

EPMA's Key Powder Metallurgy Figures

No. 35 – April 2025

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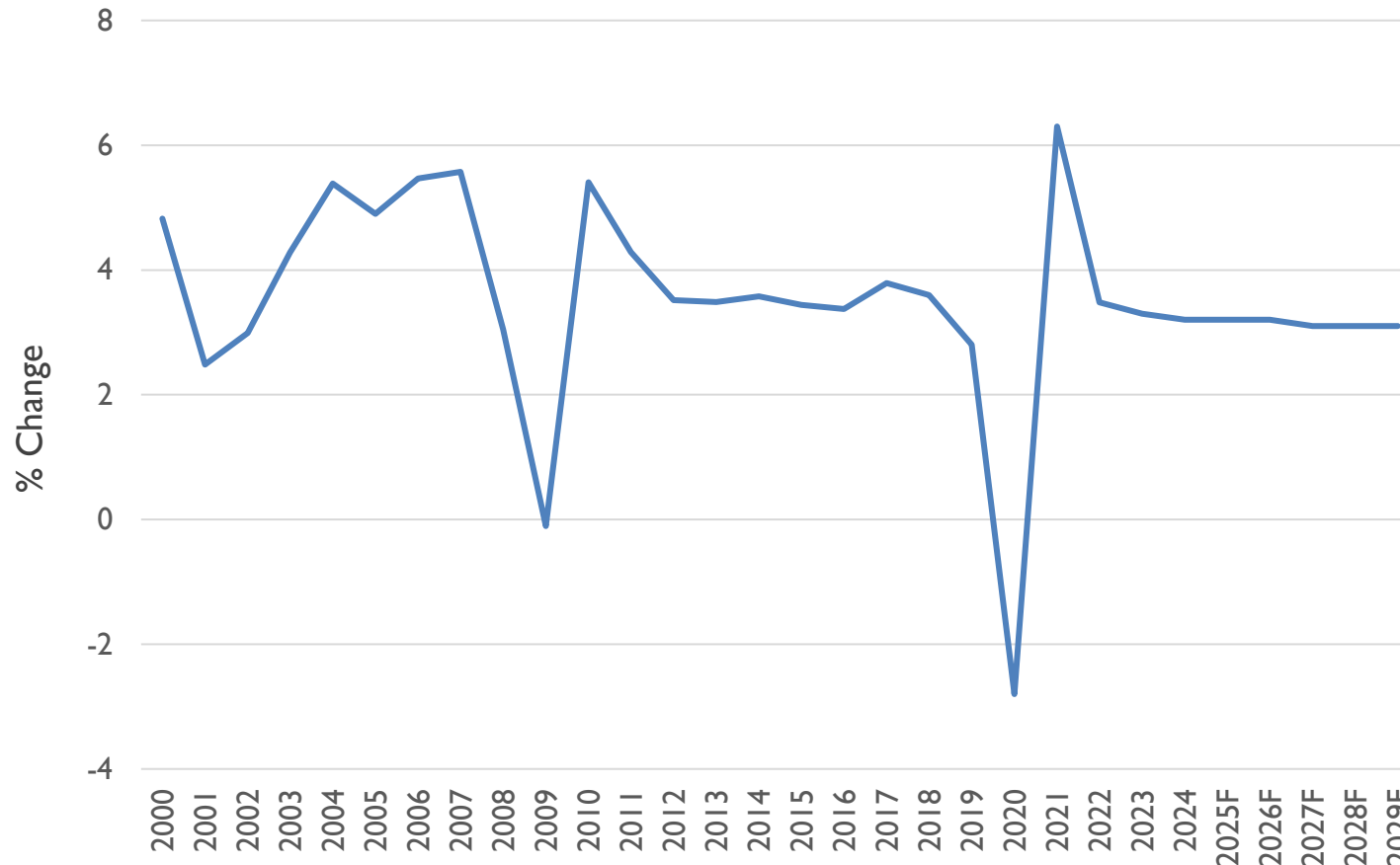
Economic

April 2025

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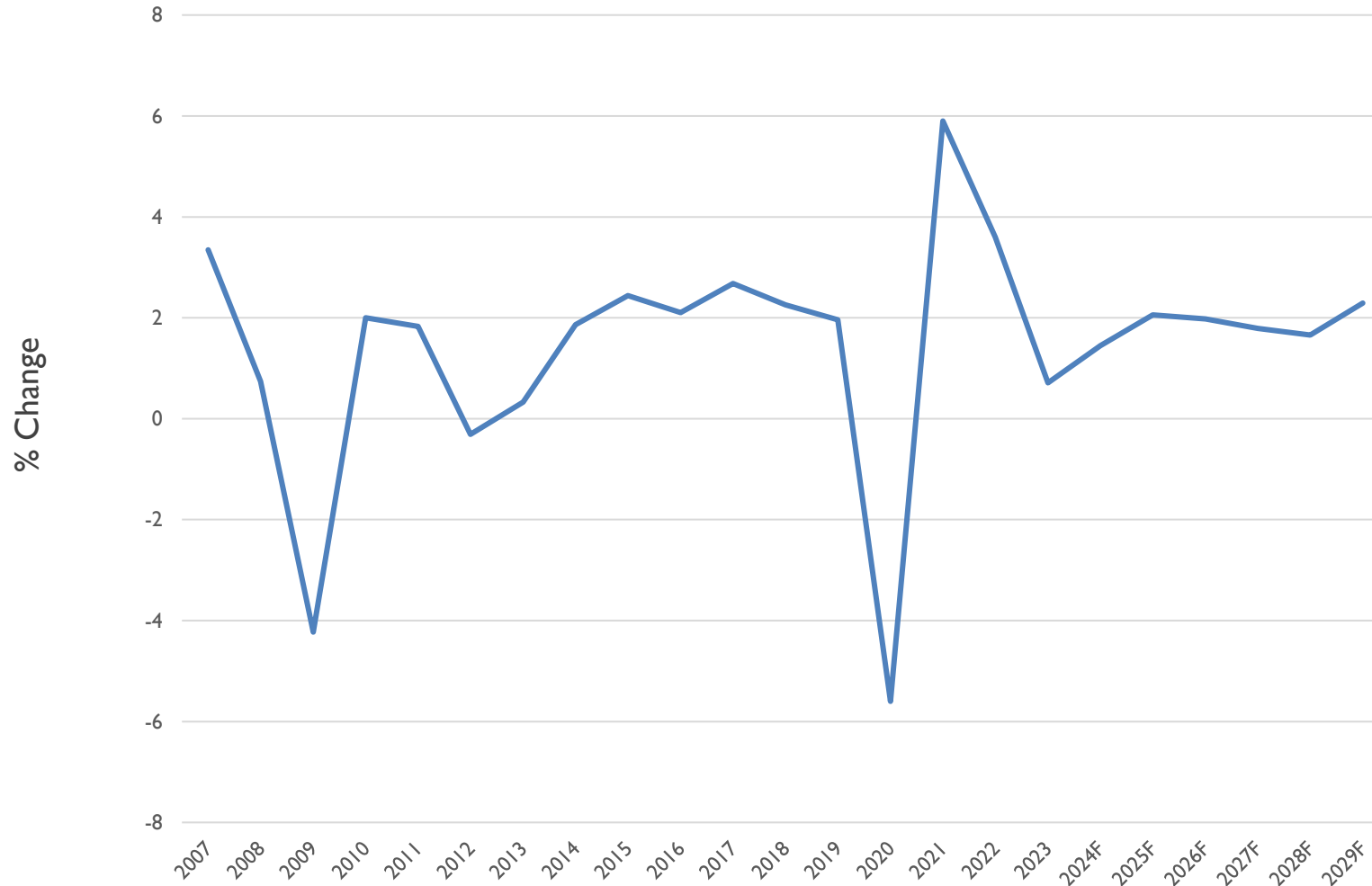
World GDP (Constant prices, Percent Change)



Year	Percent Change	Year	Percent Change
2000	4.8	2015	3.4
2001	2.5	2016	3.4
2002	3.0	2017	3.8
2003	4.3	2018	3.6
2004	5.4	2019	2.8
2005	4.9	2020	-2.8
2006	5.5	2021	6.6
2007	5.6	2022	3.5
2008	3.0	2023	3.3
2009	-0.1	2024	3.2
2010	5.4	2025F	3.2
2011	4.3	2026F	3.2
2012	3.5	2027F	3.1
2013	3.5	2028F	3.1
2014	3.6	2029F	3.1

Source: statista.com

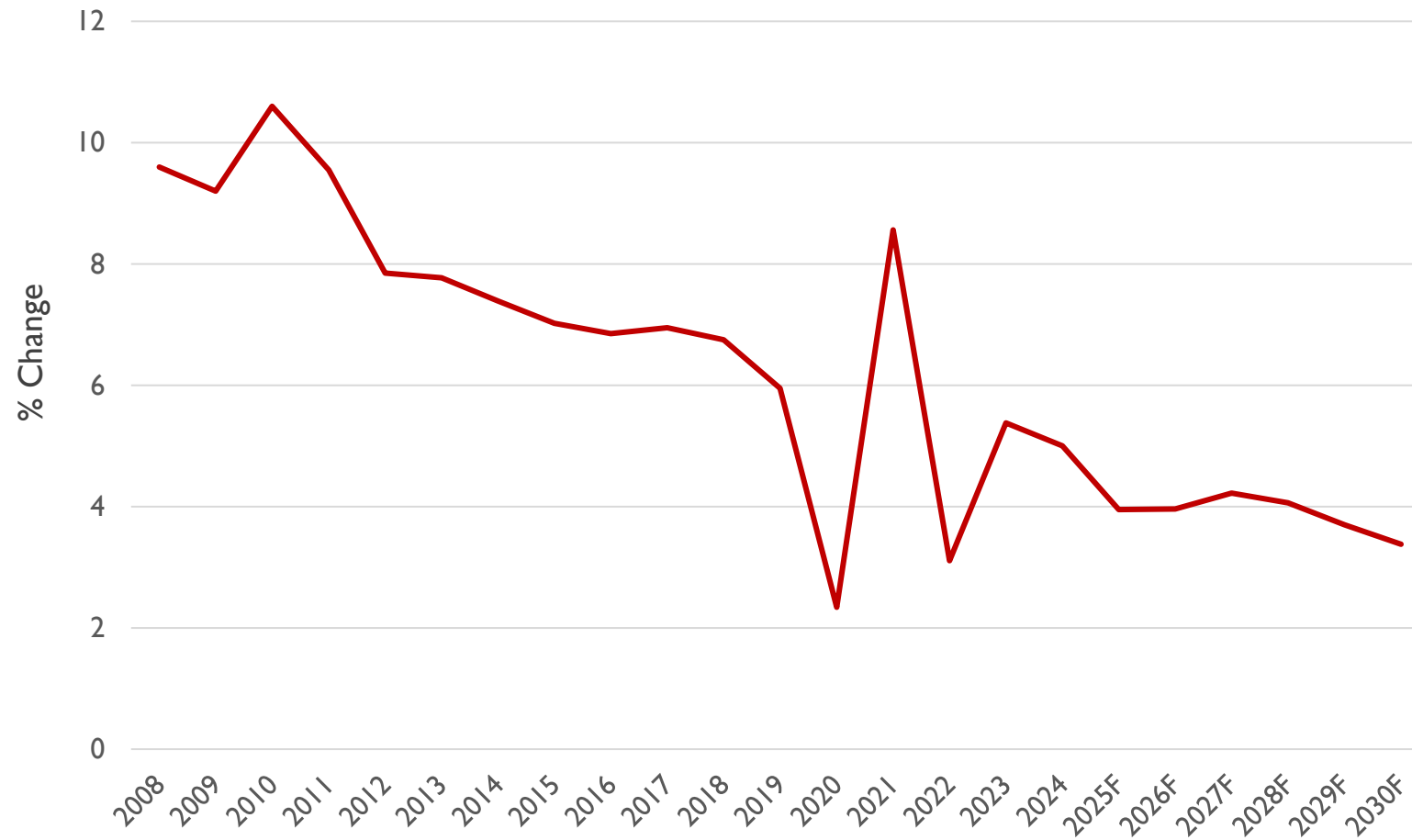
European Union GDP (Constant prices, Percent Change)



Year	Percent Change	Year	Percent Change
2007	3.345	2018	2.26
2008	0.74	2019	1.96
2009	-4.227	2020	-5.6
2010	2	2021	5.9
2011	1.829	2022	3.6
2012	-0.311	2023	0.71
2013	0.329	2024F	1.45
2014	1.866	2025F	2.06
2015	2.439	2026F	1.98
2016	2.104	2027F	1.79
2017	2.678	2028F	1.66
		2029F	2.29

Source: statista.com

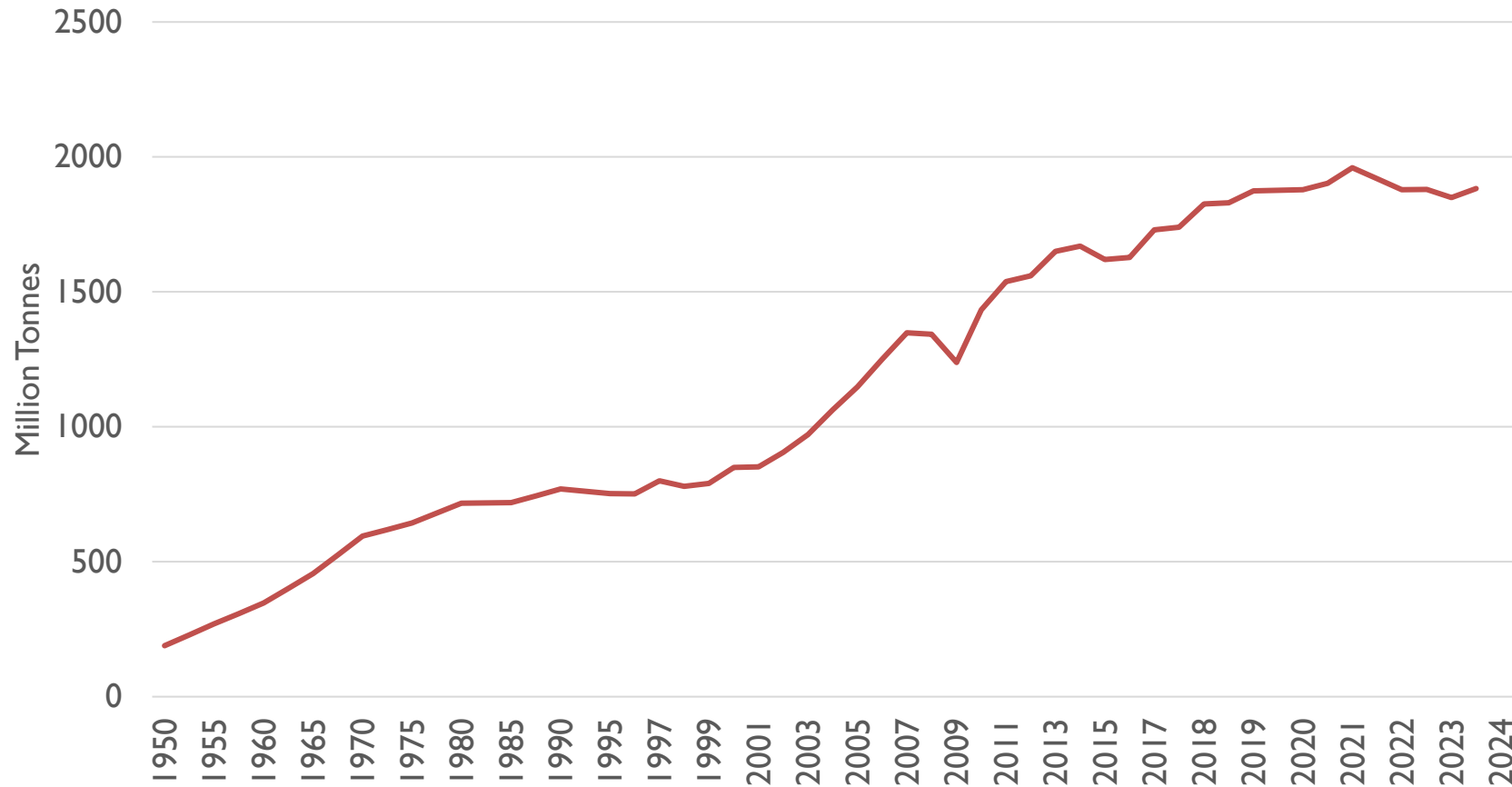
China GDP (Constant prices, Percent Change)



Year	Percent Change	Year	Percent Change
2008	9.6	2019	5.95
2009	9.2	2020	2.34
2010	10.6	2021	8.56
2011	9.55	2022	3.11
2012	7.85	2023	5.38
2013	7.77	2024	5
2014	7.39	2025F	3.95
2015	7.02	2026F	3.96
2016	6.85	2027F	4.22
2017	6.95	2028F	4.06
2018	6.75	2029F	3.70
		2030F	3.38

Source: statista.com

World Crude Steel Production (1950-2024)

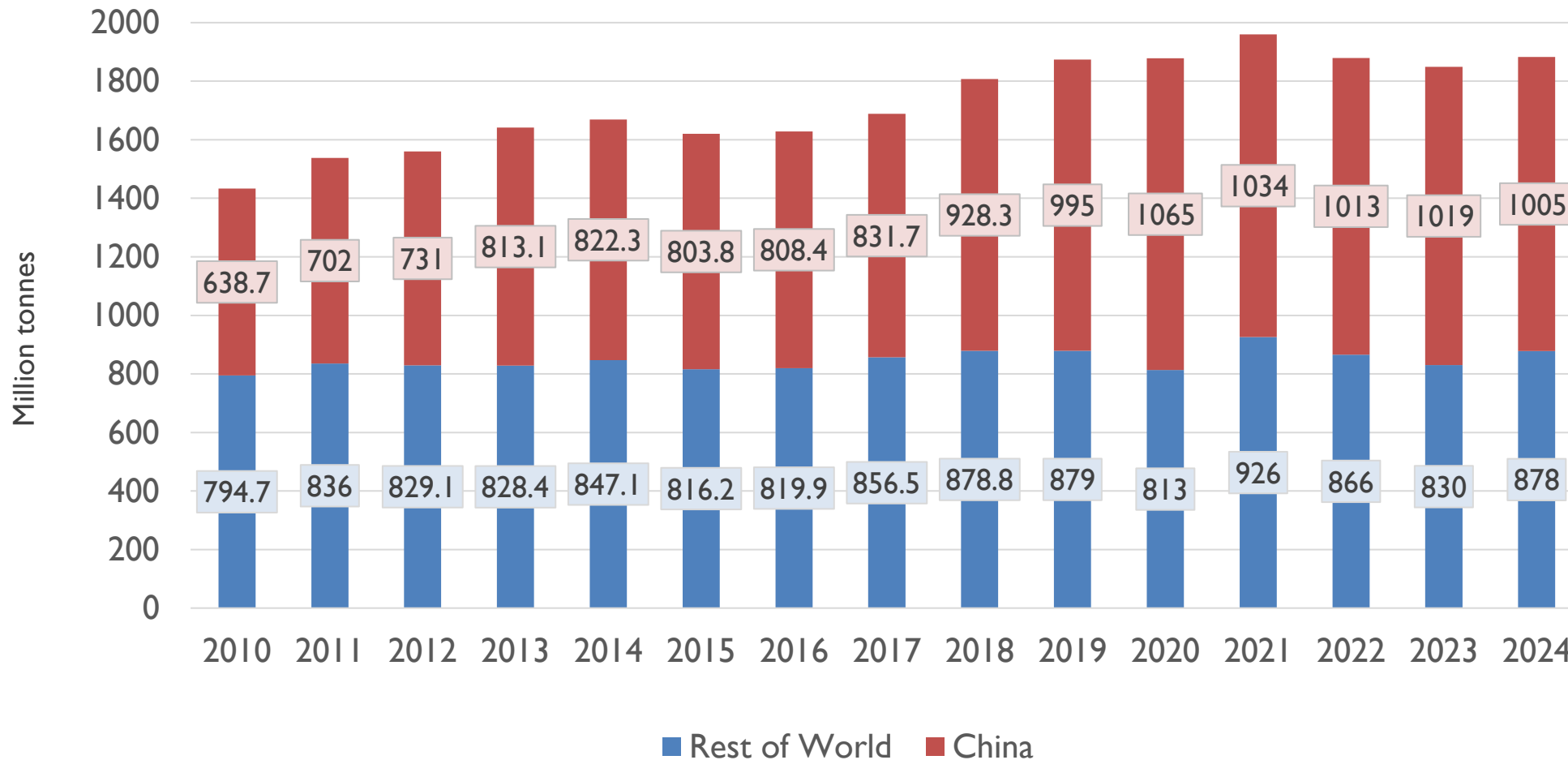


- Total world crude steel production was **1,884 Mtonnes** in 2024, a 1.9 % increase compared to 2023.

Year	Million Tonnes	Year	Million Tonnes
2024	1884	2005	1148
2023	1849	2004	1063
2022	1879	2003	971
2021	1960	2002	905
2020	1878	2001	852
2019	1874	2000	850
2018	1826	1999	790
2017	1730	1998	779
2016	1627	1997	800
2015	1621	1996	751
2014	1670	1995	753
2013	1650	1990	770
2012	1560	1985	719
2011	1538	1980	717
2010	1433	1975	644
2009	1239	1970	595
2008	1343	1965	456
2007	1348	1960	347
2006	1250	1955	270

Source: worldsteel.org

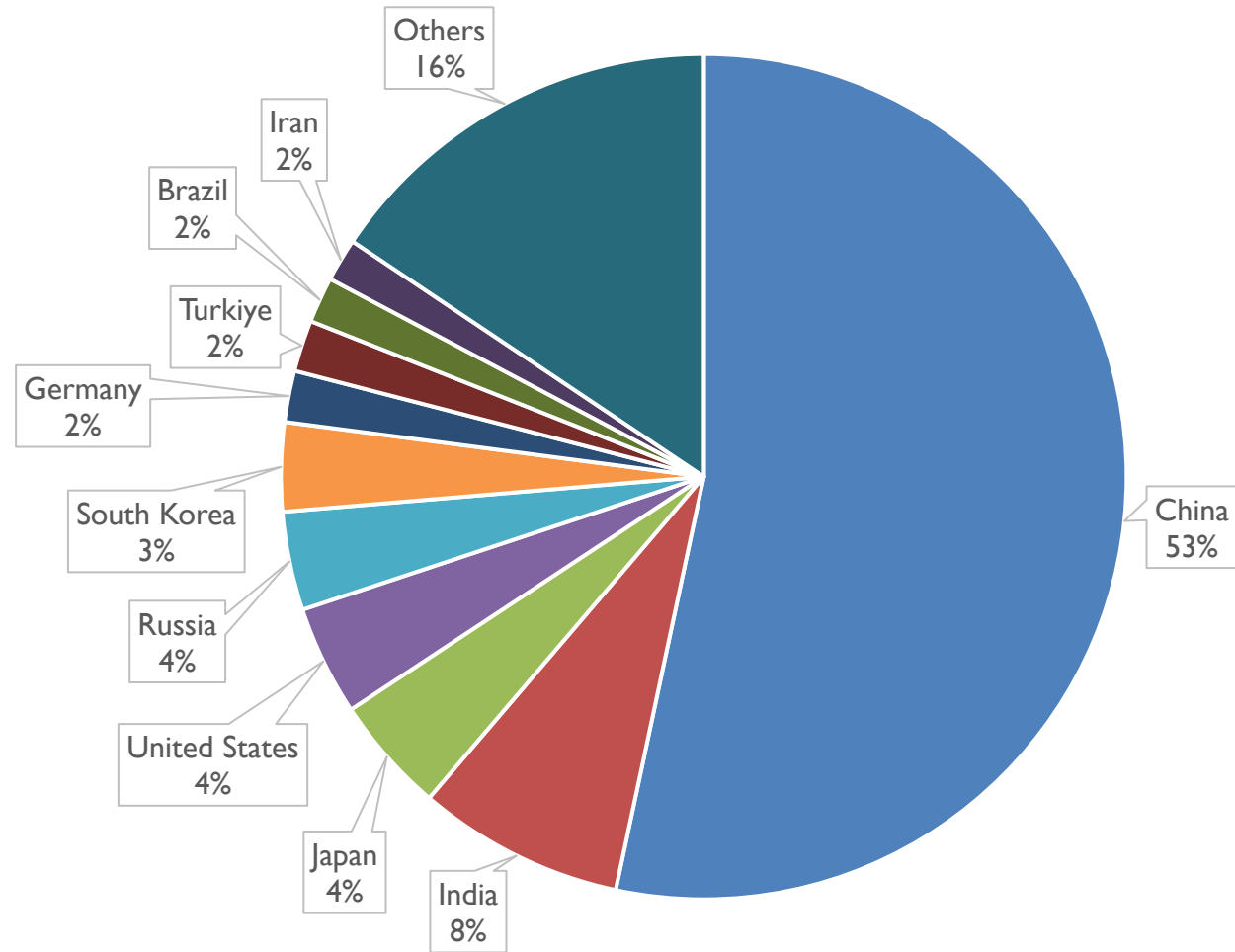
World & China Crude Steel Production



Source: worldsteel.org

Share of world crude steel production 2024

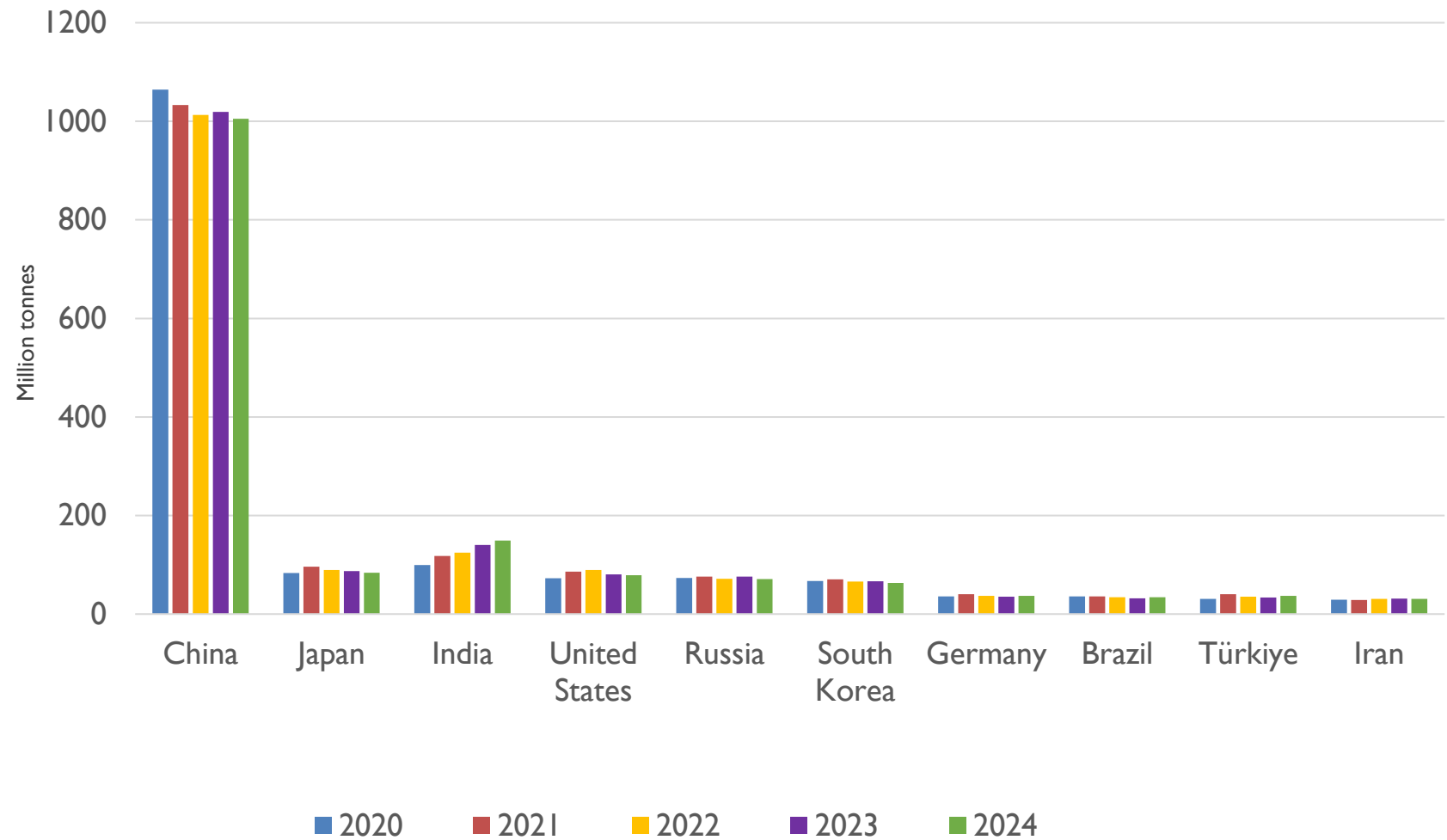
in Million tonnes



Country	Mtonnes
China	1005
India	149
Japan	84
United States	79
Russia	71
South Korea	64
Germany	37
Turkey	37
Brazil	33
Iran	31
Others	294

Source: worldsteel.org

Crude Steel Production - Top 10 Countries (2020-2024)

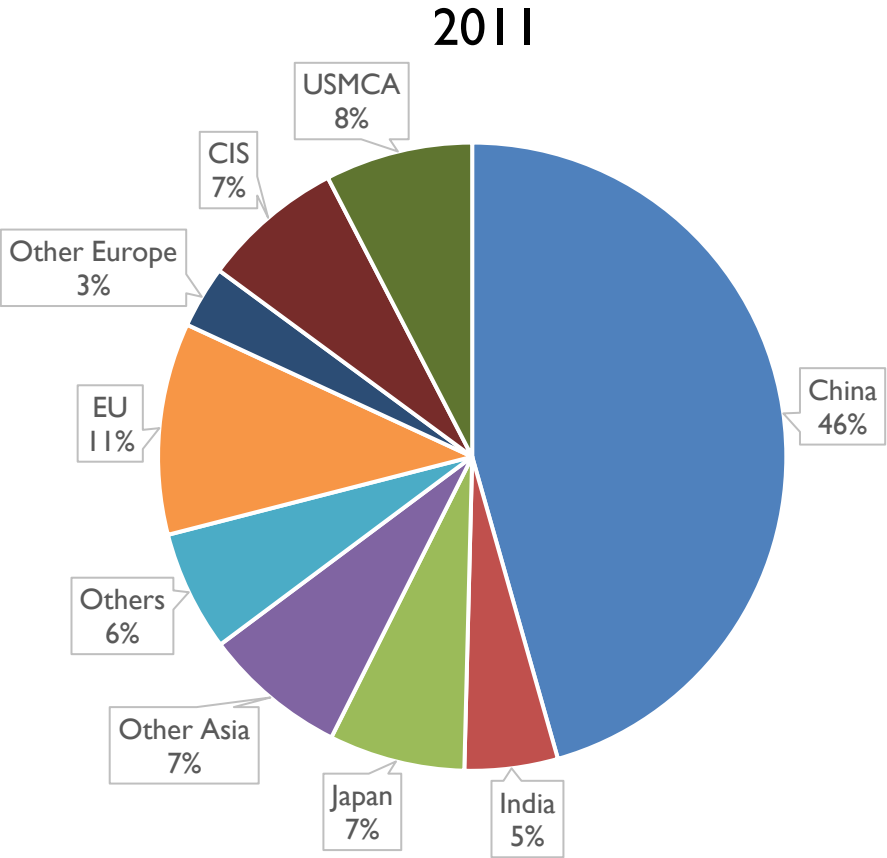


Country	2020	2021	2022	2023	2024
China	1064	1032.8	1013	1019.1	1019.1
Japan	83.2	96.3	89.2	87	87
India	99.6	118.1	124.7	140.2	140.2
United States	72.7	86	89.2	80.7	80.7
Russia	73.4	76	71.5	75.8	75.8
South Korea	67.1	70.6	65.9	66.7	66.7
Germany	35.7	40.1	36.8	35.4	35.4
Brazil	35.8	36	34	31.9	31.9
Turkey	31	40.4	35.1	33.7	33.7
Iran	29	28.5	30.6	31.1	31.1

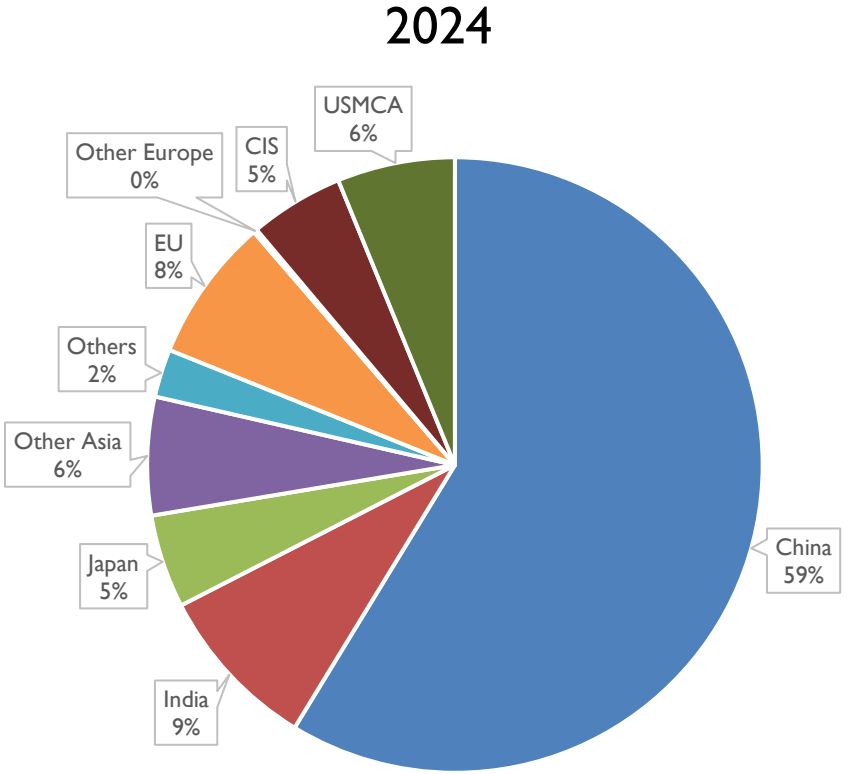
In million tonnes

Crude Steel Production (2011-2024)

Geographical Distribution



Others :Africa, Central And South America, Middle East,Australia and New Zealand

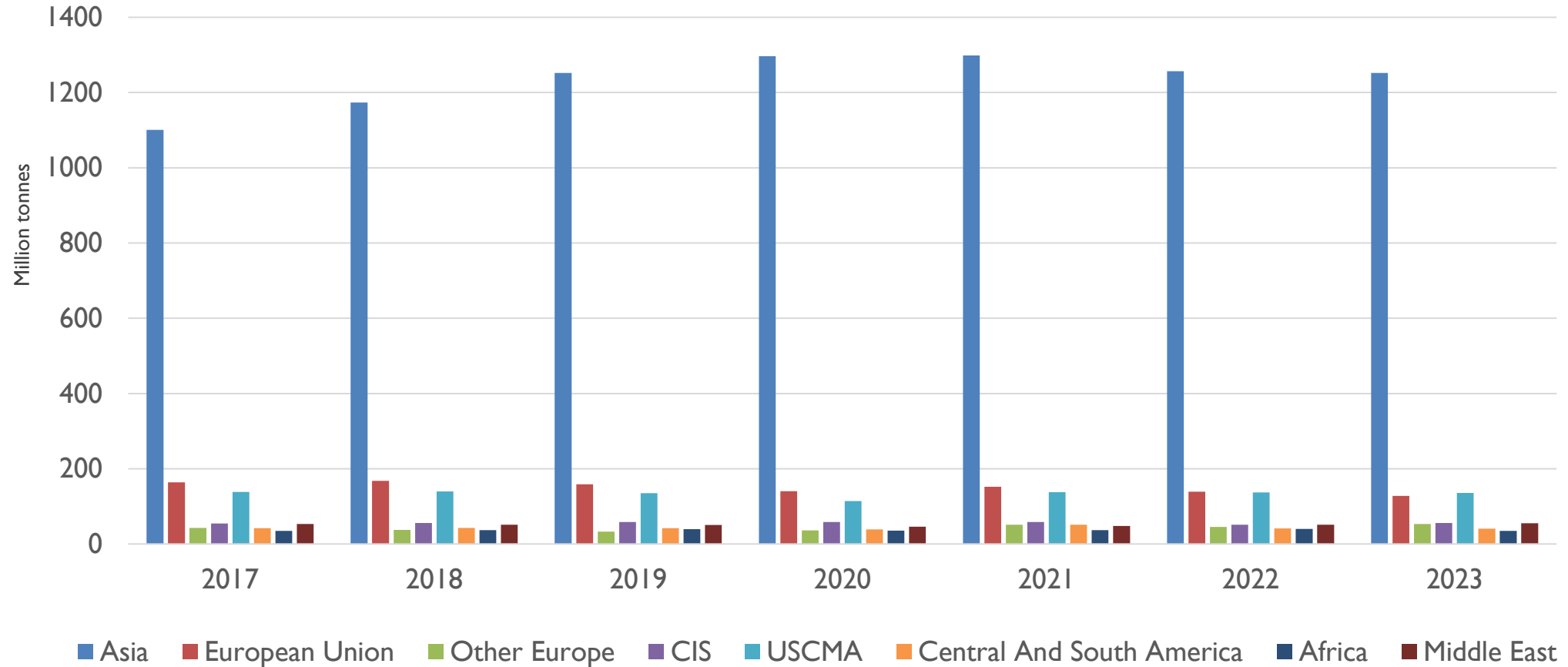


CIS :Azerbaijan,Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia,Tajikistan,Turkmenistan, Uzbekistan and Ukraine.
USCMA : United States, Mexico, Canada

Source: worldsteel.org

Apparent Steel Use (2016-2023)

Finished Steel Products



CIS : Azerbaijan, Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Uzbekistan and Ukraine.

USCMA : United States, Mexico, Canada

Source: worldsteel.org

Outlook on Steel (as of March 2025)

Country	Feb 2025 (Mt)	% change Feb 25/24	Jan-Feb 2025 (Mt)	% change Jan-Feb 25/24
China	78.9 e	-3.3	166.3	-1.5
India	12.7	6.3	26.4	6.8
Japan	6.4	-8.5	13.2	-7.5
United States	6	-7	12.9	-1.3
Russia	5.8 e	-3.4	11.7	-2.5
South Korea	5.2	0.7	10.5	-2.8
Türkiye	2.9	-5.6	6.1	-3.7
Brazil	2.7	-1.6	5.5	0.9
Germany	2.7	-13.5	5.4	-13.1
Iran	1.7	-21.8	4	-23.1

e – estimated.

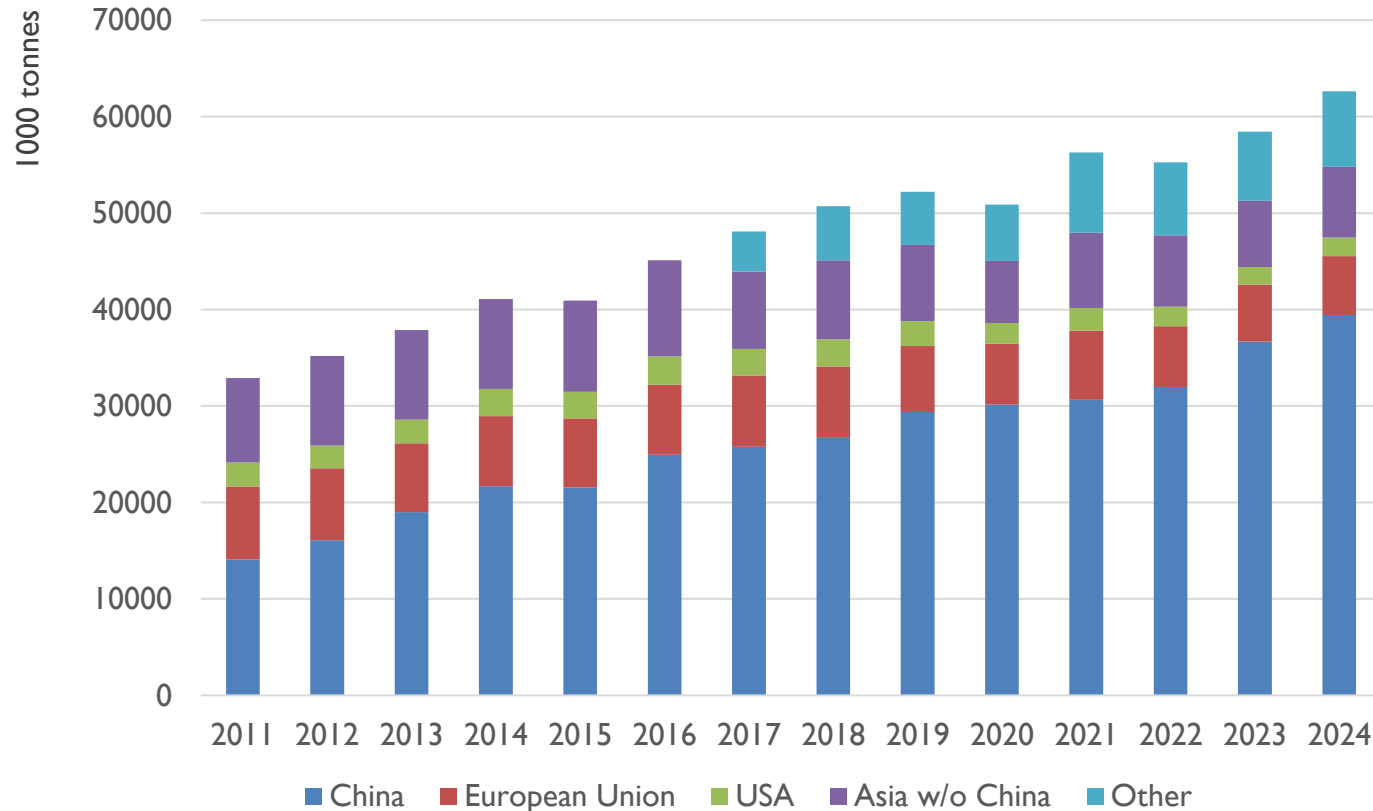
Ranking of top 10 producing countries is based on year-to-date aggregate

- In 2024, steel demand in China is expected to remain around the level of 2023. The decline in real estate investments continues to impact steel demand negatively. However, this loss is offset by growth in infrastructure investments and the manufacturing sector. In 2025, China's steel demand is projected to decline by 1% as the real estate sector continues to struggle.
- India has been the strongest driver of steel demand growth since 2021. Projections suggest that Indian steel demand will continue to grow robustly, with an 8% increase expected over 2024 and 2025.
- The developed world is expected to show a strengthening recovery in steel demand. In 2024, a growth of 1.3% is anticipated, followed by a more substantial increase of 2.7% in 2025. This recovery is driven by a meaningful pick-up in steel demand in the EU in 2025, along with continued resilience in the US, Japan, and South Korea.

Source: worldsteel.org

Stainless melt shop production (in 1000 metric tons)

Global stainless-steel production increased 7.5% in 2024

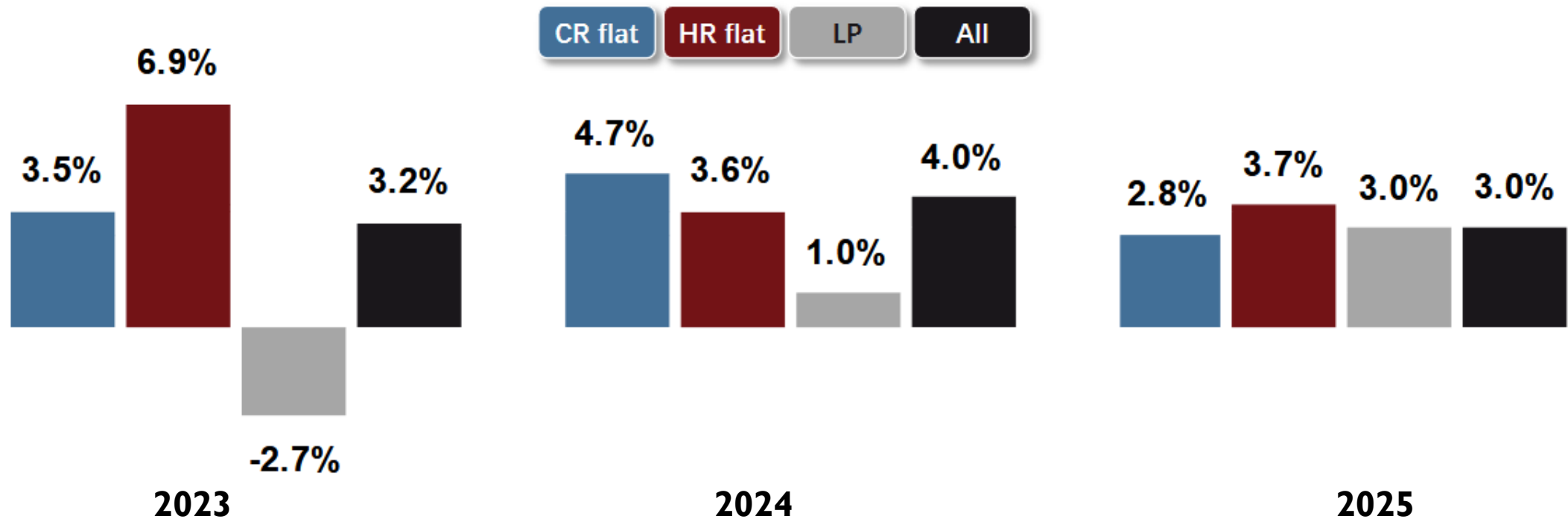


Other : Brazil, Russia, S. Africa, S. Korea, Indonesia

	China	EU	USA	Asia w/o China	Other	TOTAL
2017	25774	7377	2754	8030	4146	48081
2018	26706	7385	2808	8195	5635	50729
2019	29400	6805	2593	7894	5525	52217
2020	30139	6323	2144	6429	5857	50892
2021	30632	7181	2368	7792	8316	56289
2022	31975	6294	2017	7411	7557	55254
2023	36676	5902	1824	6880	7163	58445
2024	39 441	6 088	1 950	7 322	7 820	62 621

Source: worldstainless.org

World Stainless Steel Consumption Changes

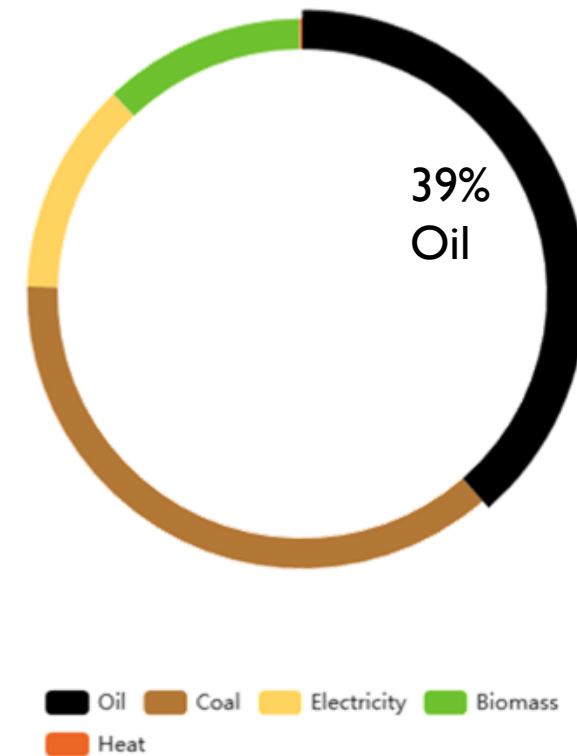
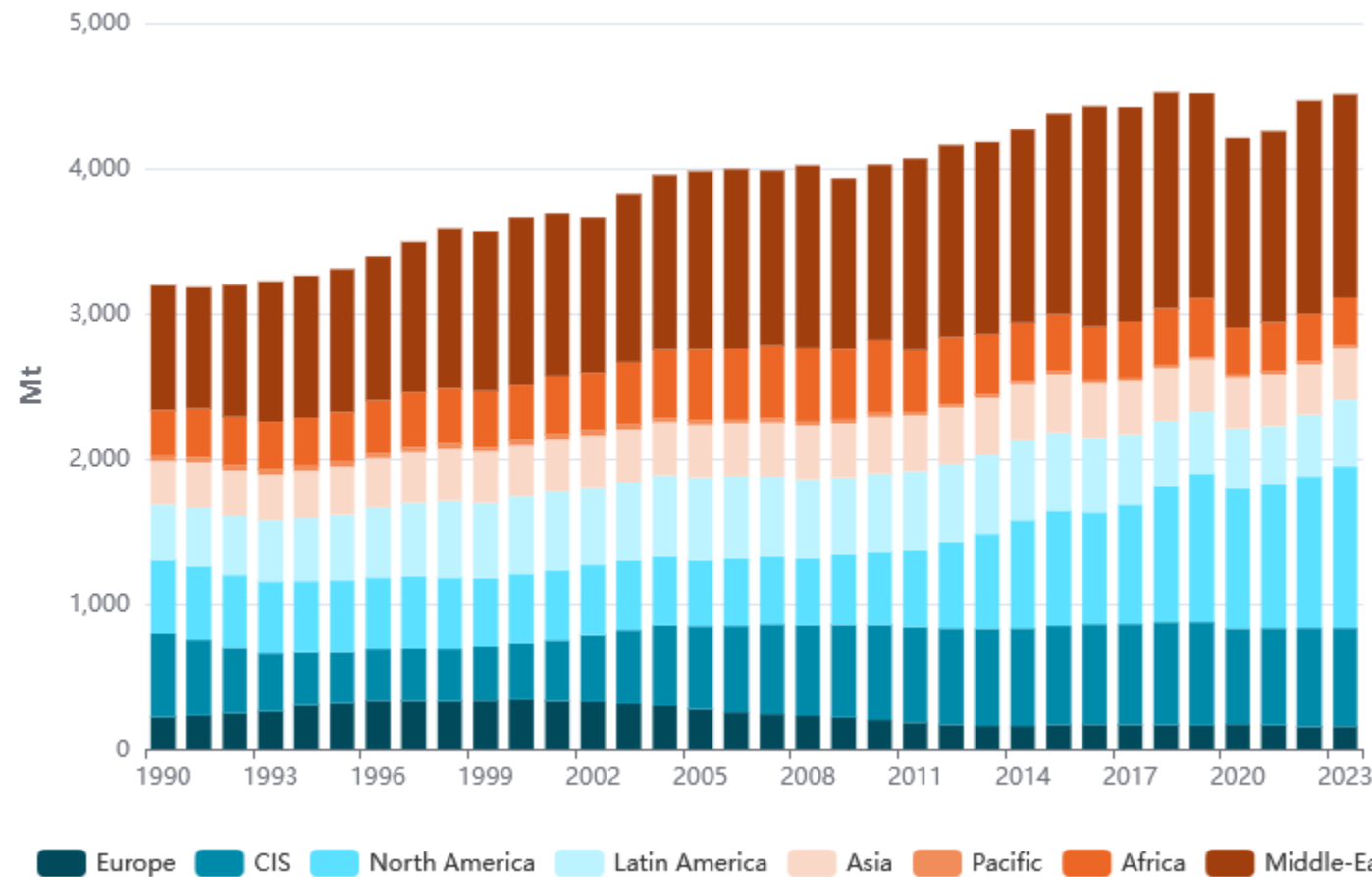


