-14%	110	110	1.4	0.0	108	126	-18
Kia	-9%	99	101	0.5	0.0	100	110	-10
Stellantis	-8%	109	110	1.5	0.0	108	118	-10
AVERAGE	**-6%**	**110**	**112**	**1.1**	**0.1**	**111**	**118**	**-7**
Hyundai	-6%	103	104	0.5	0.0	103	110	-7
Mercedes-Benz	-6%	116	117	0.7	0.0	117	124	-7
Mazda-Subaru-Toyota	-4%	115	116	0.5	1.4	114	119	-5
Ford	-2%	120	121	1.7	0.0	120	123	-3
Renault-Nissan-Mitsubishi	-2%	107	109	1.2	0.0	108	110	-2
VW-SAIC	1%	119	123	1.2	0.0	121	120	1

Notes: all CO_2 values are estimates, see methodology section.

Year-to-date registration shares of BEVs and PHEVs were the highest in Norway (88%), Iceland (54%), Sweden (51%), Finland (35%), Denmark (35%), the Netherlands (32%), Germany (26%), Belgium (24%), Luxembourg (23%), and Ireland (23%). These countries also had BEV and PHEV registration shares above the European average of 21%.

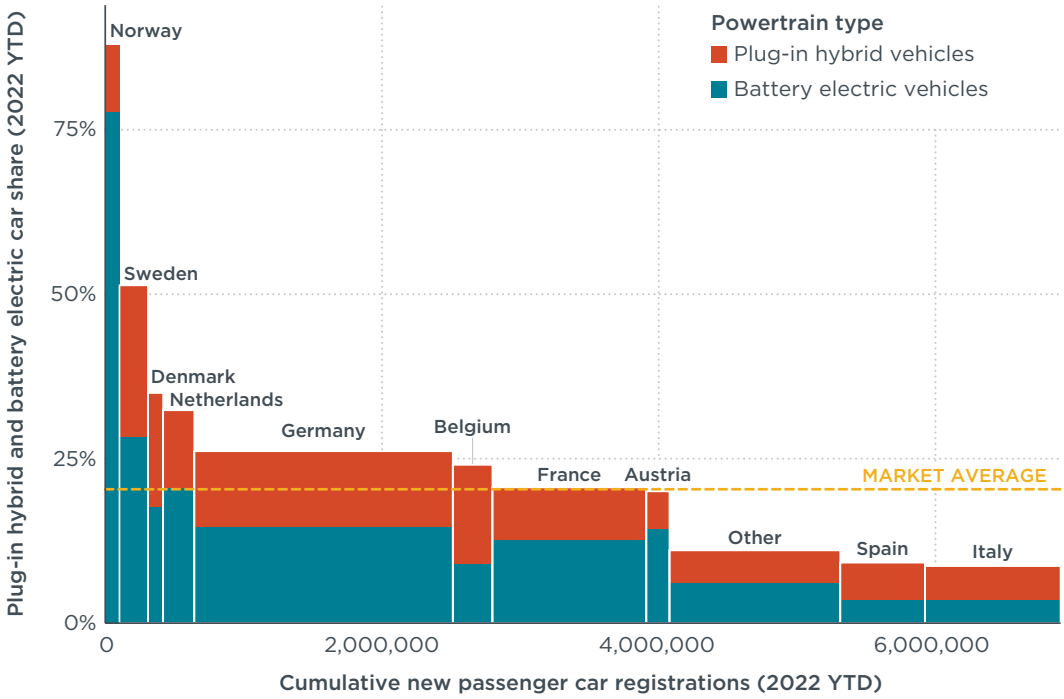

Figure 1. Share of plug-in hybrid and battery-electric vehicles, by country, including information on market size (cumulative car registrations).

Table 4. New passenger car registrations, by country.

New car registrations				
	Q3/2022	vs. Q3/2021	2022 YTD	vs. 2021
Germany	629,910	1%	1,867,885	-7%
France	340,087	1%	1,112,067	-12%
Italy	293,000	4%	980,073	-16%
Spain	198,070	1%	612,126	-8%
Poland	104,287	-1%	316,709	-9%
Belgium	87,600	6%	286,764	-10%
Netherlands	71,247	-2%	224,951	-5%
Sweden	60,763	2%	205,810	-12%
Austria	55,709	-2%	167,431	-14%
Czechia	44,920	-8%	143,843	-11%
Other	328,192	-8%	986,409	-8%
ALL	**2,213,785**	**0%**	**6,904,068**	**-10%**

Table 5. Share of plug-in hybrid and battery electric passenger cars, by country (EU only).