CR: Cold rolled flat stainless steel **HR:** Hot rolled flat stainless steel **LP:** Stainless steel long products

Source: www.worldstainless.org

Crude oil production 1990-2023

Global crude oil output grew by 1% in 2023, with higher production in the US, Brazil and Iran offsetting OPEC+ production cuts. Breakdown by country (Mt)



Breakdown by country (Mt)

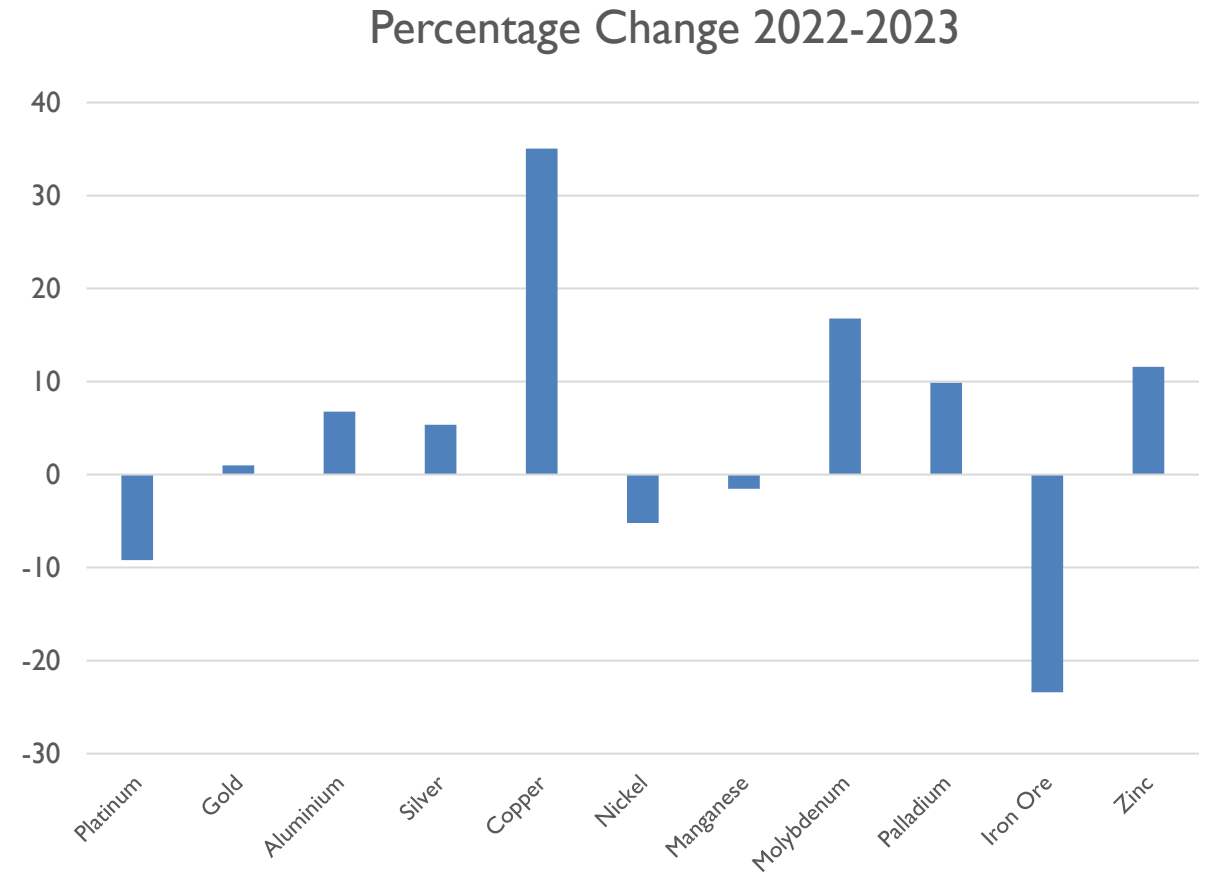
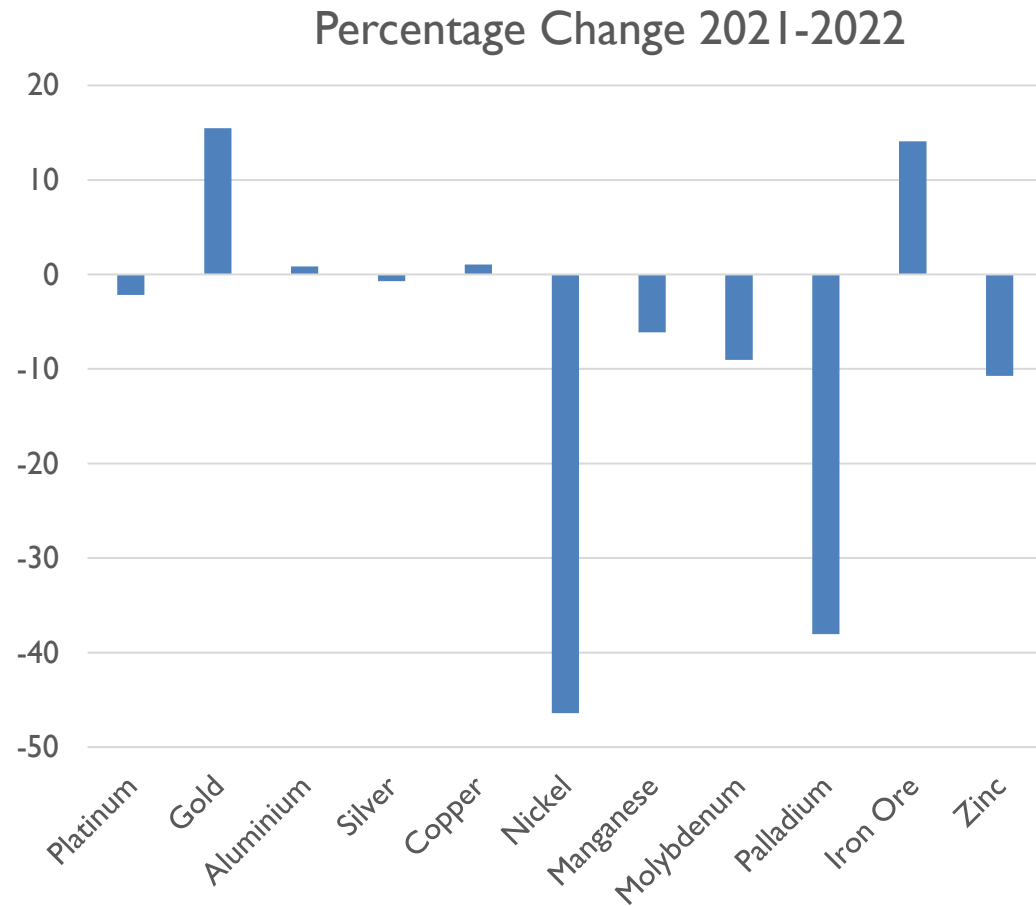
United States	820
Saudi Arabia	542
Russia	535
Canada	289
Iraq	212
China	209
United Arab Emirates	192
Iran	178
Brazil	178
Kuwait	138
Mexico	98
Norway	96

Crude Oil Prices – 25 Years



Source : [macrotrends.net](https://www.macrotrends.net)

Raw Materials (Percentage change in price as USD)



Source: lme.com & tradingeconomics.com

World Commodity Metal Prices - Cobalt



Source: tradingeconomics.com

World Commodity Metal Prices - Cobalt



Source: tradingeconomics.com

World Commodity Metal Prices - Cobalt



Source: tradingeconomics.com

World Commodity Metal Prices - Copper



Source: tradingeconomics.com

World Commodity Metal Prices - Copper

Prices over 5 years
USD/Lbs



Source: tradingeconomics.com

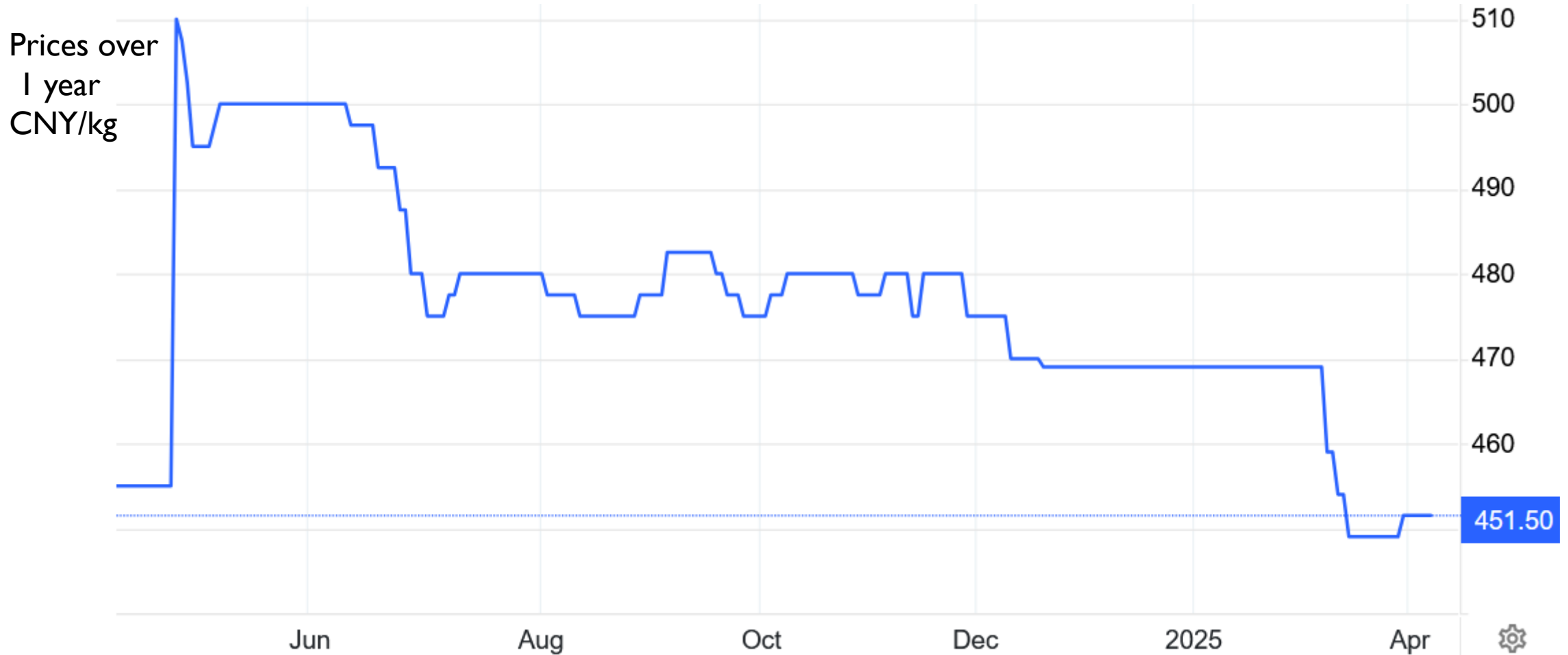
World Commodity Metal Prices - Copper

Prices over 10 years
USD/Lbs



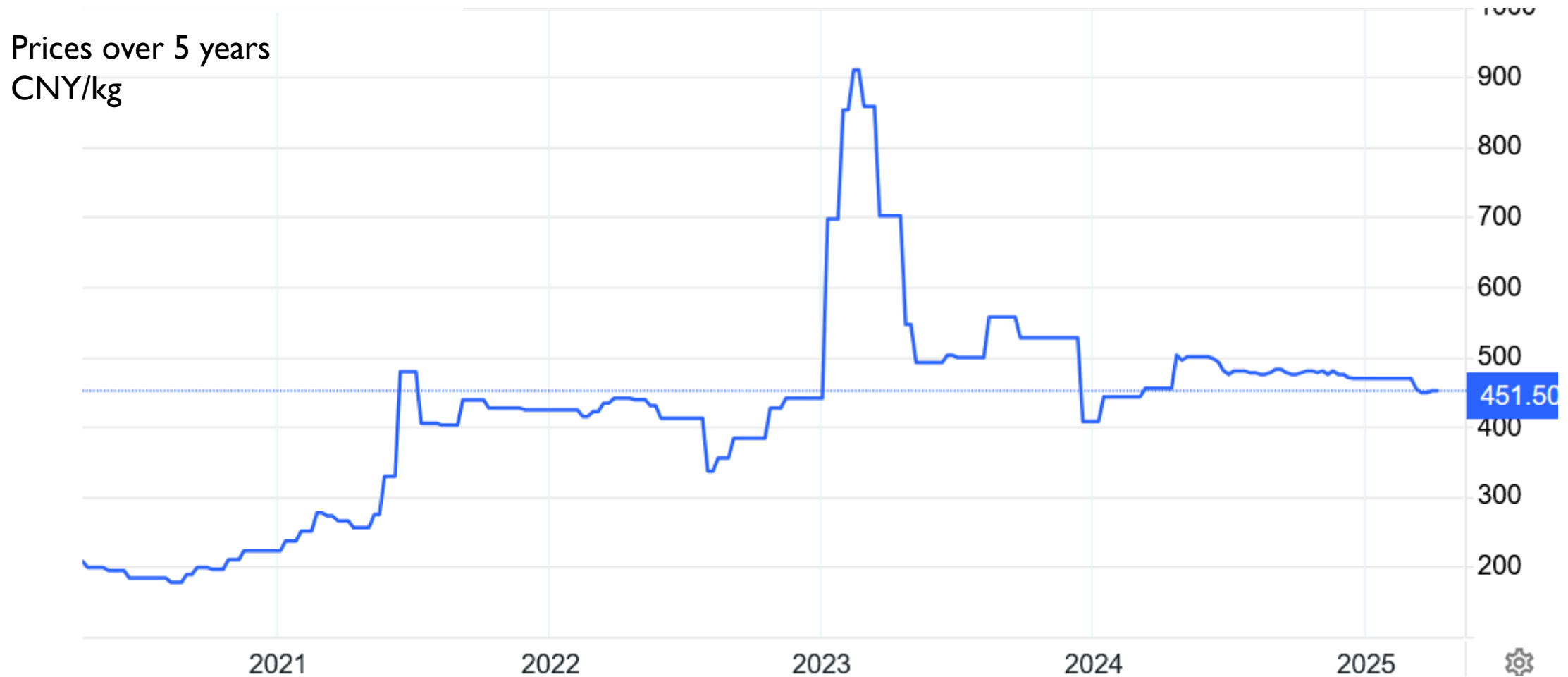
Source: tradingeconomics.com

World Commodity Metal Prices - Molybdenum



Source: tradingeconomics.com

World Commodity Metal Prices - Molybdenum



Source: tradingeconomics.com

World Commodity Metal Prices - Molybdenum

Prices over 10 years
CNY/kg



Source: tradingeconomics.com

World Commodity Metal Prices - Nickel



Source: tradingeconomics.com

World Commodity Metal Prices - Nickel



Source: tradingeconomics.com

World Commodity Metal Prices - Nickel

Prices over 10 years
USD/tonnes



Source: tradingeconomics.com

World Commodity Metal Prices - Steel



Source: tradingeconomics.com

World Commodity Metal Prices - Steel



Source: tradingeconomics.com

World Commodity Metal Prices - Steel

Prices over 10 years
CNY/tonnes



Source: tradingeconomics.com

World Commodity Metal Prices – Iron Ore

Prices over 1 year



Source: indexmundi.com

World Commodity Metal Prices – Iron Ore

Prices over 5 years



Source: indexmundi.com

World Commodity Metal Prices – Iron Ore

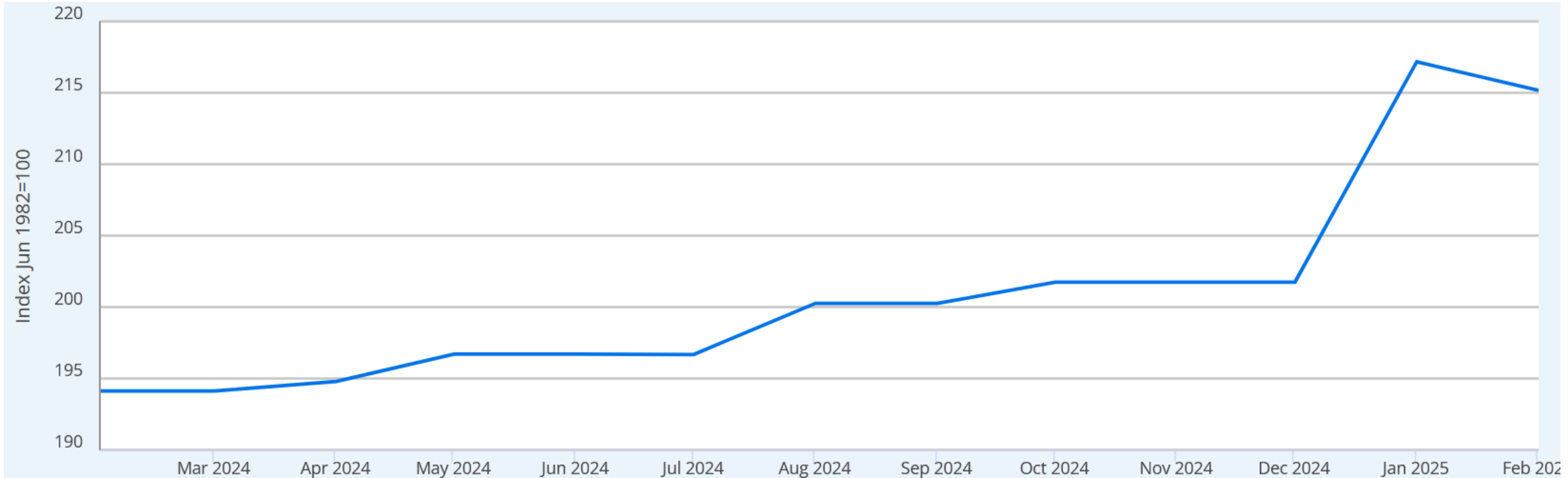
Prices over 20 years



Source: indexmundi.com

World Commodity Metal Prices - Titanium

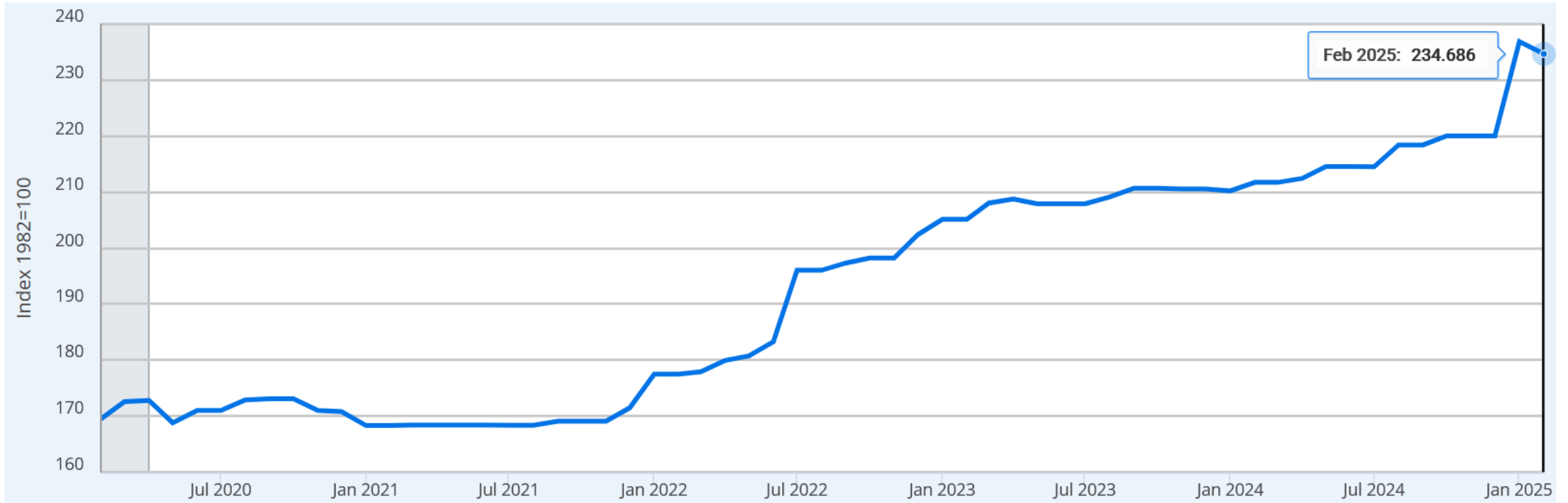
Prices over 1 year



Source: <https://fred.stlouisfed.org/>

World Commodity Metal Prices - Titanium

Prices over 5 years



Source: <https://fred.stlouisfed.org/>

World Commodity Metal Prices - Titanium

Prices over 25 years

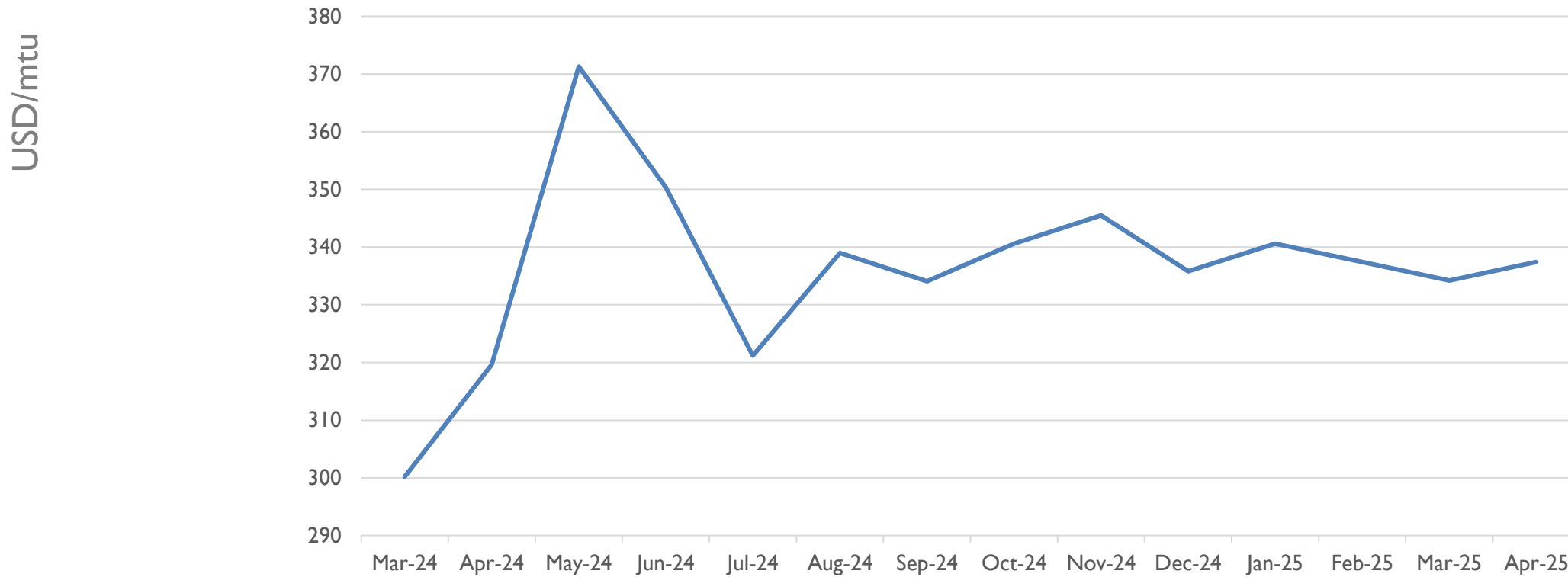


Source: <https://fred.stlouisfed.org/>

World Commodity Metal Prices – APT Tungsten

Prices over 1 year

APT :Ammoniumparatungstate

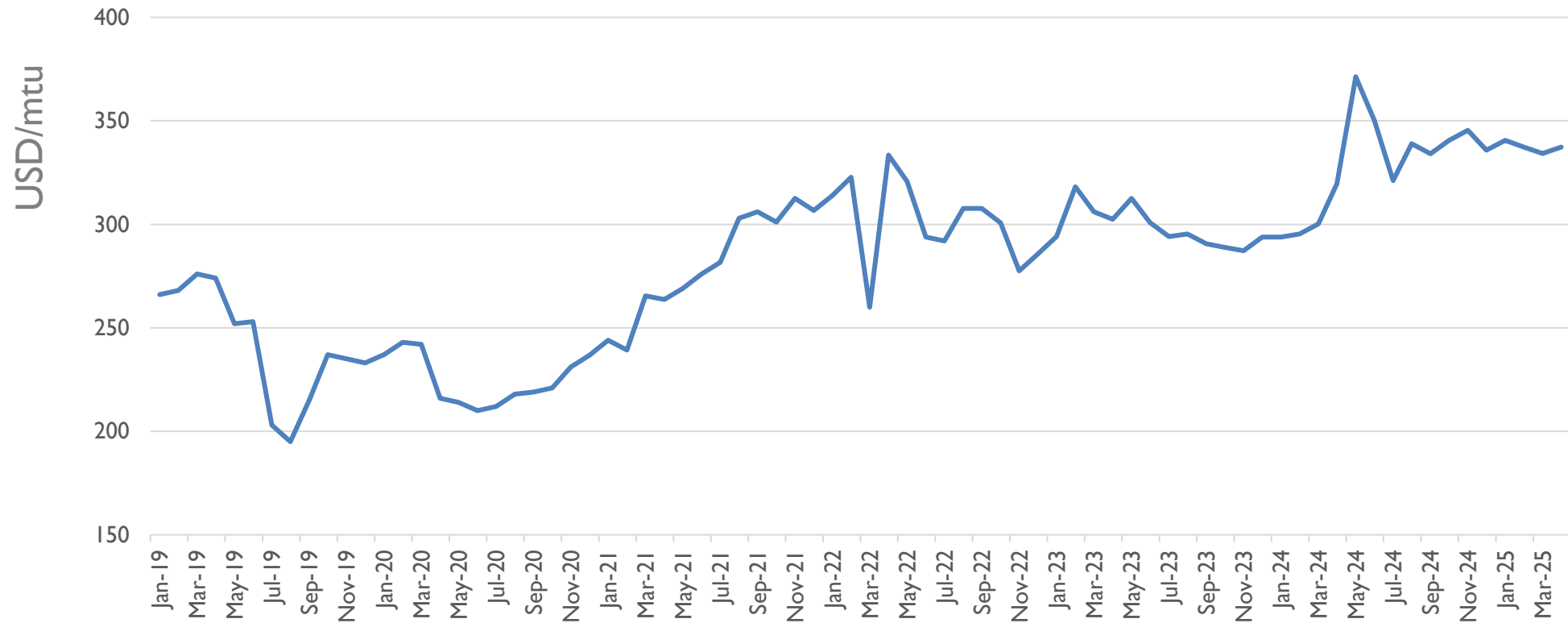


Sources: [marketcap.com.au](https://www.marketcap.com.au), www.metalbulletin.com, [chinatungsten.com](https://www.chinatungsten.com)

World Commodity Metal Prices – APT Tungsten

Prices over 5 years

APT :Ammoniumparatungstate



Sources: marketcap.com.au, www.metalbulletin.com, chinatungsten.com

World Commodity Metal Prices - APT Tungsten

Prices over 15 years

APT :Ammoniumparatungstate



Sources: marketcap.com.au, www.metalbulletin.com, chinatungsten.com

World Commodity Metal Prices - Palladium

Prices over 1 year
USD/t.oz



Source: mining.com

World Commodity Metal Prices - Palladium

Prices over 5 years
USD/t.oz



Source: mining.com

World Commodity Metal Prices - Palladium

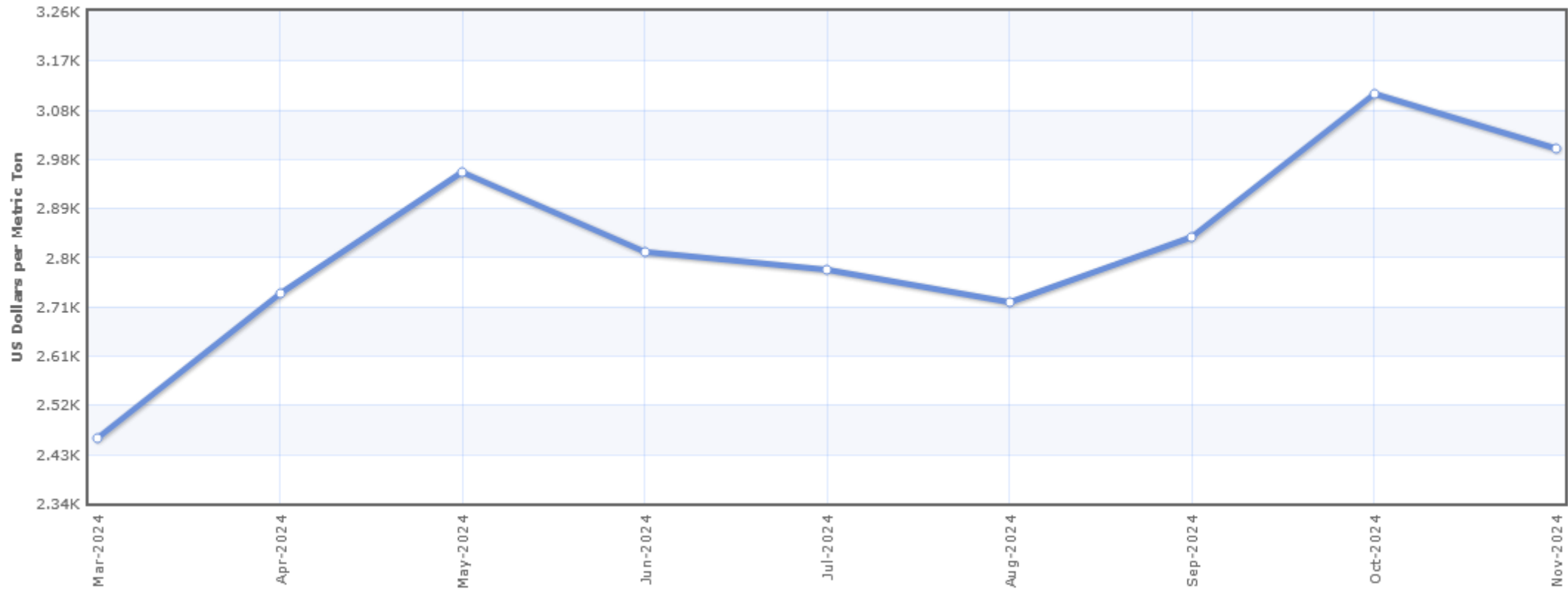
Prices over 30 years
USD/t.oz



Source: mining.com

World Commodity Metal Prices - Zinc

Prices over 1 year



Source: indexmundi.com

World Commodity Metal Prices - Zinc

Prices over 5 years



Source: indexmundi.com

World Commodity Metal Prices - Zinc

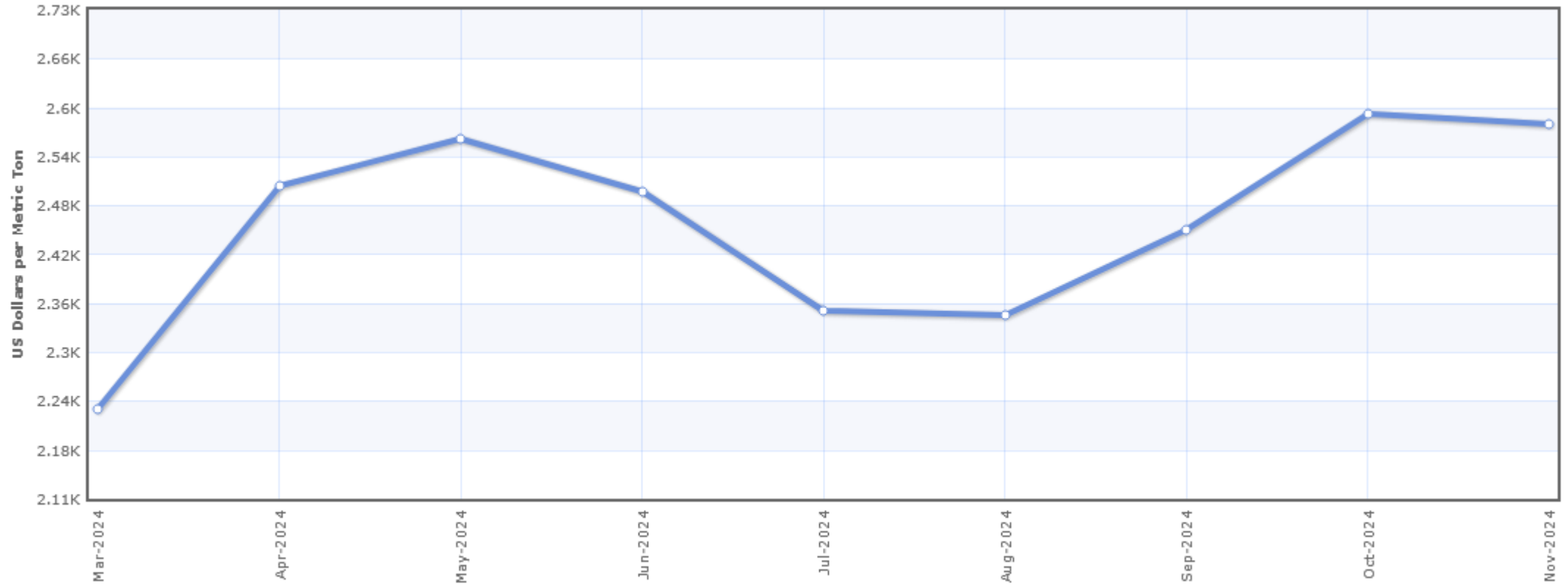
Prices over 30 years



Source: indexmundi.com

World Commodity Metal Prices - Aluminium

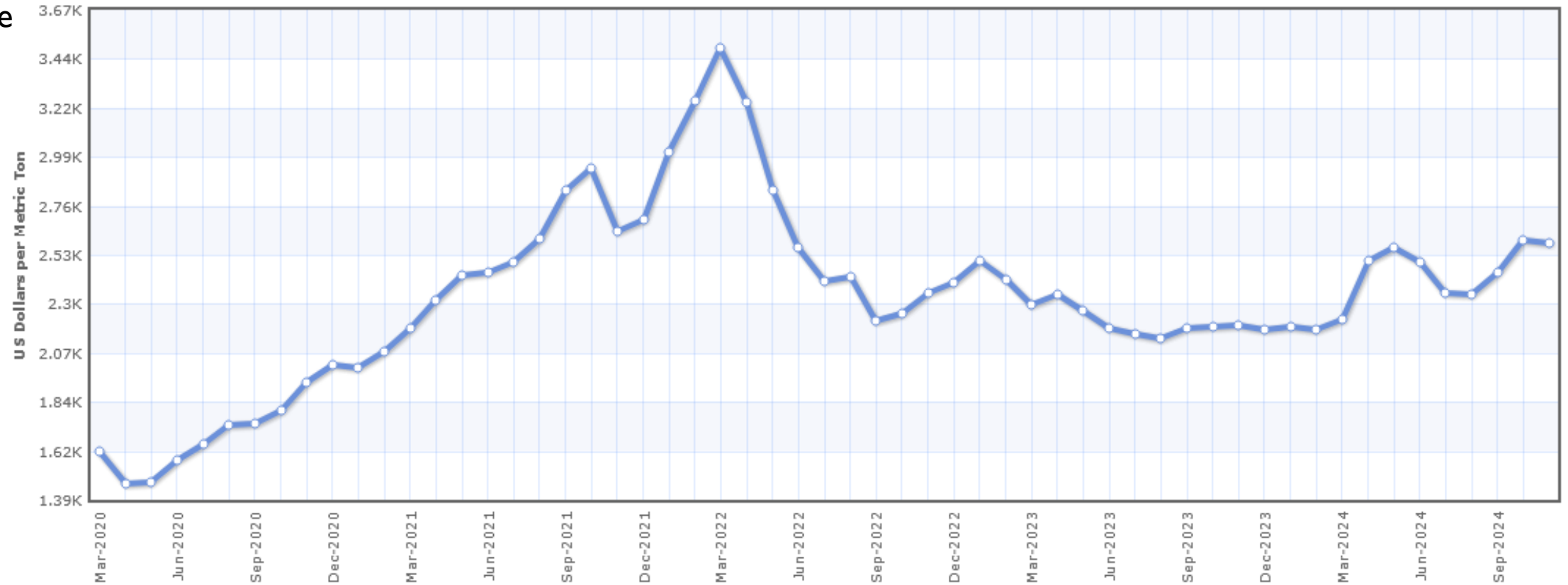
Prices over 1 year
USD/tonne



Source: indexmundi.com

World Commodity Metal Prices - Aluminium

Prices over 5 years
USD/tonne



Source: indexmundi.com

World Commodity Metal Prices - Aluminium

Prices over 20 years
USD/tonne



Source: indexmundi.com

World Commodity Metal Prices – Aluminium Alloy

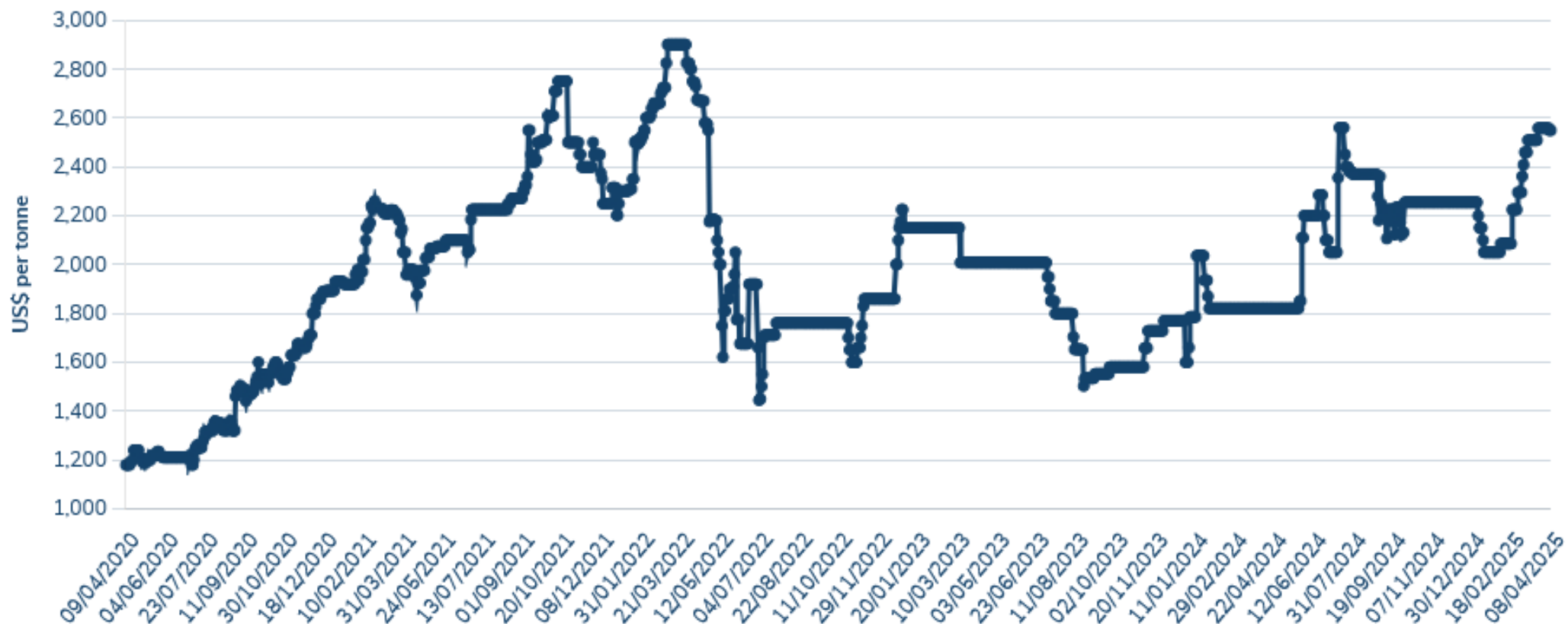
Prices over 1 year
USD/tonne



Source: lme.com

World Commodity Metal Prices – Aluminium Alloy

Prices over 5 years
USD/tonne



Source: lme.com

World Commodity Metal Prices – Aluminium Alloy

No New Data

Prices over 15 years
USD/tonne



Source: lme.com

World Commodity Metal Prices - Silver

Prices over 1 year
USD/t.oz



Source: mining.com

World Commodity Metal Prices - Silver

Prices over 5 years
USD/ t.oz



Source: mining.com

World Commodity Metal Prices - Silver

Prices over 10 years
USD/ t.oz



Source: mining.com

World Commodity Metal Prices - Gold

Prices over 1 year
USD/ t.oz



Source: mining.com

World Commodity Metal Prices - Gold



Source: mining.com

World Commodity Metal Prices - Gold

Prices over 10 years
USD/ t.oz



Source: mining.com

World Commodity Metal Prices - Manganese



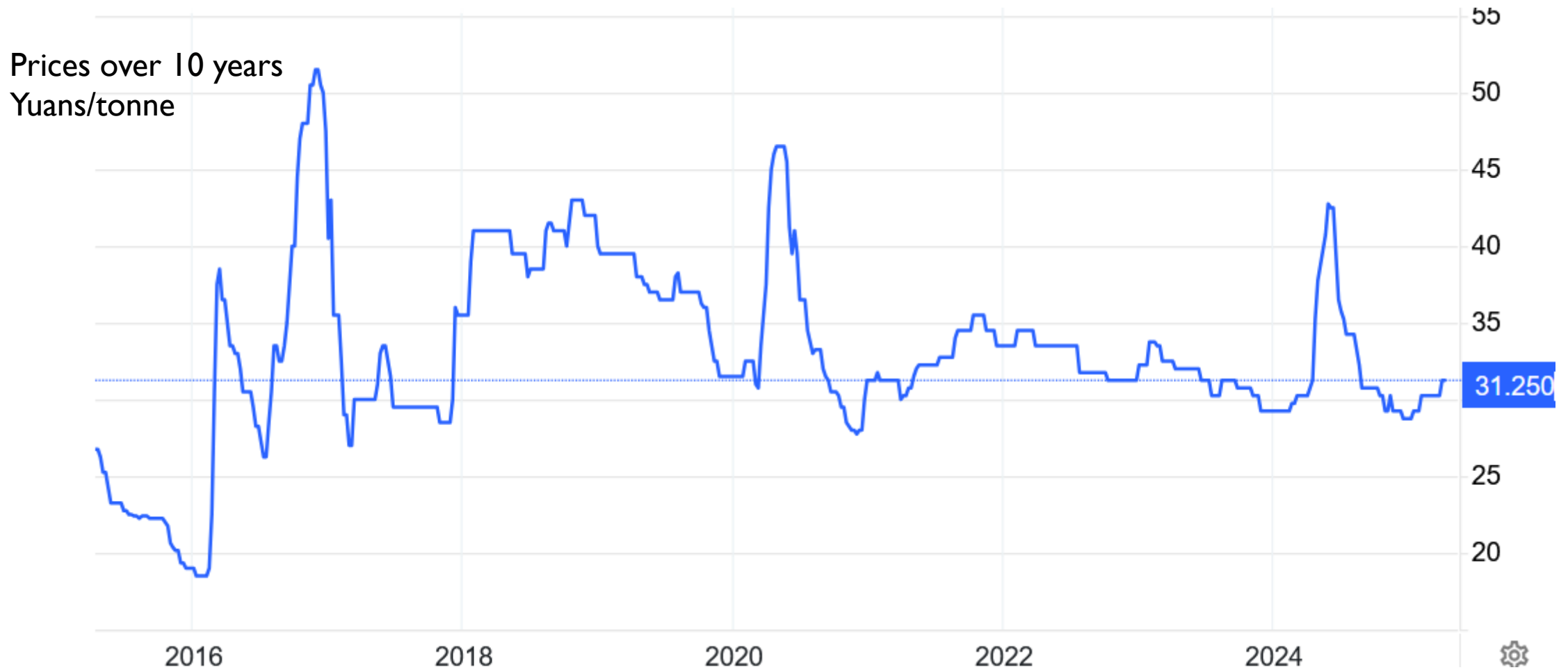
Source: tradingeconomics.com

World Commodity Metal Prices - Manganese



Source: tradingeconomics.com

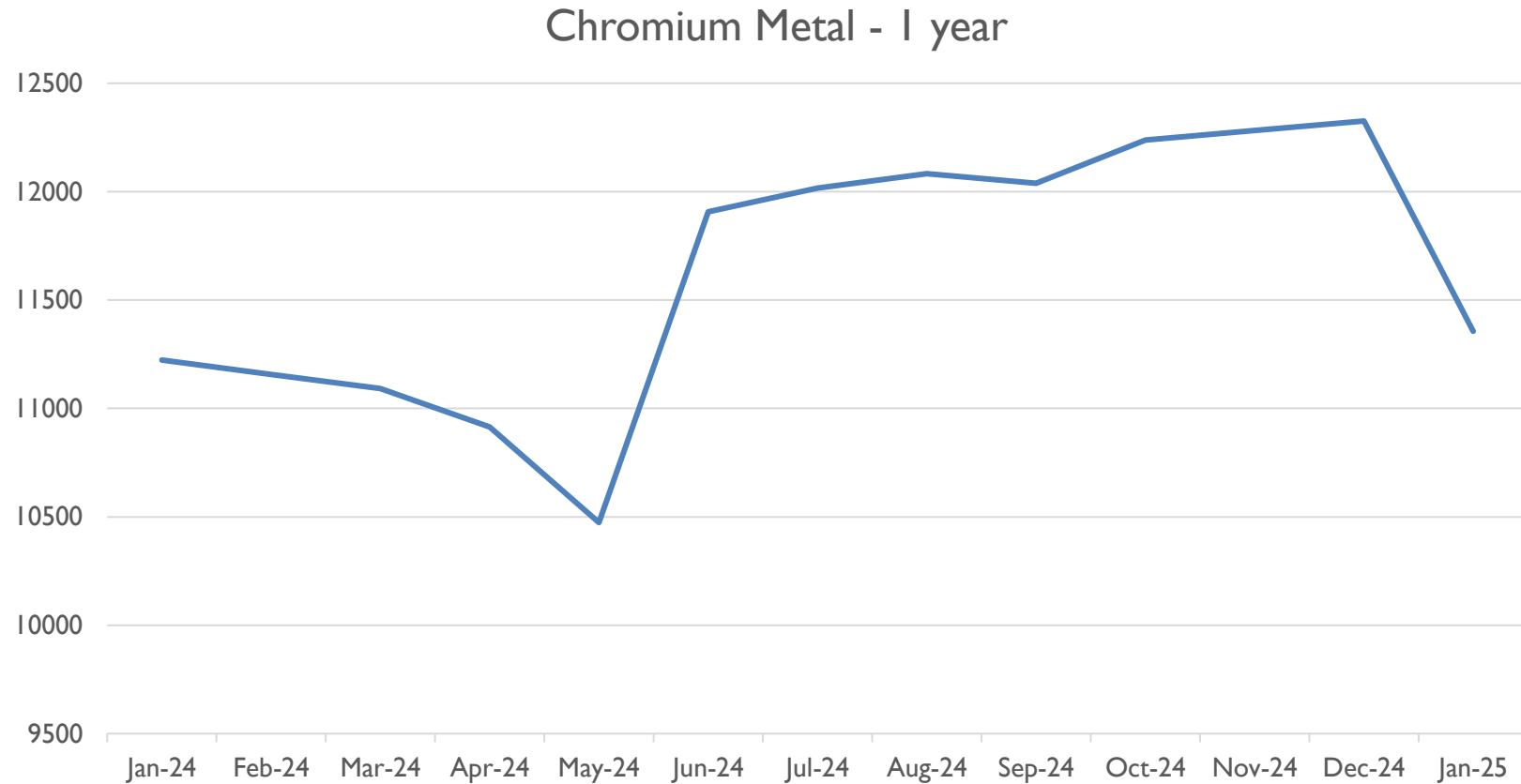
World Commodity Metal Prices - Manganese



Source: tradingeconomics.com

World Commodity Metal Prices - Chromium

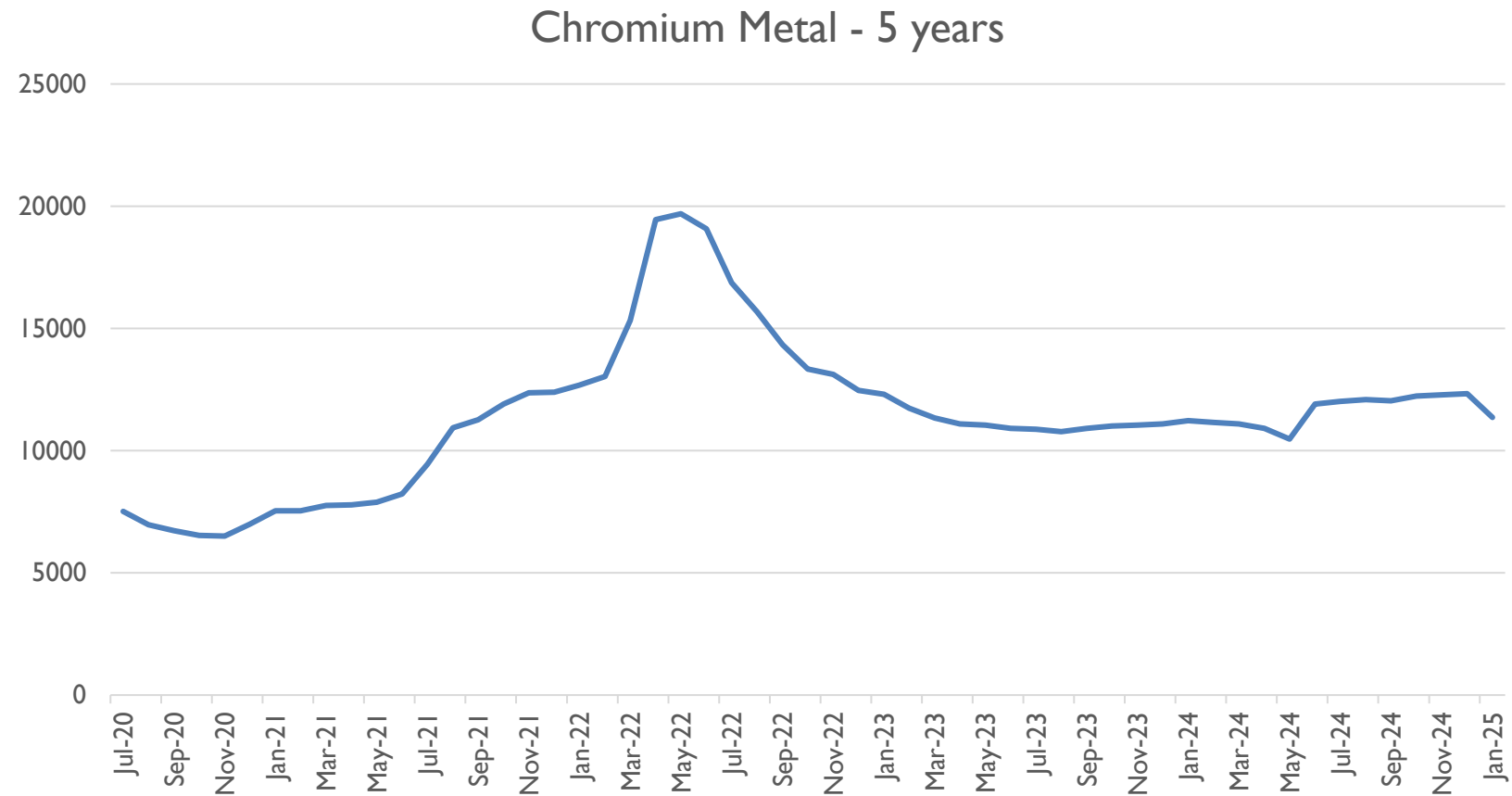
Prices over 1 year
USD/ton



Source: usgs.com

World Commodity Metal Prices - Chromium

Prices over 3 years
USD/ton

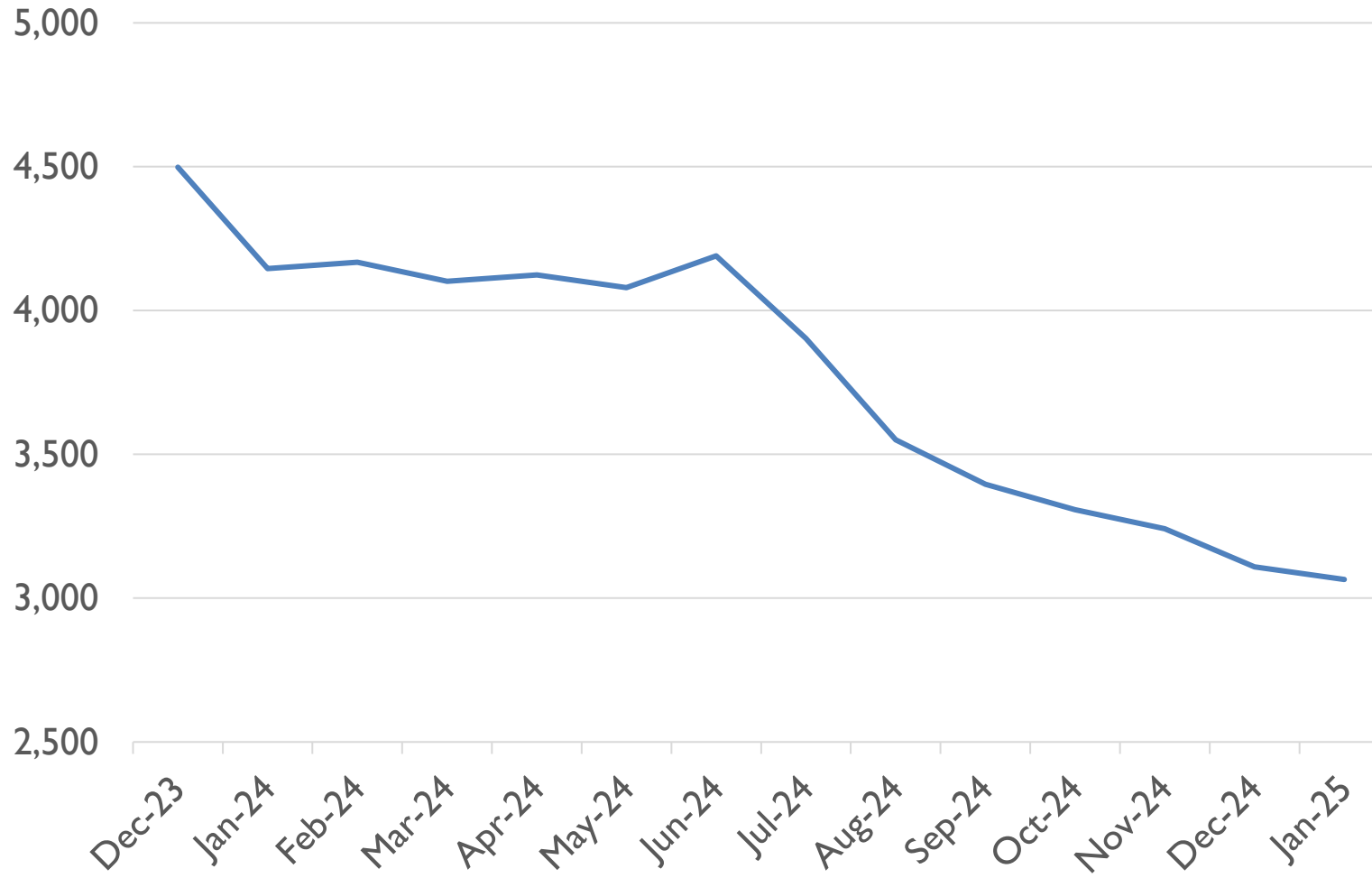


Source: usgs.com

World Commodity Metal Prices - Ferro Chrome

High Carbon Ferrochromium price - 1 year

Prices over 1 year
USD/ton

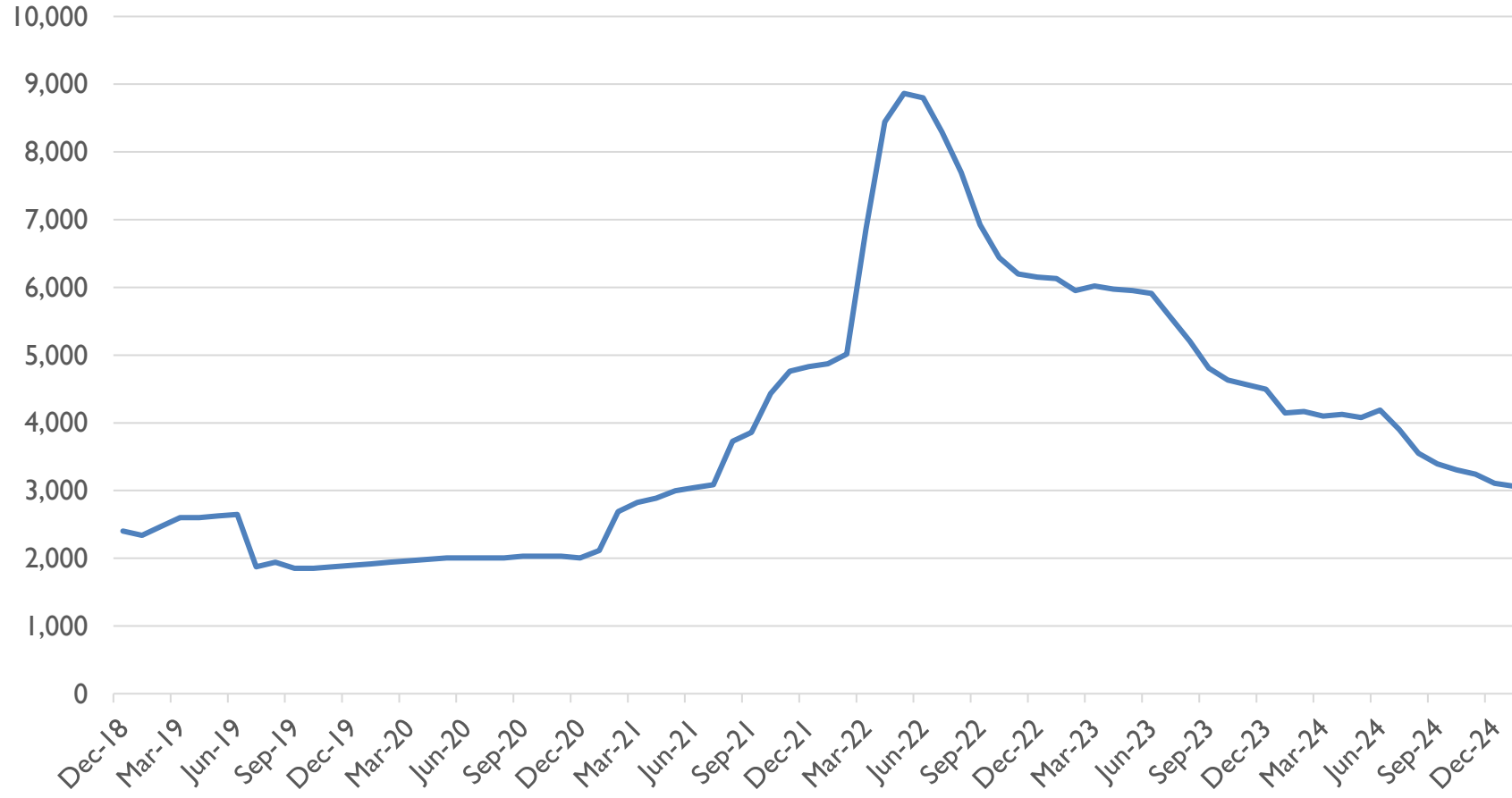


Source: infomine.com

World Commodity Metal Prices - Ferro Chrome

High Carbon Ferrochromium price - 5 years

Prices over 5 years
USD/ton



Source: infomine.com

Automotive

April 2025

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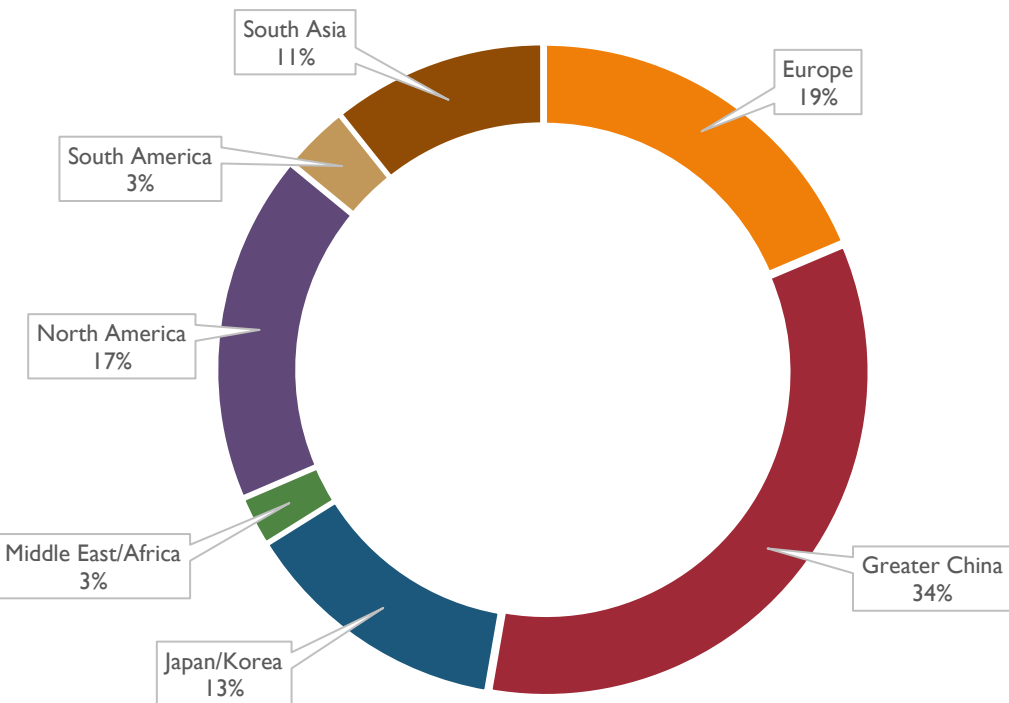
Motor Vehicle Statistics

All Vehicle Types – Passenger and Light, Medium and Heavy Commercial Vehicles



World Motor Vehicle Production (All Vehicle Types)

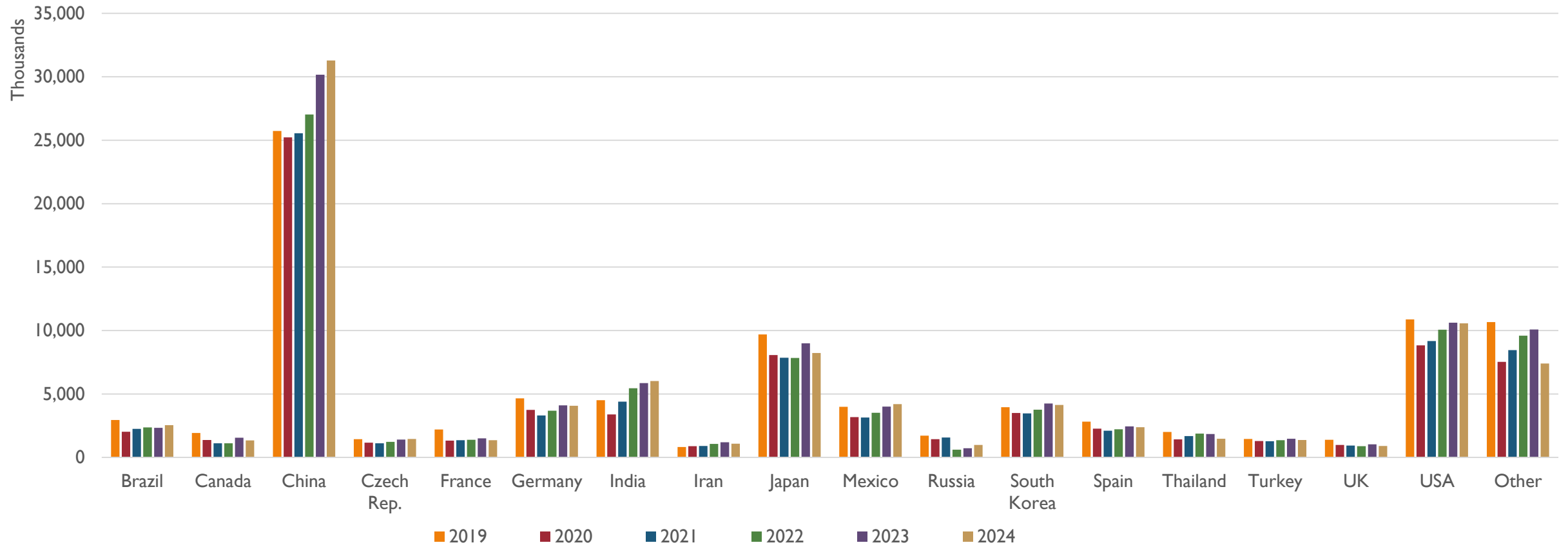
2024



Region	2018	2019	2020	2021	2022	2023	2024
Europe ¹	23,049,000	22,060,000	16,921,000	16,247,148	16,216,888	18,122,449	17,231,668
Greater China ²	28,297,000	26,149,000	25,225,000	25,552,563	27,020,615	30,160,966	31,556,748
Japan/Korea	13,423,000	13,323,000	11,574,000	10,990,190	11,592,568	13,241,037	12,361,933
Middle East/Africa	2,556,000	1,998,000	2,017,000	1,989,576	2,086,998	1,171,872	2,255,239
North America	17,535,000	16,902,000	13,375,000	13,517,963	14,798,146	16,166,628	16,107,477
South America	3,574,000	3,421,000	2,314,000	2,729,921	2,958,117	2,970,263	3,079,944
South Asia ³	9,883,000	8,933,000	6,195,000	8,054,921	10,343,396	11,713,384	9,911,329
Total	98,317,000	92,786,000	77,621,000	79,081,382	85,016,728	93,546,599	92,504,338

1. Includes Turkey and CIS countries
 2. Includes Hong Kong and Taiwan
 3. Includes Australia

World Vehicle Production by Country (All Vehicle Types)



Other includes

Algeria, Argentina, Austria, Belarus, Belgium, Belarus, Chile, Colombia, Egypt, Finland, Hungary, Indonesia, Italy, Kazakhstan, Morocco, Pakistan, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, South Africa, Taiwan, Tunisia, Ukraine, Uzbekistan, Vietnam.

Source: oica.net

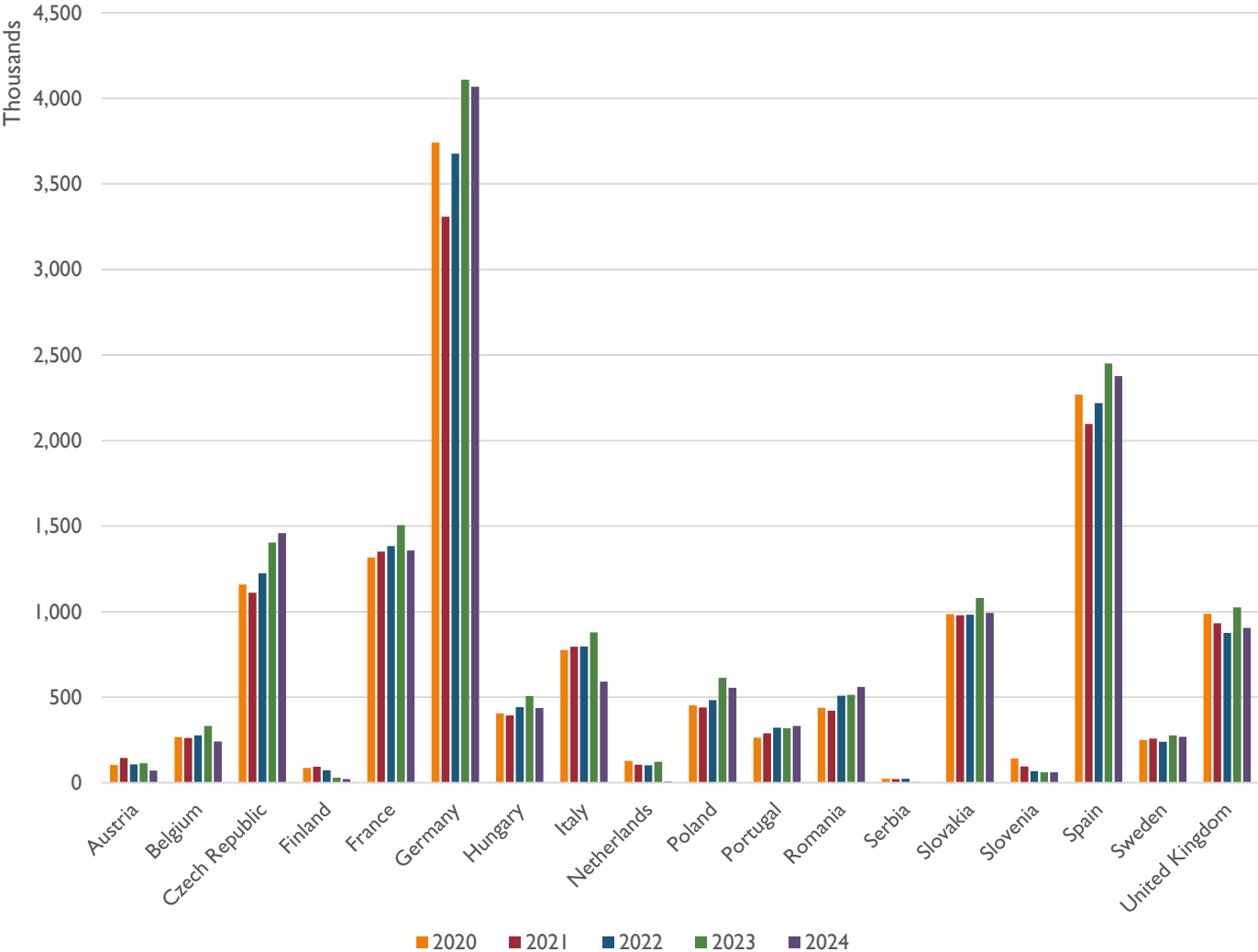
World Vehicle Production by Country

COUNTRY	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Brazil	2,429,463	2,156,356	2,699,672	2,879,809	2,944,988	2,014,055	2,248,253	2,369,769	2,324,838	2,549,595
Canada	2,283,474	2,370,271	2,199,789	2,020,840	1,916,585	1,376,623	1,115,002	1,115,002	1,553,026	1,342,647
China	24,503,326	28,118,794	29,015,434	27,809,196	25,720,665	25,225,242	25,552,563	27,020,615	30,160,966	31,281,592
Czech Rep.	1,303,603	1,349,896	1,419,993	1,345,041	1,433,963	1,159,151	1,111,432	1,224,456	1,404,501	1,458,892
France	1,970,000	2,082,000	2,227,000	2,270,000	2,202,460	1,316,371	1,351,308	1,383,173	1,505,076	1,357,701
Germany	6,033,164	6,062,562	5,645,581	5,120,409	4,661,328	3,742,454	3,308,692	3,677,820	4,109,371	4,069,222
India	4,125,744	4,488,965	4,782,896	5,174,645	4,516,017	3,394,446	4,399,112	5,456,857	5,851,507	6,014,691
Iran	982,337	1,164,710	1,515,396	1,095,526	821,060	880,997	894,298	1,064,215	1,188,471	1,077,839
Japan	9,278,238	9,204,590	9,693,746	9,728,528	9,684,298	8,067,557	7,846,955	7,835,519	8,997,440	8,234,681
Mexico	3,565,469	3,597,462	4,068,415	4,100,525	3,986,794	3,176,600	3,145,653	3,509,072	4,002,047	4,202,642
Russia	1,384,399	1,303,989	1,551,293	1,767,674	1,719,784	1,435,335	1,566,317	608,460	729,864	982,665
South Korea	4,555,957	4,228,509	4,114,913	4,028,834	3,950,617	3,506,774	3,462,404	3,757,049	4,243,597	4,127,252
Spain	2,733,201	2,885,922	2,848,335	2,819,565	2,822,355	2,268,185	2,098,133	2,219,462	2,451,221	2,376,504
Thailand	1,915,420	1,944,417	1,988,823	2,167,694	2,013,710	1,427,074	1,685,705	1,883,515	1,841,663	1,468,997
Turkey	1,358,796	1,485,927	1,695,731	1,550,150	1,461,244	1,297,878	1,276,140	1,352,648	1,468,393	1,365,296
UK	1,682,156	1,816,622	1,749,385	1,604,328	1,381,405	987,044	932,488	876,614	1,025,474	905,233
USA	12,100,095	12,198,137	11,189,985	11,314,705	10,880,019	8,822,399	9,167,214	10,060,339	10,611,555	10,562,188
Other	9,172,815	9,065,105	9,547,461	9,509,971	10,668,708	7,523,397	8,463,662	9,600,121	10,077,589	7,407,389
TOTAL	91,379,672	95,526,250	97,955,865	96,309,458	92,788,019	77,623,602	79,627,352	85,016,728	93,546,599	92,504,338

Other includes: Algeria, Argentina, Austria, Belarus, Belgium, Belarus, Chile, Colombia, Egypt, Finland, Hungary, Indonesia, Italy, Kazakhstan, Morocco, Pakistan, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, South Africa, Taiwan, Tunisia, Ukraine, Uzbekistan, Vietnam.

Source: oica.net

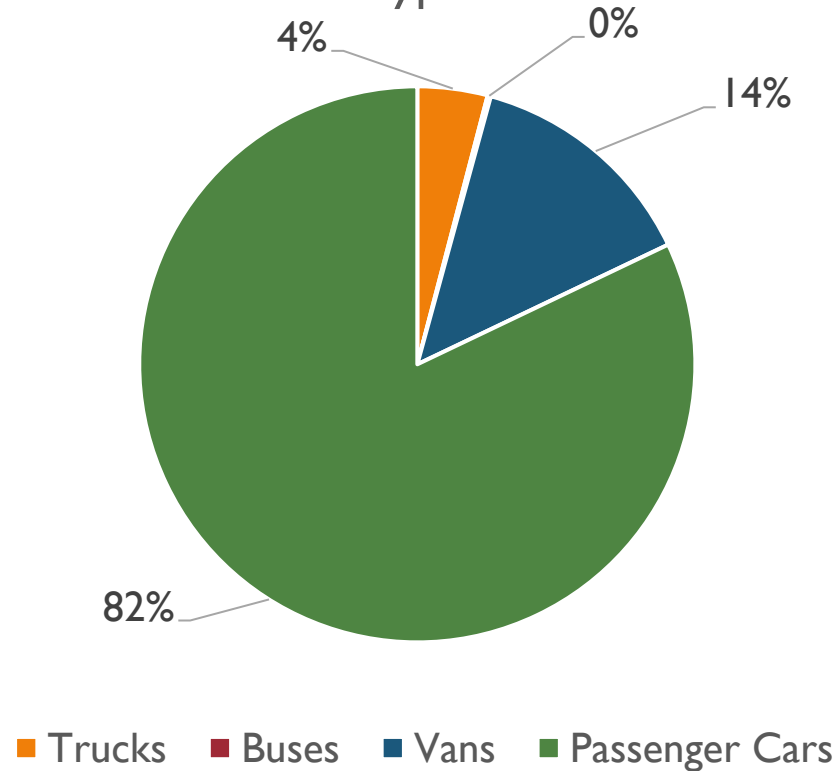
European Vehicle Production by Country



COUNTRY	2020	2021	2022	2023	2024
Austria	104,544	145,700	107,500	114,191	71785
Belgium	267,460	261,038	276,554	332,103	240366
Czech Rpubl.	1,159,151	1,111,432	1,224,456	1,404,501	1458892
Finland	86,270	93,172	73,044	30,191	22384
France	1,316,371	1,351,308	1,383,173	1,505,076	1357701
Germany	3,742,474	3,308,692	3,677,820	4,109,371	4069222
Hungary	406,497	394,302	441,729	507,225	437045
Italy	777,165	795,856	796,394	880,085	591067
Netherlands	127,058	105,458	101,670	123,379	7403
Poland	451,382	439,421	483,840	612,882	555346
Portugal	264,236	289,954	322,404	318,231	332546
Romania	438,107	420,755	509,465	513,050	560102
Serbia	23,375	21,000	4,358	4,498	235
Slovakia	985,000	979,000	1,000,000	1,080,000	993000
Slovenia	141,714	95,797	68,130	60,881	60903
Spain	2,268,185	2,098,133	2,219,462	2,451,221	2376504
Sweden	249,000	258,000	238,955	276,750	268487
UK	987,044	932,488	876,614	1,025,474	905233
TOTAL	13,795,033	13,101,506	13,824,888	15,351,132	14307217

EU-15 Motor Vehicle Production by Type (2023)

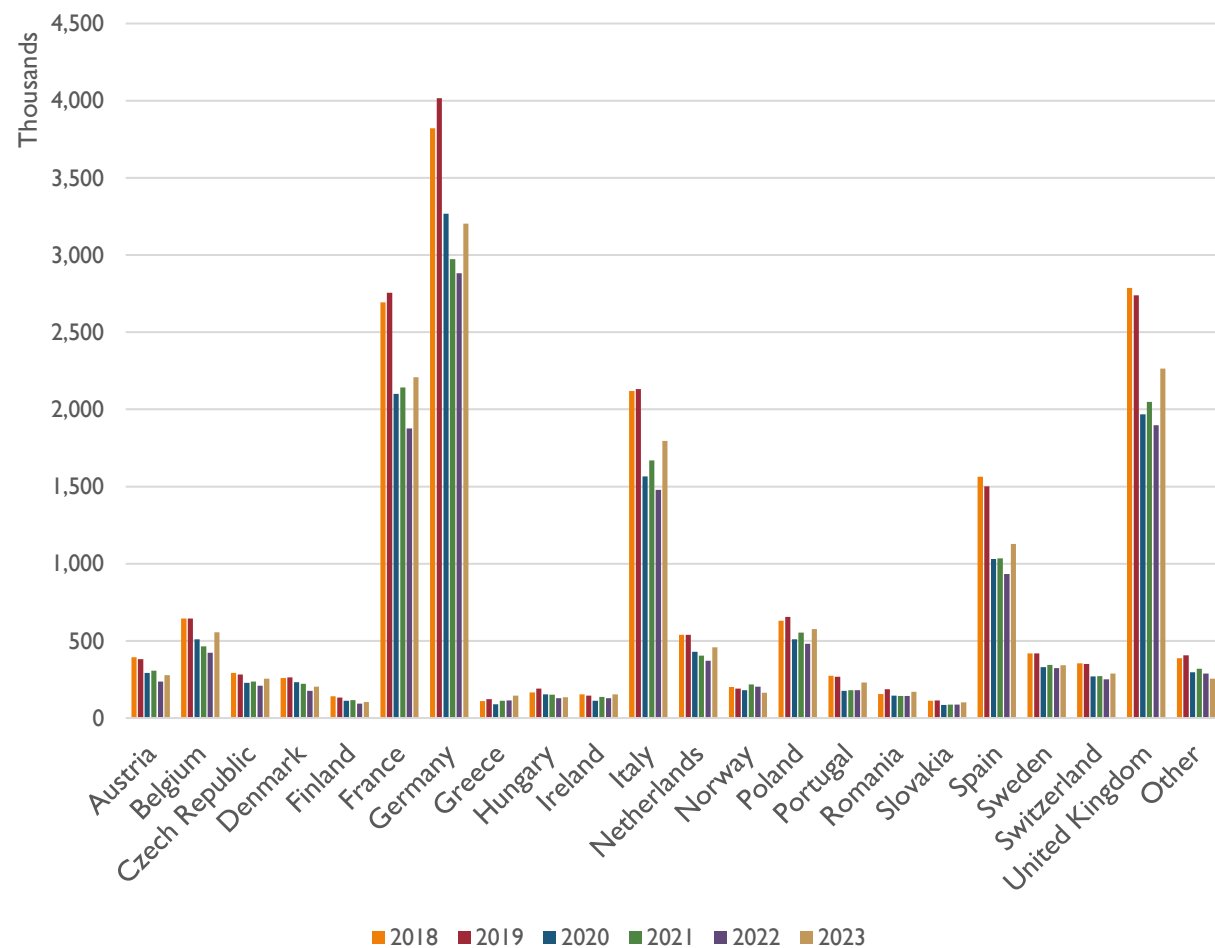
2023 EU Motor Vehicle Production by Type



Source: acea.auto, oica.net

Registrations by Country for All Vehicle Types

In European Union and EFTA

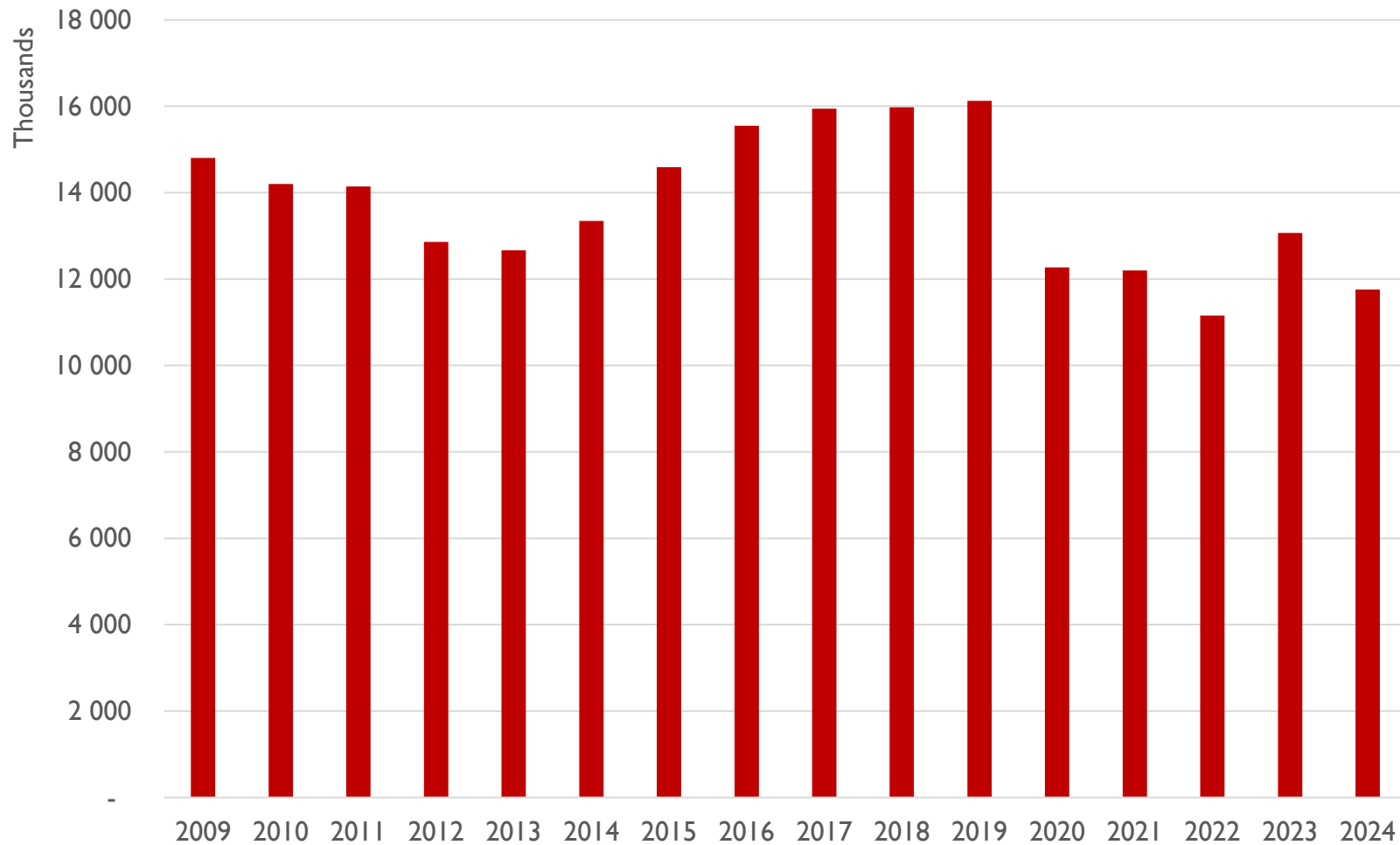


Country	2018	2019	2020	2021	2022	2023
Austria	394,025	382,033	291,833	306,176	237,119	278,896
Belgium	644,090	644,063	511,107	463,809	422,405	555,002
Czech R.	292,860	281,423	228,834	236,221	208,995	255,676
Denmark	258,513	264,261	233,248	221,937	175,463	203,951
Finland	140,308	133,514	112,971	115,292	92,890	102,730
France	2,692,747	2,755,695	2,100,021	2,142,275	1,876,104	2,209,102
Germany	3,822,060	4,017,059	3,266,749	2,973,319	2,882,647	3,204,298
Greece	110,950	122,874	88,710	112,364	114,947	145,606
Hungary	166,234	190,084	153,968	150,387	129,176	135,648
Ireland	153,895	145,104	112,122	136,126	128,906	154,247
Italy	2,119,902	2,131,916	1,564,670	1,669,347	1,477,796	1,794,655
Netherlands	539,715	538,892	429,832	403,356	371,315	457,984
Norway	201,923	189,824	180,885	217,464	203,813	164,053
Poland	630,147	656,258	510,153	554,613	481,987	576,850
Portugal	273,448	267,829	176,992	180,277	179,845	229,885
Romania	154,723	186,934	145,012	143,980	142,911	170,718
Slovakia	111,716	113,863	84,909	87,349	86,520	101,842
Spain	1,563,496	1,501,260	1,030,744	1,034,059	933,015	1,127,868
Sweden	418,162	418,478	330,215	343,882	322,603	341,842
Switzerland	354,132	351,273	269,205	272,067	250,972	287,436
United Kingdom	2,787,307	2,740,022	1,967,656	2,049,030	1,896,202	2,263,666
Other	386,770	406,697	297,082	320,326	288,077	254,206
TOTAL	18,217,123	18,439,506	14,086,918	14,133,656	12,905,730	15,018,184

Other : Bulgaria, Croatia, Cyprus, Estonia, Latvia, Lithuania, Luxembourg, Slovenia, Iceland

Source: acea.auto

EU-15 Vehicle Registrations by Year



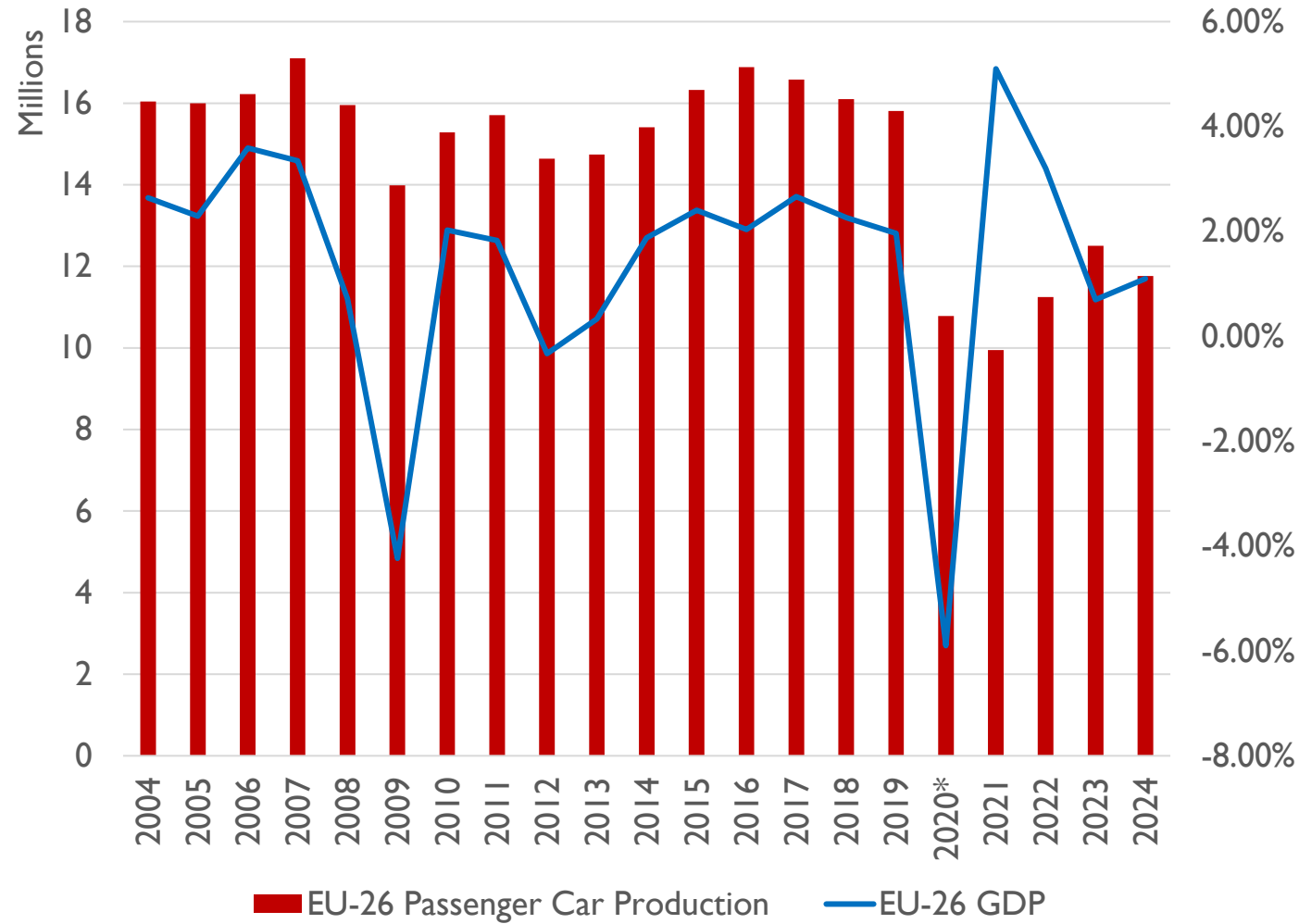
* UK is excluded due to Brexit

Year	Registrations
2024	11,760,147
2023	13,069,732
2022	11,157,355
2021	12,201,402
2020*	12,267,684
2019	16,124,572
2018	15,977,511
2017	15,947,066
2016	15,548,159
2015	14,591,717
2014	13,347,296
2013	12,666,292
2012	12,862,625
2011	14,146,543
2010	14,202,042
2009	14,804,292

EU-15: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, The Netherlands, Portugal, Spain, Sweden, United Kingdom

Source: acea.auto

EU-15 Vehicle Registrations by Year vs GDP



Year	Registrations	EU GDP
2024	11,760,147	1.1%
2023	13,169,732	0.7%
2022	11,157,355	3.6%
2021	12,201,402	5.9%
2020*	12,267,684	-5.6%
2019	16,124,572	2.0%
2018	15,977,511	2.3%
2017	15,947,066	2.7%
2016	15,548,159	2.1%
2015	14,591,717	2.4%
2014	13,347,296	1.9%
2013	12,666,292	0.3%
2012	12,862,625	-0.3%
2011	14,146,543	1.8%
2010	14,202,042	2.0%

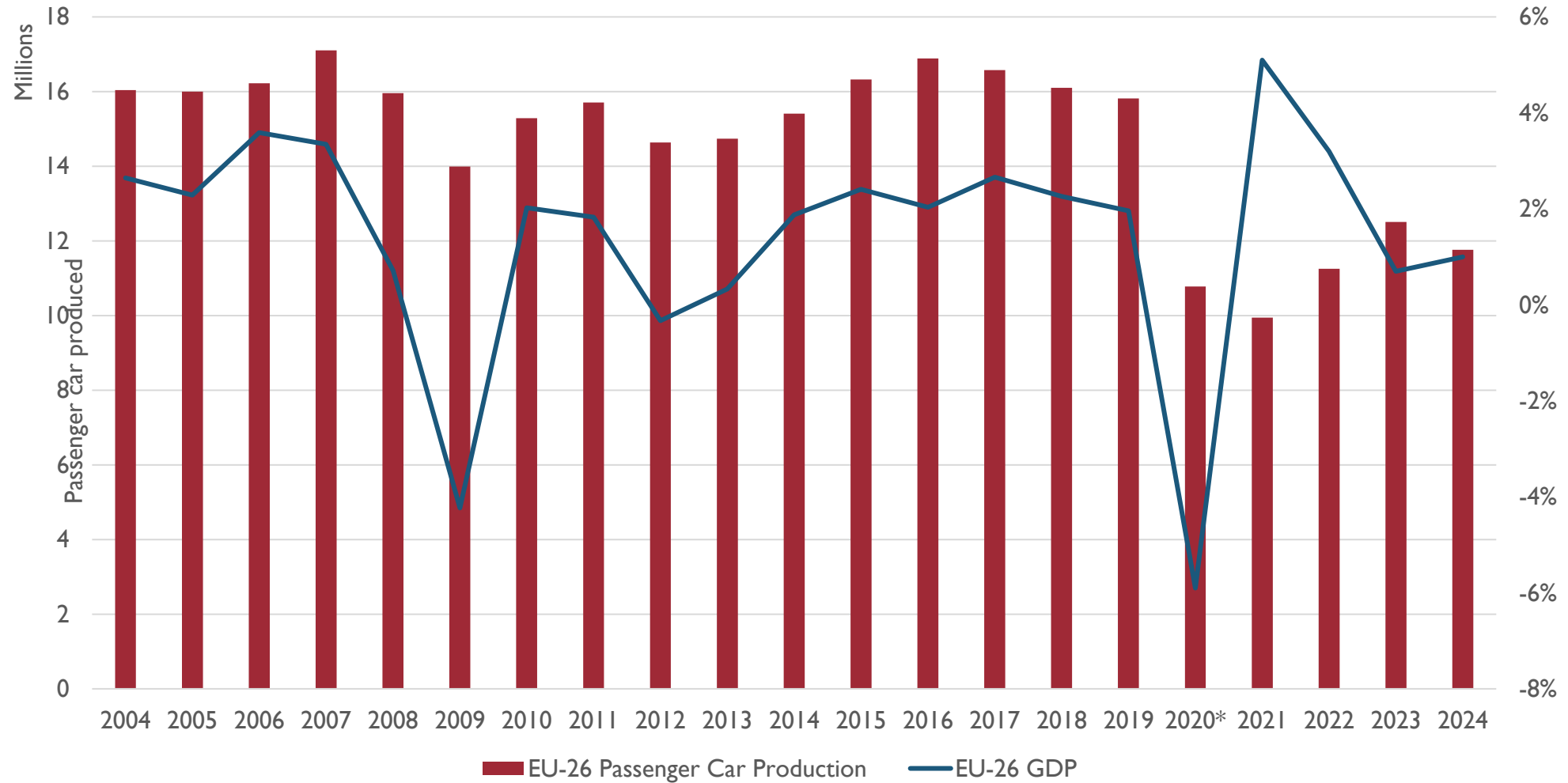
* UK is excluded due to Brexit

Source: acea.auto, imf.org

Passenger Vehicle Statistics



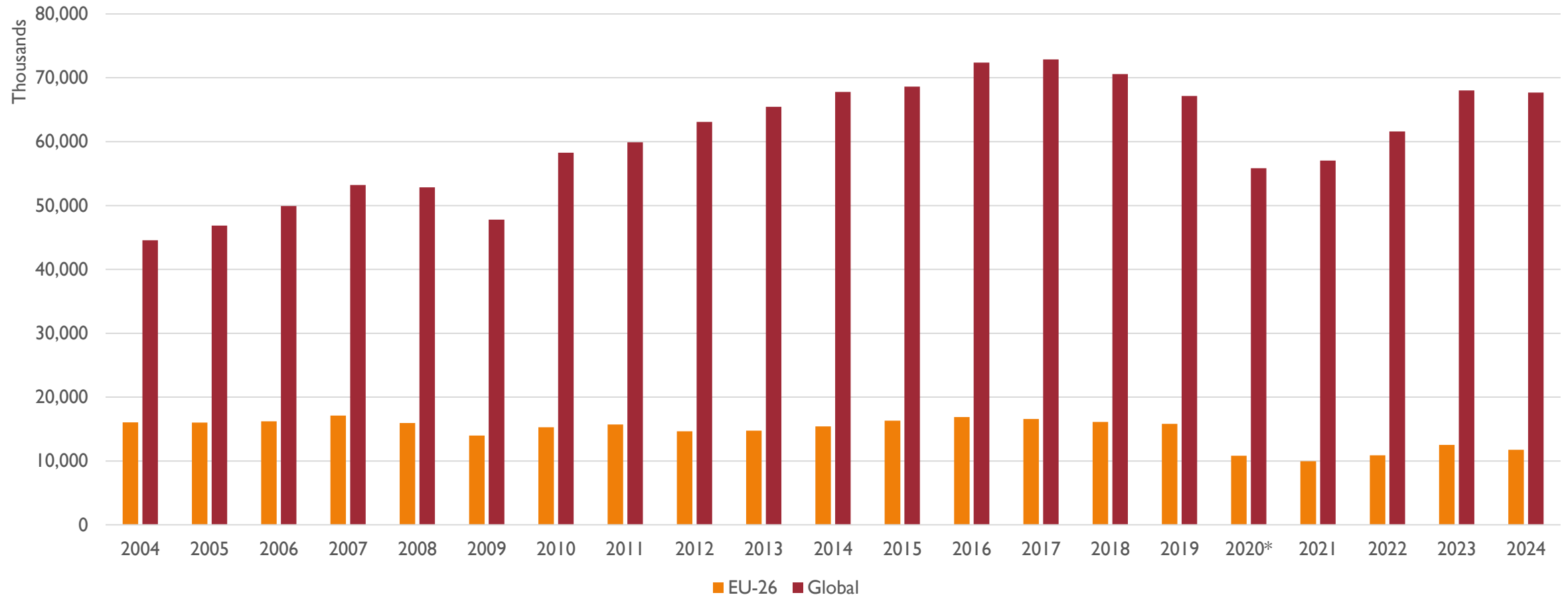
EU Passenger Car Production Vs GDP



* UK is excluded due to Brexit

Source: oica.net, imf.org

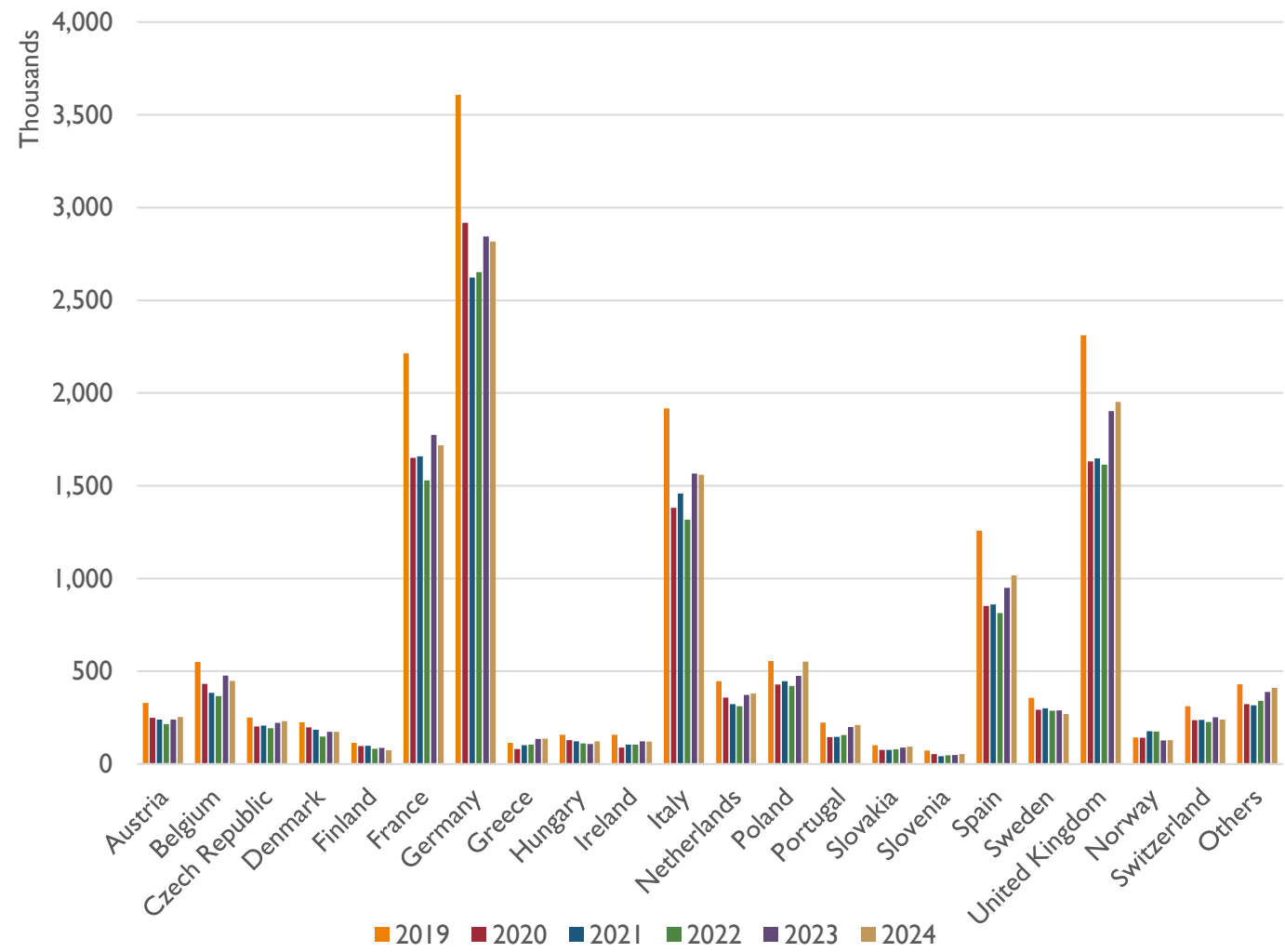
EU vs Global Passenger Car Production



* UK is excluded due to Brexit

Source: statista.com, acea.auto

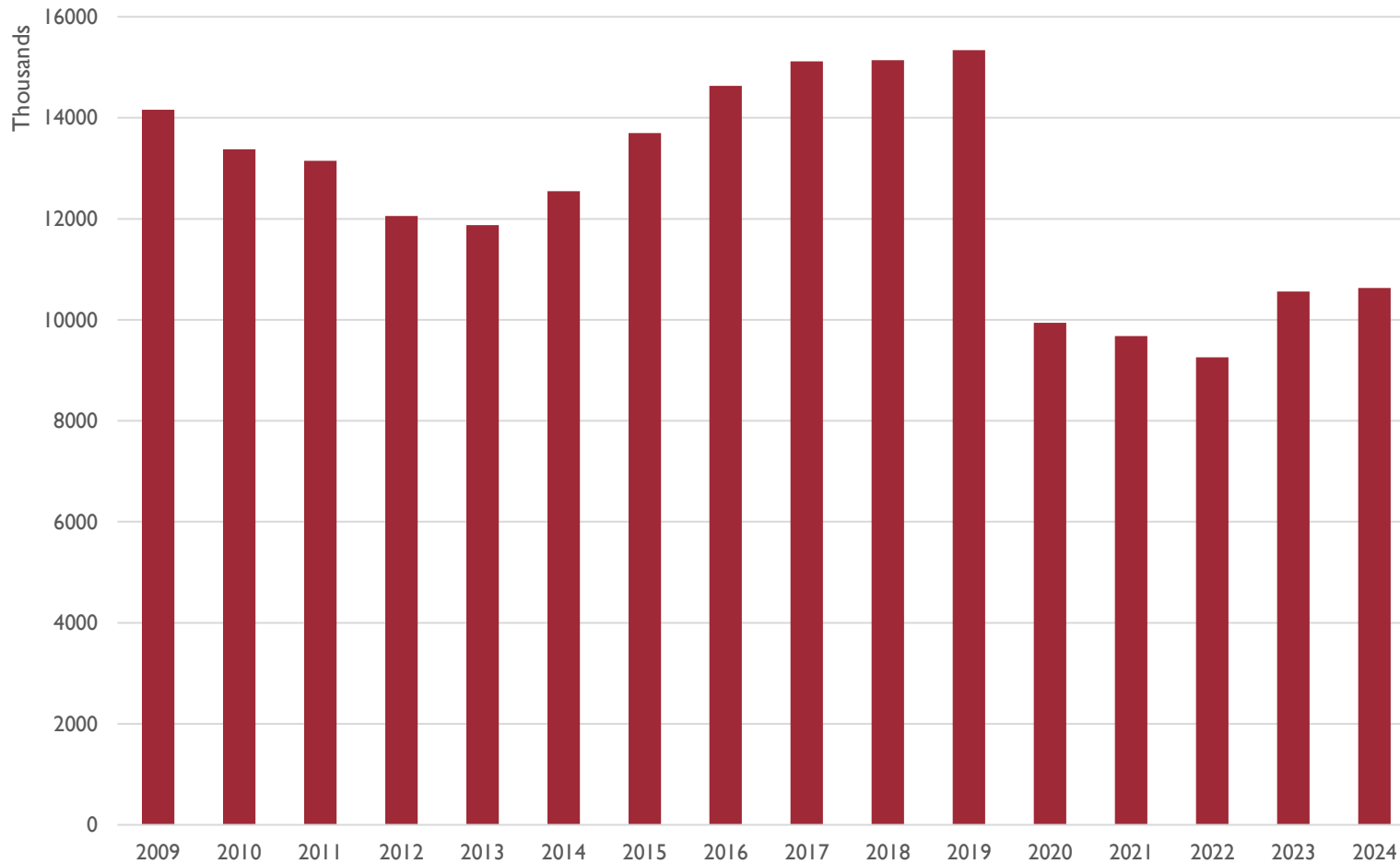
Passenger Car Registrations by Country



Country	2019	2020	2021	2022	2023	2024
Austria	329,363	248,740	239,927	215,050	239,150	253 789
Belgium	550,003	431,491	383,123	366,303	476,674	448 277
Czech R.	249,915	202,971	206,910	192,087	221,419	231 597
Denmark	225,594	198,130	185,382	148,293	172,798	173 114
Finland	114,199	96,415	98,502	81,698	87,509	74 064
France	2,214,279	1,650,118	1,659,004	1,529,035	1,774,723	1 718 412
Germany	3,607,258	2,917,678	2,622,132	2,651,357	2,844,609	2 817 331
Greece	114,110	80,977	100,976	105,283	134,484	137 075
Hungary	157,900	128,021	121,920	111,524	107,720	121 611
Ireland	157,900	88,324	104,932	105,253	122,310	121 196
Italy	1,916,320	1,381,496	1,457,952	1,316,702	1,565,331	1 559 229
Netherlands	446,114	358,330	322,831	312,129	372,156	381 227
Poland	555,598	428,347	446,461	419,749	475,032	551 568
Portugal	223,799	145,417	146,637	156,304	199,623	209 715
Slovakia	101,568	76,305	75,582	78,841	88,003	93 409
Slovenia	73,211	53,694	42,071	46,339	48,809	53 018
Spain	1,258,260	851,211	859,477	813,396	949,359	1 016 885
Sweden	356,036	292,024	301,008	288,087	289,727	269 582
UK	2,311,140	1,631,064	1,647,181	1,614,063	1,903,054	1 952 778
Norway	142,381	141,412	176,276	174,329	126,853	128 687
Switzerland	311,466	236,828	238,355	225,934	252,214	239 535
Others	430,138	322,189	316,720	341,093	388,646	411 515