Share of plug-in hybrid and battery electric cars						
	Q3/2022		2022 YTD		2021	
	BEV	PHEV	BEV	PHEV	BEV	PHEV
Sweden	**30%**	20%	**28%**	23%	**19%**	26%
Netherlands	**24%**	11%	**21%**	12%	**20%**	10%
Other	**17%**	8%	**17%**	8%	**15%**	11%
Austria	**17%**	5%	**14%**	6%	**14%**	6%
Germany	**17%**	12%	**15%**	12%	**14%**	12%
France	**14%**	8%	**13%**	8%	**10%**	8%
AVERAGE	**13%**	**9%**	**12%**	**9%**	**10%**	**9%**
Belgium	**10%**	15%	**9%**	15%	**6%**	12%
Italy	**4%**	4%	**4%**	5%	**5%**	5%
Spain	**4%**	5%	**4%**	6%	**3%**	5%
Poland	**3%**	2%	**2%**	2%	**2%**	2%
Czechia	**2%**	2%	**2%**	2%	**1%**	2%

All manufacturers in the EU saw a decrease in new registrations of light commercial vehicles (vans) in the third quarter (-15% on average), with an average drop of 21% year to date compared to 2021. The average registration share of battery electric vans increased from 4% in the second quarter to 6% in the third quarter. Mercedes-Benz (8%) and Stellantis (7%) had a higher share of battery electric vans than the market average. Germany is still on track to be the country with the highest share (8%) in 2022. Almost all manufacturers are on track to meet their 2022 CO_2 targets, while Stellantis continues to lead in overcompliance and is currently set to surpass its 2022 CO_2 targets by 23 g/km. While still lagging behind, Renault-Nissan-Mitsubishi is closing in on its 2022 target with a 13 g/km gap, down from 24 g/km in the first quarter.

Table 6. New van registrations, by manufacturer pool.

New vans registrations				
	Q3/2022	vs. Q3/2021	2022 YTD	vs. 2021
Stellantis	85,983	-24%	308,286	-25%
Volkswagen-Ford-SAIC	78,122	-4%	232,071	-20%
Renault-Nissan-Mitsubishi	53,808	-21%	175,010	-29%
Mercedes-Benz	34,238	-3%	100,893	-11%
Other	36,100	-14%	126,987	-2%
ALL	**288,251**	**-15%**	**943,247**	**-21%**

Table 7. Share of plug-in hybrid and battery electric vans, by manufacturer pool.

Share of plug-in hybrid and battery electric vans						
	Q3/2022		2022 YTD		2021	
	BEV	PHEV	BEV	PHEV	BEV	PHEV
Other	**8%**	0%	**6%**	0%	**4%**	0%
Mercedes-Benz	**8%**	0%	**5%**	0%	**4%**	0%
Stellantis	**7%**	0%	**5%**	0%	**2%**	0%
AVERAGE	**6%**	**0%**	**4%**	**0%**	**3%**	**0%**
Renault-Nissan-Mitsubishi	**4%**	0%	**4%**	0%	**5%**	0%
Volkswagen-Ford-SAIC	**3%**	0%	**3%**	0%	**2%**	0%

Table 8. New vans fleet average CO_2 emission level, by manufacturer pool.

		New vans fleet average CO_2 (in g/km)					
		Q3/2022	2022 YTD	Credits	Status 2022	Target 2022	Target gap
	Target gap	WLTP	WLTP	eco-innovations	WLTP	WLTP	WLTP
Stellantis	-12%	161	164	0.0	164	187	-23
AVERAGE	**-4%**	**183**	**186**	**0.0**	**186**	**194**	**-8**
Mercedes-Benz	-3%	206	215	0.0	215	221	-6
Volkswagen-Ford-SAIC	-2%	193	194	0.0	194	198	-4
Renault-Nissan-Mitsubishi	7%	192	198	0.0	198	185	13

Table 9. New van registrations, by country (EU only).