Others include: Bulgaria, Croatia, Cyprus Estonia, Latvia, Lithuania, Luxembourg, Romania, Iceland & Malta

Total Passenger Car Registrations in EU (2009-2024)



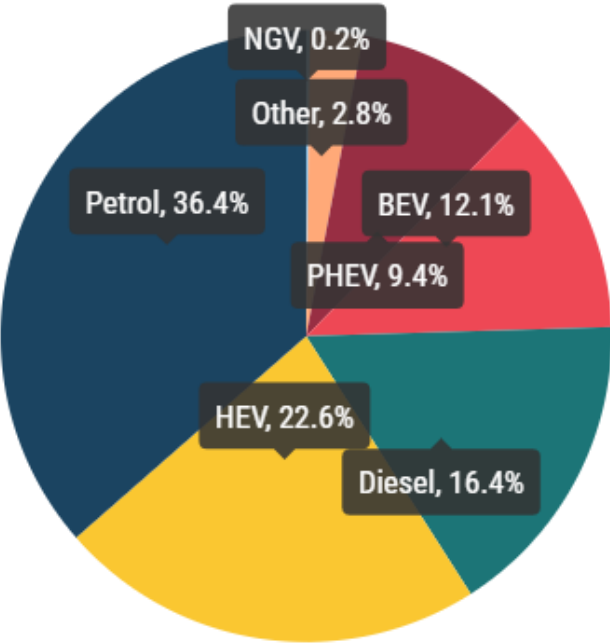
Year	No of Registrations
2024	10 632 381
2023	10,558,082
2022	9,255,930
2021	9,678,749
2020*	9,942,509
2019	15,340,188
2018	15,140,526
2017	15,114,735
2016	14,627,789
2015	13,696,221
2014	12,542,492
2013	11,873,302
2012	12,051,805
2011	13,148,076
2010	13,372,917
2009	14,157,752

* UK is out of this figure in 2020

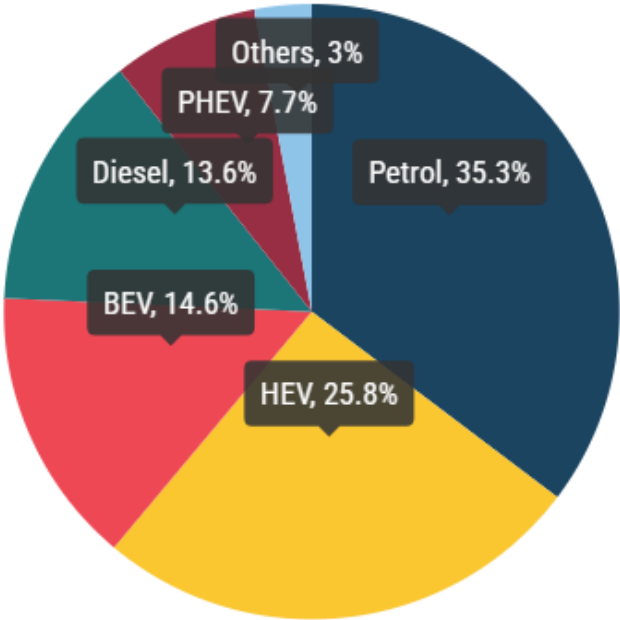
Source: oica.net

Passenger Car Registration by type in the EU 2022-2024

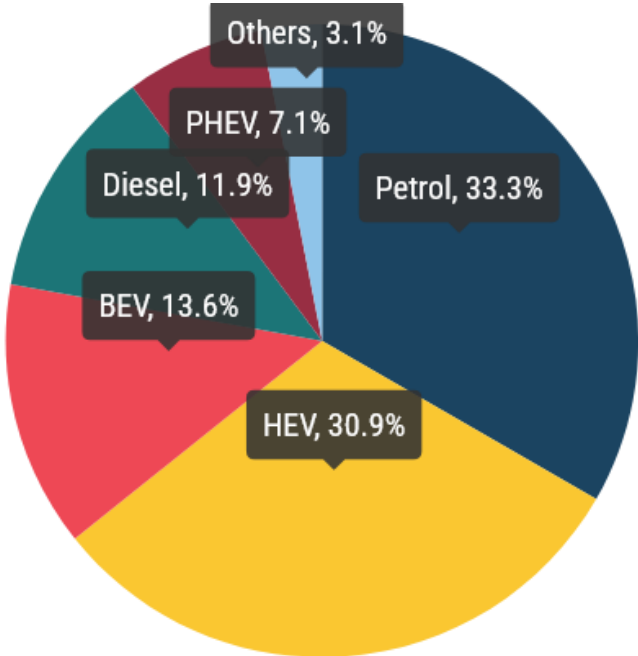
2022



2023



2024

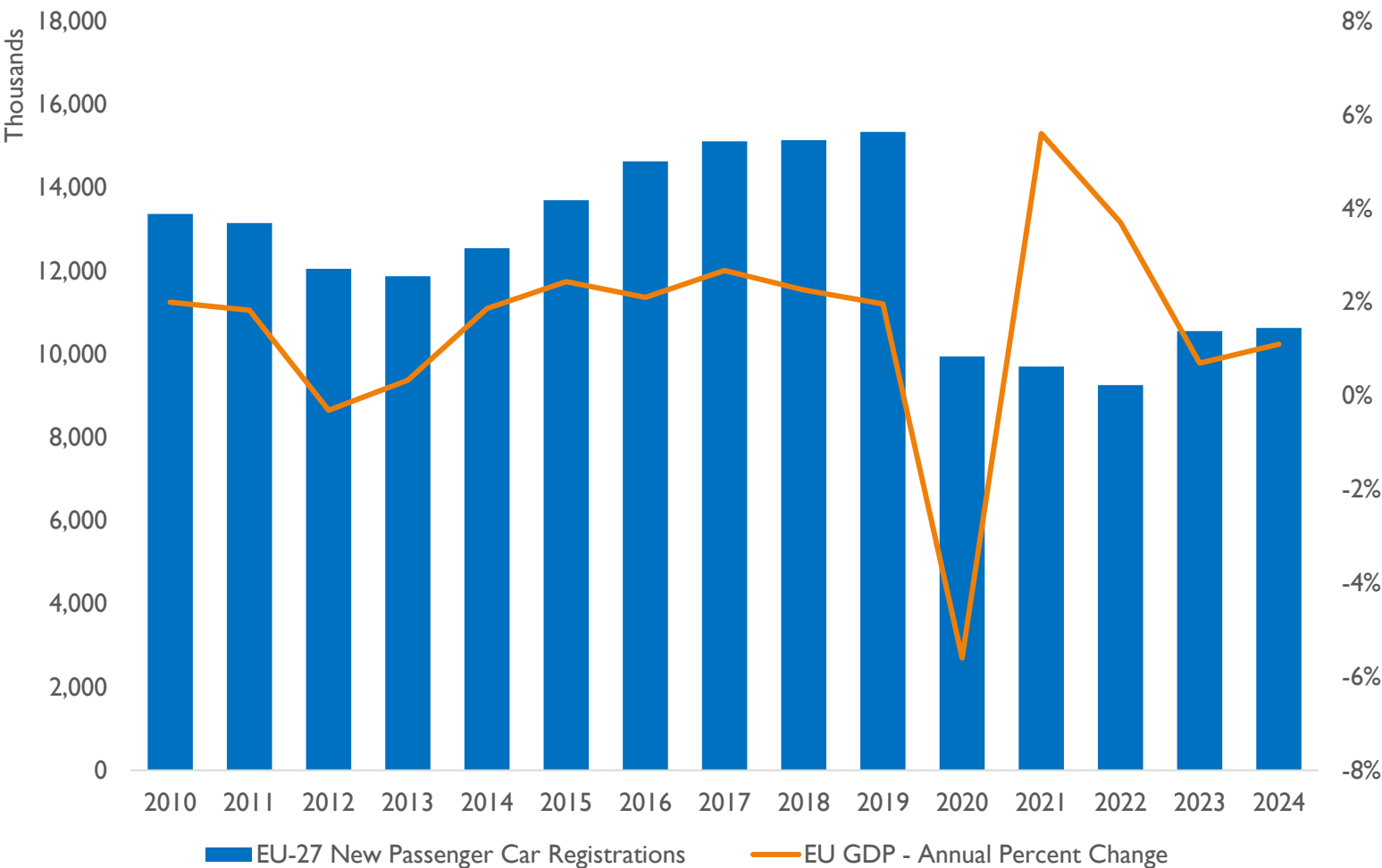


BEV: Battery Electric Vehicle
HEV: Hybrid Electric Vehicle
ECV: Electrically-Chargeable Vehicle

PHEV: Plug-in Hybrid Electric Vehicle
NGV: Natural Gas Vehicle

Battery-electric cars remained the third-most-popular choice for buyers in 2024. In December, their market share stood at 15.9%, contributing to a 13.6% share for the full year, again surpassing diesel, which declined to 11.9%. Petrol cars retained their lead at 33.3%, while hybrid-electric cars strengthened their second position, commanding a 30.9% market share.

EU Passenger Car Registrations vs GDP

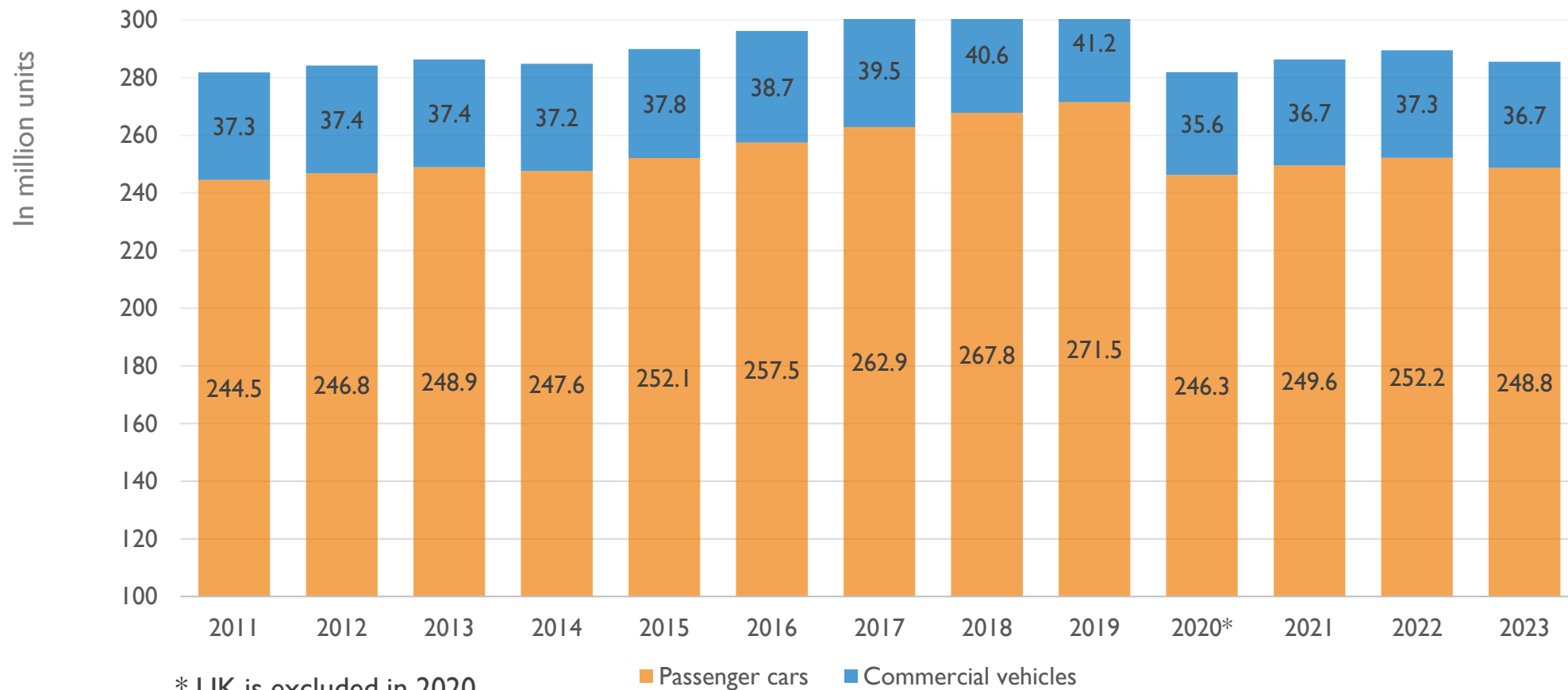


Year	EU GDP - Annual Percent Change	EU New Passenger Car Registrations*
2024	1.1%	10,632,381
2023	0.7%	10,555,082
2022	3.7%	9,255,930
2021	5.6%	9,678,749
2020	-5.6%	9,942,509
2019	1.96%	15,340,188
2018	2.26%	15,140,526
2017	2.68%	15,114,735
2016	2.10%	14,629,934
2015	2.44%	13,696,221
2014	1.87%	12,542,492
2013	0.33%	11,873,302
2012	-0.31%	12,051,805
2011	1.83%	13,148,076
2010	2.00%	13,372,917

* UK is out of this figure in 2020

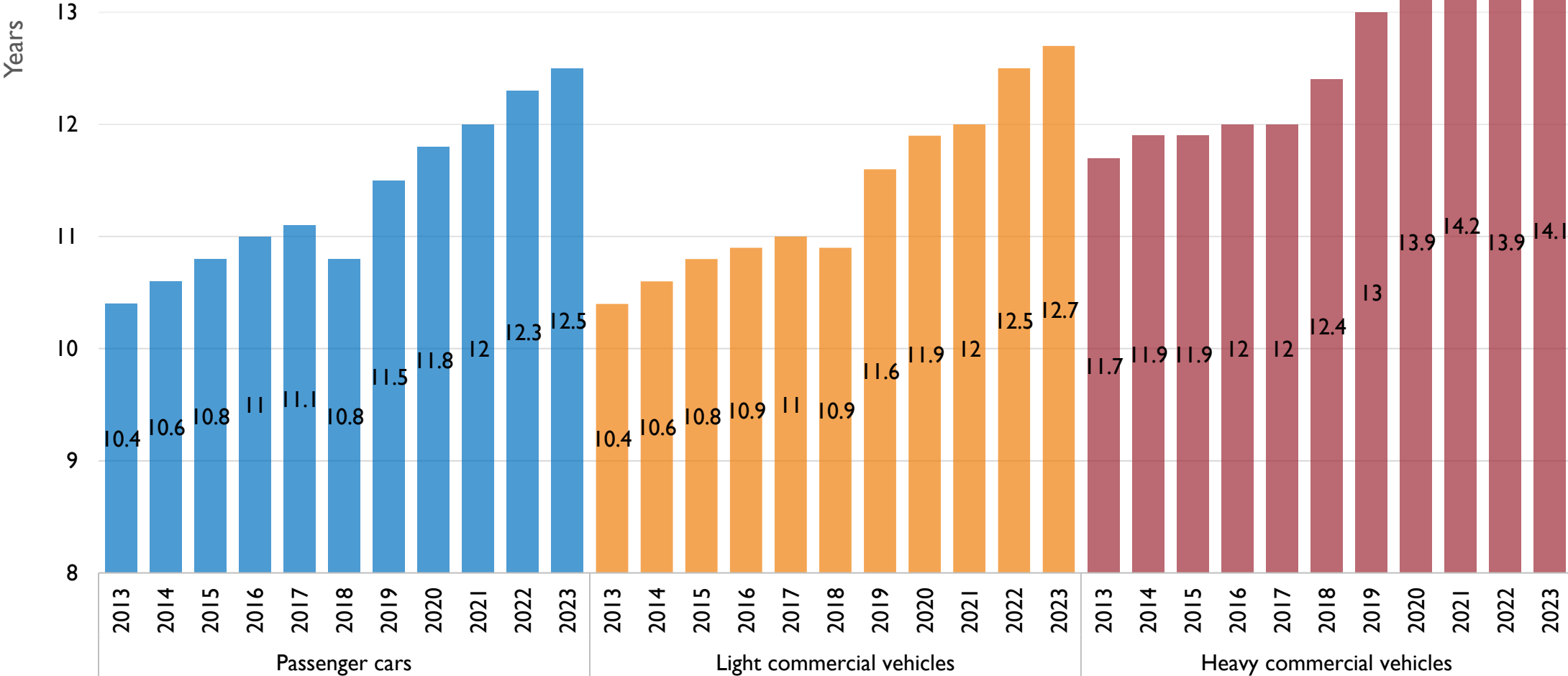
EU Vehicle Fleet : Size & Distribution

Passenger Cars make up 87% of the EU vehicle fleet



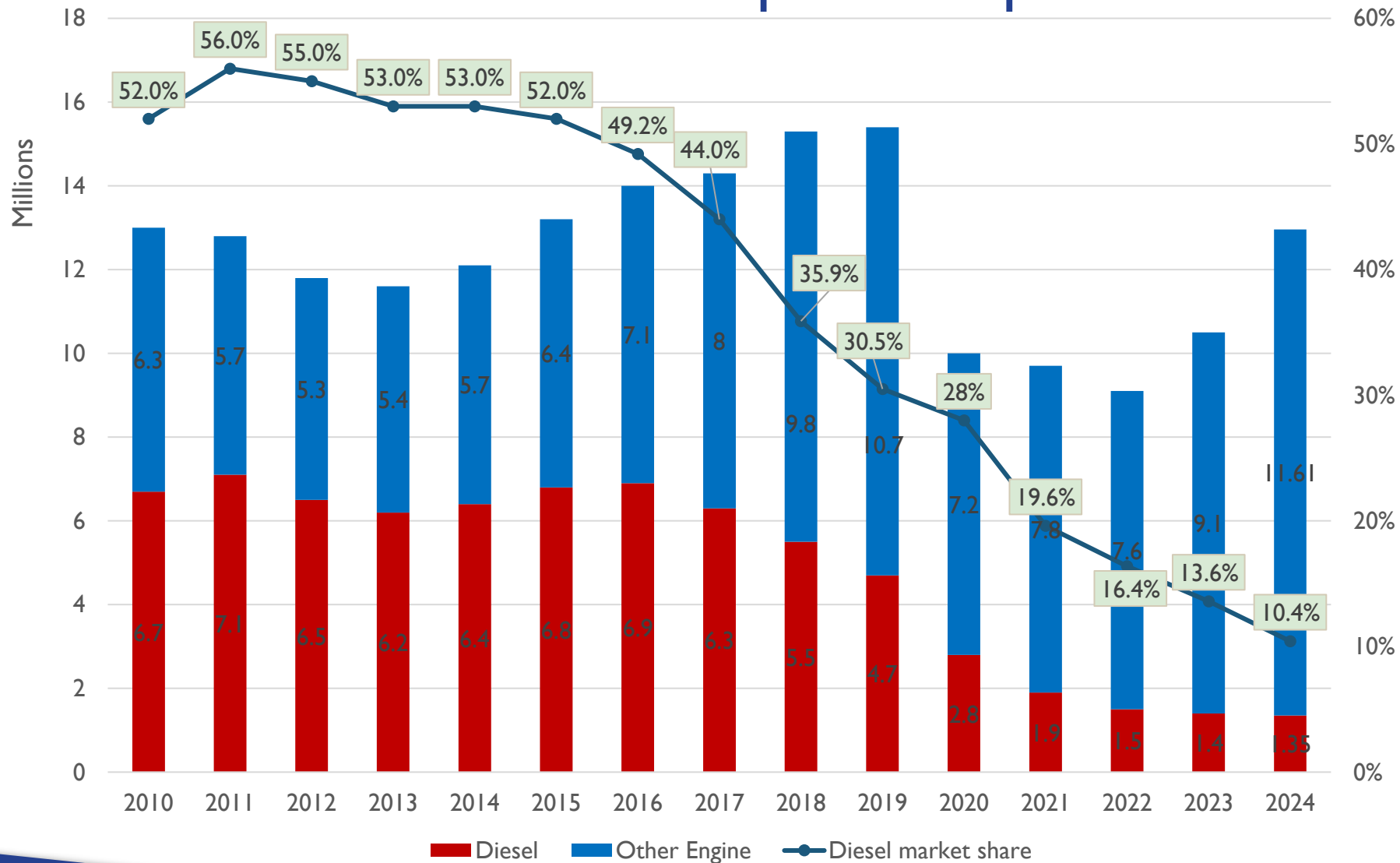
Source: acea.auto

Average age of EU fleet



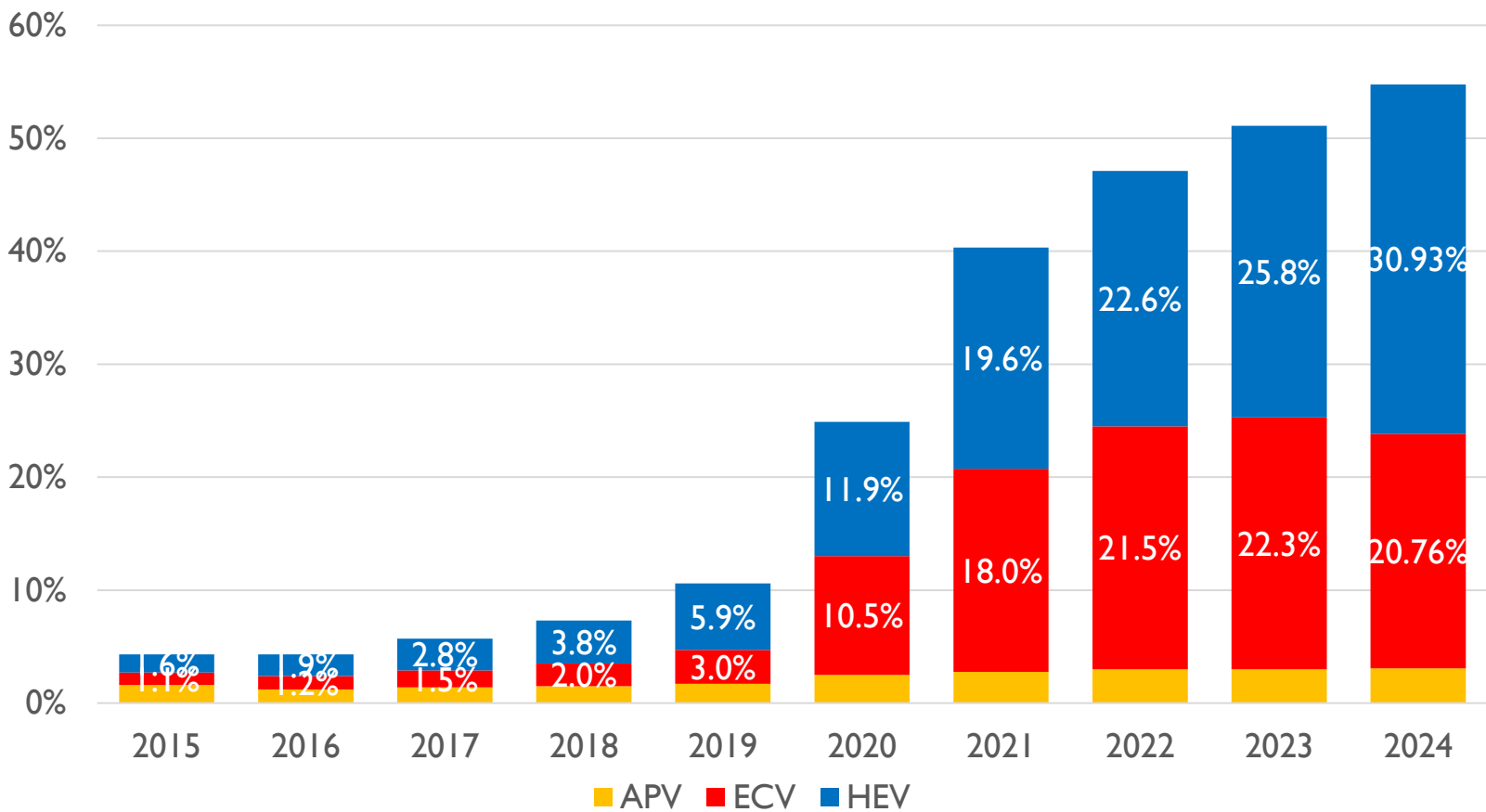
Source: acea.auto

Diesel sales continue to drop in Europe



Source: acea.auto

European Passenger Car Registrations Alternatively Powered Vehicles

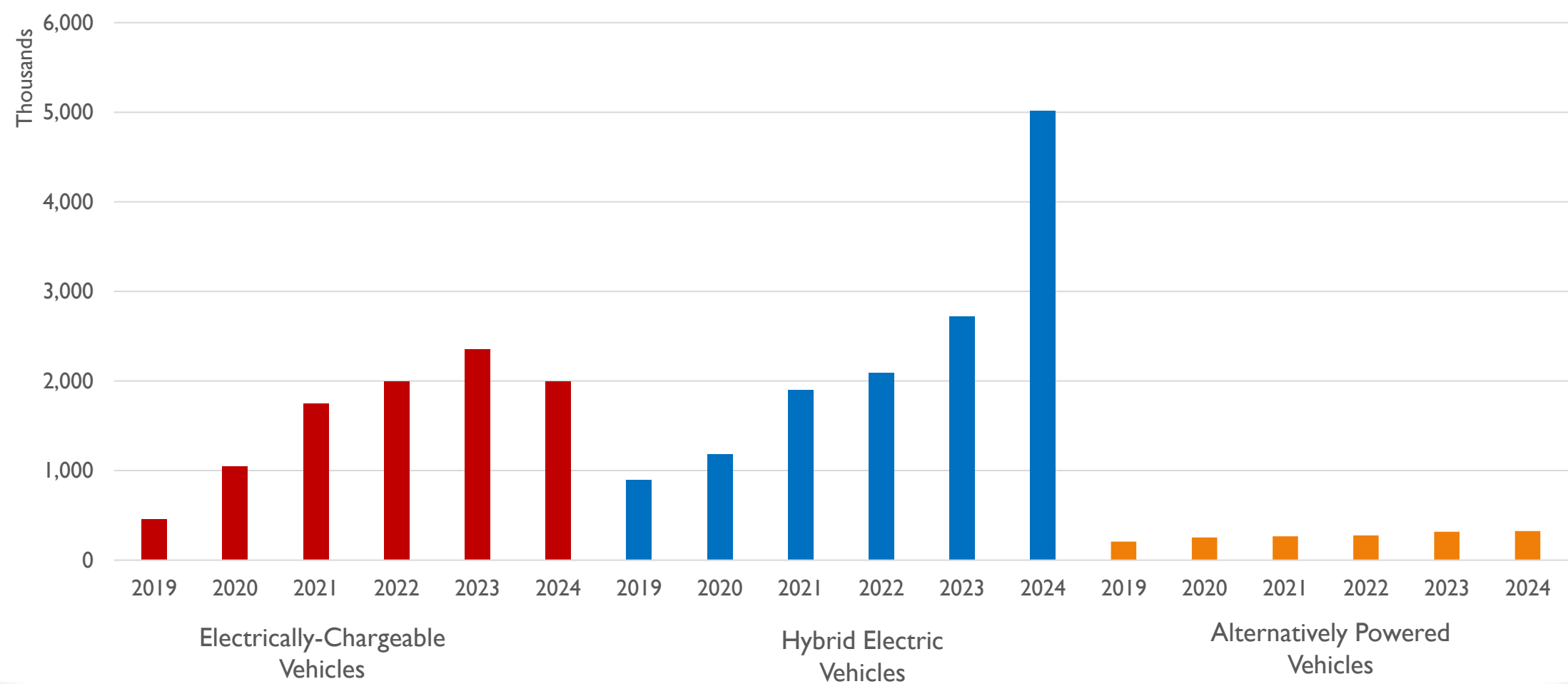


	HEV	ECV	APV
2024	30.93%	20.76%	3.07%
2023	25.8%	22.3%	3.0%
2022	22.6%	21.5%	3.0%
2021	19.6%	18%	2.8%
2020	11.9%	10.5%	2.5%
2019	5.9%	3.0%	1.7%
2018	3.8%	2.0%	1.5%
2017	2.8%	1.5%	1.4%
2016	1.9%	1.2%	1.2%
2015	1.6%	1.1%	1.6%

HEV: Hybrid Electric Vehicles
 ECV: Electrically Chargeable Vehicles
 APV: Alternately Powered Vehicles

Alternative Fuel Vehicle Registrations Increase

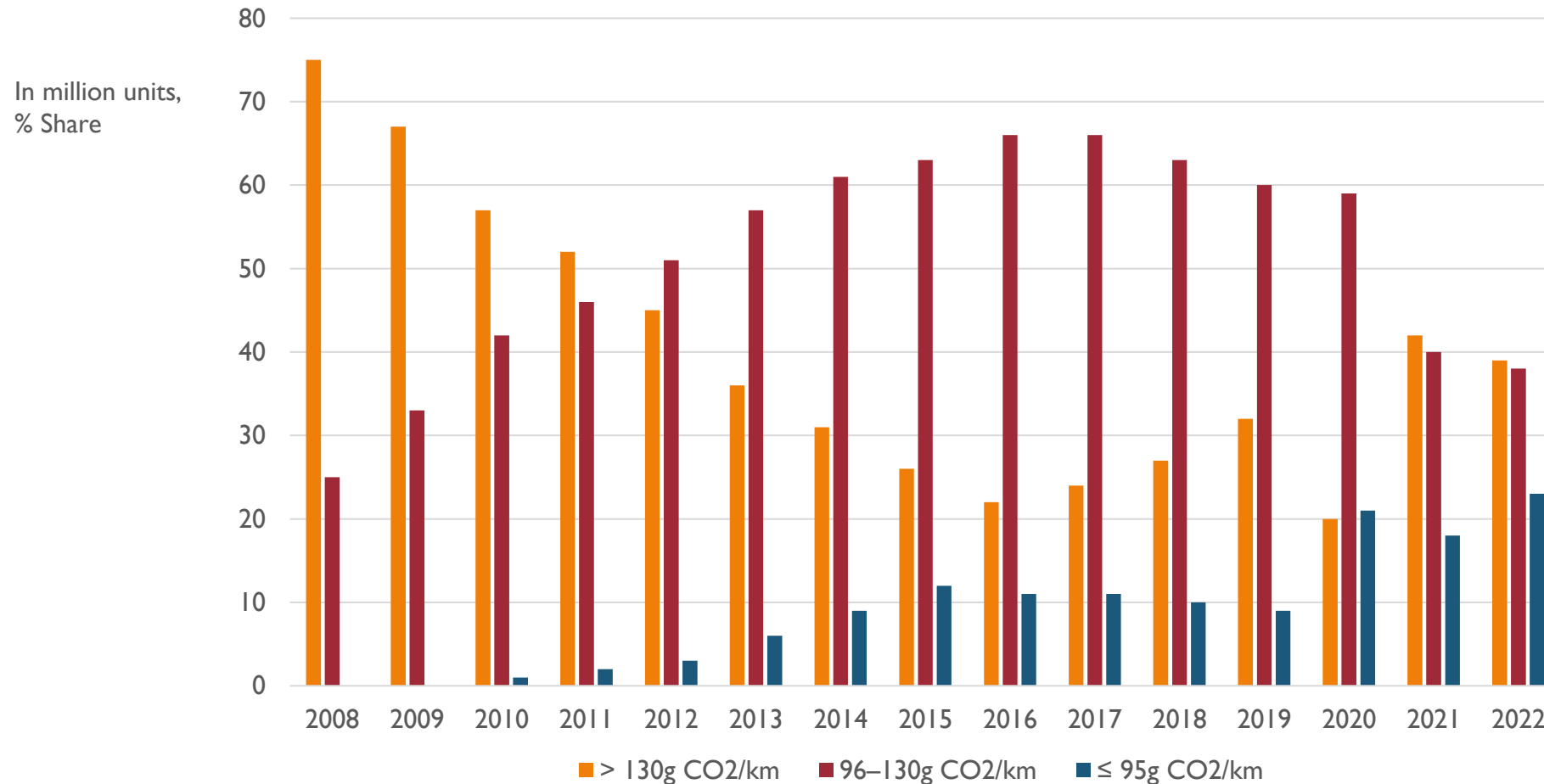
In 2024, demand for alternatively-powered cars in the European Union increased by 3.0%



Source: acea.auto

New Passenger Cars in the EU-15 by Emissions Classes

No New Data



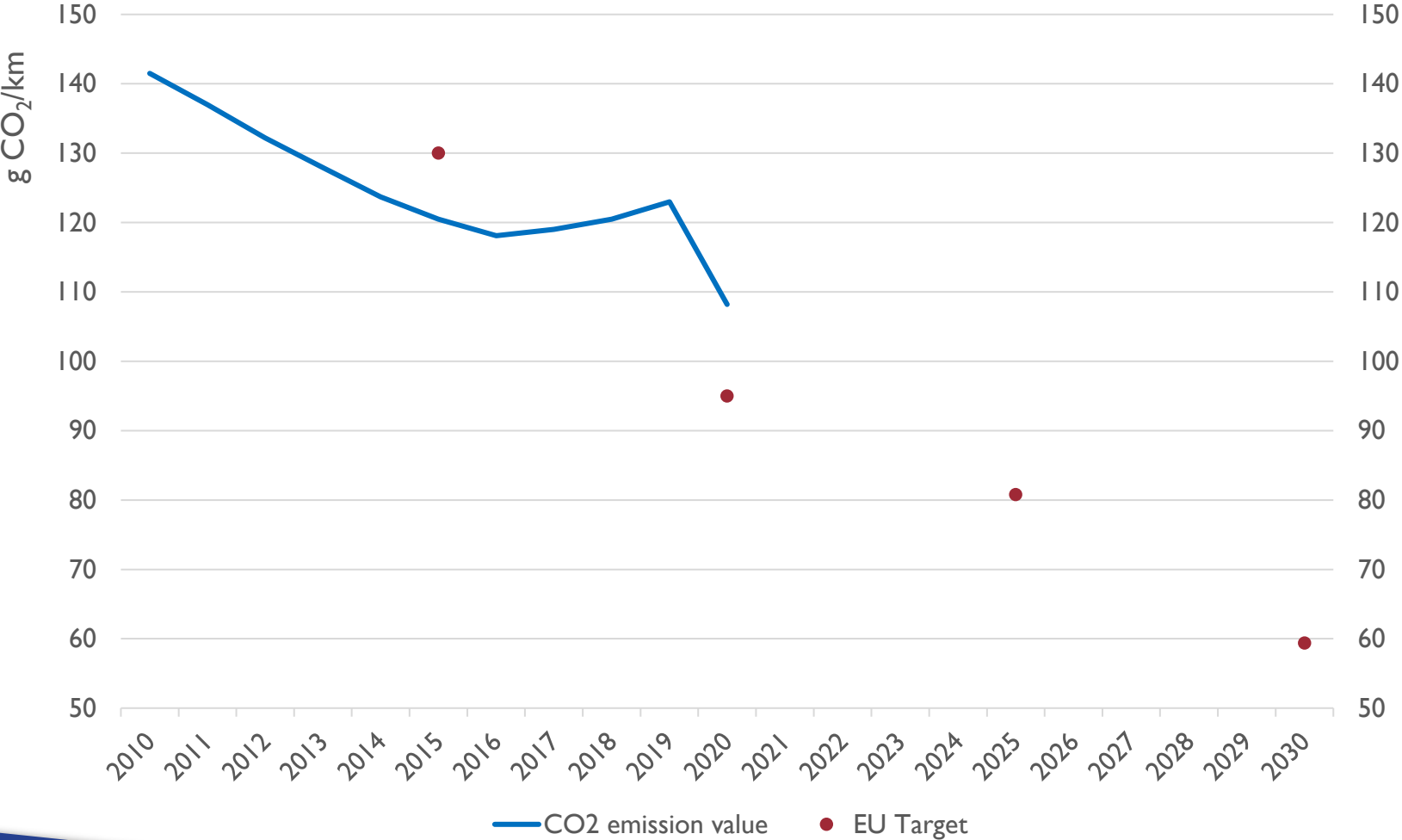
Almost a quarter
of new cars emit
95g CO2/km
or less

Source: acea., EUROPEAN ENVIRONMENT AGENCY (EEA)

Average CO₂ emissions of passenger cars in Europe

No New Data

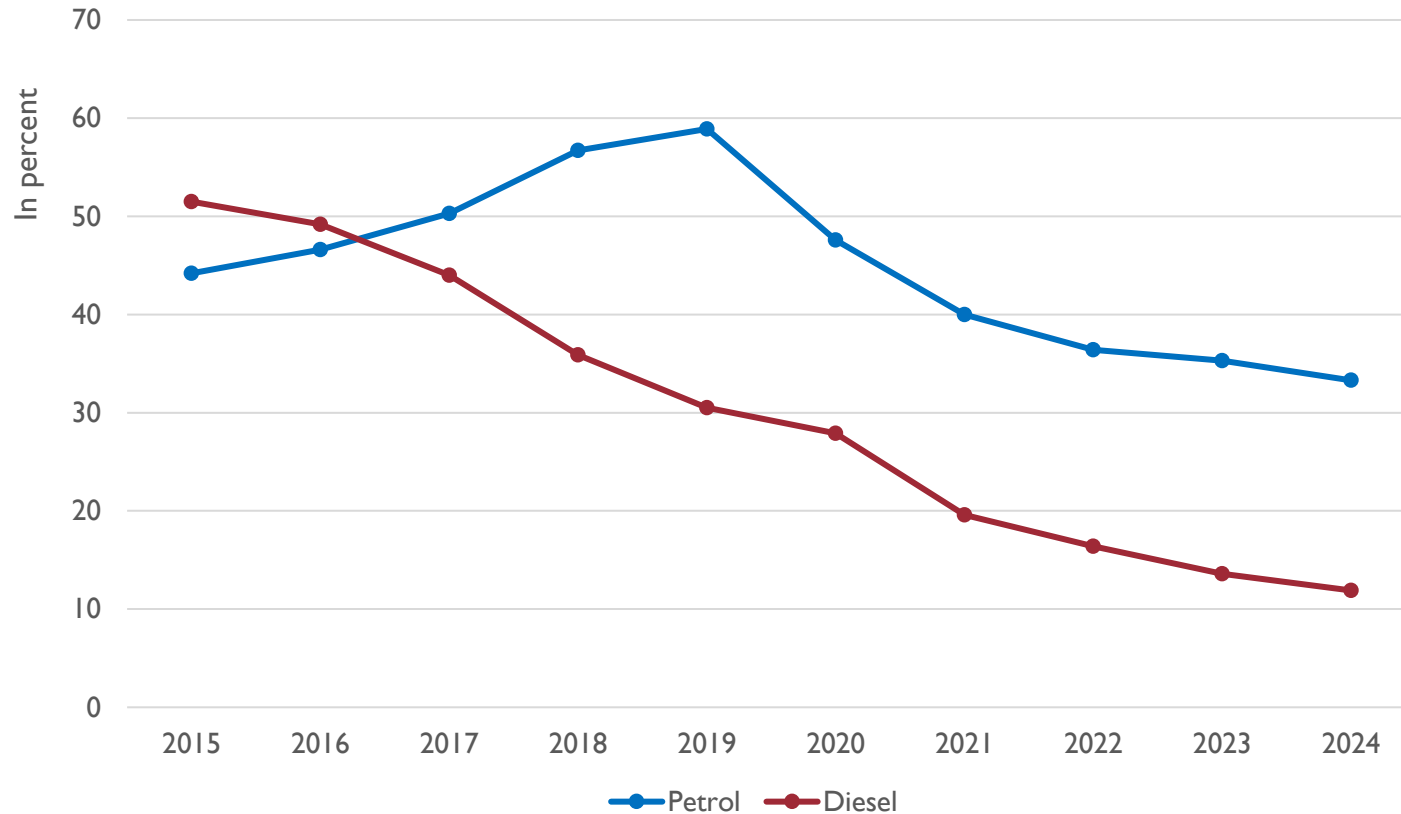
CO₂ emissions are down in parallel to the EU target in 2020



Fuel Options and New Technology



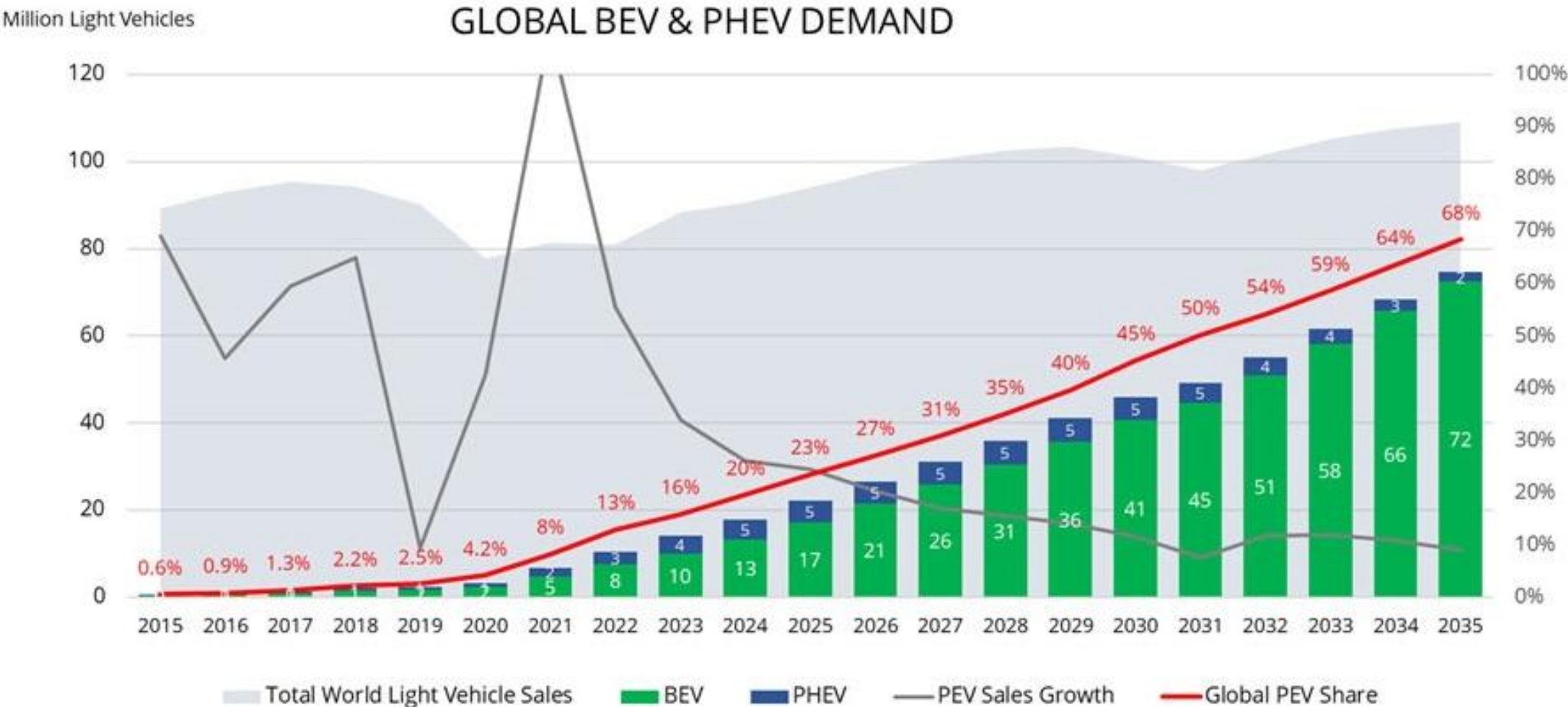
The Market for Combustion Engines is Collapsing



As %	Petrol	Diesel
2015	44.2	51.5
2016	46.6	49.2
2017	50.3	44
2018	56.7	35.9
2019	58.9	30.5
2020	47.6	27.9
2021	40	19.6
2022	36.4	16.4
2023	35.3	13.6
2024	33.3	11.9

In 2024, **diesel cars** share dropped from 13.6%, to 11.9% and **petrol cars** also fell from 35.3% to 33.3% with respect to 2023.

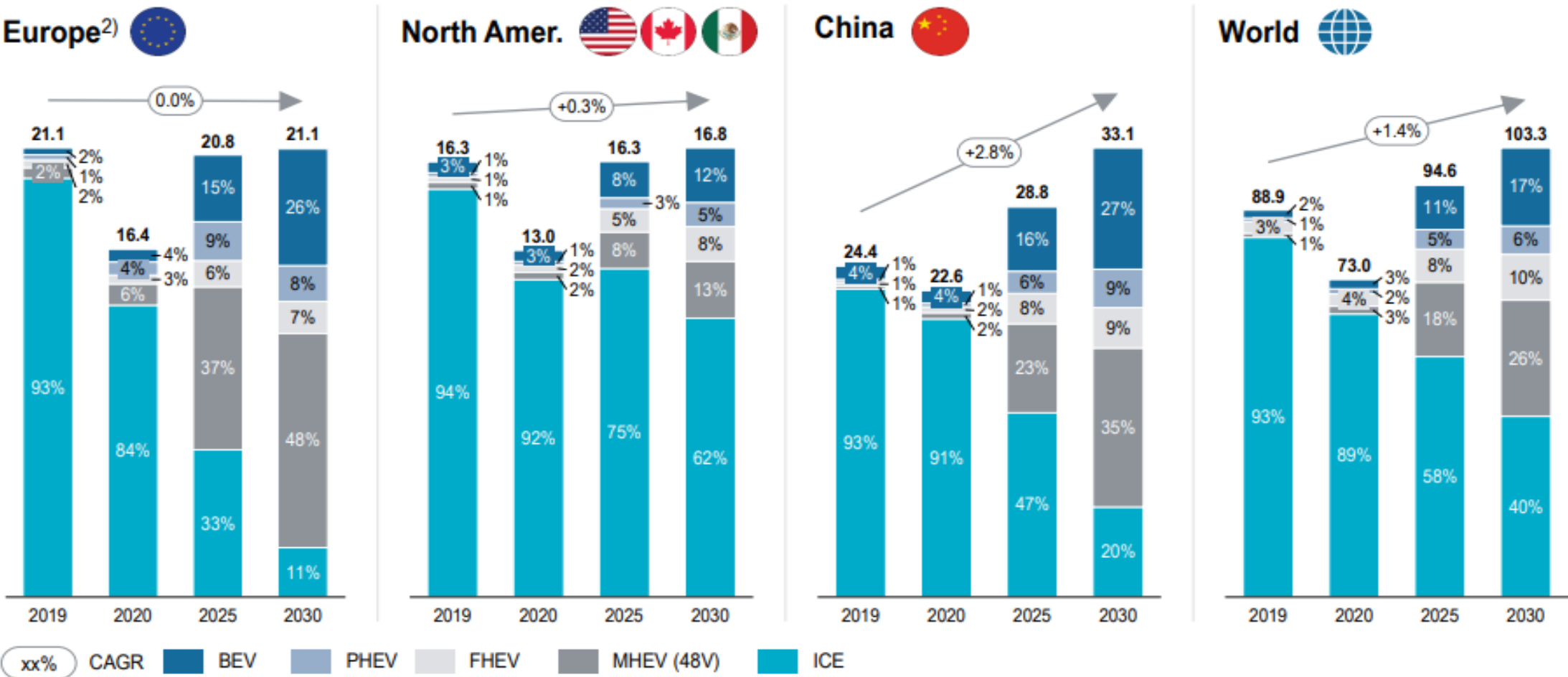
Global Light Vehicle Sales Forecast



Source: ev-volumes.com

The World Moves to Hybrid and Electric Vehicles

Light vehicle production forecast by region/powertrain type, 2019-2030 [m units]

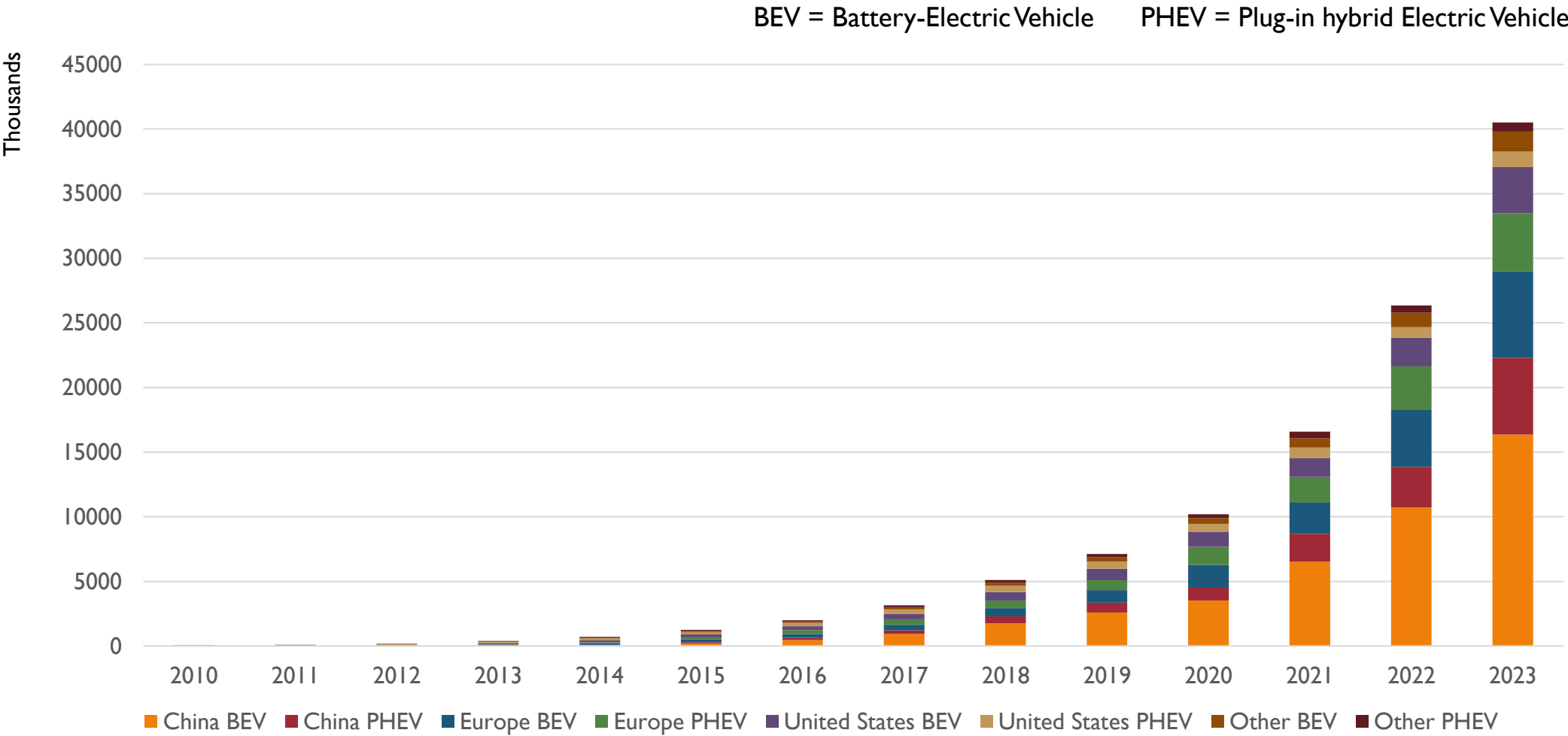


Source: Roland Berger

But not without issues to consider...

- “Trump's tariff threat rattles Mexico's automotive industry”
 - 2 April 2025, www.lemonde.fr
- “The Volkswagen group unveiled a series of new vehicles and a driver assistance system built “in China for China“, which it hopes will help reverse its declining fortunes in the world's largest car market.”
 - 23 April 2025, www.thesun.my
- “Tesla's Strategic Overhaul Amid Declining Sales ”
 - 27 April 2025, thetimes.co.uk
- “Trump Administration's Tariff Adjustments Impact Automakers”
 - 23 April 2025, reuters.com
- “Slate Auto Introduces Affordable Electric Truck”
 - 24 April 2025, businessinsider.com
- “Chrysler Unveils New Electric Sedan to Revitalize Brand.”
 - 24 April 2025, the-sun.com

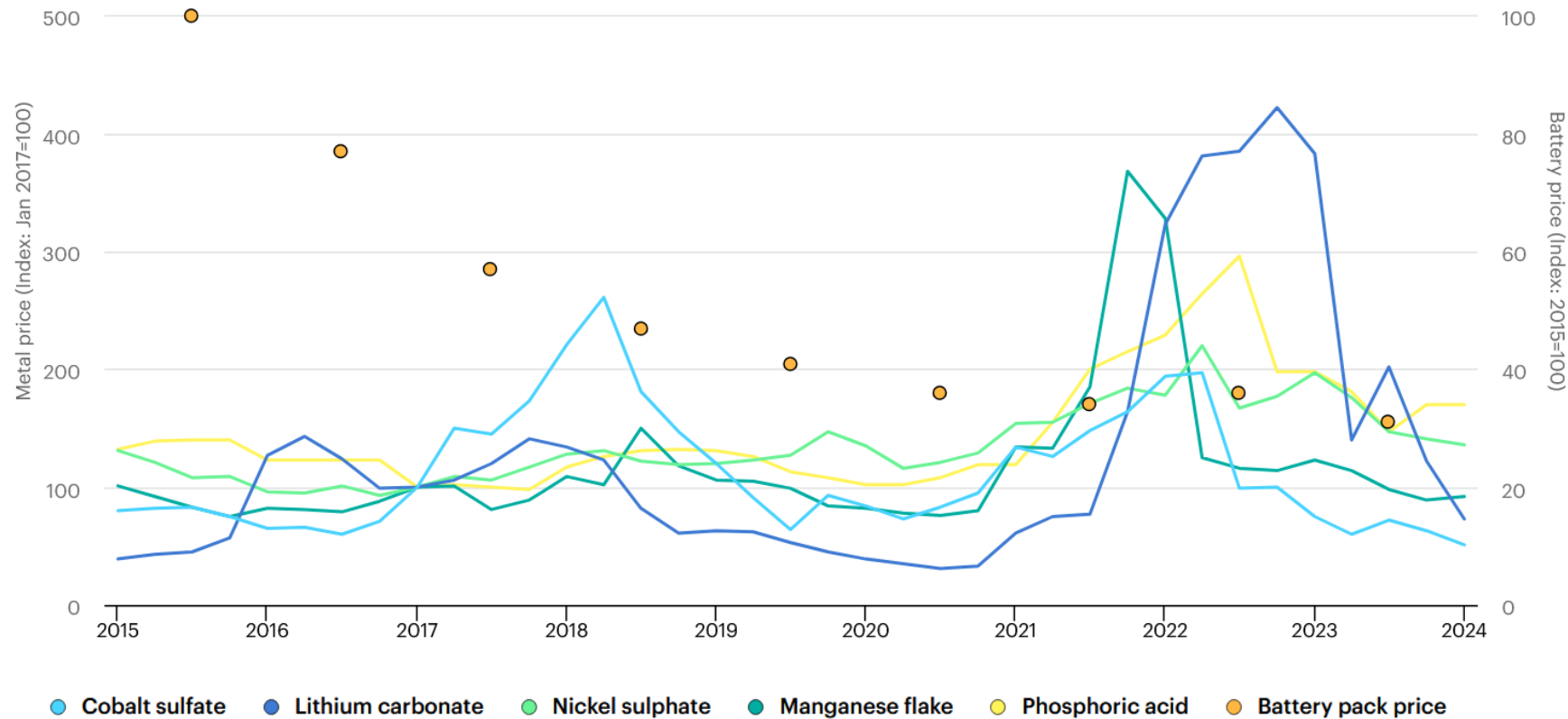
Electric Vehicle Sales Global Growth (2010-2023)



Source: IEA

Stabilising critical mineral prices led battery pack prices to fall in 2023

Price of selected battery materials and lithium-ion batteries, 2015-2024



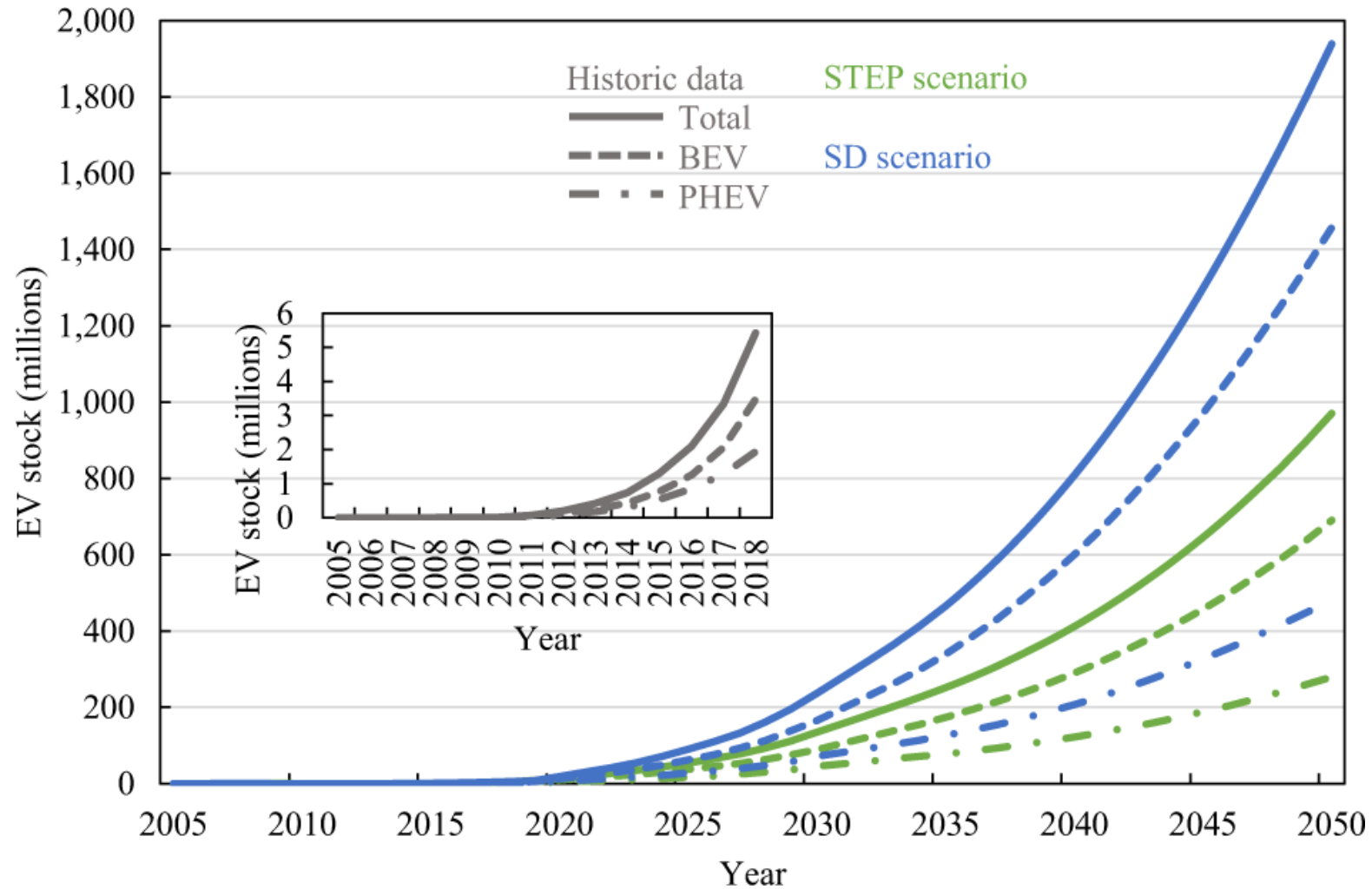
Source: iea.org

Electric car market share (BEV and PHEV) by country

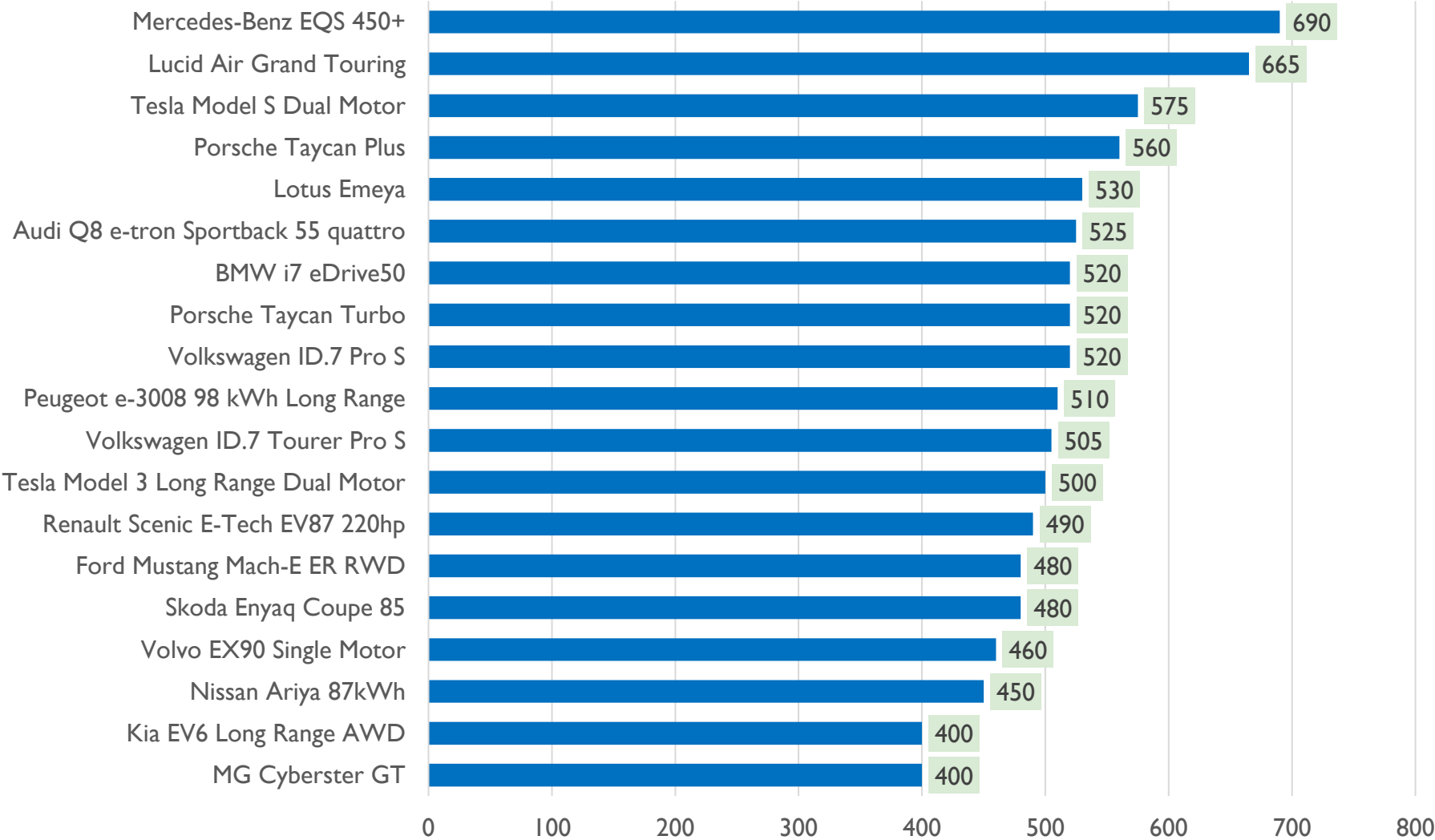
Country	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Norway	91.6	90.40%	87.60%	86.20%	74.70%	55.90%	49.10%	39.20%	29.10%	22.40%	13.80%	6.10%
Iceland	31	64.00%	56.10%	54.70%	45.00%	22.60%	17.20%	11.70%	5.60%	3.60%	2.10%	1.30%
Sweden	58.4	59.80%	56.10%	43.30%	32.20%	11.40%	8.20%	5.20%	3.50%	2.62%	1.53%	0.71%
Finland	49.6	54.40%	37.50%	30.80%	18.10%	6.90%	4.70%	2.57%	1.20%	—	—	—
Denmark	51.5	46.10%	38.60%	35.20%	16.40%	4.20%	2%	0.60%	0.60%	2.29%	0.88%	0.29%
Netherlands	48.4	44%	34.90%	29.80%	24.60%	14.90%	6.20%	2.20%	6.70%	9.90%	3.87%	5.55%
Belgium	52.3	40.70%	26.50%	18.40%	10.70%	3.20%	2.50%	2.70%	1.80%	—	—	—
China	47.2	37.00%	30.00%	15.00%	5.40%	4.90%	4.20%	2.10%	1.31%	0.84%	0.23%	0.08%
Portugal	33.4	31.80%	21.70%	20.00%	13.50%	5.70%	3.60%	1.90%	—	—	—	—
Switzerland	28	30.10%	25.90%	22.50%	14.30%	5.50%	3.20%	2.55%	1.80%	1.98%	0.75%	0.44%
Austria	17.6	27%	22.00%	20.00%	9.50%	3.50%	2.60%	2.06%	1.60%	0.90%	—	—
France	25.4	26%	21.60%	18.30%	11.20%	2.80%	2.11%	1.98%	1.40%	1.19%	0.70%	0.83%
Germany	20.3	24.60%	31.40%	26.00%	13.50%	3.00%	1.90%	1.58%	1.10%	0.73%	0.43%	0.25%
UK	28.2	23.90%	22.90%	18.60%	10.70%	2.90%	2.53%	1.86%	1.37%	1.07%	0.59%	0.16%
Spain	12.4	11.90%	9.60%	7.80%	4.80%	1.40%	0.90%	0.60%	0.32%	—	—	—
Canada	14.6	10.80%	8.20%	6.60%	3.50%	3.00%	2.20%	0.92%	0.58%	0.35%	0.28%	0.18%
United States	-	9.10%	6.80%	4.00%	2.20%	1.90%	2.10%	1.10%	0.90%	0.66%	0.72%	0.60%
Italy	7.5	8.60%	8.80%	9.30%	4.30%	0.60%	0.26%	0.10%	0.08%	0.09%	0.08%	0.07%
Australia	9.65	8.10%	5.10%	2.40%	0.78%	0.60%	0.30%	0.19%	0.12%	0.15%	0.12%	0.03%
Japan	-		3.00%	1.00%	0.60%	0.90%	1.00%	1.10%	0.59%	0.68%	1.06%	0.91%
Global average	-	16.00%	14.00%	8.60%	4.60%	2.50%	2.10%	1.30%	0.86%	0.70%	0.40%	0.30%

Source: wikipedia.org

Global EV stock development projected until 2050

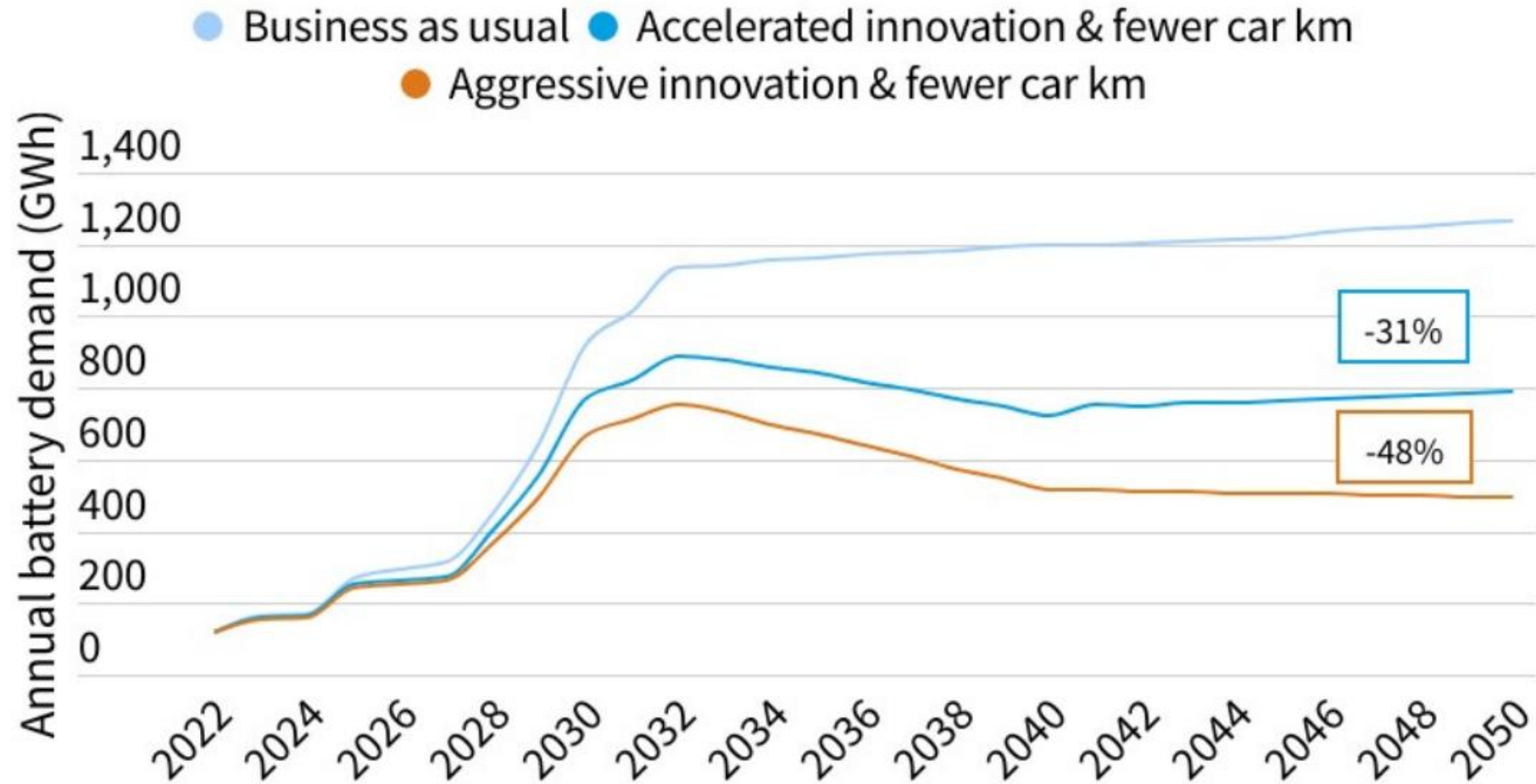


Range of Full Electric Vehicles (in km)



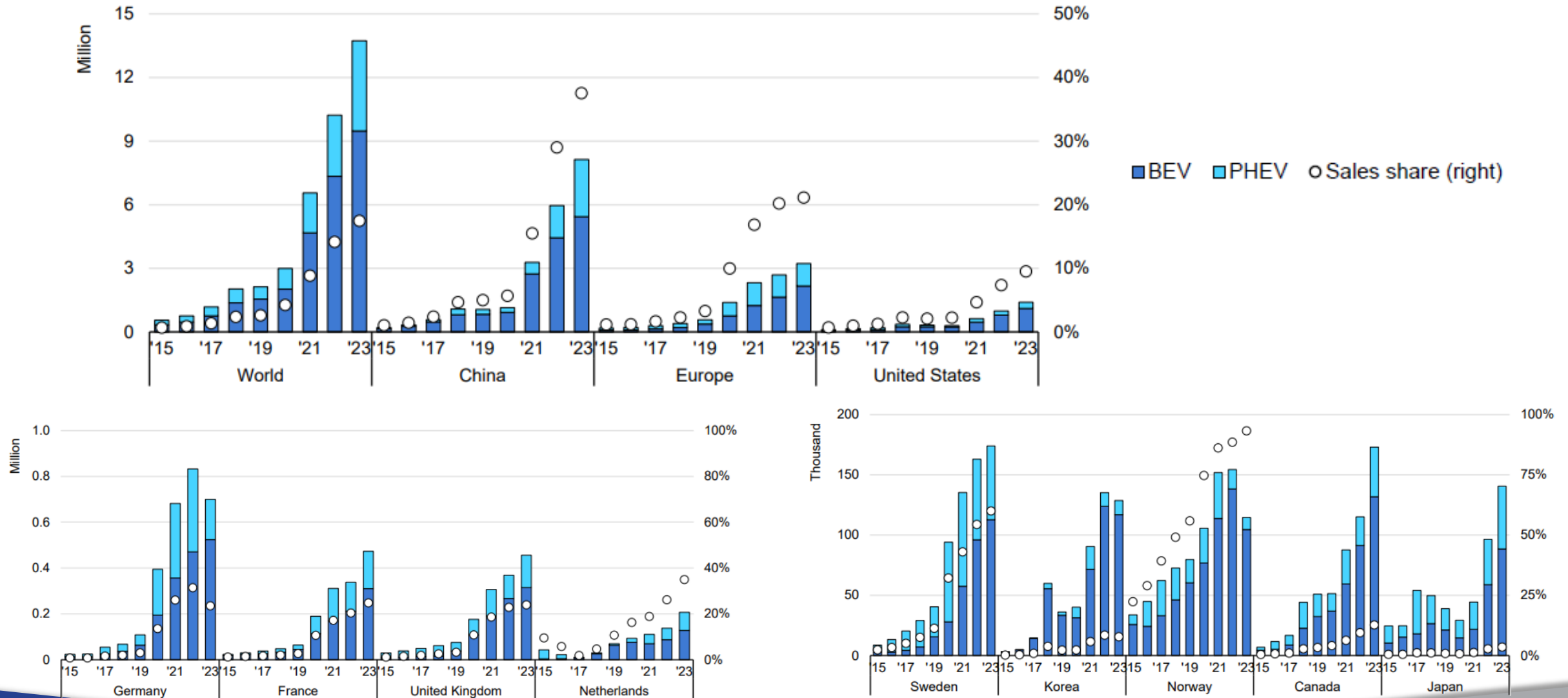
Source: ev-database.org

Battery demand from passenger transport in Europe



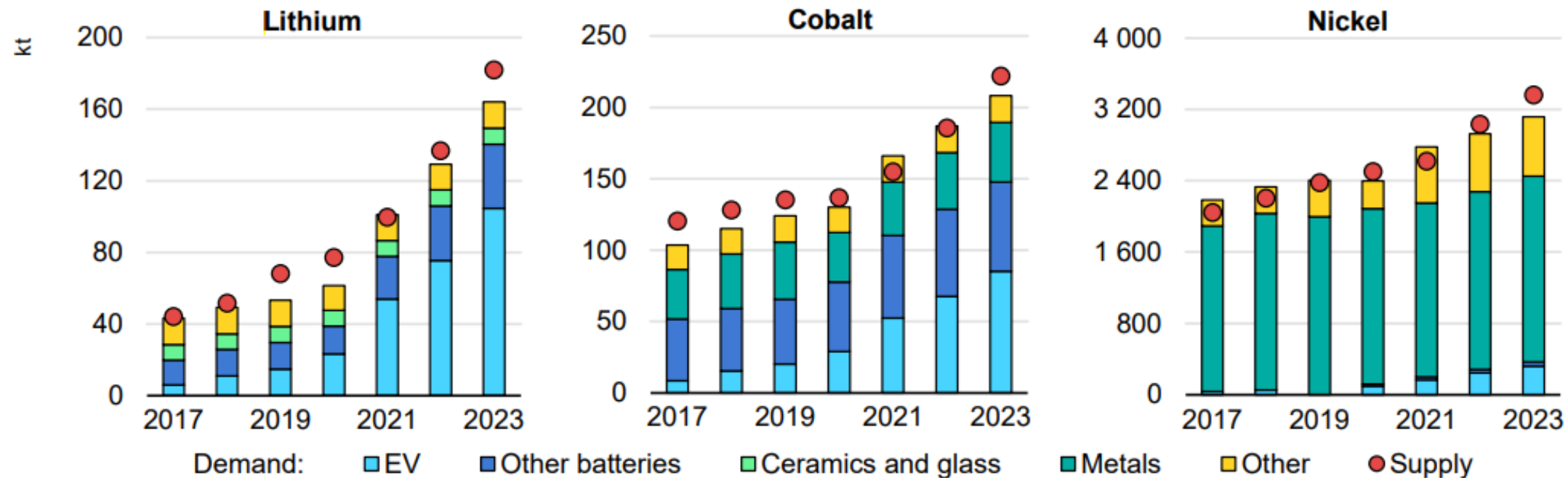
Source: www.transportenvironment.org

Electric Car Registrations by Region/Country



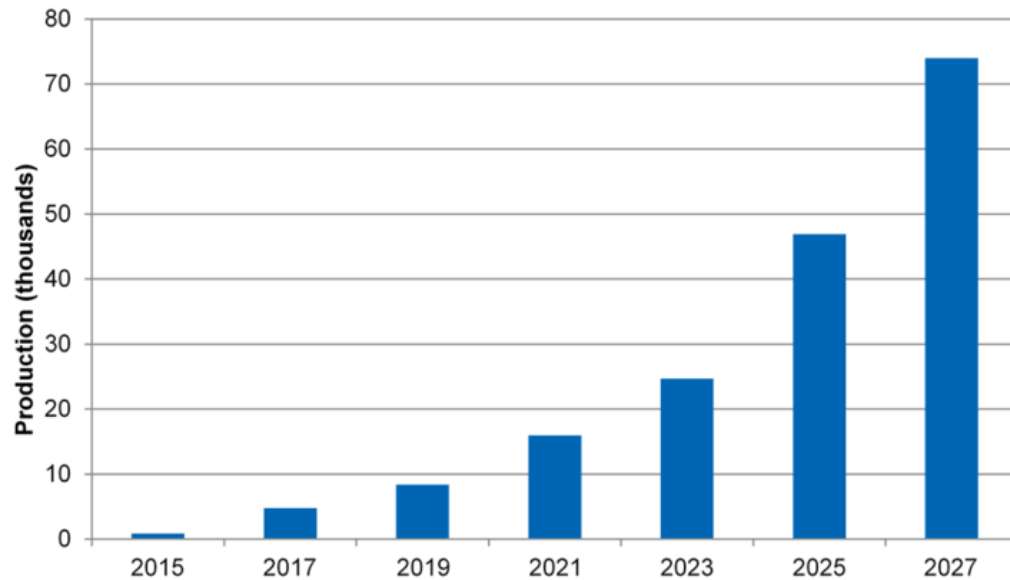
Source: IEA

Battery metals demand & Supply (2016 – 2023)

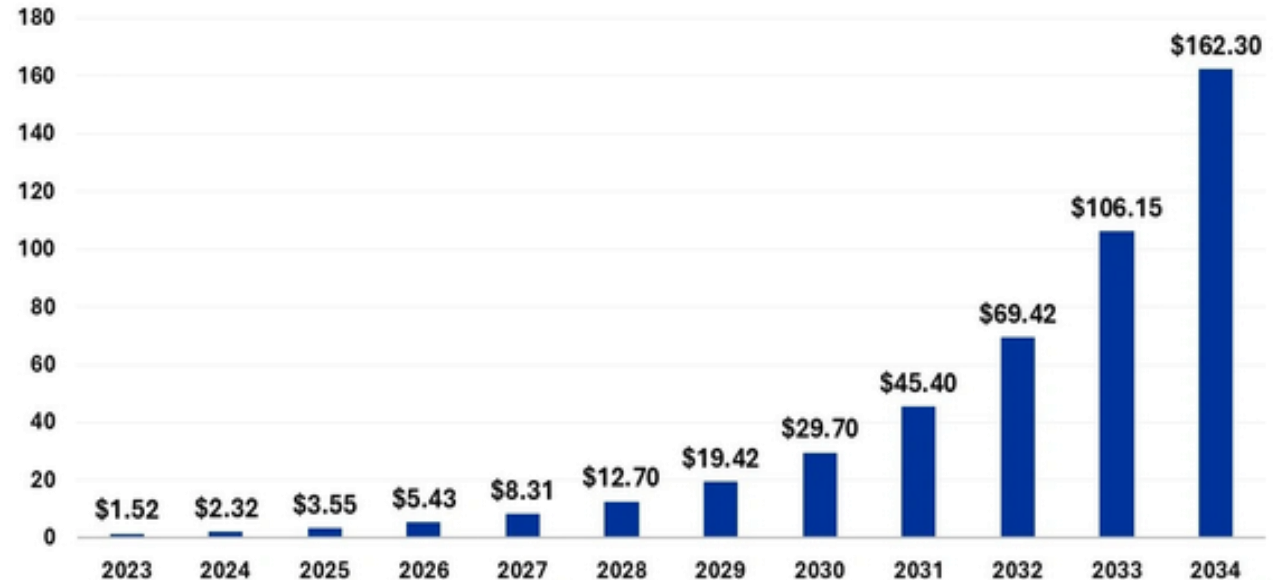


Source: IEA

Hydrogen Fuel Cell Vehicle Production



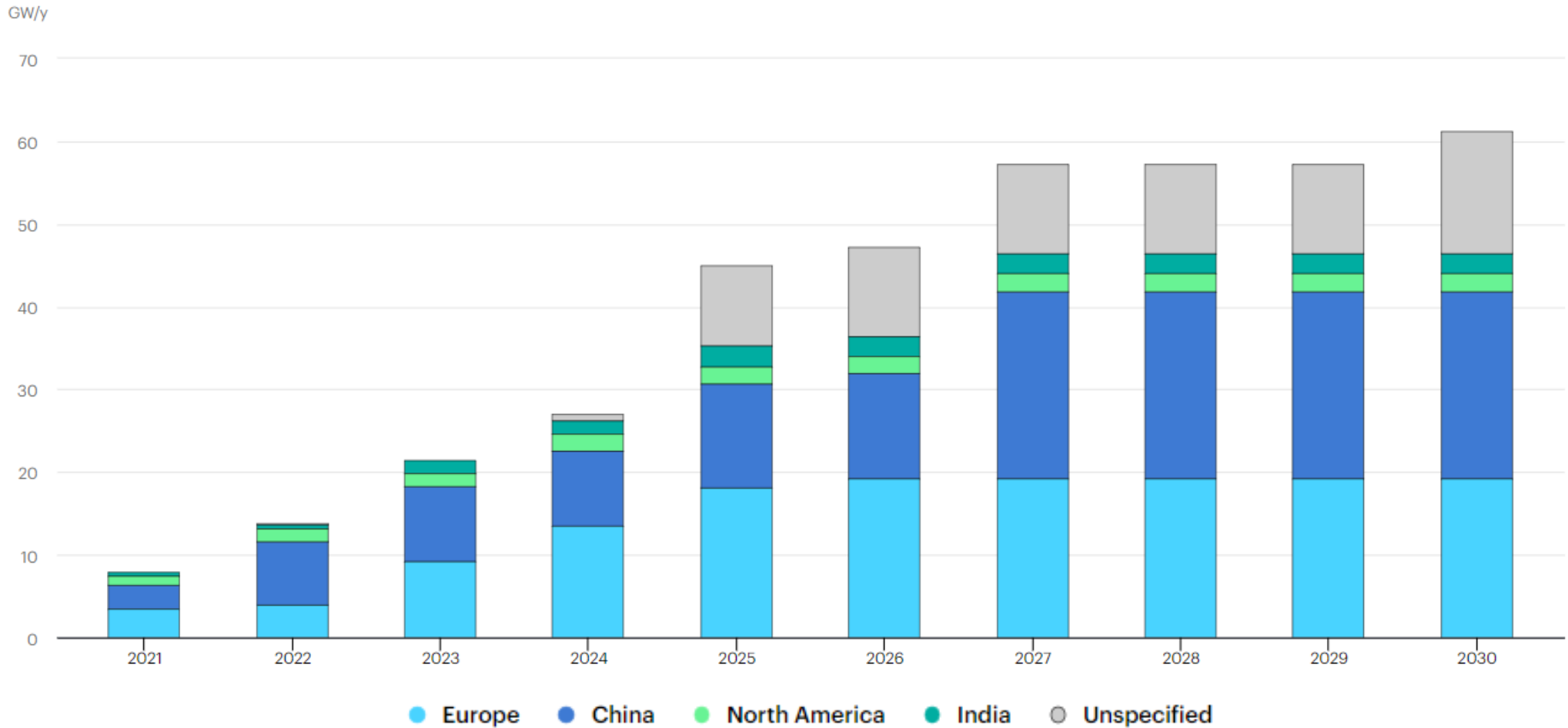
Global Fuel cell vehicle production will increase to 70,000 annually by 2027; <0.1% of all vehicles produced.



Hydrogen Fuel cell vehicle market size forecast (2023 to 2034) Bn\$

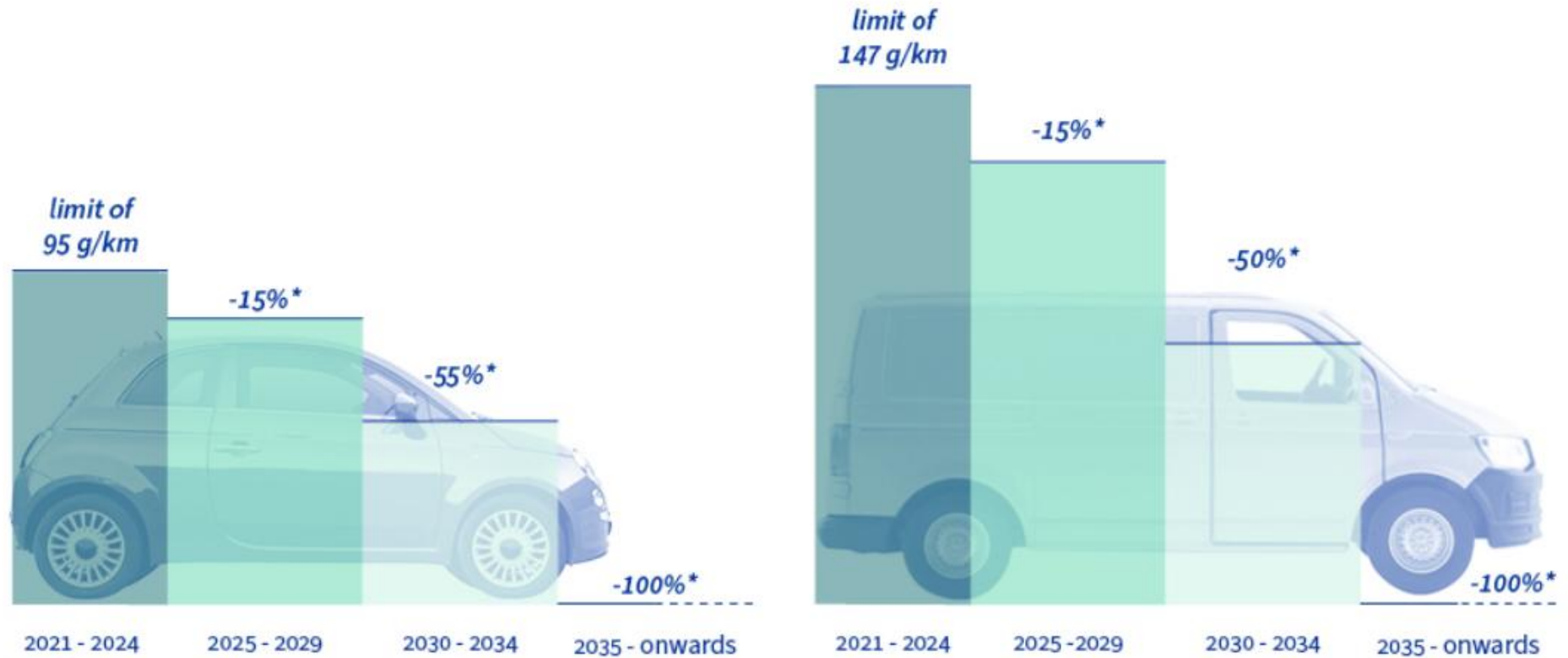
Source: IHS, www.precedenceresearch.com

Forecast of Hydrogen Production & Electrolyzer Market



Source: [iea.org](https://www.iea.org)

European Commission Proposal CO₂ Reduction Targets for Cars and Vans

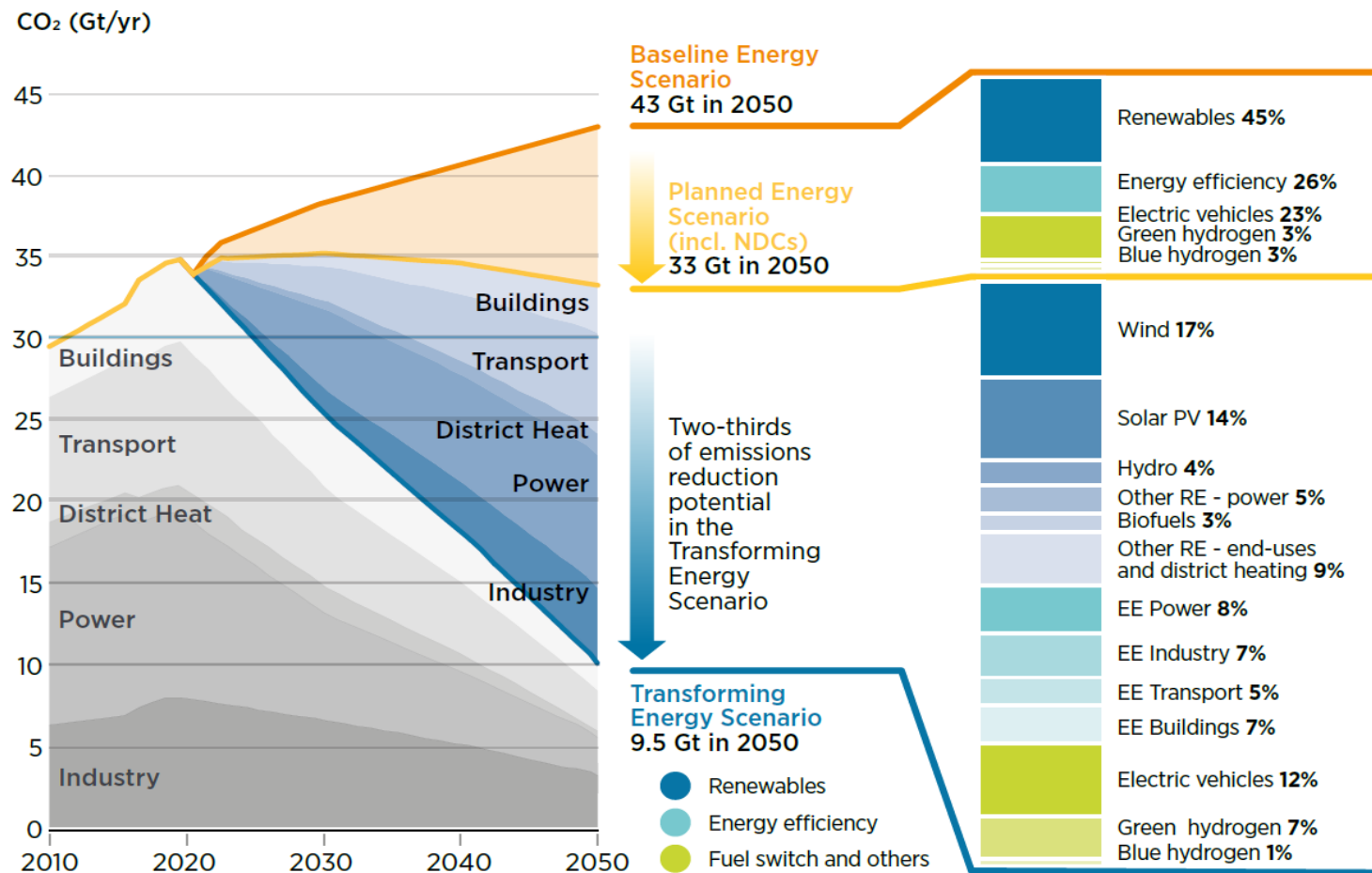


* Compared to 2021 targets

Energy-related CO₂ emissions (Gt/yr)

Renewables, energy efficiency, electric vehicles and hydrogen can provide bulk of necessary emissions reductions by 2050

No New Data



The Transforming Energy Scenario includes 250 Mt/year in 2050 of carbon capture, utilisation and storage for natural gas-based hydrogen production (blue hydrogen).

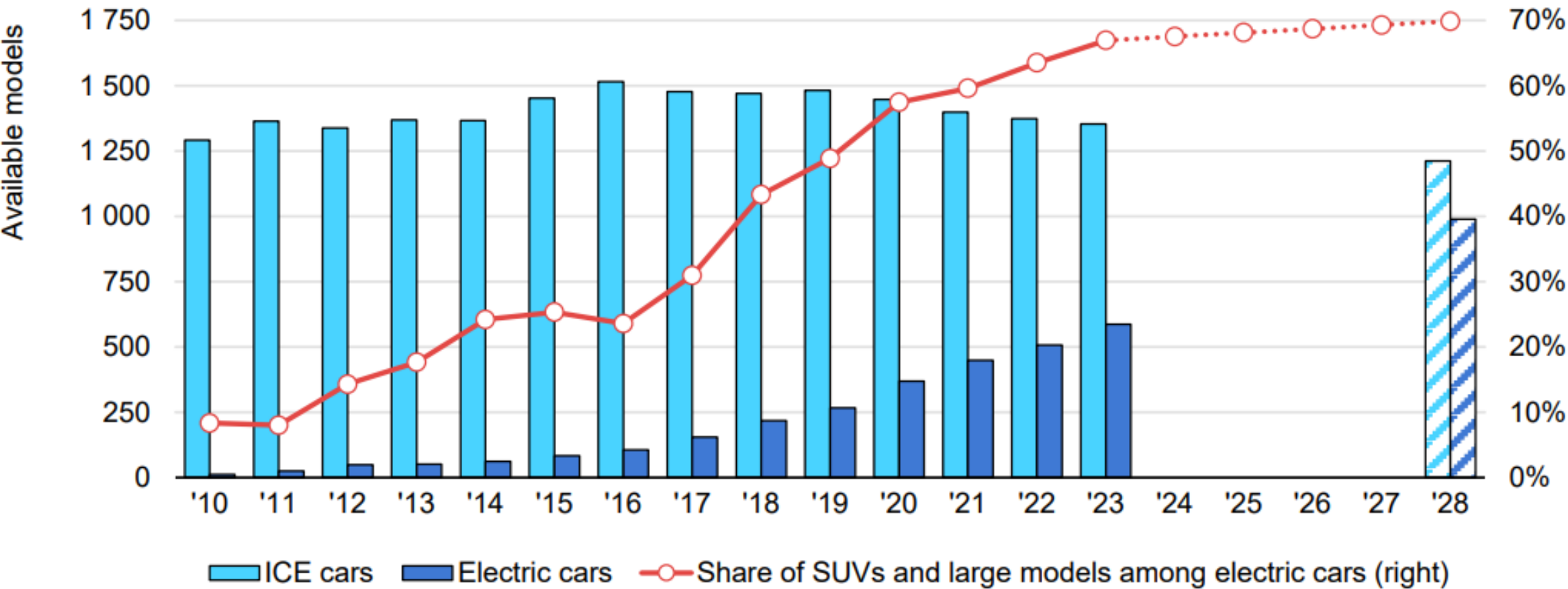
RE = renewable energy

EE = energy efficiency

Gt/yr = gigatonnes per year.