New vans registrations				
	Q3/2022	vs. Q3/2021	2022 YTD	2021
France	73,421	-17%	256,422	-22%
Germany	53,124	-13%	162,176	-19%
Italy	31,401	-16%	112,981	-12%
Spain	24,849	-9%	75,816	-25%
Other	105,456	-17%	335,852	-22%
ALL	**288,251**	**-15%**	**943,247**	**-21%**

Table 10. Share of plug-in hybrid and battery electric vans by country.

Share of plug-in hybrid and battery electric vans						
	Q3/2022		2022 YTD		2021	
	BEV	PHEV	BEV	PHEV	BEV	PHEV
Germany	**8%**	0%	**6%**	0%	**5%**	0%
Other	**6%**	0%	**5%**	0%	**3%**	0%
AVERAGE	**6%**	**0%**	**4%**	**0%**	**3%**	**0%**
France	**4%**	0%	**4%**	0%	**3%**	0%
Italy	**3%**	0%	**2%**	0%	**2%**	0%
Spain	**3%**	0%	**3%**	0%	**2%**	0%

By the end of the third quarter of 2022, there were close to 444,000 publicly accessible electric vehicle charging points in Europe. This represents a 29% increase over the end of 2021. Europe-wide there were, on average, about 2.7 "normal," or 22 kW-equivalent, publicly accessible charging points installed per thousand passenger cars on the road at the end of the third quarter of 2022, up from 1.9 at the end of 2021. This represents a 42% increase. The growth in installed power output is larger than the growth in absolute number of chargers due to an increasing number of high-power chargers being installed in 2022. Norway (17.9) and the Netherlands (10.2) continue to lead, while 19 of 31 countries fell below the European average. Poland (0.3), Cyprus (0.3), and Greece (0.3) exhibited the fewest number of charging points per thousand passenger cars.