Source: IRENA (International Renewable Energy Agency)

Electric car model availability compared to ICE cars



PM in Automotive

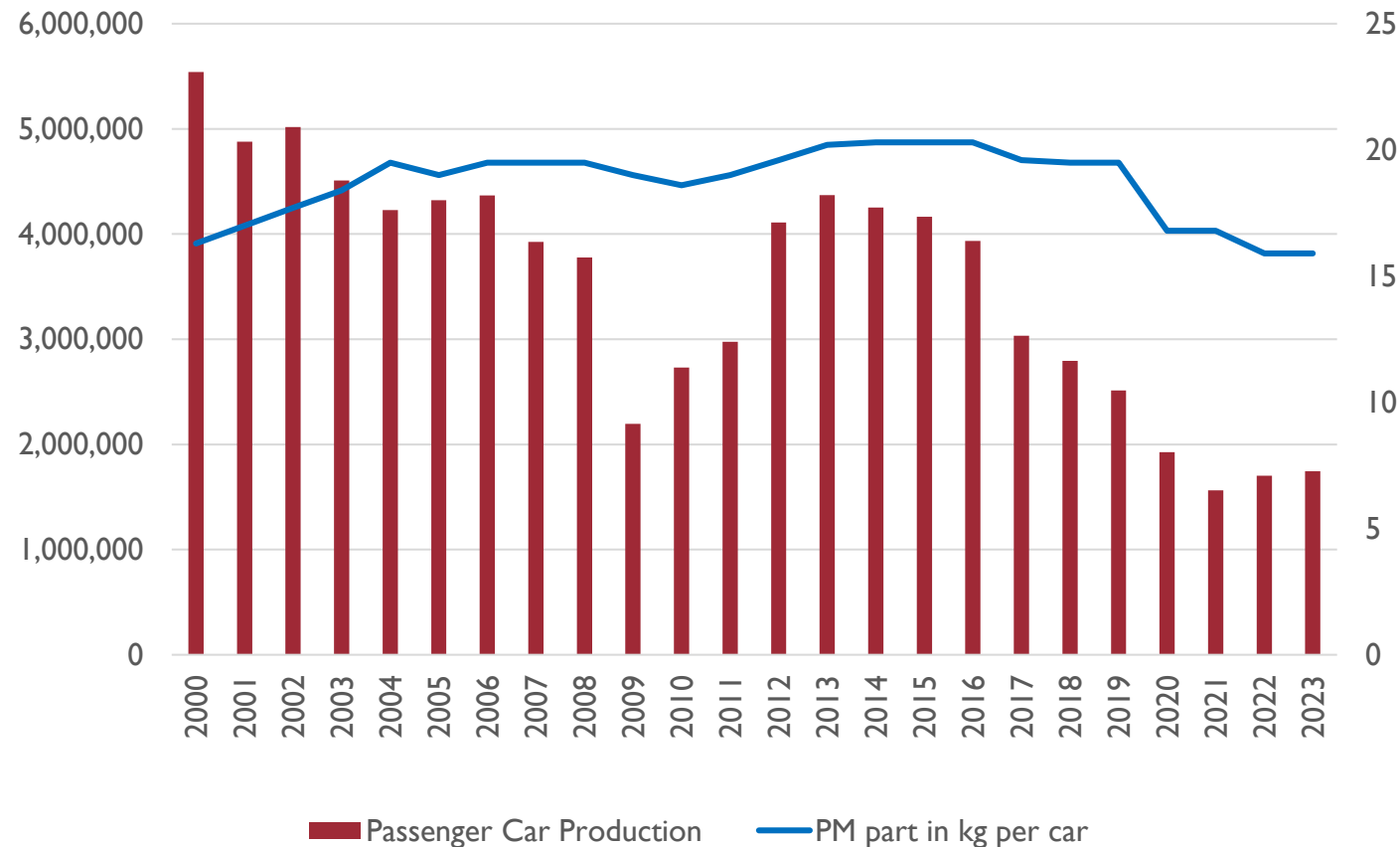


Average Weight of PM Parts in Kg per Car (EU)

1994	6.4	2004	8.4	2014	9.5
1995	7.1	2005	7.9	2015	8.5
1996	6.8	2006	8.7	2016	8.3
1997	7.7	2007	9.2	2017	8.5
1998	7.7	2008	8.9	2018	8.7
1999	7.4	2009	7.1	2019	8.4
2000	8.2	2010	9.1	2020	8.7
2001	8.1	2011	9.1	2021	9
2002	8.1	2012	9	2022	8.7
2003	8.7	2013	9.3	2023	8.6

Source: EPMA Market Research

USA Passenger Car production compared to PM Parts in kg per car



Year	Passenger Car Production	PM part in kg per car
2000	5,542,217	16.3
2001	4,879,119	17
2002	5,018,777	17.7
2003	4,510,469	18.4
2004	4,229,625	19.5
2005	4,321,272	19
2006	4,366,220	19.5
2007	3,924,268	19.5
2008	3,776,641	19.5
2009	2,195,588	19
2010	2,731,105	18.6
2011	2,976,991	19
2012	4,109,013	19.6
2013	4,368,835	20.2
2014	4,253,098	20.3
2015	4,163,679	20.3
2016	3,934,357	20.3
2017	3,033,216	19.6
2018	2,795,971	19.5
2019	2,512,780	19.5
2020	1,926,795	16.8
2021	1,563,060	16.8
2022	1,703,608	15.9
2023	1,745,171	15.9

Source: oica.net, MPIF

Average Weight of PM Parts in Kg per Car in JAPAN

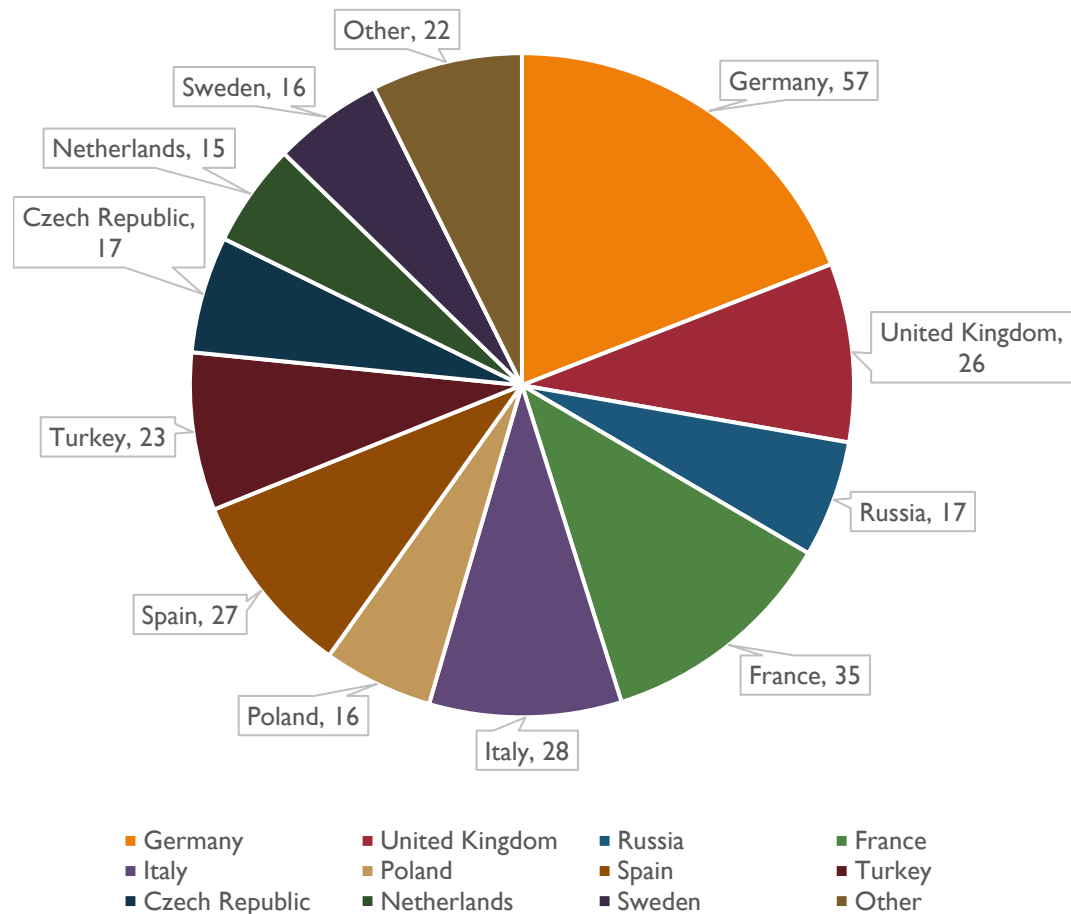
2012	9.0
2013	8.8
2014	8.9
2015	9.0
2016	8.7
2017	8.8
2018	8.7
2019	8.6
2020	8.3
2021	9.5
2022	7.7
2023	7.2

Source: JPMA

Automotive Facilities and Employment



Number of EU Vehicle Production Facilities (2024)



Locations	Cars	Vans	Trucks	Buses	Engines/ Electric motors	Batteries	Total
Germany	20	5	6	4	10	12	57
UK	8	2	3	2	5	6	26
Russia	6	1	2	1	3	4	17
France	12	3	4	3	6	7	35
Italy	10	2	3	2	5	6	28
Poland	5	1	2	1	3	4	16
Spain	9	2	3	2	5	6	27
Turkey	7	2	3	2	4	5	23
Czech R.	6	1	2	1	3	4	17
Netherlands	4	1	2	1	3	4	15
Sweden	5	1	2	1	3	4	16
Other	6	2	3	2	4	5	22
TOTAL	98	23	35	22	54	67	299

*Other includes: Sweden 9, Belgium 8, Czech Republic 8, Kazakhstan 7, Ukraine 7, Portugal 6, Austria 5, Hungary 5, Slovakia 4, Belarus 3, Finland 3, Romania 3, Serbia 3, Uzbekistan 3, Croatia 2, Bulgaria 1, Macedonia 1, Slovenia 1

Automotive - Direct and Indirect Employment (2021)

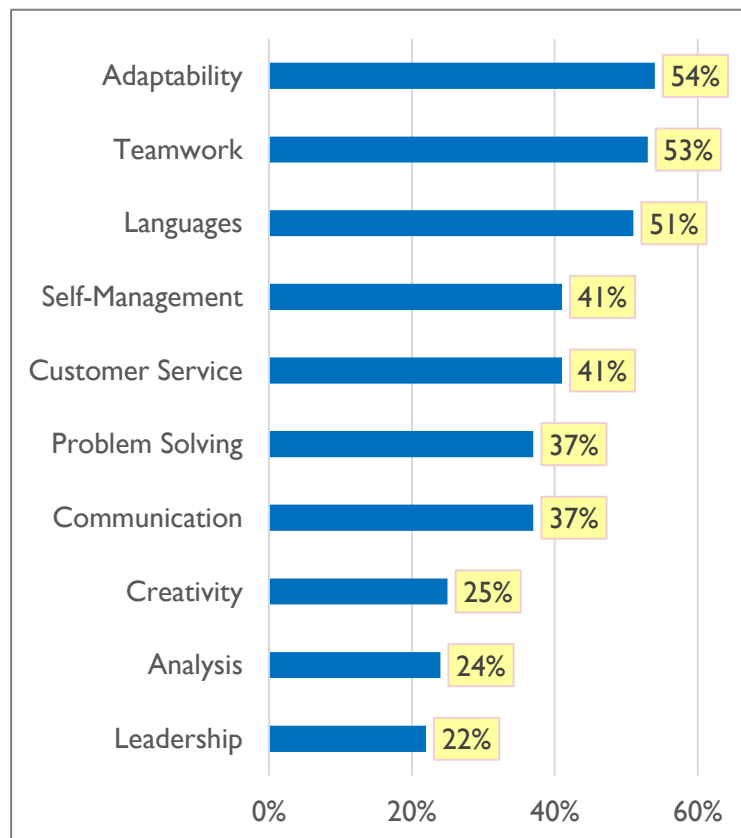
No New Data

Direct automotive manufacturing employment	2.4 million people = 8.3% of EU employment in manufacturing
Direct & indirect automotive manufacturing employment	3.1 million people = 10.5% of EU employment in manufacturing
Total EU automotive employment (manufacturing, services and construction)	13.0 million people = 7.0% of total EU employment
EU employment in the manufacturing sector	29.5 million people = 15.5% of total EU employment
EU total employment	190 million people

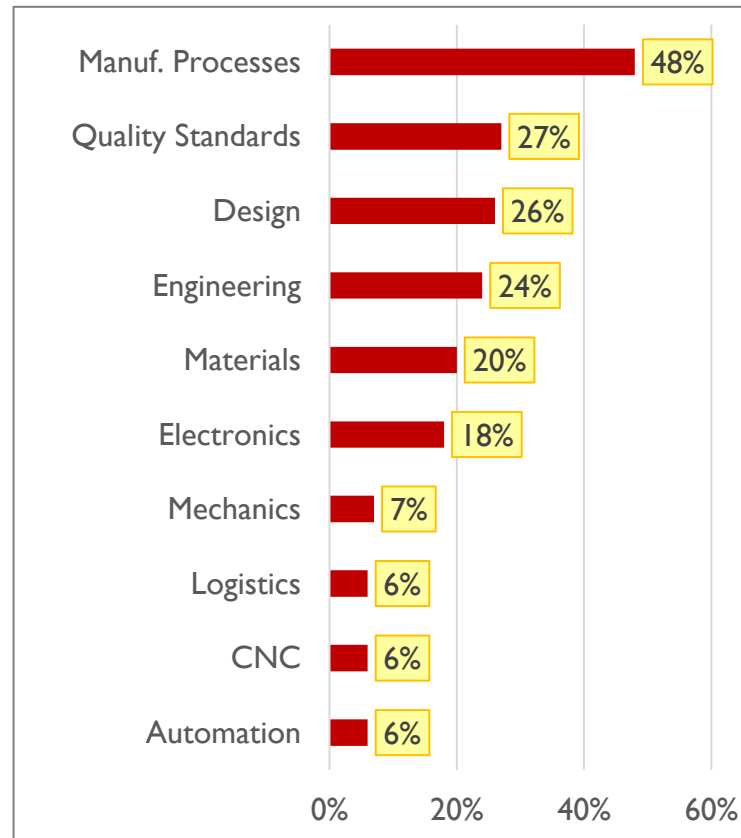
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Most Requested Skills in the Automotive Industry (2019-2020)

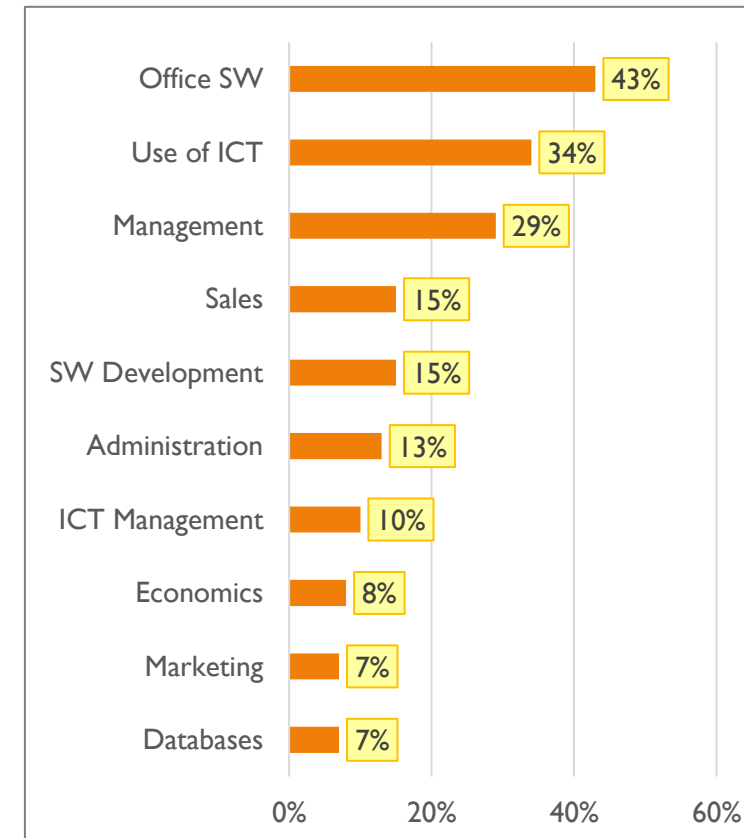
TOP Transversal Skills



TOP Sector Technical Skills



TOP ICT* & Business Skills

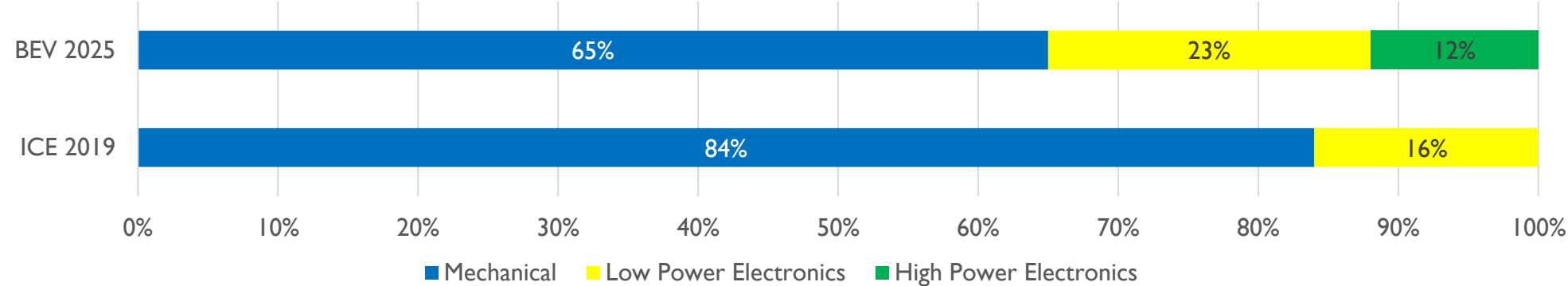


ICT : Information and Communication Technology

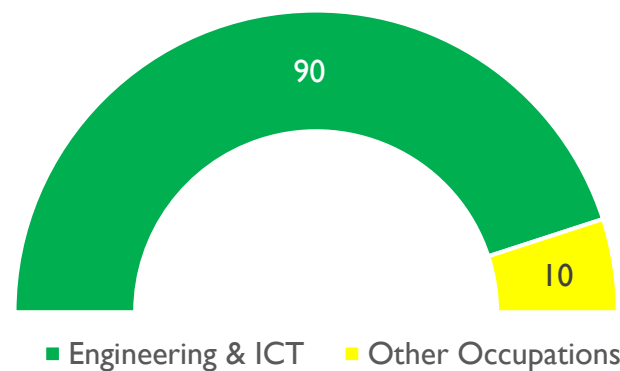
Source : skillspanorama.cedefop.europa.eu

The Increasing Tech and ICT Intensity

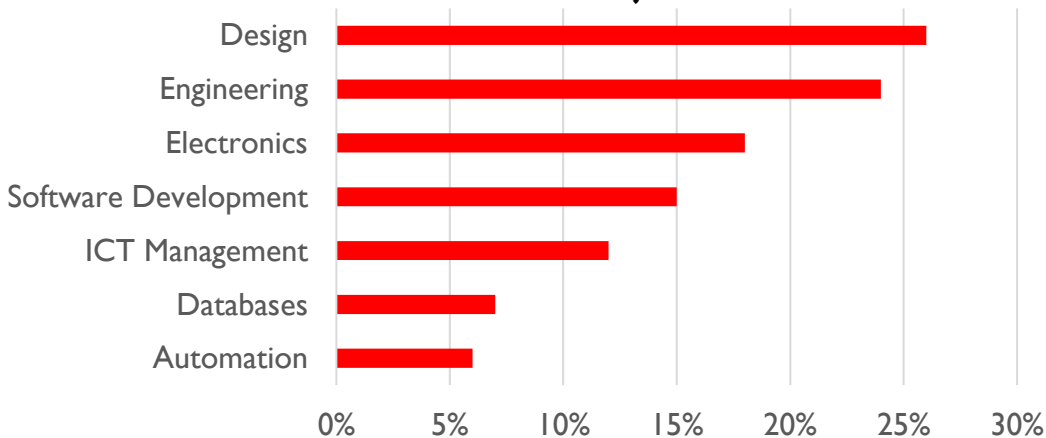
Value of mechanical and electronic components in a premium car price in %
2019 : Internal Combustion Engine Car (ICE) 2025 : Battery Electric Vehicle (BEV)



Net Job Growth in the Automotive
2020-2030, in thousands



Demand for selected skills in the Automotive
In % of online job ads



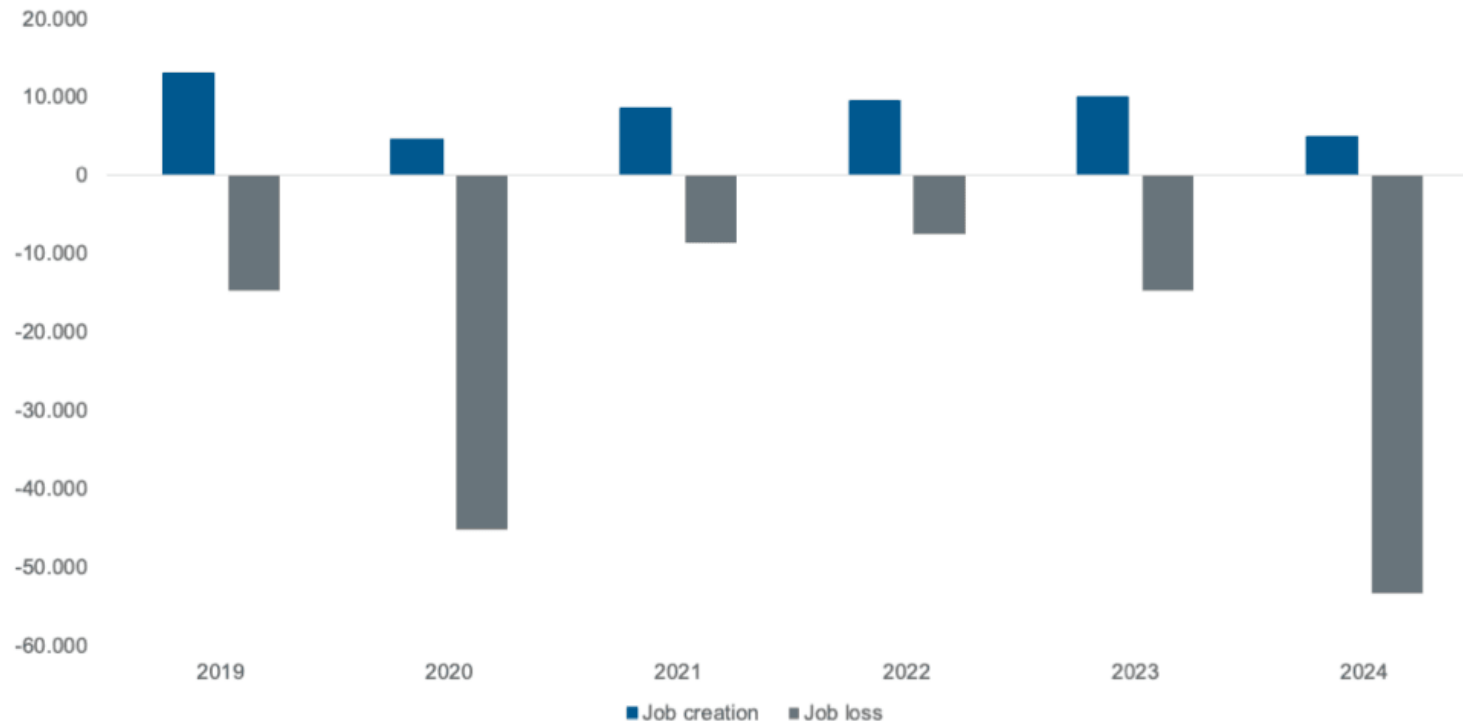
Source : rolandberger.com, cedefop.europa.eu

The Impact of new technologies in the labour force

Figure 1

Employment announcements in the automotive supply industry

Source: Eurofound & CLEPA analysis



A record **54,000** jobs cuts were announced by CLEPA in the automotive supply industry in 2024 alone. Investment in electric vehicle projects, such as in electro-mobility components or batteries has plummeted, with many projects either postponed, downsized or cancelled entirely.

Impact of COVID-19 on the EU automobile industry

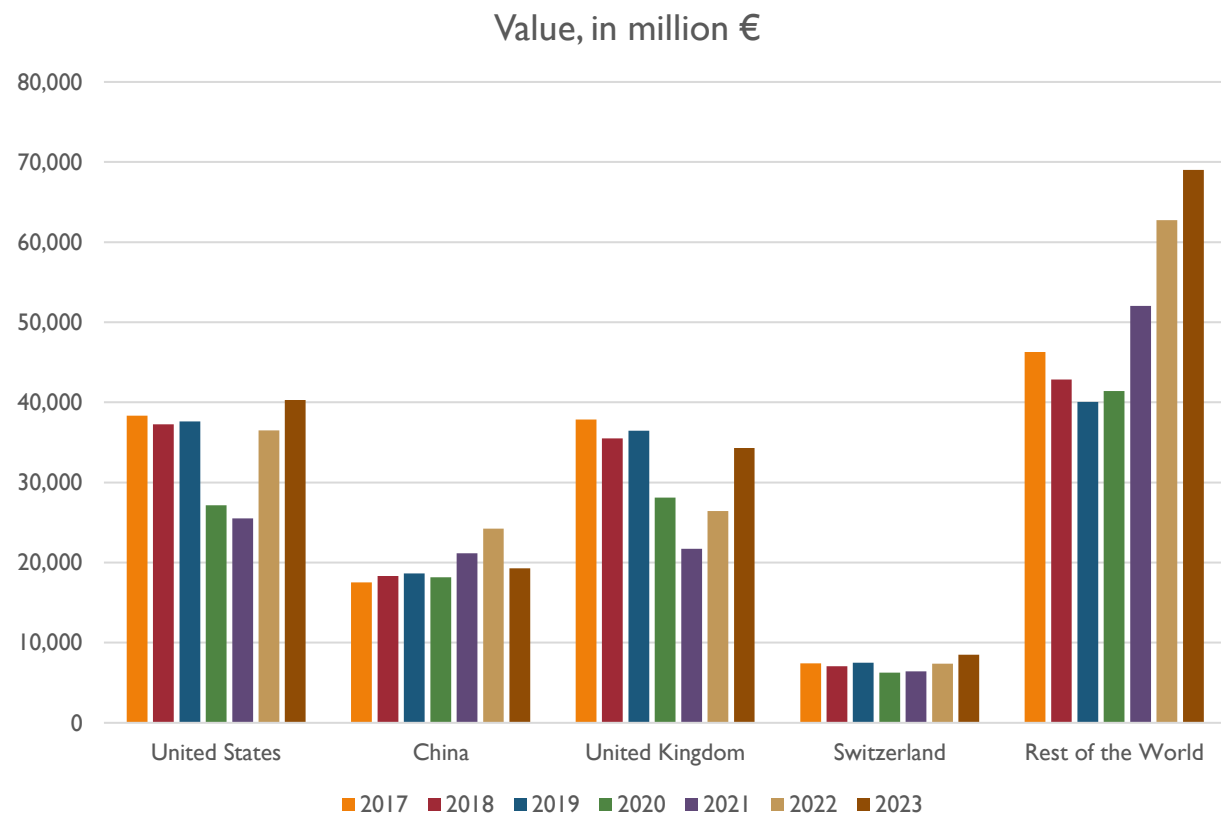
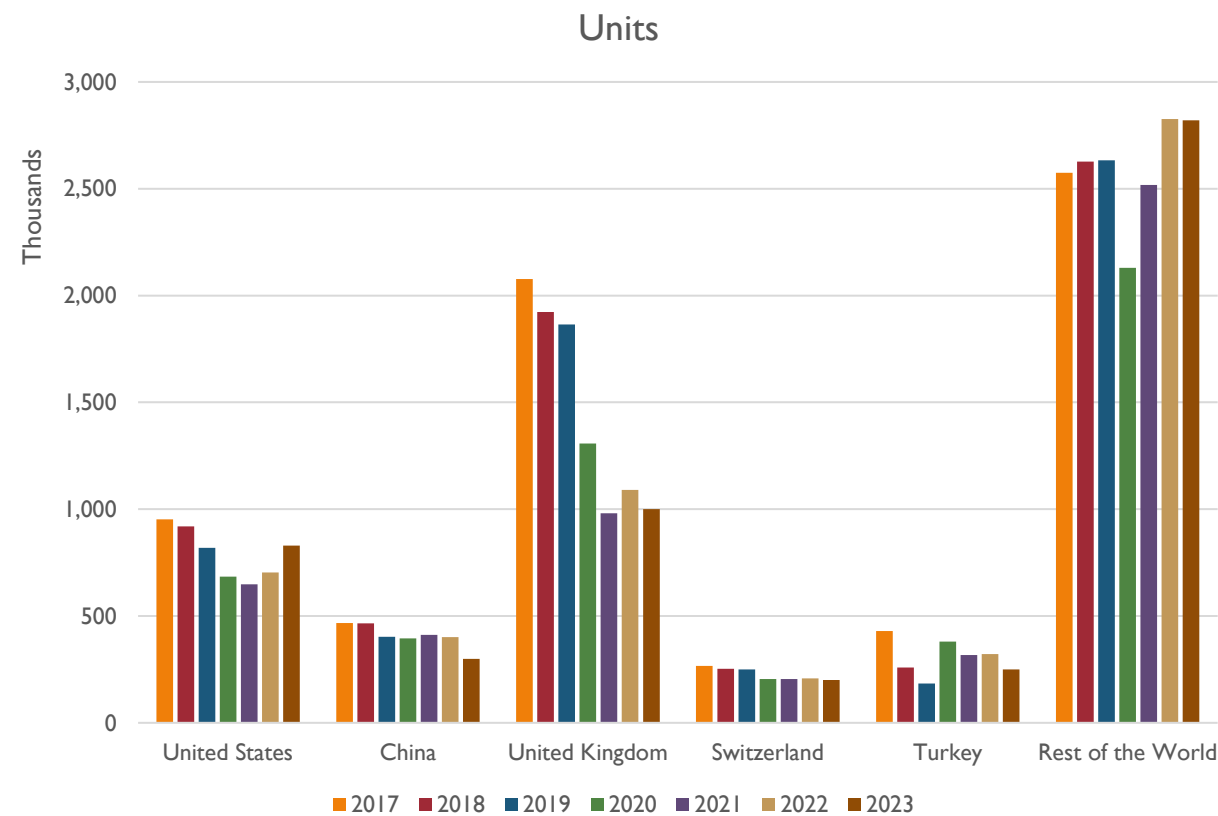
- Total loss is **22.9% of total EU production** in 2020.
- This figure includes passenger cars, trucks, vans and buses.
- In 2021, sales of new cars continued to decline in the EU because of the **microchip shortage**.
- With chip supplies expected to stabilise in 2022, ACEA forecasts that passenger car registrations in the EU will return to growth, rising by 7.9% to reach 10.5 million units.

Country	Production lost
Austria	63,479
Belgium	22,105
Czech Republic	269,788
Finland	29,157
France	881,287
Germany	1,192,112
Hungary	91,829
Italy	114,174
Netherlands	65,045
Poland	192,232
Portugal	73,834
Romania	52,784
Slovakia	129,007
Slovenia	58,239
Spain	577,130
Sweden	44,333
United Kingdom	387,065
TOTAL (EU+UK)	4,243,577

Import and Export



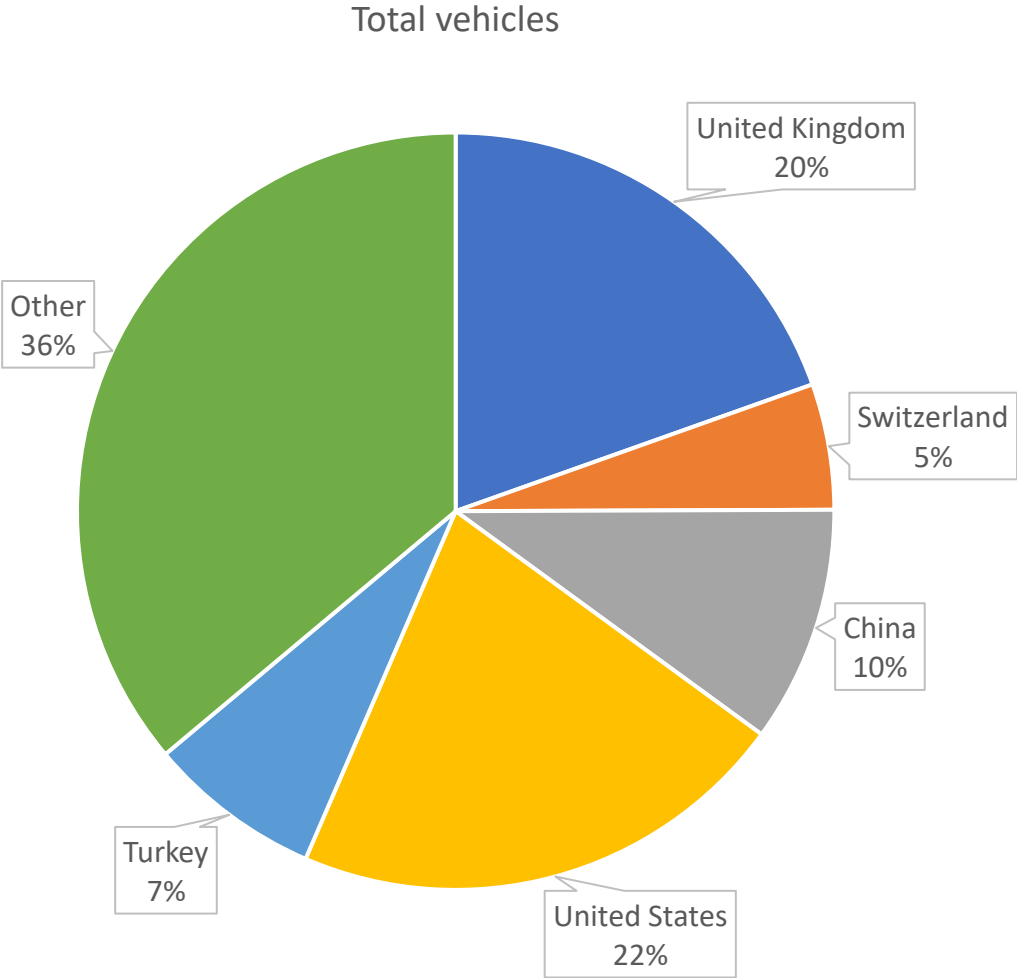
EU Export of Passenger Cars



Source: acea.auto

EU Export of Motor Vehicles in 2023 (main destinations)

Destination	Value (mn€)
United Kingdom	38154
Switzerland	10480
China	19679
United States	41837
Turkey	14467
Other	70383
TOTAL	195000



EU vehicle exports brought in €195 billion in 2023.

EU Motor Vehicle Trade

Trade in value (in million €)	2024	2023	% change 24/23
Imports	73,159	80,214	-8.8
Exports	154,702	166,832	-7.3
Trade balance	81,543	86,618	-5.9
Trade in volume (in units)	2024	2023	% change 24/23
Imports	3,420,402	3,608,894	-5.2
Exports	4,553,344	4,872,516	-6.6

- Despite declines in imports and exports, both in value and in volume, the EU maintained a trade surplus exceeding €81 billion in 2024, although this represented a 5.9% decline compared to 2023.

EU new car imports, main countries of origin

Trade in value (in million €)	2024	2023	% change 24/23	% share 2024
China	12,602	14,348	-12.2	17.2
Japan	11,718	11,013	+6.4	16.0
United Kingdom	10,423	12,492	-16.6	14.2
Türkiye	8,995	7,902	+13.8	12.3
South Korea	7,850	10,066	-22.0	10.7

EU new car exports, main destinations

Trade in value (in million €)	2024	2023	% change 24/23	% share 2024
United States	38,463	40,311	-4.6	24.9
United Kingdom	33,306	32,641	+2.0	21.5
China	14,419	19,358	-25.5	9.3
Türkiye	11,879	12,848	-7.5	7.7
Switzerland	6,871	7,623	-9.9	4.4

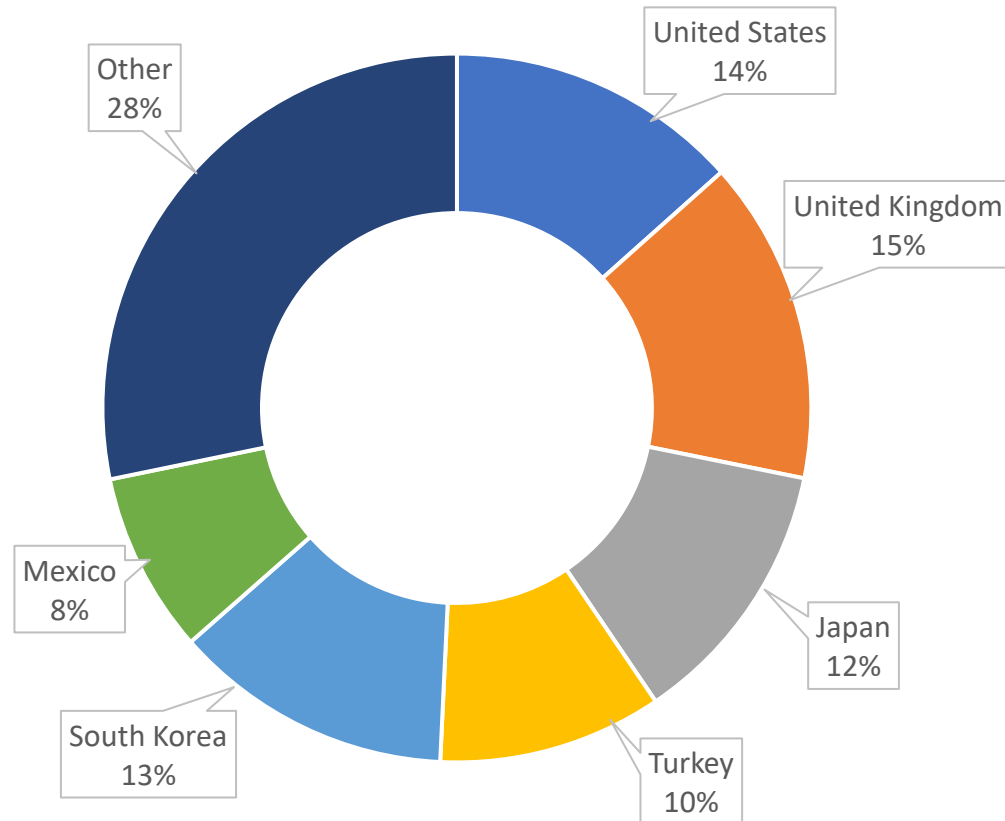
- In 2024, China kept its position as the primary source of new EU car imports in terms of value claiming a 17.2% market share.
- While the United States remained the trade partner number one in 2024, the export value of EU-made cars to the US fell by 4.6%.
- The US and the UK together account for nearly half of the EU's new car exports in value.

Source: Eurostat, acea.auto

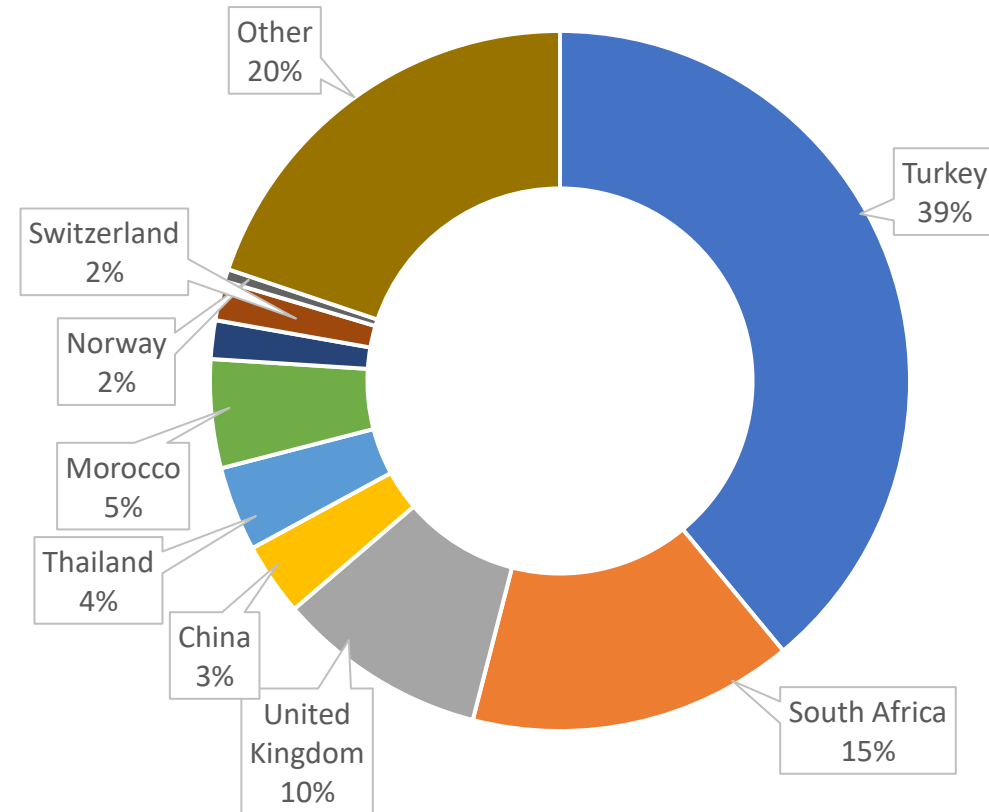
EU Import of Motor Vehicles (2022)

No New Data

Passenger Cars: 61.6 billion €



Commercial Vehicles: 8,6 billion €

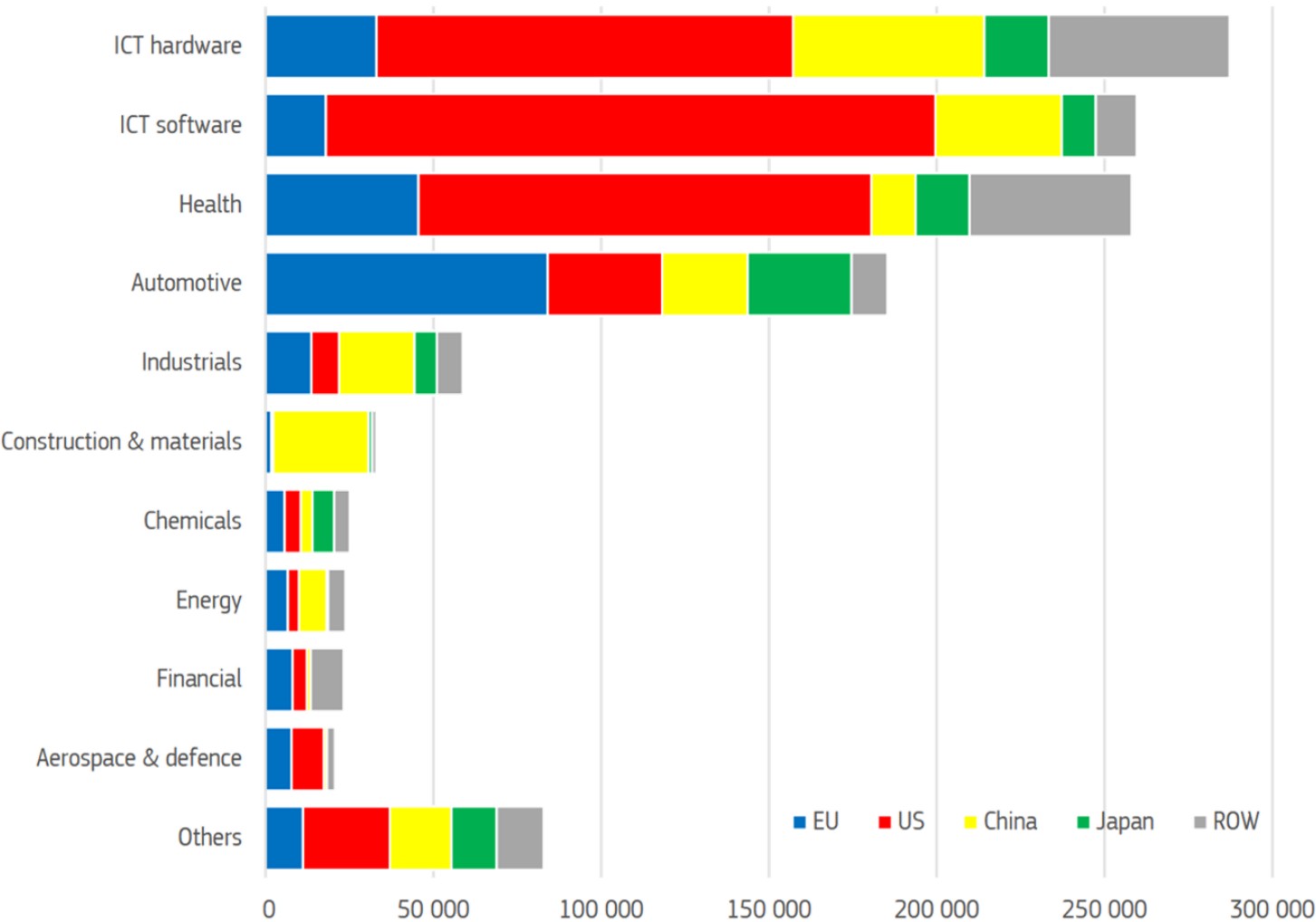


Source: acea.auto

Research and Development

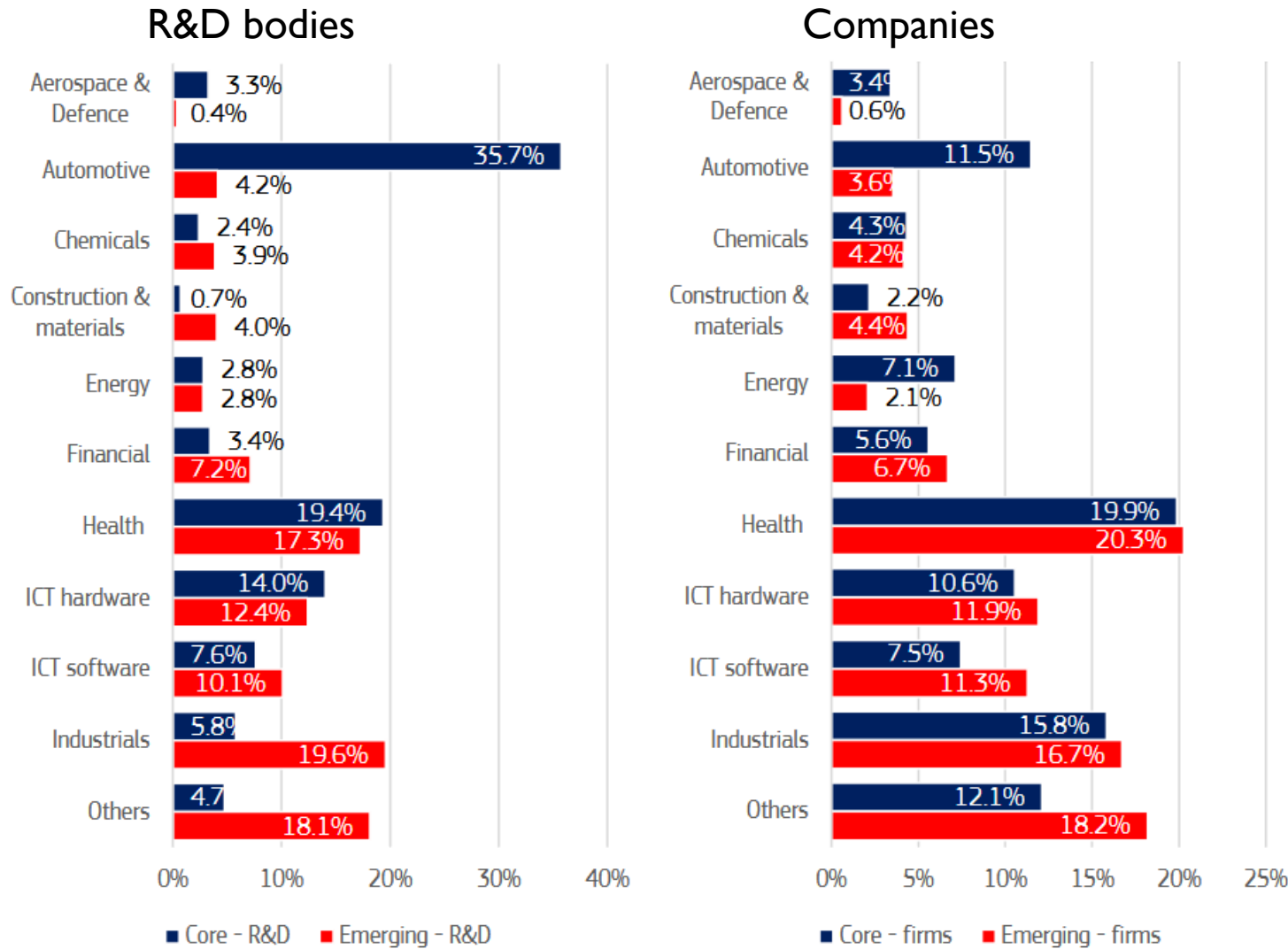


R&D Expenditure of Industrial Sectors (2023)



Source: European Commission - Joint Research Centre

EU R&D Investment share by Industrial Sectors (2023)

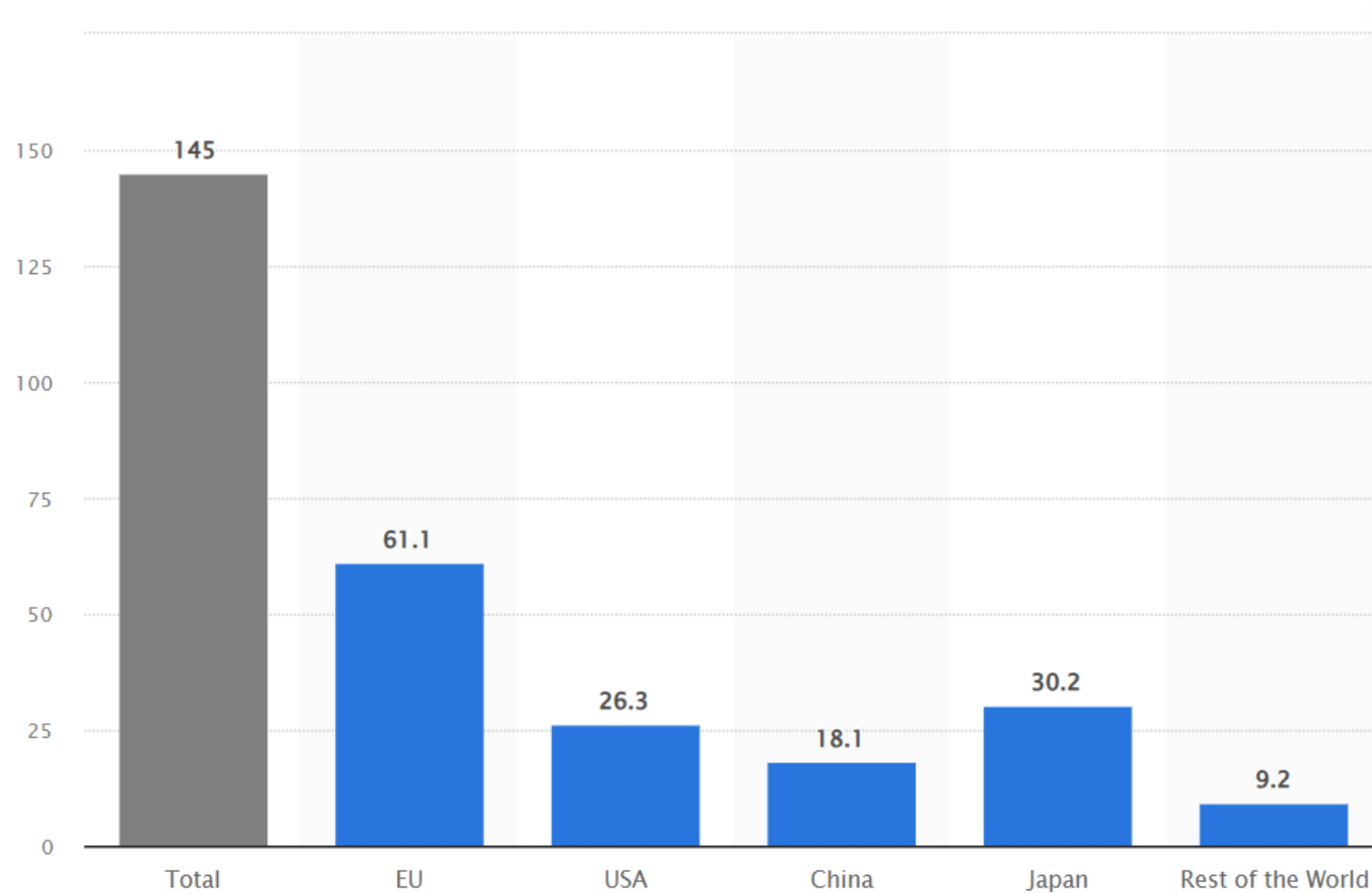


‘Core’ refers to the 322 companies in the global top 2 000, ‘emerging’ refers to the additional 478 companies that form the EU 800.