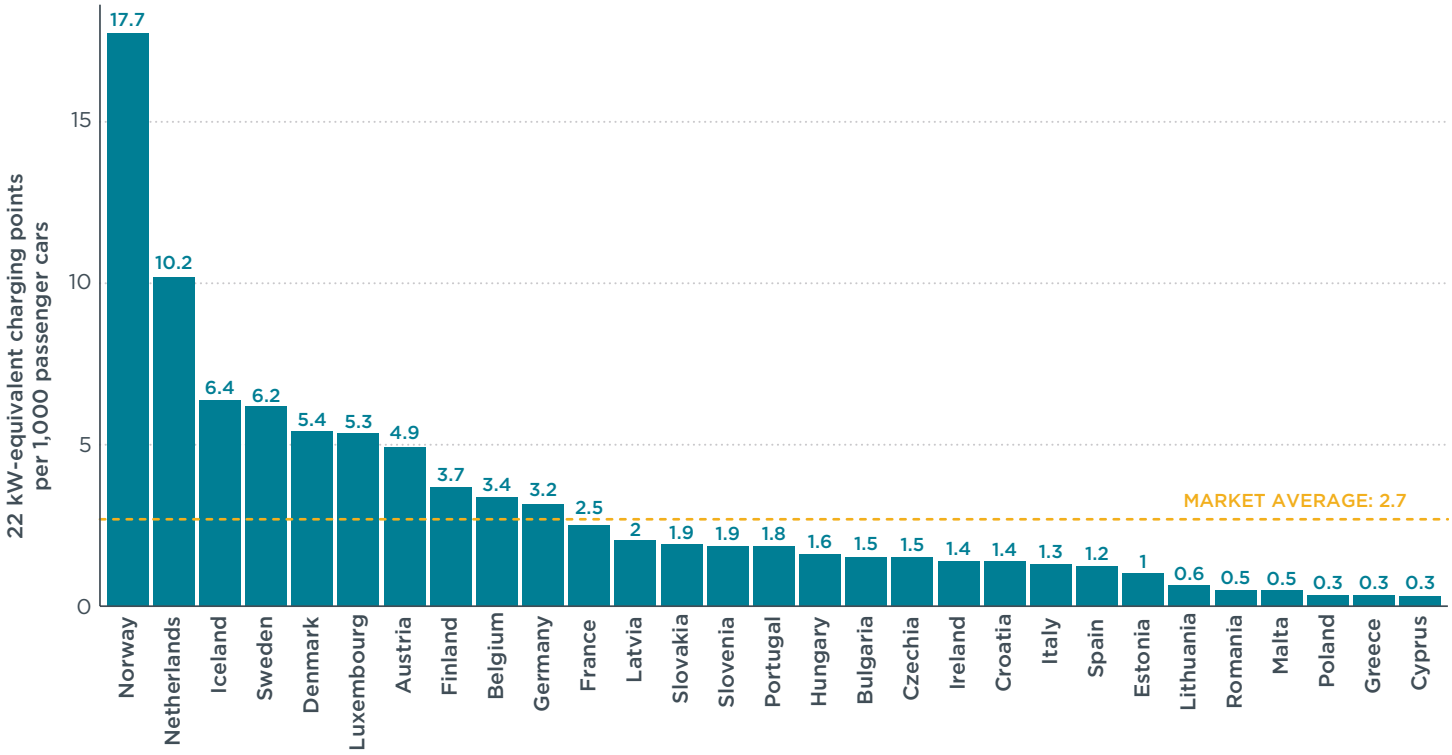

Figure 2. 22 kW-equivalent publicly accessible charging points installed per thousand passenger cars on the road in every EU and EFTA country by the end of the third quarter of 2022.

In Italy, market shares of BEVs and PHEVs remain below the European average, varying between 7% and 10% throughout the first nine months of 2022. To support the uptake of BEVs and PHEVs, the Italian government has been providing one-time subsidies for new car purchases since 2019. With the program ending in December 2021, new registration shares of BEVs and PHEVs dropped in the beginning of 2022 by 5.1 percentage points between December and January. With the reintroduction of purchase incentives in May 2022, secured for a duration of three years, shares increased slightly for several months. Under current policy, purchasers of a new BEV or PHEV receive a one-time bonus up to €3,000 without and up to €5,000 with the scrappage of an older vehicle certified to below Euro 5 standards. In addition, owners of an electric vehicle are exempt from the regularly payable circulation tax for five years after the first registration.

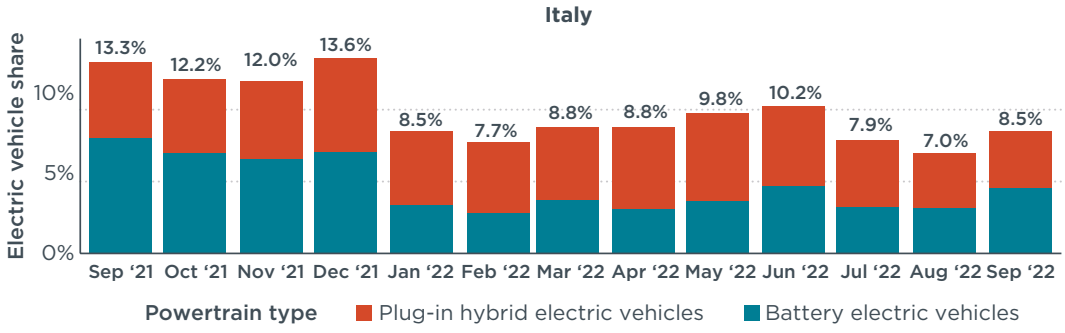

Figure 3. Share of new battery-electric and plug-in hybrid passenger cars in Italy (spotlight of the month).

At the end of the third quarter of 2022, Italy had roughly 1.3 normal (22 kW) publicly accessible charging points installed per thousand passenger cars on the road, falling well below the European average of 2.7. During the first three quarters of 2022, Italy

increased its public charging network by 29% and grew its public installed power output (22-kW equivalent charging points) by 44%, which are both similar to the European average of 29% and 42%, respectively. The growth in installed power output is larger than the growth in absolute number of chargers due to more high-power chargers being installed in 2022. While at the beginning of 2022, 9% of Italy's chargers were DC Fast, at the end of the 3rd quarter, the share increased to 11%.

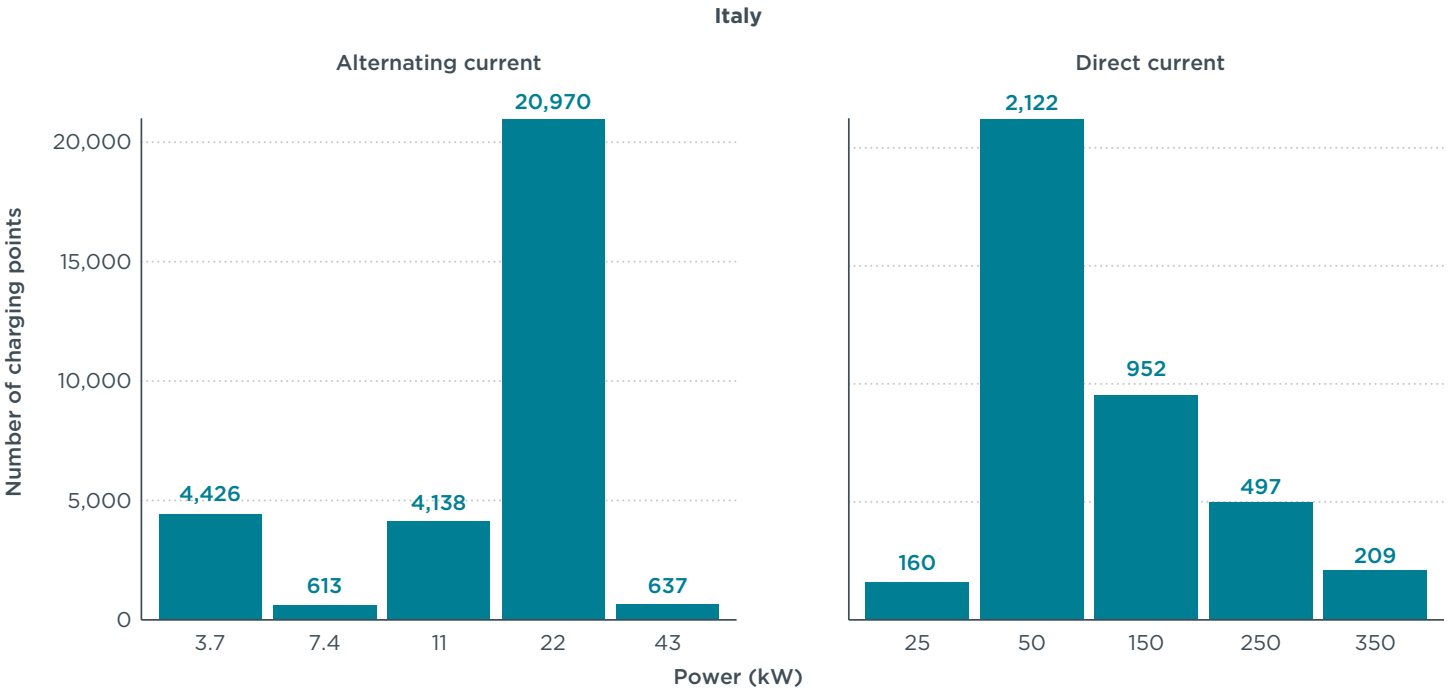

Figure 4. Number of publicly accessible alternating current normal (left) and direct current fast (right) charging points in Italy by the end of the third quarter of 2022.

DEFINITIONS, DATA SOURCES, METHODOLOGY, AND ASSUMPTIONS

Manufacturer pools: Automakers are allowed to form pools to jointly comply with CO_2 targets. For this factsheet, the definition of pools according to the European Commission, "M1 pooling list", version of 14 July 2022 applies (main brands listed here): BMW Group (BMW, Mini), Ford (Ford), Hyundai (Hyundai), Kia (Kia), Mazda-Subaru-Toyota (Lexus, Mazda, Subaru, Toyota), Mercedes-Benz (Mercedes-Benz, Smart), Renault-Nissan-Mitsubishi (Dacia, Mitsubishi, Nissan, Renault), Stellantis (Alfa Romeo, Citroën, Fiat, Jeep, Lancia, Opel, Peugeot), Tesla-Honda (Honda, Tesla), Volvo (Volvo) and VW-SAIC (Audi, Cupra, Porsche, SEAT, Škoda, VW). For light commercial vehicles, the "N1 pooling list", version 20 December 2021, applies: Mercedes-Benz (Mercedes-Benz, Mitsubishi Fuso), Renault-Nissan-Mitsubishi (Mitsubishi, Nissan, Renault), Stellantis (Citroën, Fiat, Opel, Peugeot), Volkswagen-Ford-SAIC (Ford, MAN, Volkswagen).