Source: European Commission - Joint Research Centre

R&D Expenditures by Region in the Automobile Sector 2022

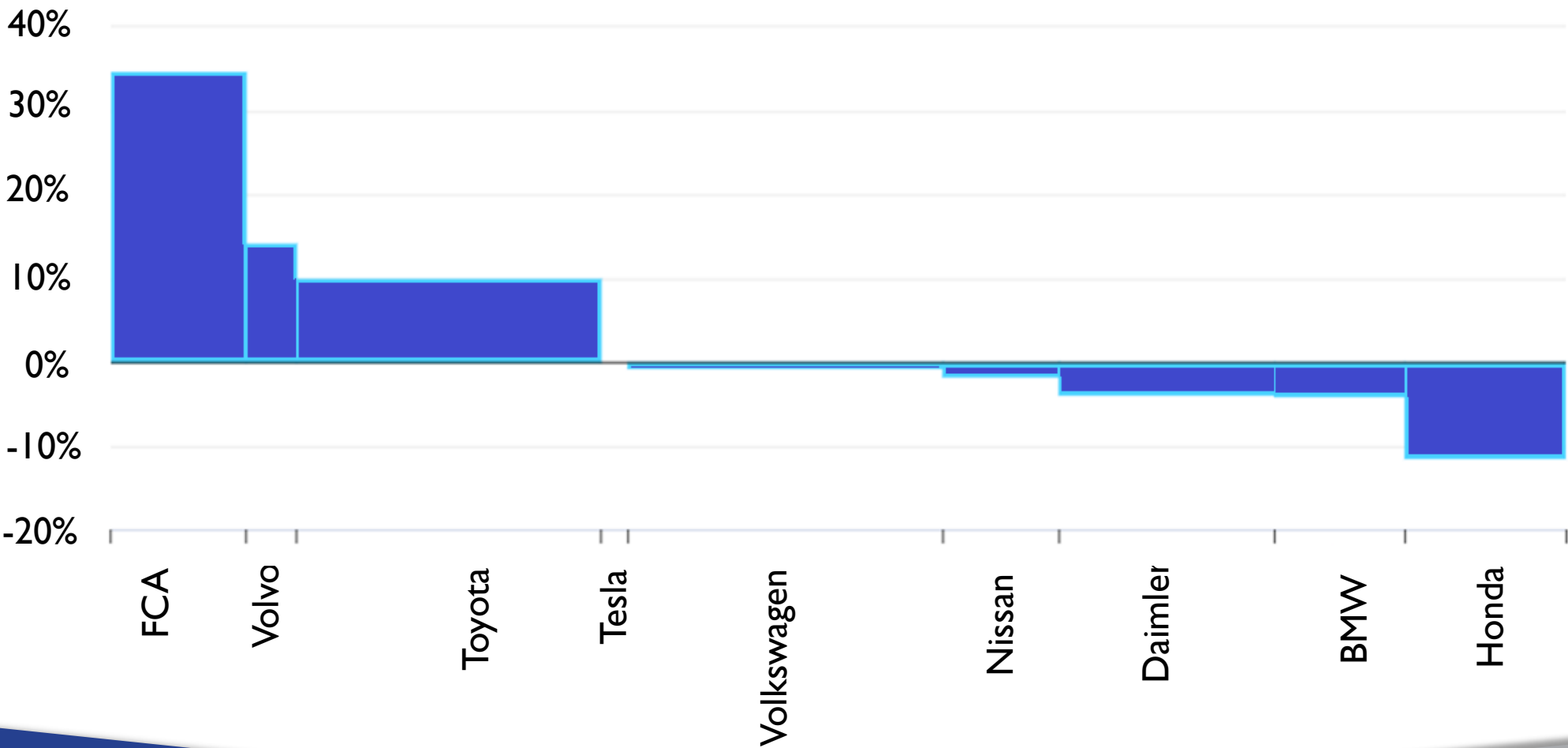
No New Data



Source: statista.com

No New Data

Changes in R&D Spending of Automotive Firms from 2019 to 2020

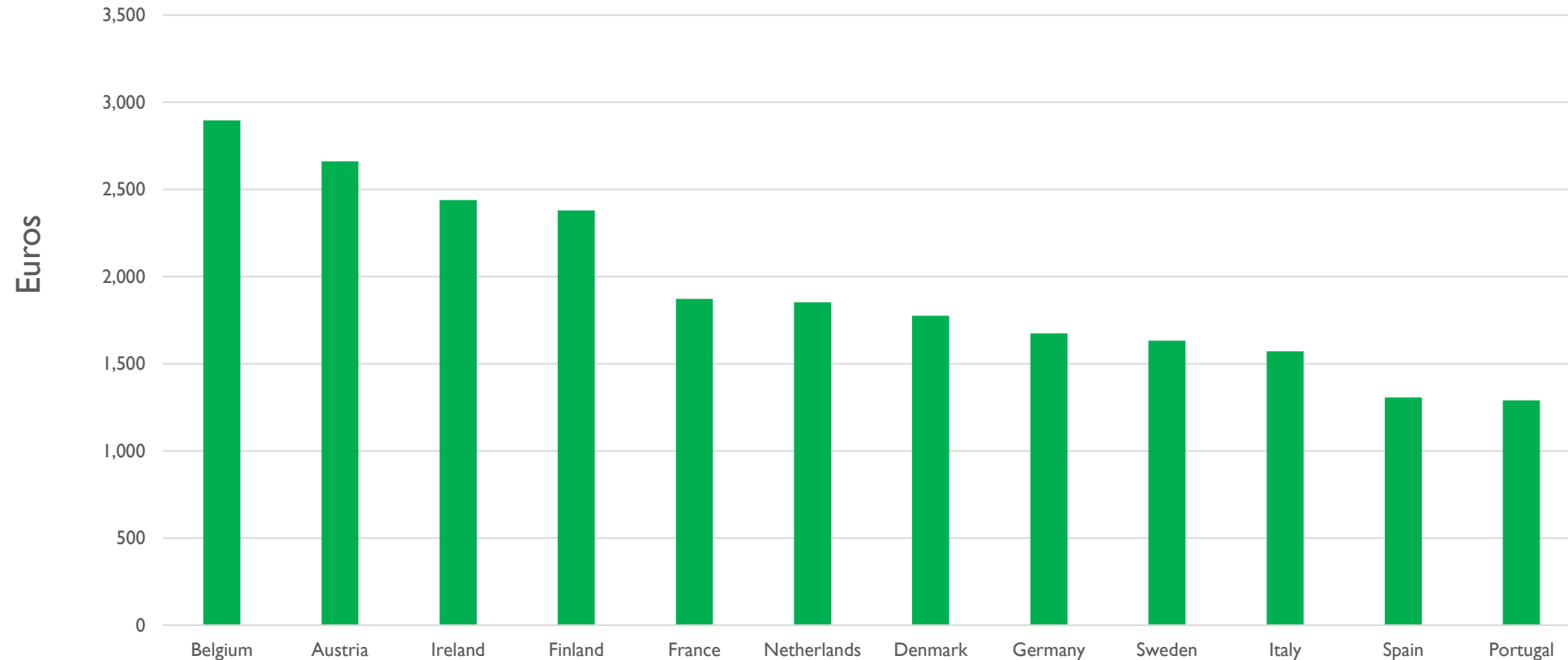


Source: iea.org

Taxation

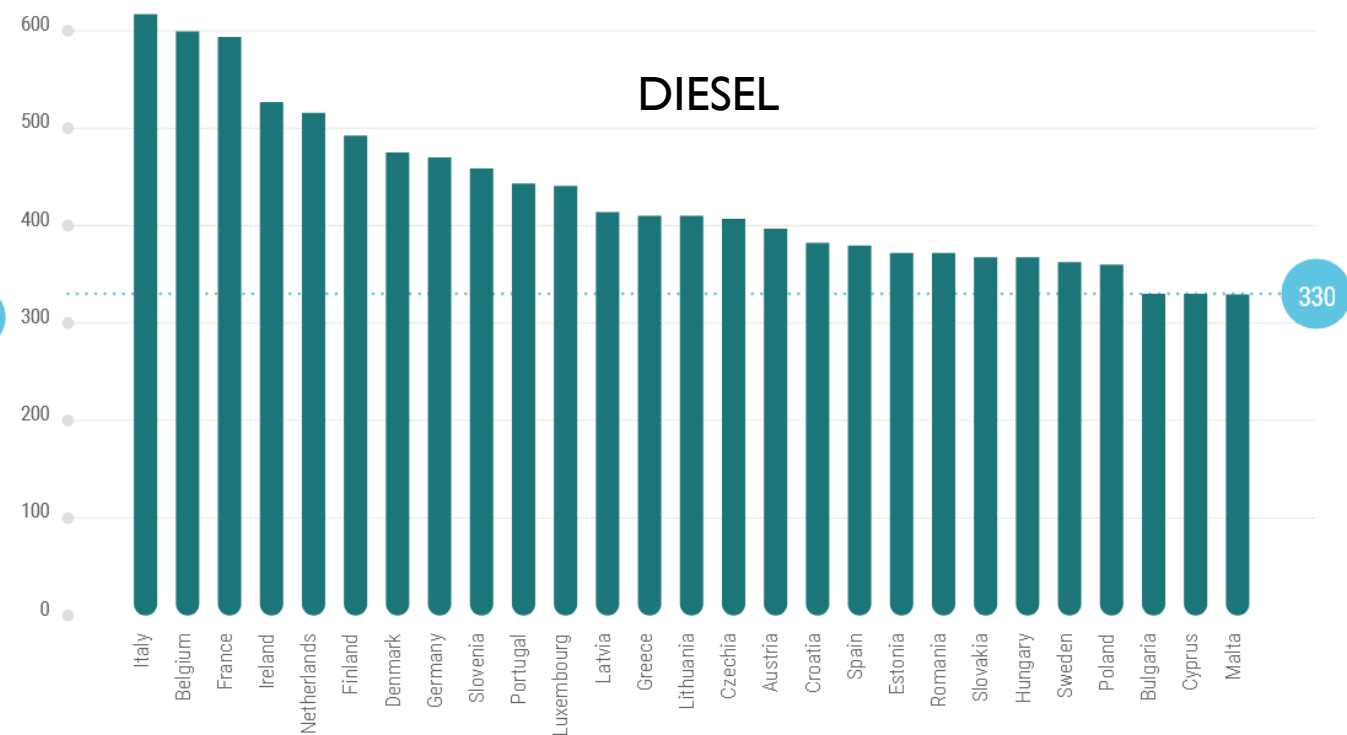
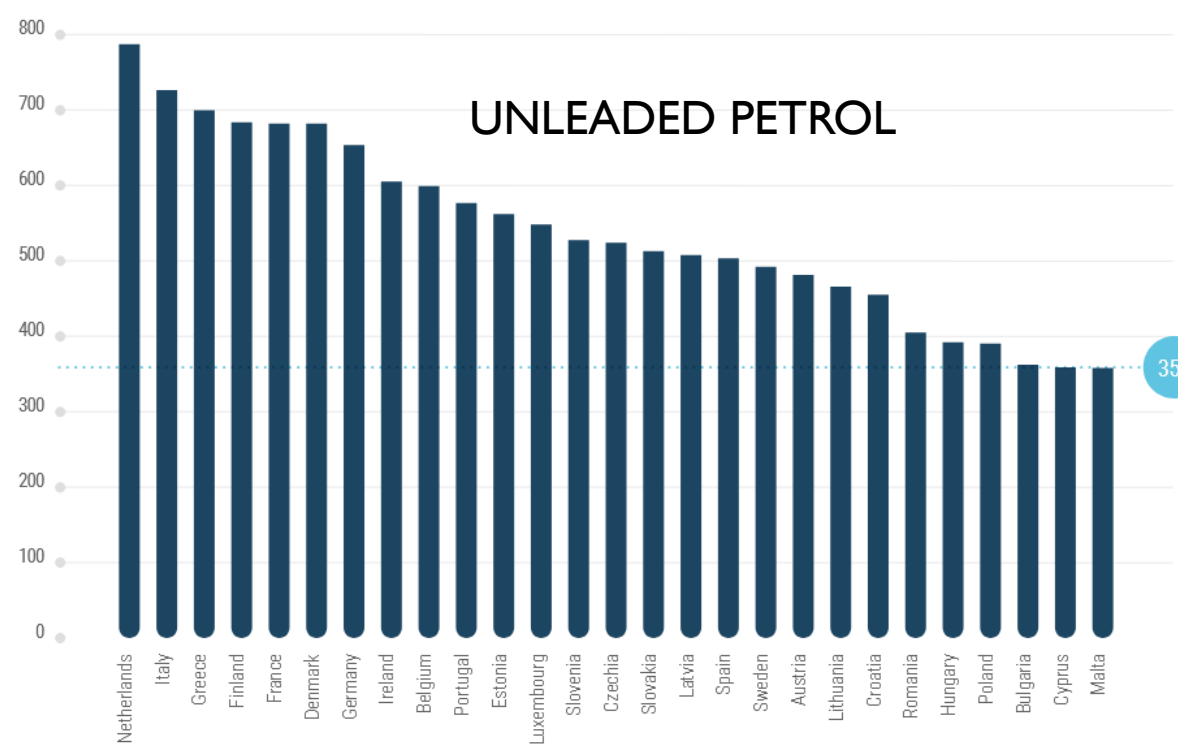


EU Taxes on Vehicle Ownership



- Belgium collects €2,896 per vehicle annually, with Austria (€2,661) and Ireland (€2,438) completing the top three of EU countries with the highest per vehicle tax income.
- The lowest tax revenues are found in Greece and Portugal, where the state collects €1,196 and €1,290 per vehicle respectively.

Excise Duties on Fuels in €/1000 litres (2023)



Source: acea.auto

Fiscal Income from Motor vehicles in Major European Markets

	 Austria	 Belgium	 Denmark	 Finland	 France	 Germany	 Greece	 Ireland	 Italy	 Netherlands	 Portugal	 Spain	 Sweden
	€ bn 2022	€ bn 2020	DKK bn 2024 ³	€ bn 2021	€ bn 2022	€ bn 2022	€ bn 2022	€ bn 2019	€ bn 2022	€ bn 2022	€ bn 2021	€ bn 2023	SEK bn 2021
Purchase or transfer													
1. VAT on vehicle sales													
servicing, repair & parts	3.2	7.6	–	1.6	20.2	30.1	0.8	0.7	19.2	1.4	2.8	11.1	25.5
2. Sales & registration taxes	0.4	0.5	10.1	0.5	1.9	–	0.4	1.0	1.6	1.6	0.4	0.6	–
3. Annual ownership taxes	2.8	1.7	10.9	1.1	0.7	9.5	1.2	0.9	7.2	4.4	0.7	3.0	15.5
4. Fuels & lubricants	5.6	7.3	19.3	4.0	41.7	34.9	4.8	3.5	32.8	9.6	2.8	22.8	57.0
5. Others:													
Driving license fees	–	0.0	–	–	0.01	0.2	0.03	0.0	–	0.4	–	0.1	0.0
Insurance taxes	0.4	1.0	1.4	0.4	5.7	5.5	0.5	0.1	3.7	1.2	–	1.1	2.8
Tolls	2.4	0.7	0.6	–	13.9	7.4	–	–	2.2	–	0.2	–	2.8
Customs duties	–	–	–	–	–	0.5	–	–	–	–	–	–	–
Other taxes	0.3	0.8	–	–	1.8	–	0.2	–	4.3	0.6	1.5	0.8	1.3
TOTAL (national currencies)	15.2	19.6	42.3	7.6	85.9	88.2	7.9	6.2	71.0	19.2	8.5	39.5	104.9
TOTAL (€)²	15.2	19.6	5.7	7.6	85.9	88.2	7.9	6.2	71.0	19.2	8.5	39.5	9.2

Motor vehicles generate almost €375 billion in taxes per year for the national governments of the major European markets

Overview Key Figures from ACEA

2023

Production

- Motor vehicles (world) 94 million units
- Motor vehicles (EU) 12.1 million units
- Passenger cars (world) 76 million units
- Passenger cars (EU) 10.5 million units

Registrations

- Motor vehicles (world) 90 million units
- Motor vehicles (EU) 18.5 million units
- Passenger cars (world) 73 million units
- Passenger cars (EU) 10.5 million units

Trade

- Exports (extra-EU) €139.4 billion
- Imports (extra-EU) €60.6 billion
- Trade balance €78.8 billion surplus

2024

Production

- Motor vehicles (world) 93 million units
- Motor vehicles (EU) 12 million units
- Passenger cars (world) 75 million units
- Passenger cars (EU) 10.4 million units

Registrations

- Motor vehicles (world) 92 million units
- Motor vehicles (EU) 18.7 million units
- Passenger cars (world) 75 million units
- Passenger cars (EU) 10.6 million units

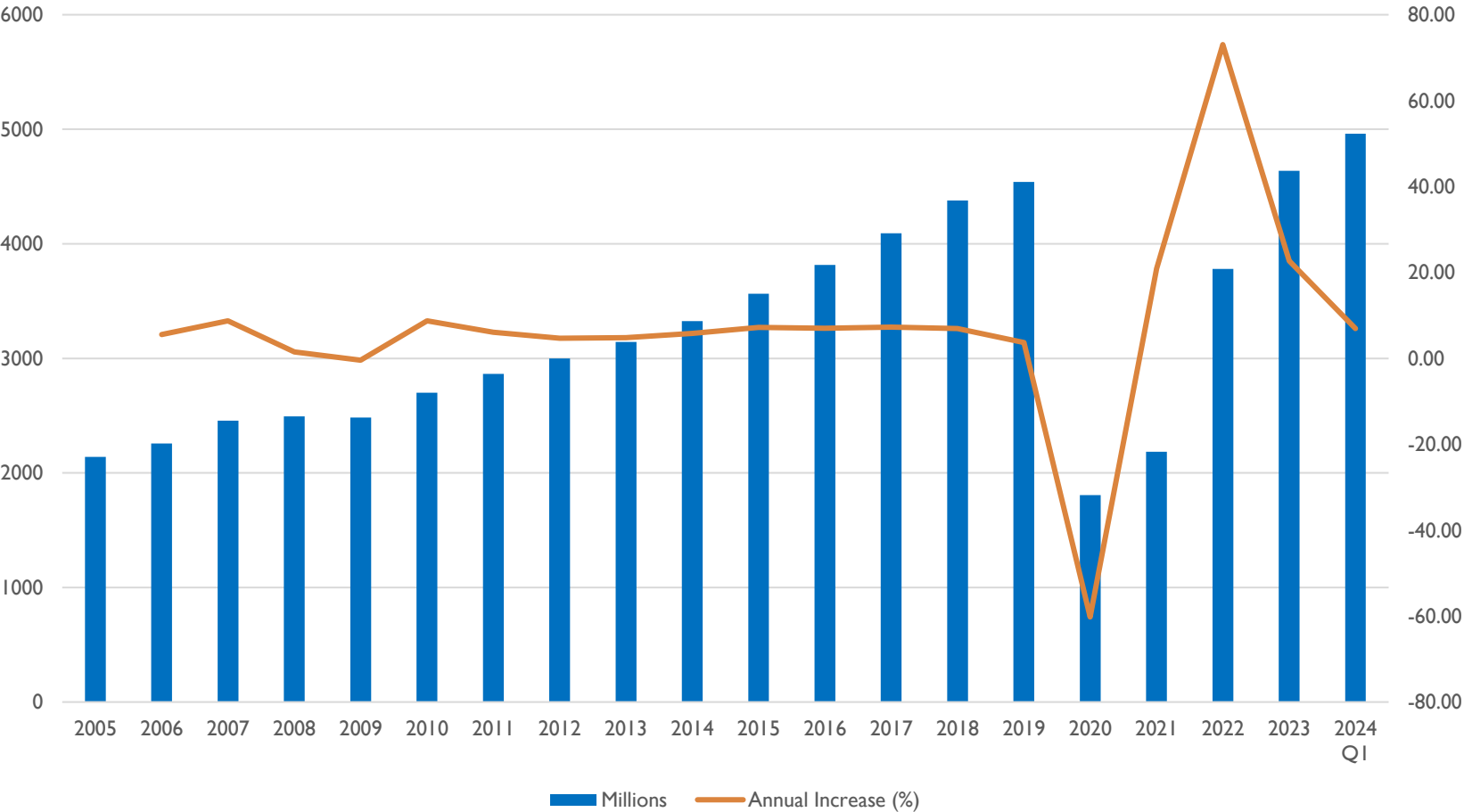
Trade

- Exports (extra-EU) €160 billion
- Imports (extra-EU) €64 billion
- Trade balance €96 billion surplus

Aerospace

April 2025

World Total Traffic - International and Domestic



Year	Millions	Annual Increase (%)
2024 Q1	4960	6.94
2023	4638	22.67
2022	3781	73.04
2021	2185	20.92
2020	1807	-60.20
2019	4540	3.70
2018	4378	6.96
2017	4093	7.29
2016	3815	7.01
2015	3565	7.19
2014	3326	5.82
2013	3143	4.80
2012	2999	4.71
2011	2864	6.07
2010	2700	8.74
2009	2483	-0.40
2008	2493	1.51
2007	2456	8.77
2006	2258	5.56
2005	2139	

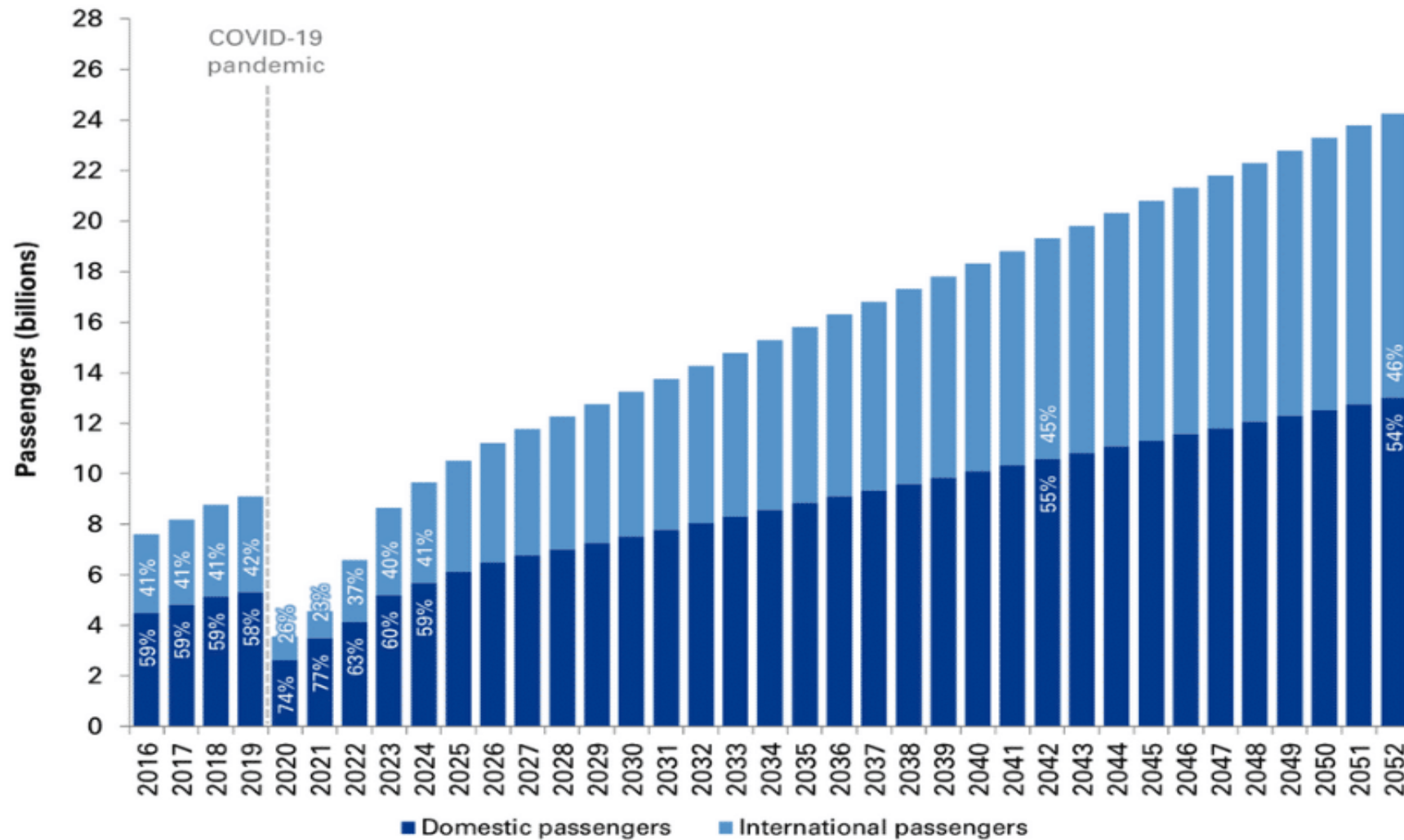
Source: iata.org, aci.aero

World Passenger Traffic vs World GDP Growth



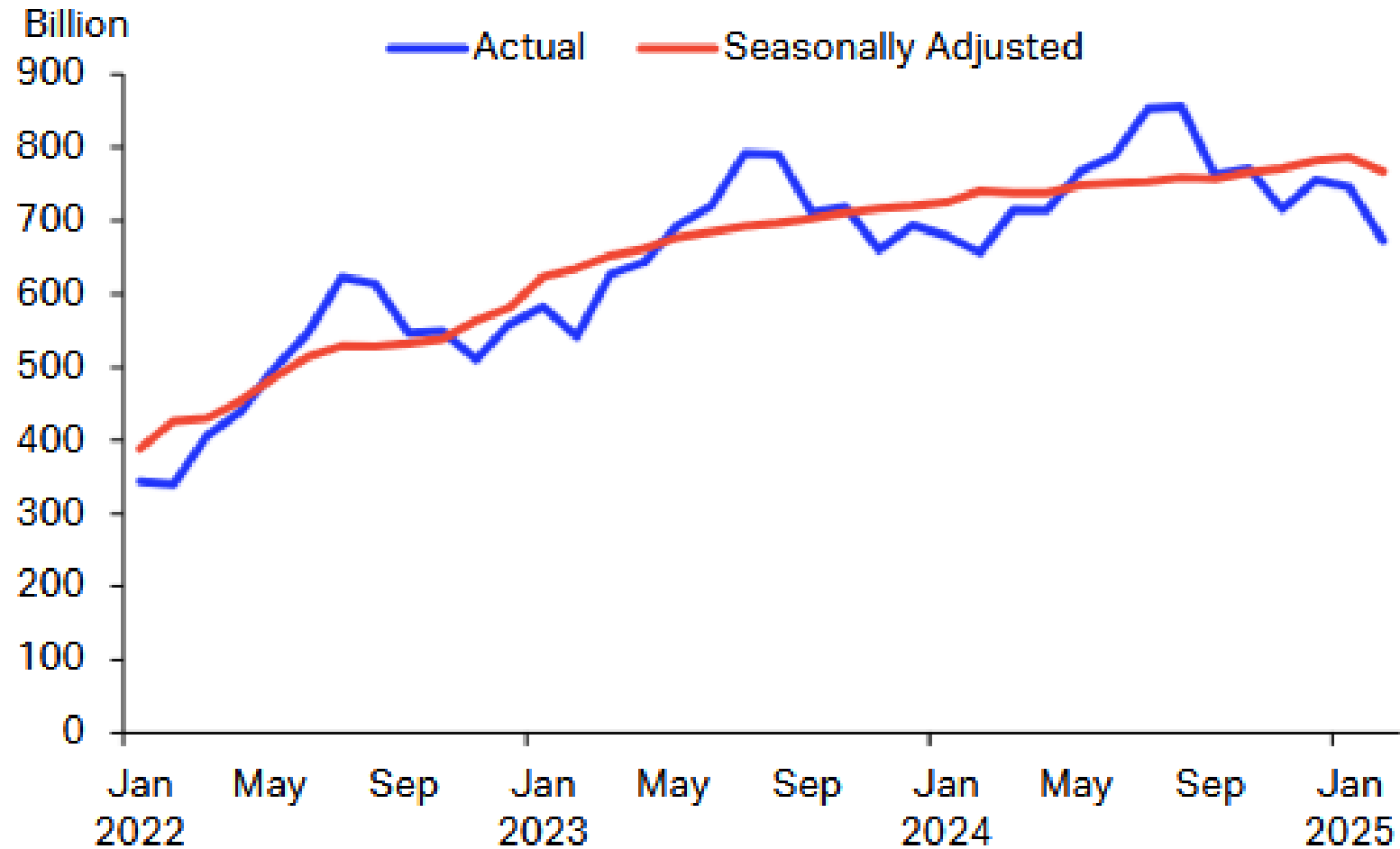
Year	Millions	GDP (Percentage Increase)
2024 Q1	4960	3.2
2023	4638	3.0
2022	3781	3.5
2021	2185	6.3
2020	1807	-2.8
2019	4540	2.91
2018	4378	3.60
2017	4093	3.79
2016	3815	3.37
2015	3565	3.44
2014	3326	3.58
2013	3143	3.49
2012	2999	3.52
2011	2864	4.29
2010	2700	5.40
2009	2483	-0.11
2008	2493	3.04
2007	2456	5.57
2006	2258	5.46
2005	2139	4.09

Passenger traffic expected to grow at 4.3% from 2023 to 2042



Source: aci.aero

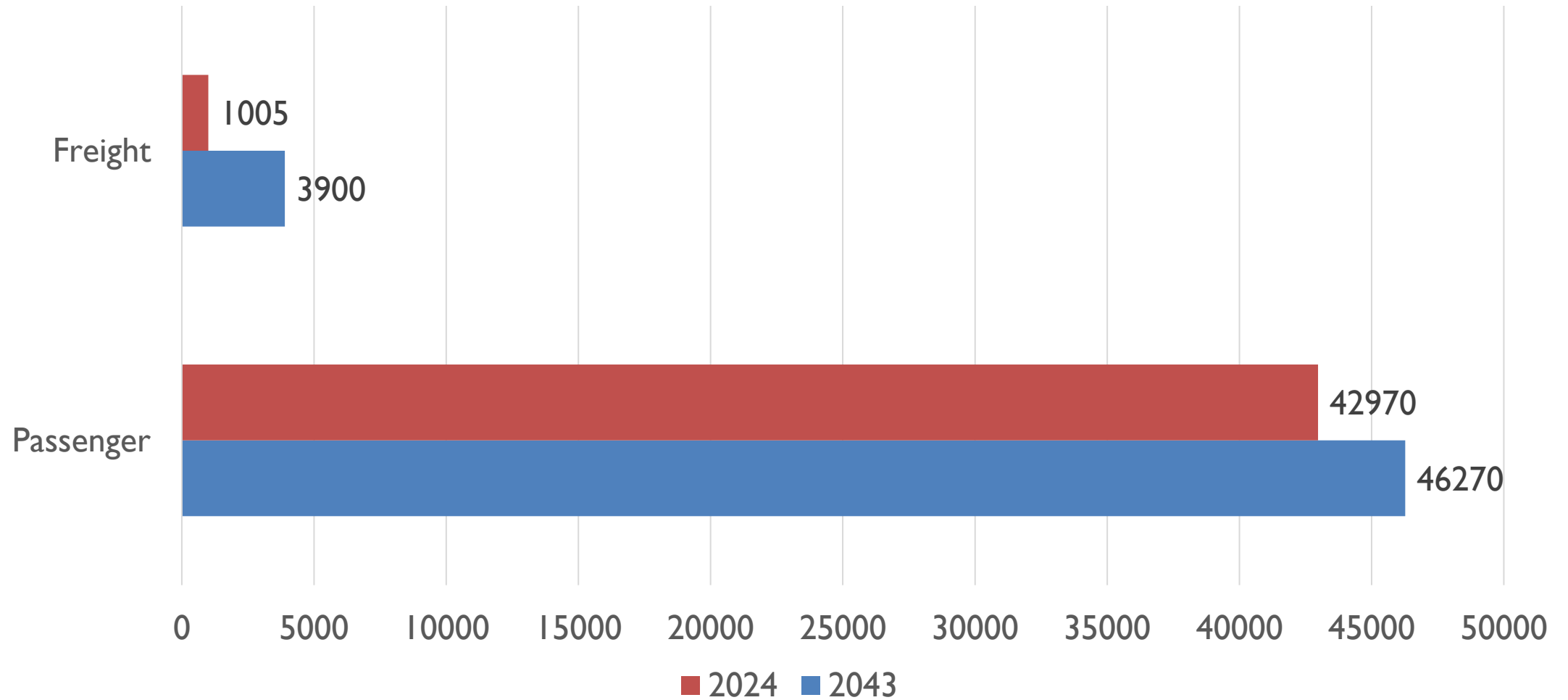
Air Passenger Volumes



RPK : Revenue Passenger-kilometers per month as billions

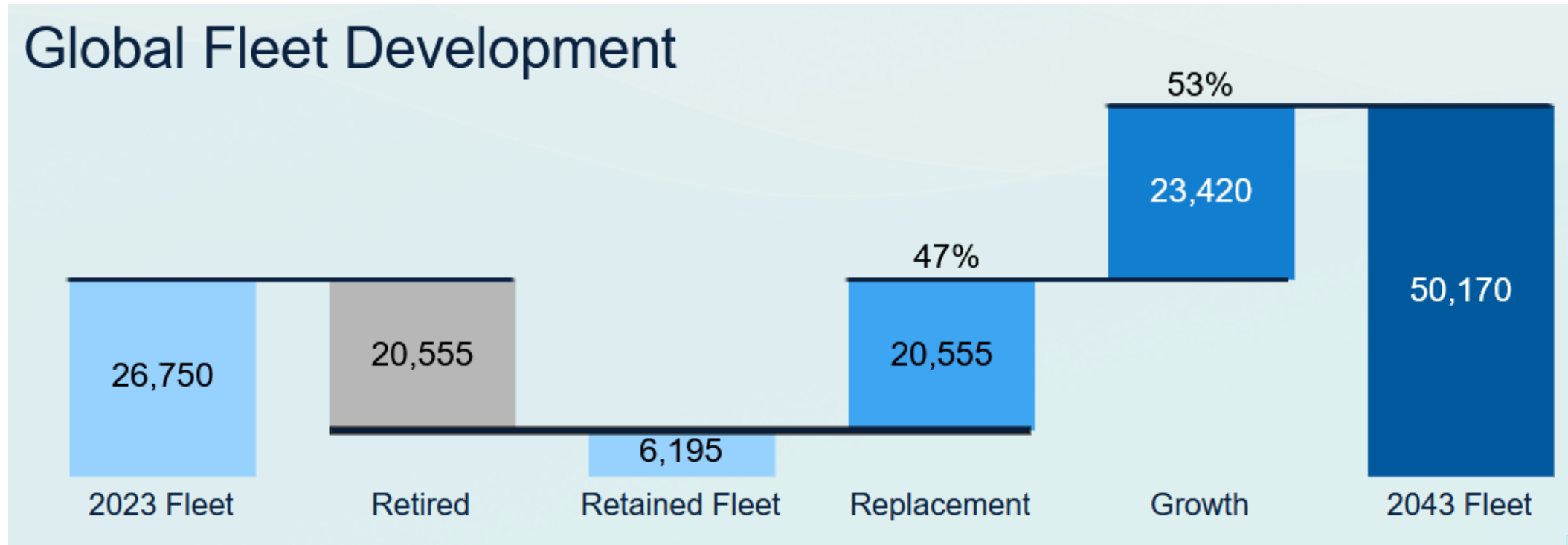
Source: IATA Economics, IATA Monthly Statistics

Demand for Aircraft by Type



Source: boeing.com/ Commercial market outlook 2024/2043

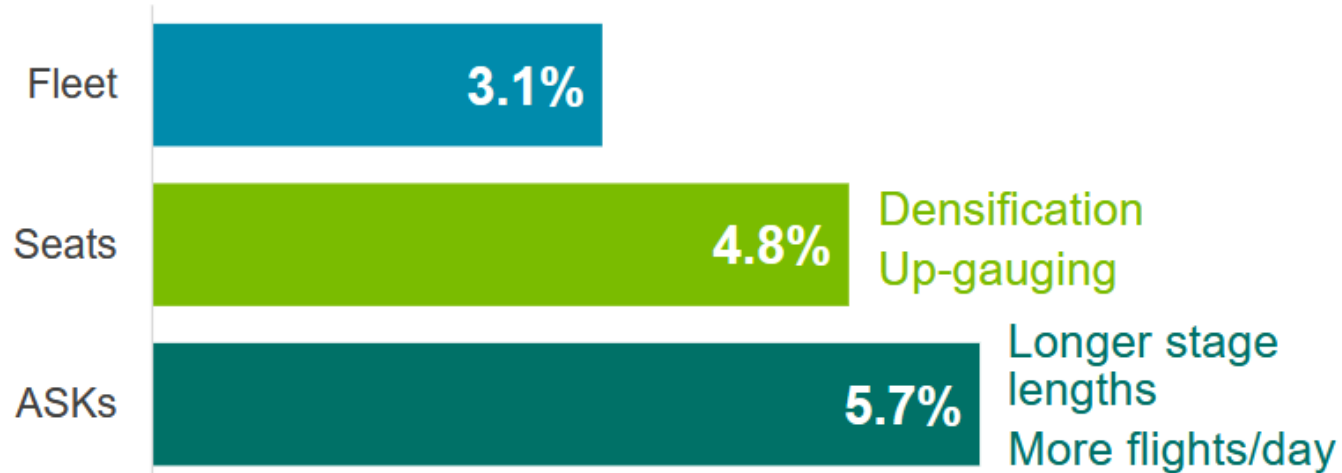
The world fleet will double over the next 20 years,
nearly half of deliveries for replacement



Source: boeing.com, airbus.com

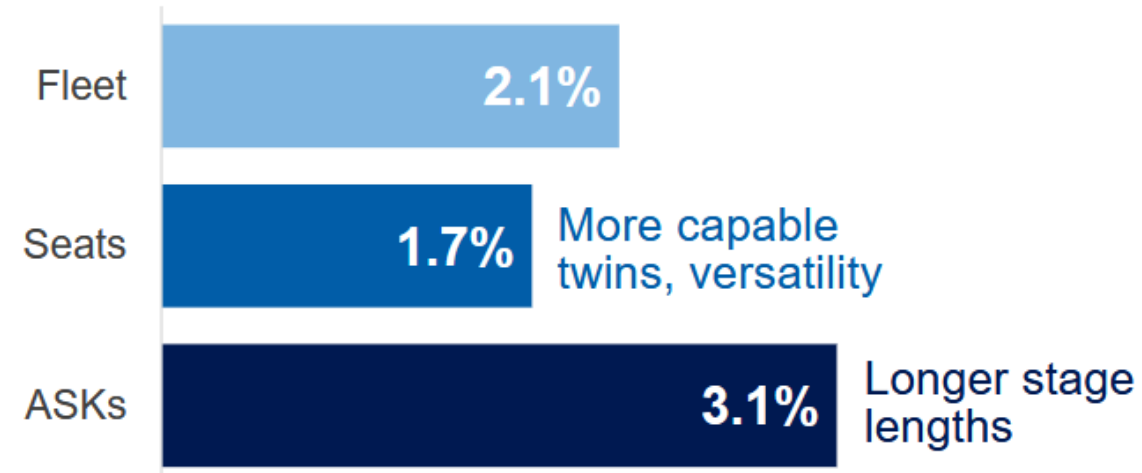
Single-aisle fleet renewal gaining momentum

Single-aisle annual growth (2003-2023)



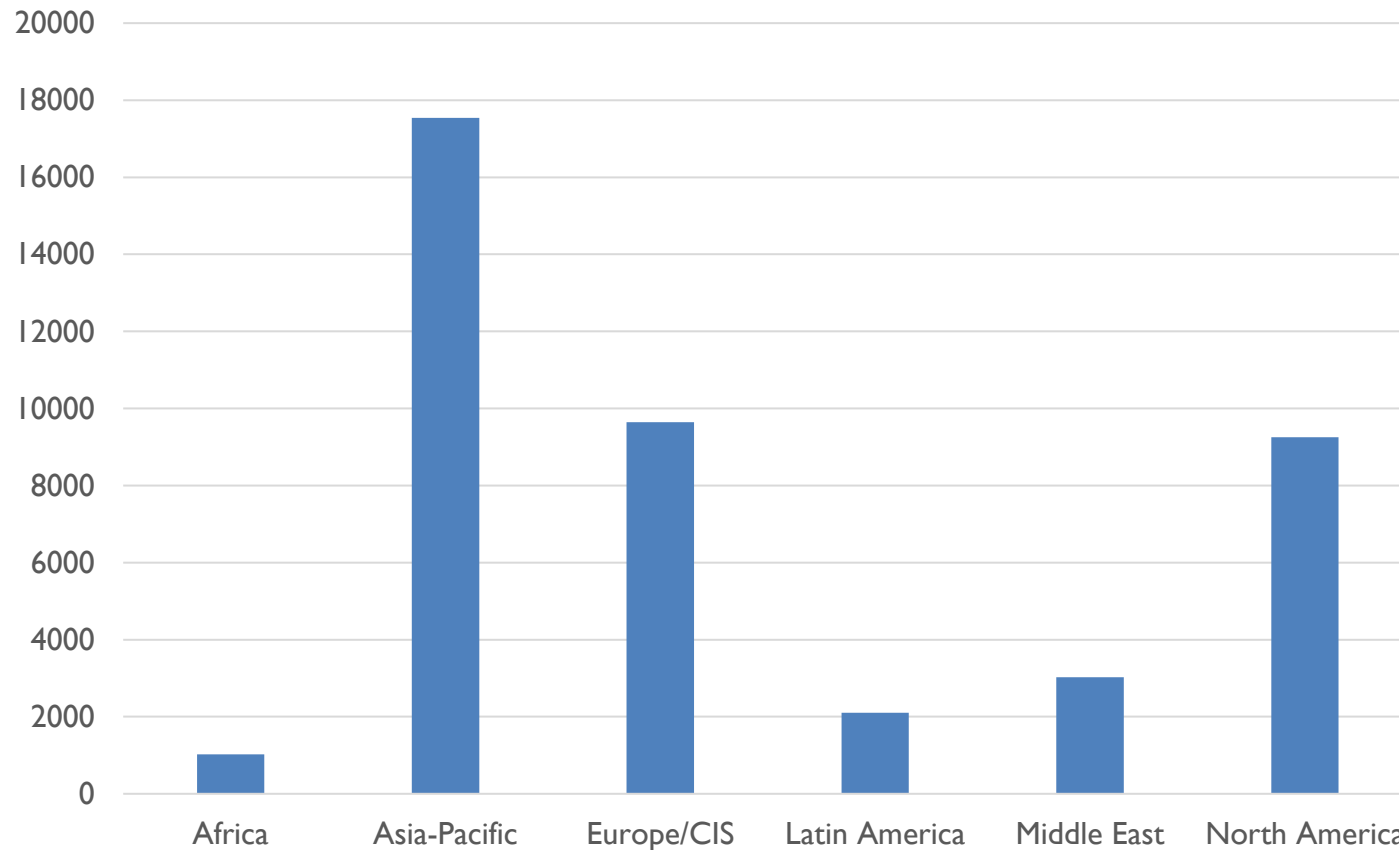
ASKs = Available Seat Kilometers

Widebody annual growth (2003-2023)



Source: boeing.com/ Commercial market outlook 2022/2041

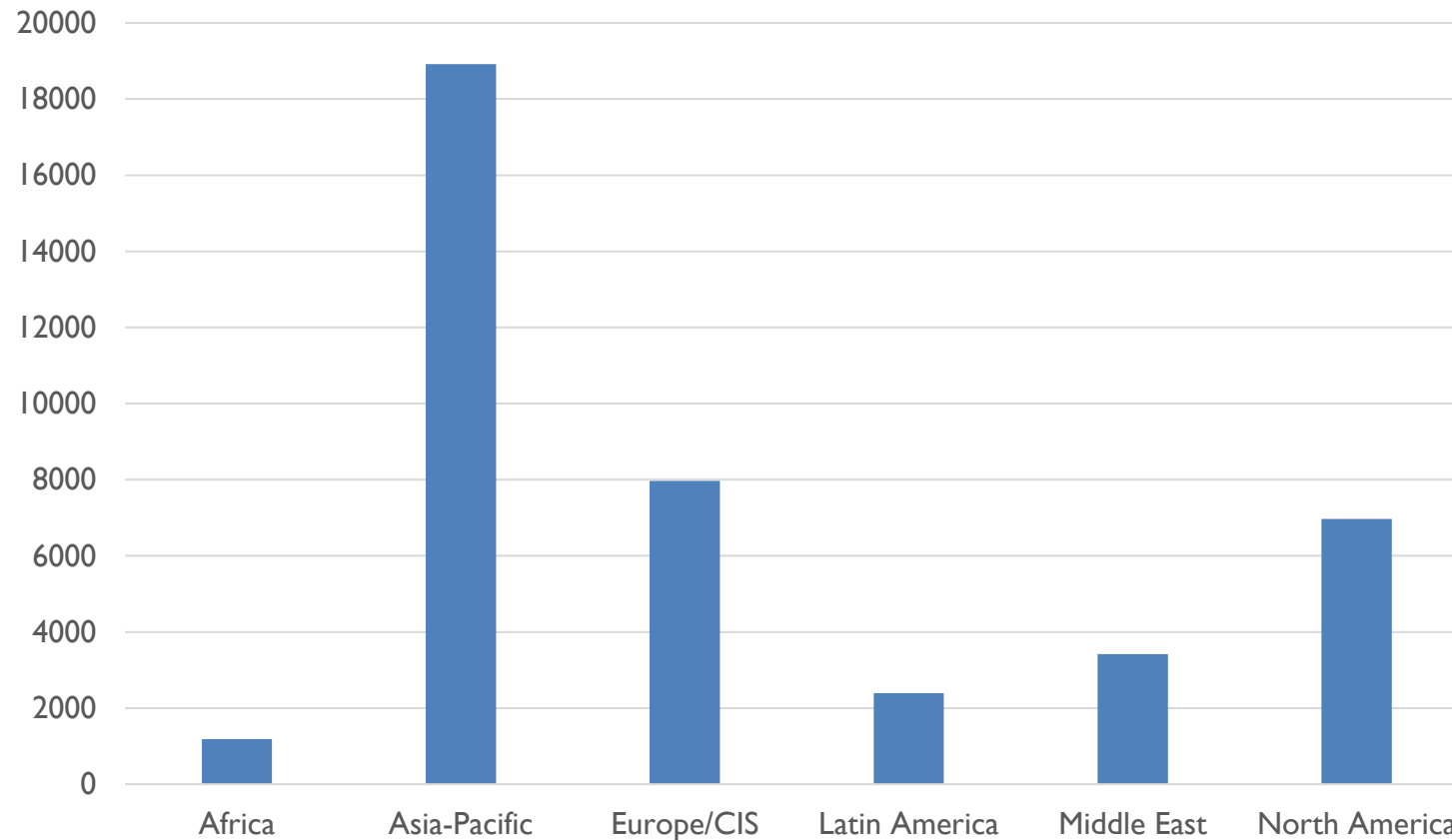
Demand for Aircraft by Location (2024-2043) (Boeing)



Region	Units
Africa	1,025
Asia-Pacific	17,545
Europe/CIS	9,645
Latin America	2,105
Middle East	3,025
North America	9,250
TOTAL	42,595

Source: boeing.com

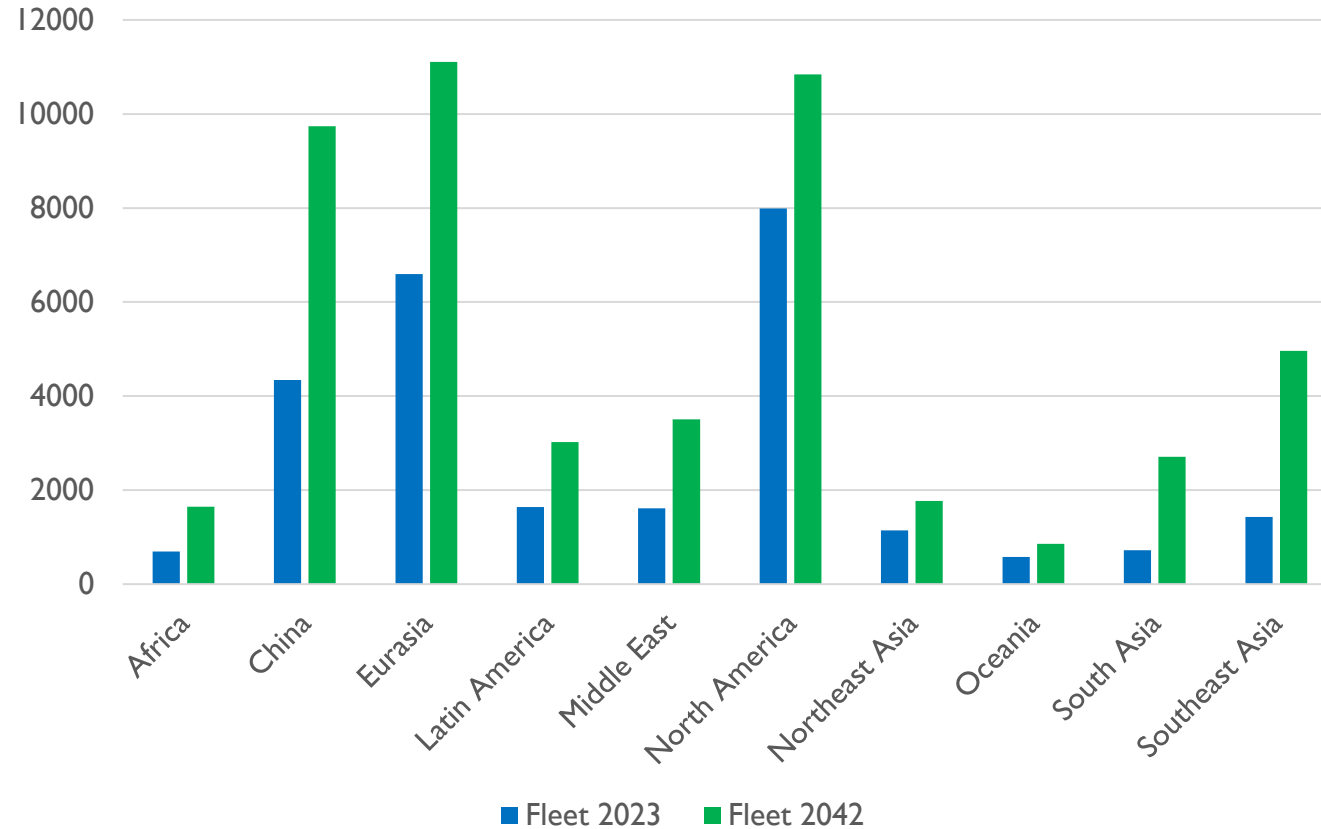
Demand for Aircraft by Location (2023-2042) (Airbus)