Abbreviations: CO_2 = carbon dioxide emissions; **g/km** = grams per kilometer; **YTD** = year to date.

Technical scope: This factsheet focuses on new **passenger car** and **light commercial vehicle** registrations. **Electric vehicles** here include battery electric (BEV), plug-in hybrid electric (PHEV), and fuel cell vehicles.

Geographic scope: The European CO_2 regulation for vehicle manufacturers applies to all countries of the European Economic Area (EEA). This includes the 27 Member States of the European Union, plus Iceland, Liechtenstein, and Norway. Data for new car registrations and shares of electric vehicles in this factsheet cover all of these countries, with the exception of Bulgaria, Liechtenstein, and Malta. Data for CO_2 emission levels additionally omit Hungary, Lithuania, Poland (until April 2020), Portugal, and Romania (together less than 10% of the total market). Charging infrastructure data are presented for the 27 EU members plus the 4 EFTA countries (Iceland, Liechtenstein, Norway, Switzerland).

Data sources: AAA DATA (France), Dataforce (all other markets), Eco-Movement (charging points).

Results may change over time: Registrations and/or CO_2 data may be retrospectively updated by some of the national type approval authorities. Historical values are regularly updated to reflect all latest data available.

Test procedures: CO_2 values are provided according to the Worldwide harmonized Light vehicles Test Procedure (**WLTP**).

Flexible compliance mechanisms: To facilitate meeting their CO_2 targets, manufacturers can make use of a number of compliance mechanisms: (1) Manufacturers can reduce their CO_2 level by up to 7 g/km by deploying **eco-innovation** technologies. To incentivize eco-innovations, CO_2 savings from eco-innovations per passenger car and light commercial vehicle are amplified by multipliers in the years 2021, 2022 and 2023. For 2022, the multiplier is set to 1.7. As a conservative estimate, we apply the 2021 (cars) / 2020 (vans) level of eco-innovation CO_2 emission reductions per manufacturer[1], (2) New passenger cars with less than 50 g/km CO_2/km (NEDC) are counted 1.33 times in 2022 (**super-credit**). The impact of super-credits for complying with the CO_2 targets is capped at 7.5 g/km per manufacturer for the years 2020-2022 together.

Mass-based targets: For each manufacturer pool, a specific **2022 CO_2 target value** applies, depending on the average mass of the new cars registered. For this factsheet, we assume the average mass per manufacturer pool to remain constant with respect to the market situation in 2021 (cars) / 2020 (vans).[2]

Charging point: As defined in the Alternative Fuel Infrastructure regulation proposal, a charging point "means a fixed or mobile interface that allows for the transfer of electricity to an electric vehicle, which, whilst it may have one or several connectors to accommodate different connector types, is capable of recharging only one electric vehicle at a time, and excludes devices with a power output less than or equal to 3.7 kW the primary purpose of which is not recharging electric vehicles."

1 Applying the methodology outlined in: Uwe Tietge, Peter Mock, and Jan Dornoff, *Overview and evaluation of eco-innovations in European passenger car CO_2 standards*, (ICCT: Washington, DC, 2018), https://theicct.org/publications/eco-innovations-european-passenger-car-co2-standards.

2 Uwe Tietge, Jan Dornoff, Peter Mock, and Sonsoles Díaz, *CO_2 emissions from new passenger cars in Europe: Car manufacturers' performance in 2021*, (ICCT: Washington, DC, 2022), https://theicct.org/publication/co2-new-passenger-cars-europe-aug22/

Contact: Peter Mock, +49 30 233 268 410, peter@theicct.org

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www.theicct.org

communications@theicct.org

twitter @theicct

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