Region	Units
Africa	1,180
Asia-Pacific	18,920
Europe/CIS	7,970
Latin America	2,390
Middle East	3,420
North America	6,970
TOTAL	40,850

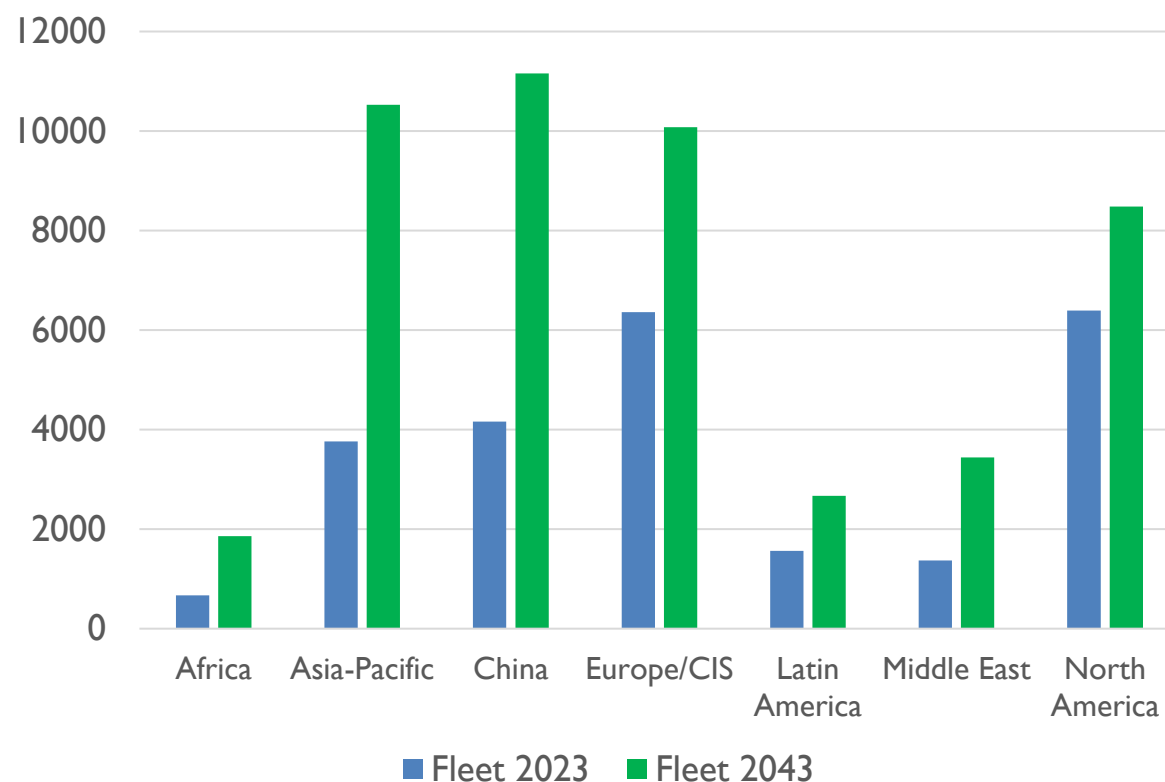
Source: airbus.com

Fleet in Service (2023 – 2043) (Boeing)



	Fleet 2023	Fleet 2043
Africa	695	1,650
China	4,345	9,740
Eurasia	6,595	11,105
Latin America	1,640	3,025
Middle East	1,610	3,505
North America	7,990	10,845
Northeast Asia	1,145	1,770
Oceania	580	860
South Asia	720	2,710
Southeast Asia	1,430	4,960
TOTAL	26,750	50,170

Fleet in Service (2023 – 2043) (Airbus)



	Fleet 2023	Fleet 2043
Africa	670	1860
Asia-Pacific	3760	10530
China	4160	11160
Europe/CIS	6360	10080
Latin America	1560	2670
Middle East	1370	3440
North America	6390	8480
TOTAL	24260	48230

Source: airbus.com

New Deliveries Forecast by Segment (2024-2043)

(Boeing)

	Regional Jet	Single Aisle	Widebody	Freighter	Total
Africa	65	830	260	15	1170
China	365	6720	1575	170	8830
Eurasia	160	7,890	1570	165	9785
Latin America	15	2045	225	10	2295
Middle East	30	1555	1475	85	3145
North America	835	6815	885	450	8985
Northeast Asia	20	780	595	75	1470
Oceania	15	535	190	< 10	740
South Asia	< 10	2445	370	20	2835
Southeast Asia	20	3765	920	15	4720
World	1525	33380	8065	1005	43975

Source: boeing.com

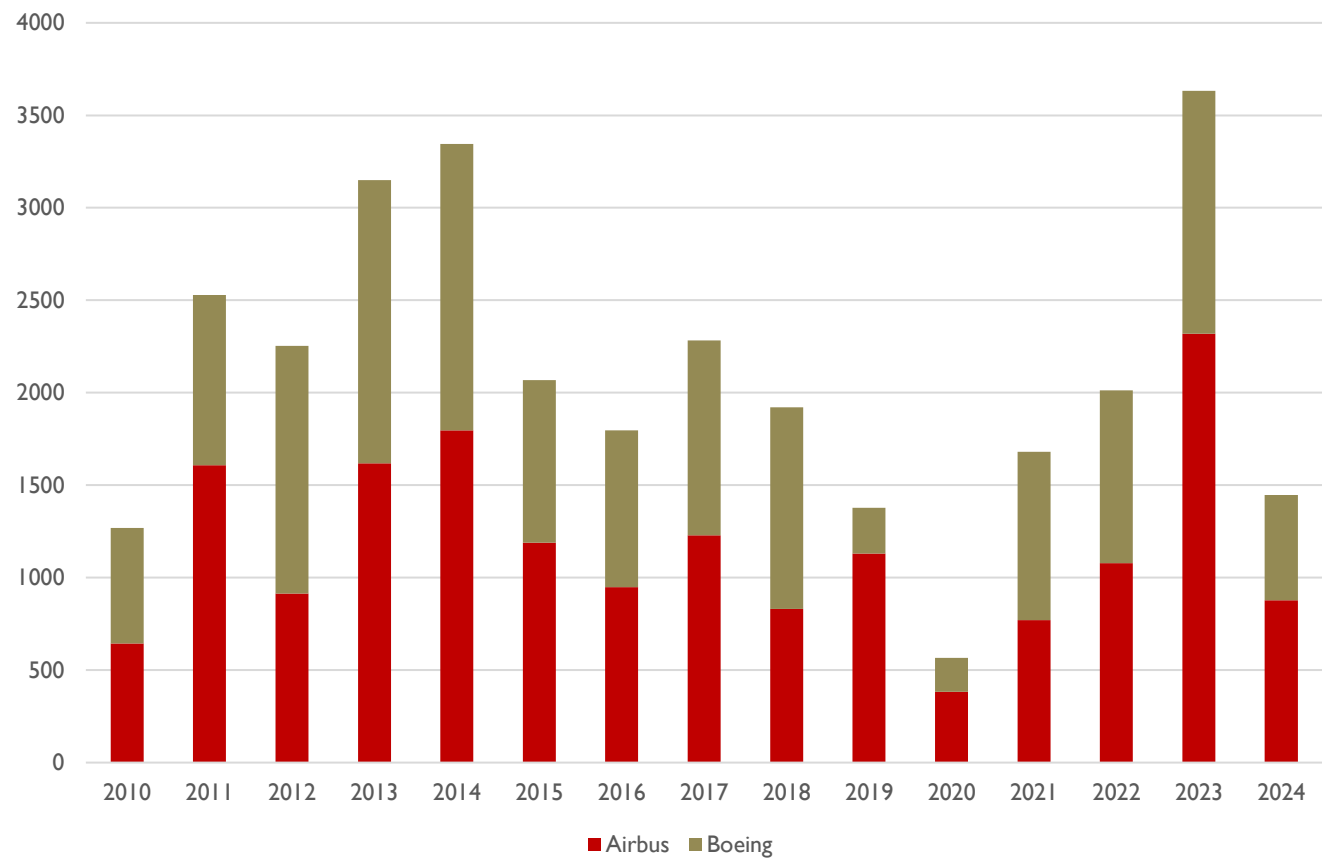
New Deliveries Forecast by Segment (2023-2042)

(Airbus)

	Single Aisle	Widebody	Total
Africa	1,210	230	1,440
Asia-Pacific (excl. PRC)	8,040	1,890	9,930
PRC	7,950	1,380	9,330
Europe/CIS	6,150	1,680	7,830
Latin America	2,300	260	2,560
Middle East	2,160	1,520	3,680
North America	5,690	1,020	6,710
Total	33,510	7,980	41,490

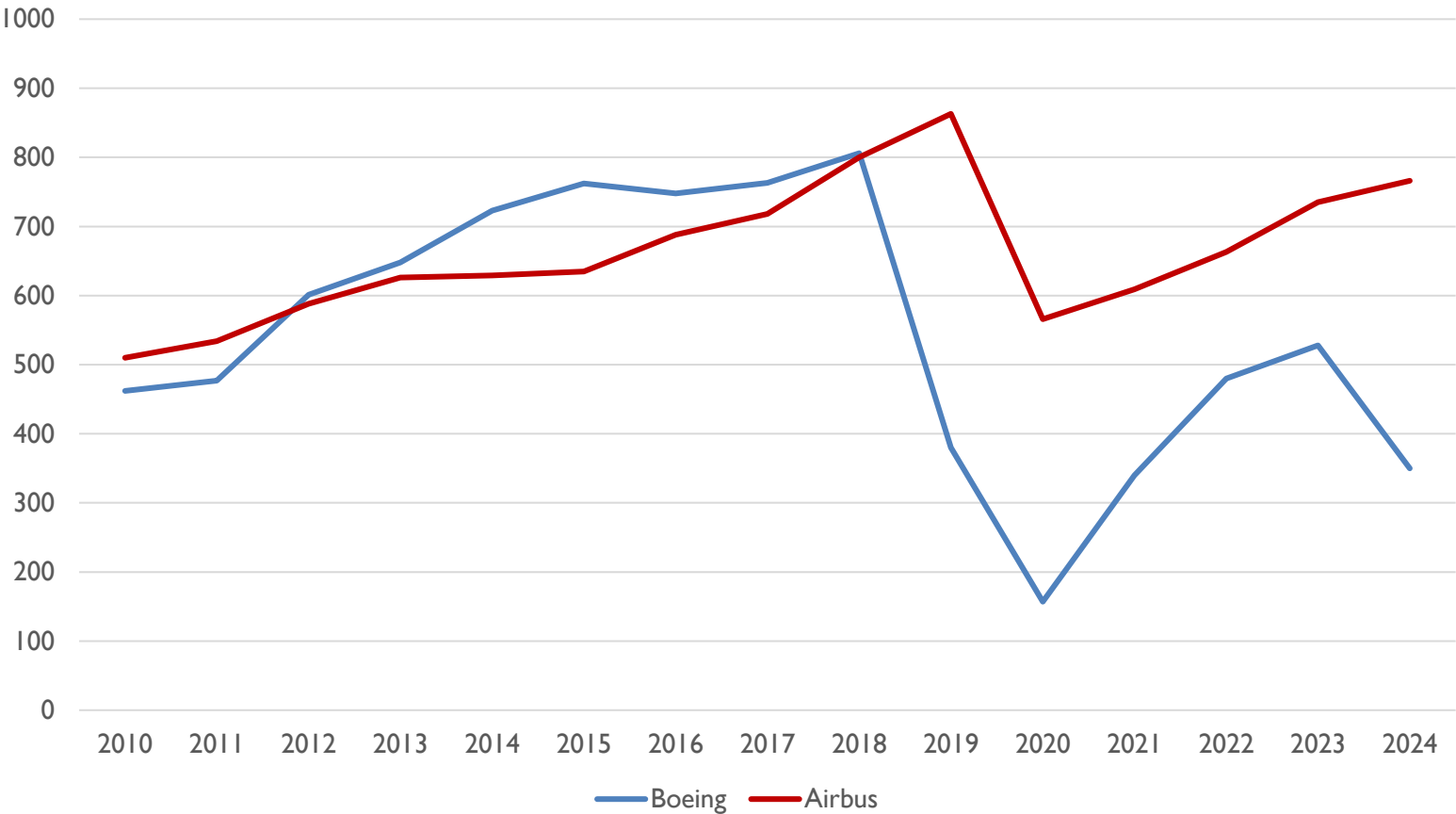
Source: airbus.com

Commercial Aircraft Orders 2024



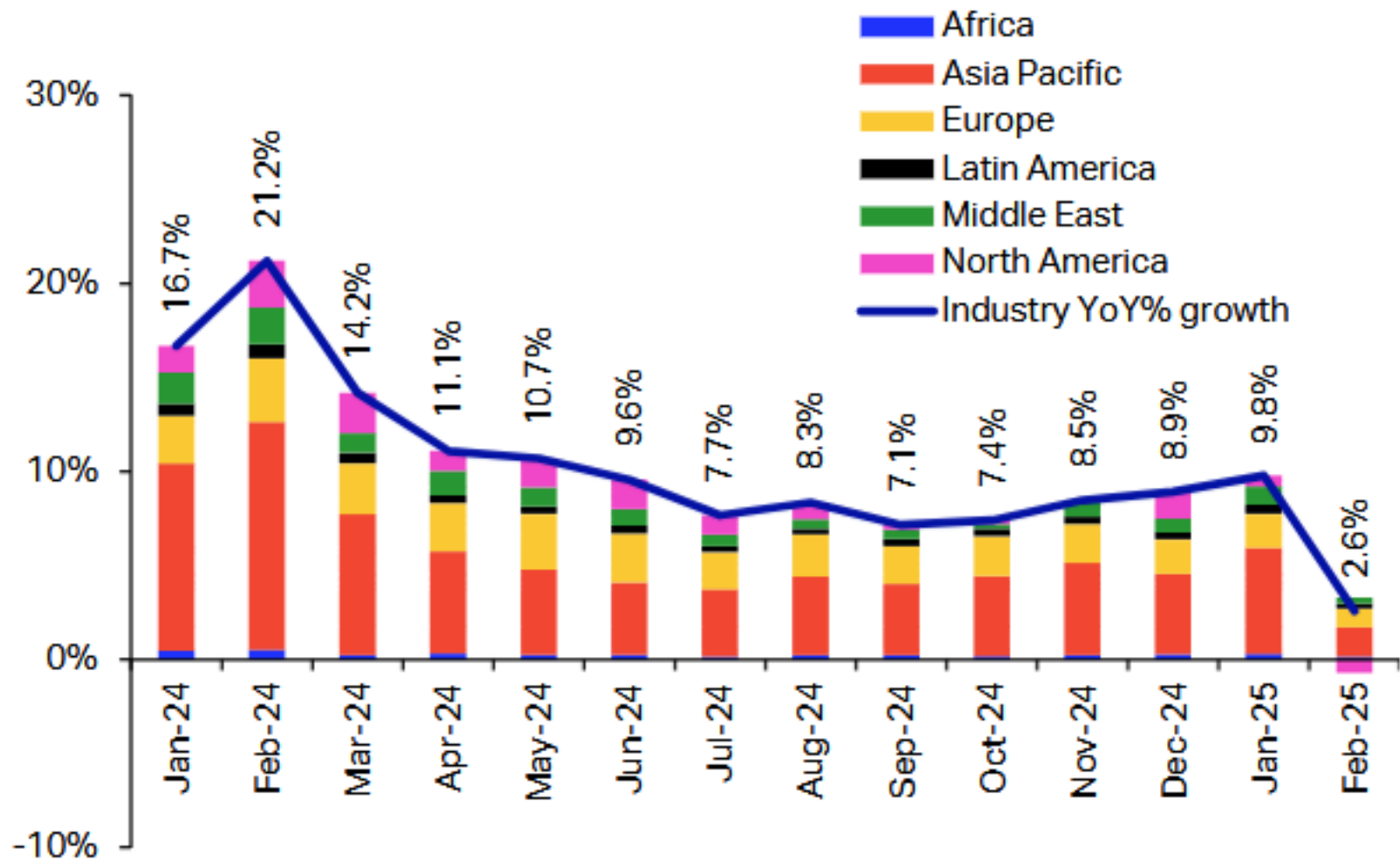
Year	Airbus	Boeing
2024	878	569
2023	2319	1314
2022	1078	935
2021	771	909
2020	383	184
2019	1131	246
2018	831	1090
2017	1229	1053
2016	949	848
2015	1190	878
2014	1796	1550
2013	1619	1531
2012	914	1339
2011	1608	921
2010	644	625

Commercial Aircraft Deliveries in 2024



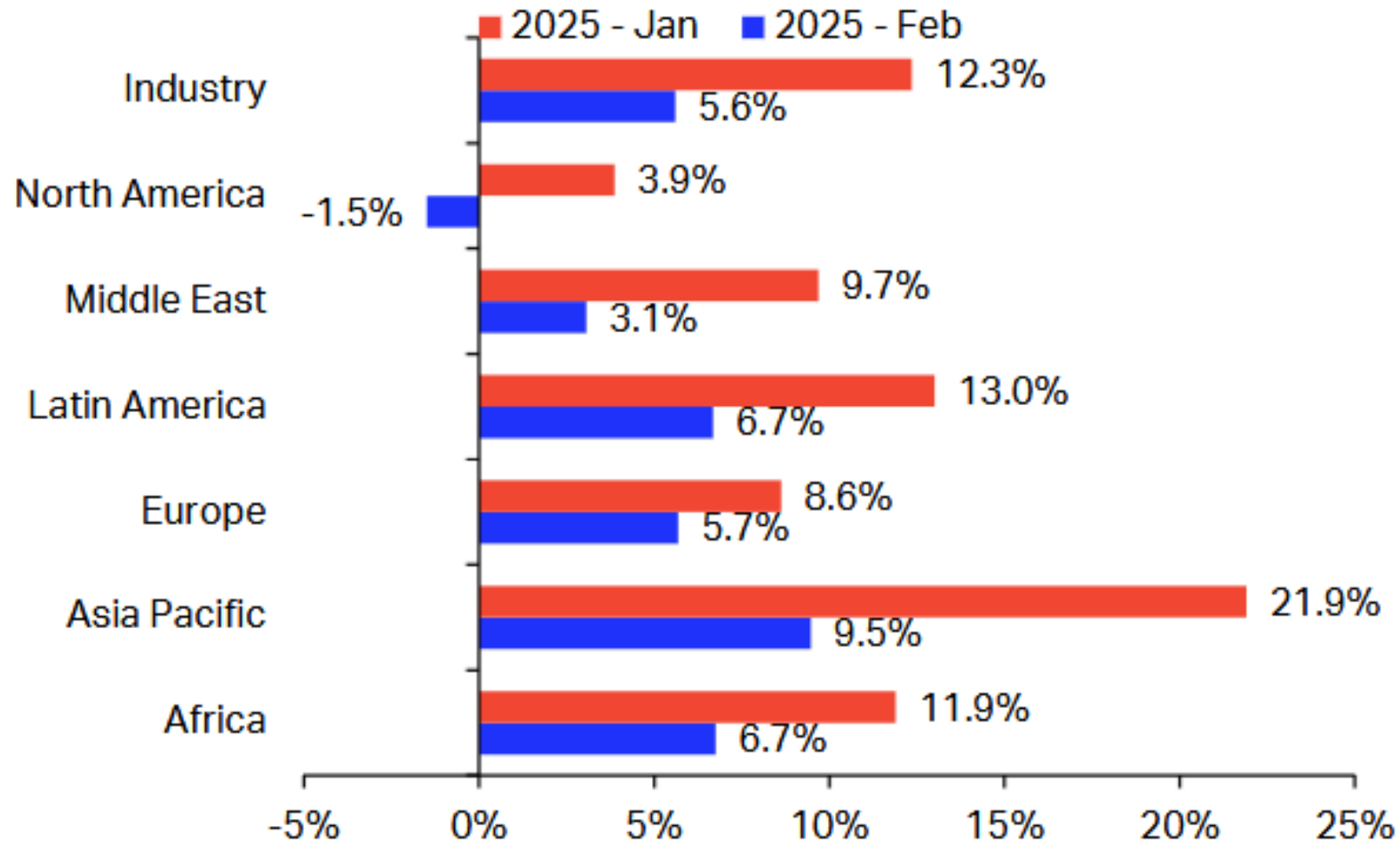
Year	Boeing	Airbus
2024	350	766
2023	528	735
2022	480	663
2021	340	609
2020	157	566
2019	380	863
2018	806	800
2017	763	718
2016	748	688
2015	762	635
2014	723	629
2013	648	626
2012	601	588
2011	477	534
2010	462	510

Regional contribution to industry annual total RPK growth



RPK : Revenue Passenger-kilometers per month as billions

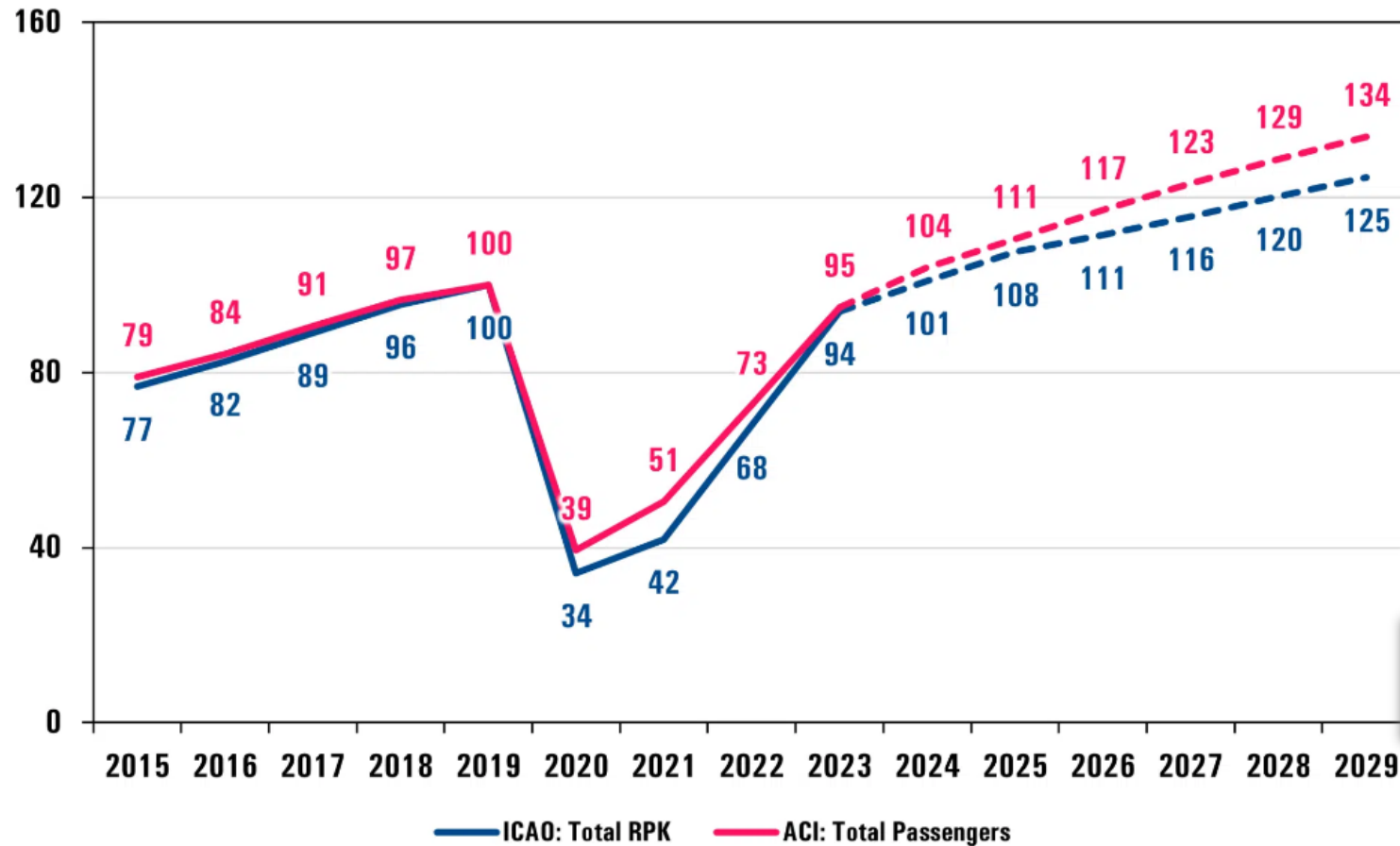
International RPK growth by airline region of registration, YoY%



Source: iata.org

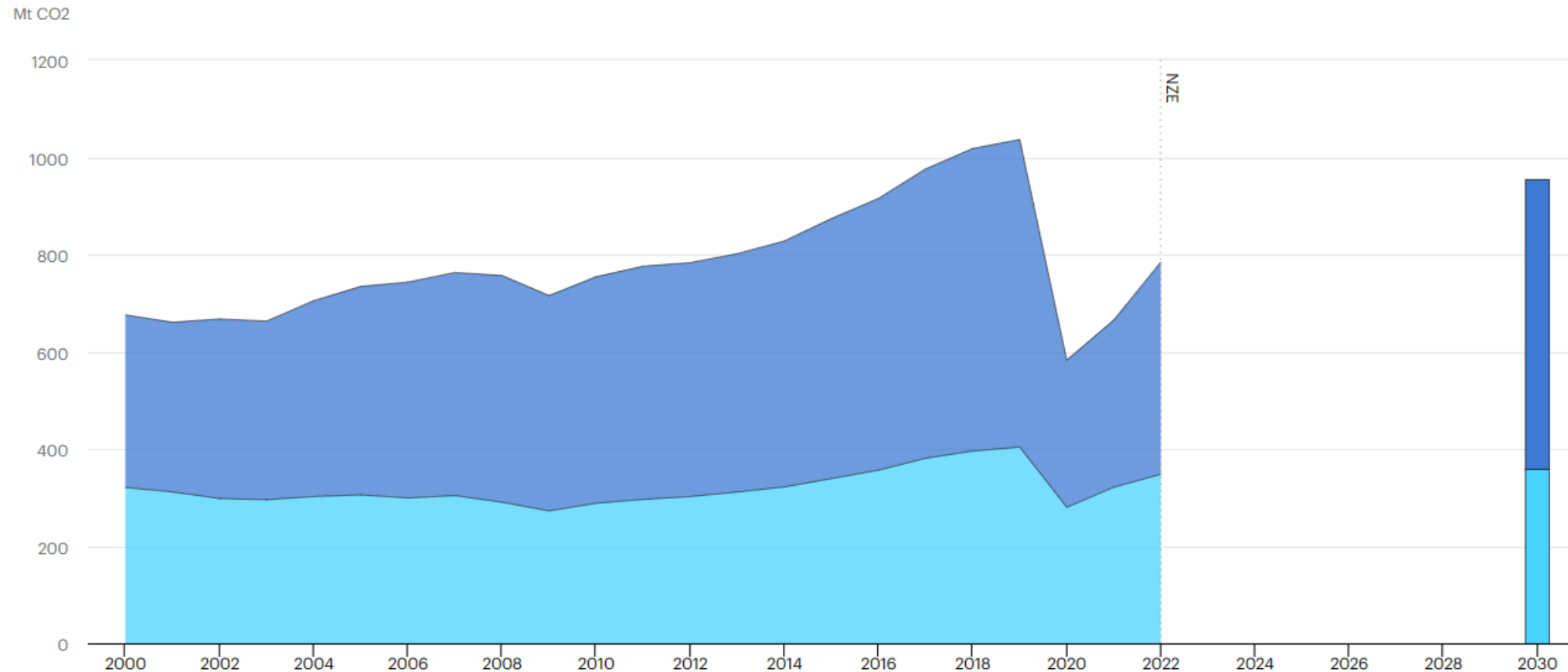
Medium-term Global Passenger Traffic Projection (2019=100)

Global passenger market forecast
2015–2029, Indexed, 2019 = 100



Source: ACI World

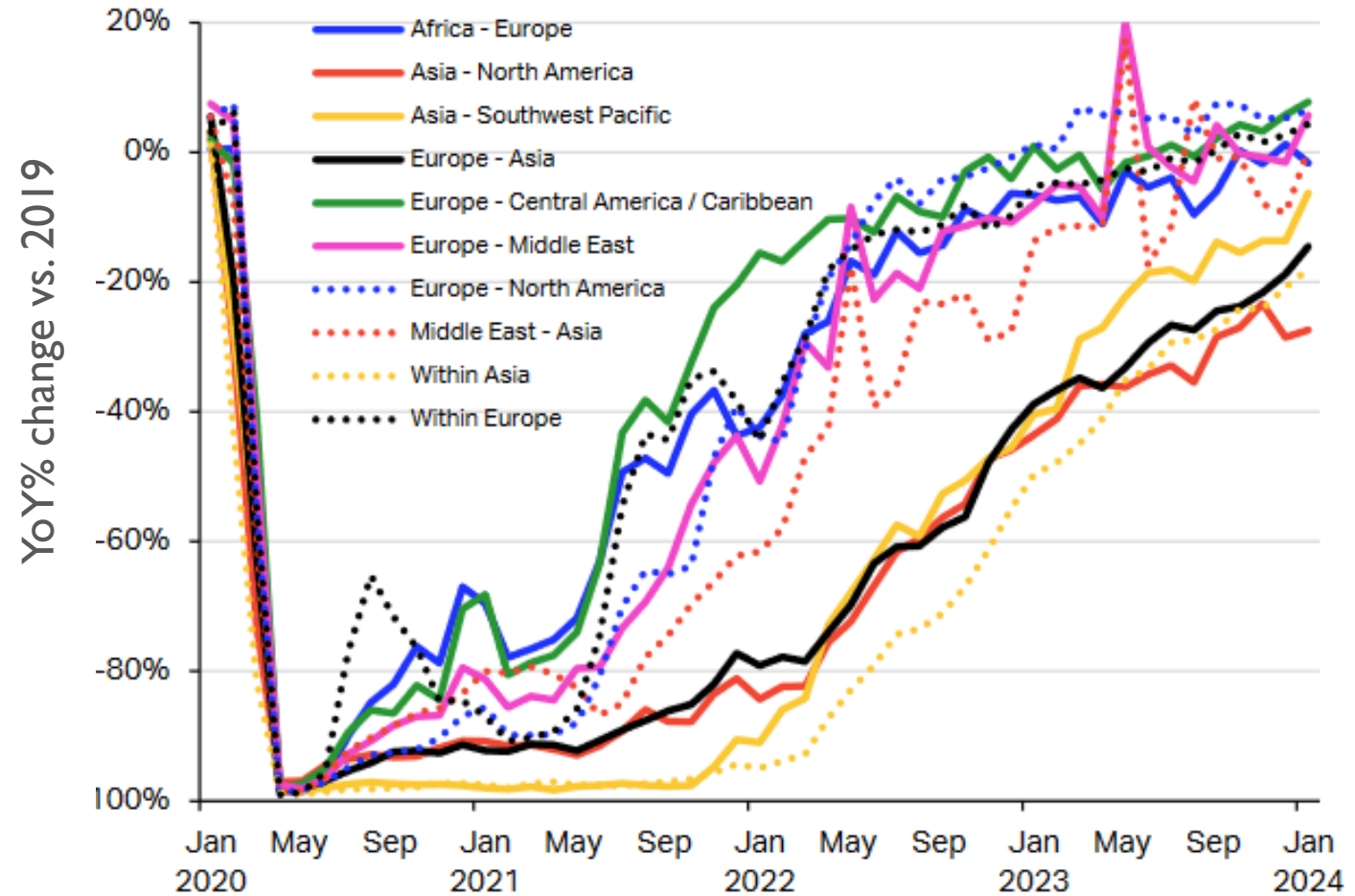
CO₂ Emissions in Aviation



Source: [iea.org](https://www.iea.org)

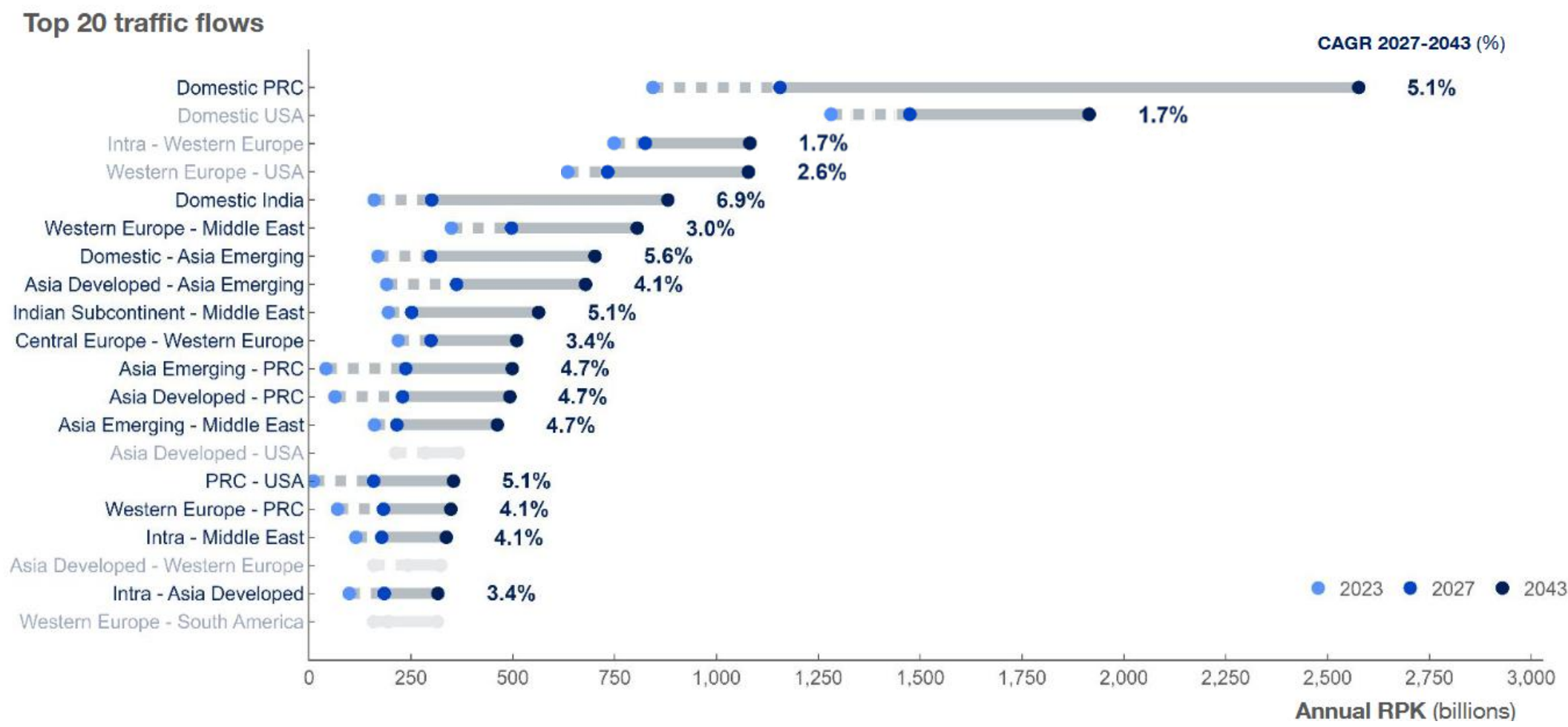
The Recovery in Global Air Traffic Continues

International air connectivity
closing in on pre-COVID levels

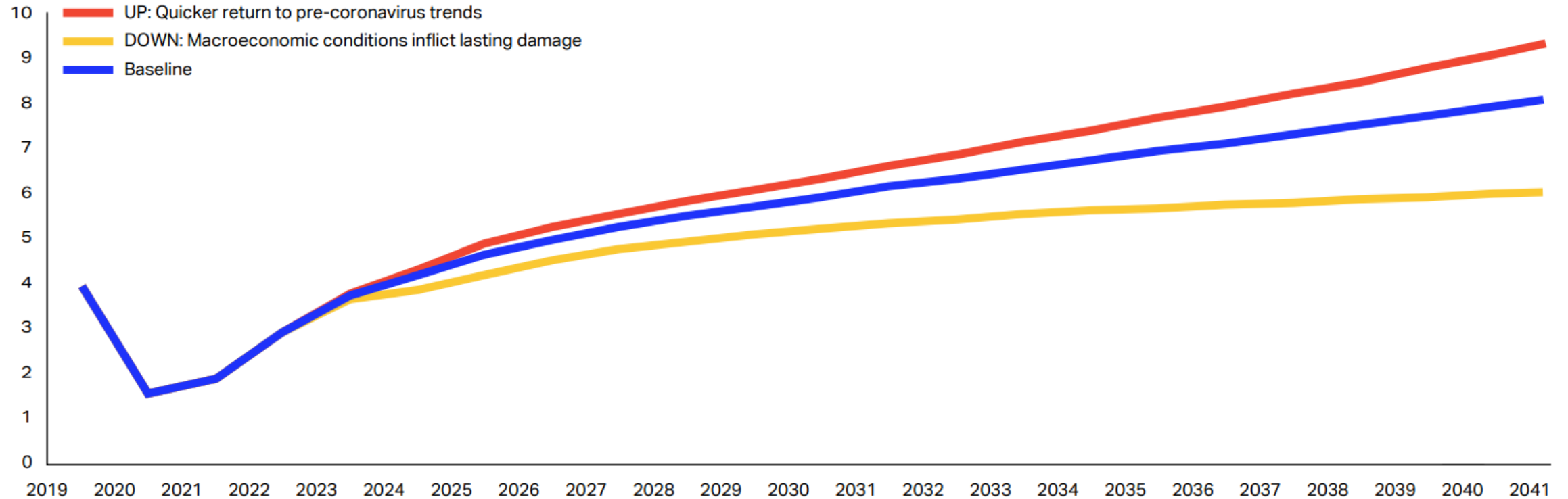


Source: iata.org

International traffic grew in all major route areas in 2024

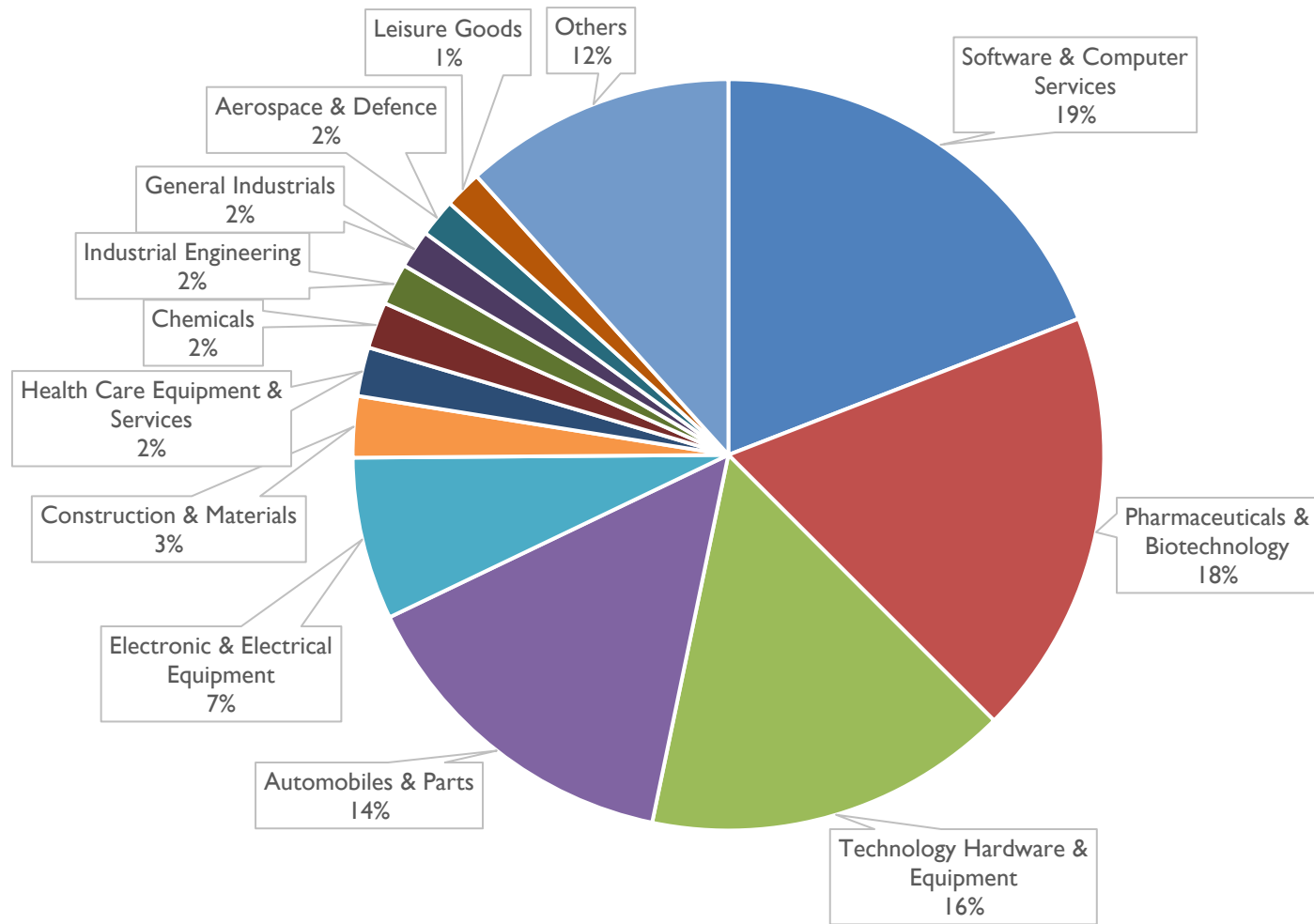


Long-term Air Passenger Traffic Forecast



Source: iata.org

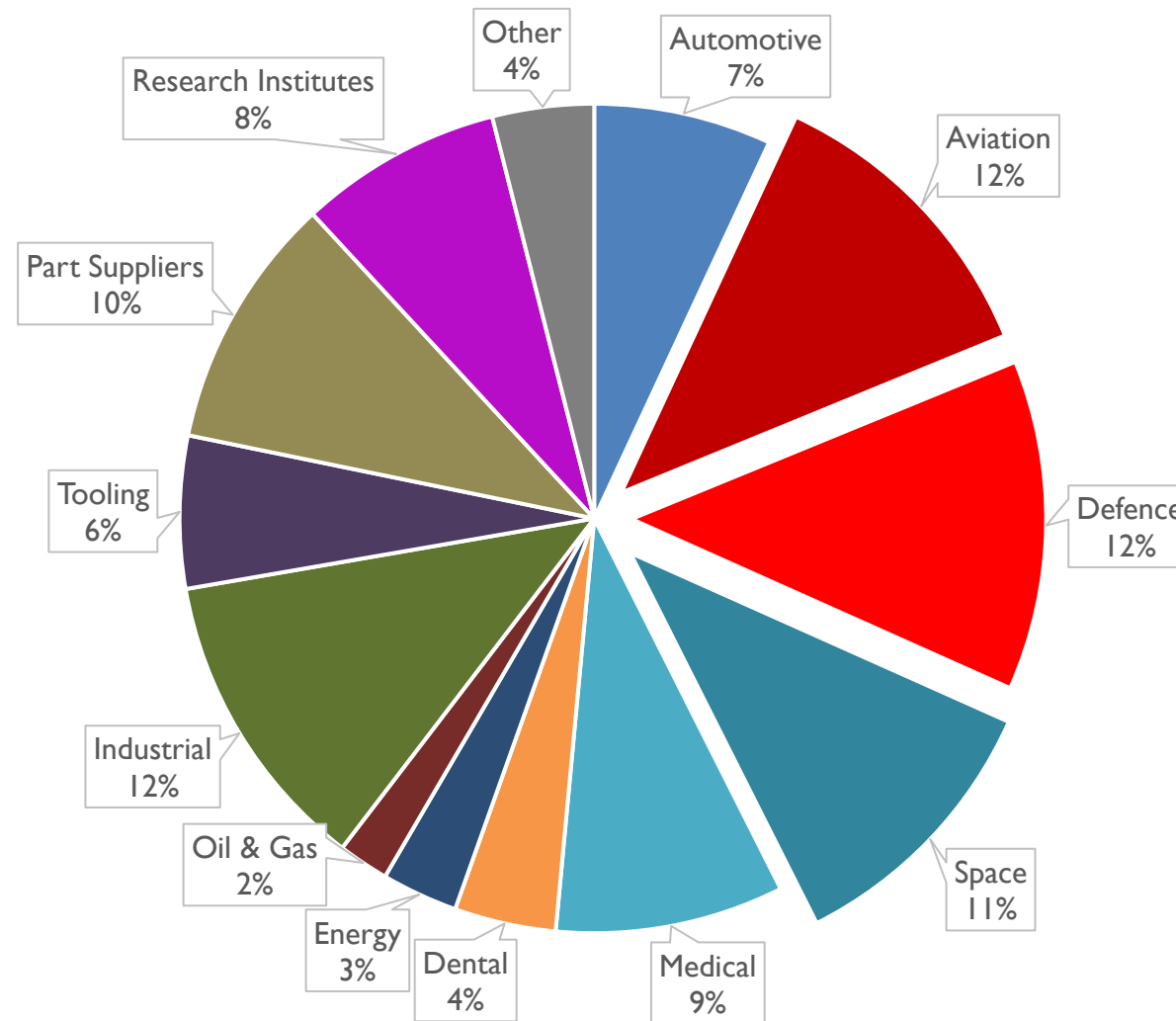
EU R&D Investment in the Top 10 Industrial Sectors (as of 2023)



Industry	Billion €
Software & Computer Services	242,5
Pharmaceuticals & Biotechnology	233,7
Technology Hardware & Equipment	200,0
Automobiles & Parts	185,8
Electronic & Electrical Equipment	88,8
Construction & Materials	33,4
Health Care Equipment & Services	26,7
Chemicals	25,4
Industrial Engineering	22,8
General Industrials	20,8
Aerospace & Defence	20,8
Leisure Goods	20,6
Others	148,5

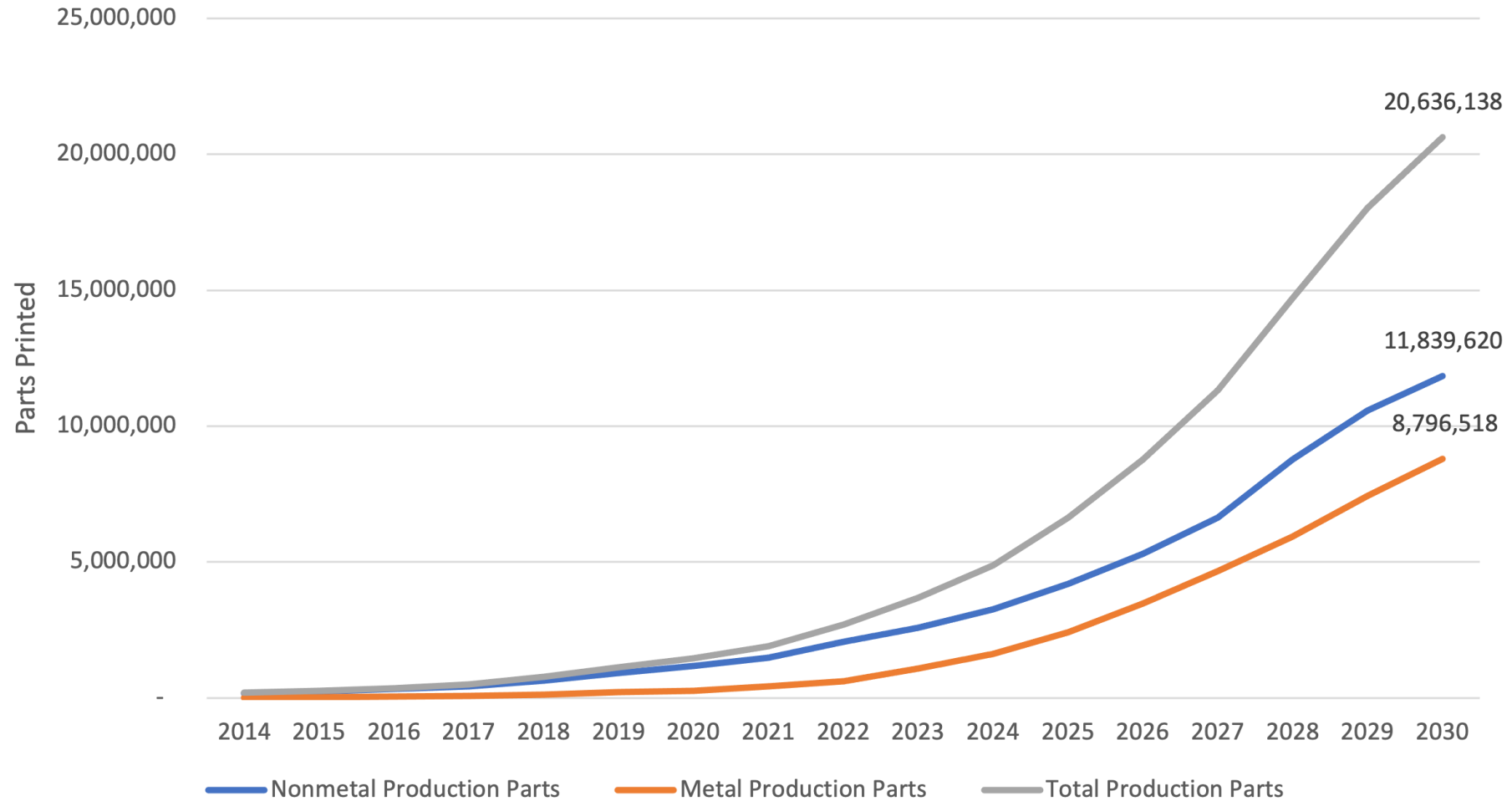
Source: European Commission

Aerospace & Defence in Additive Manufacturing (2023)



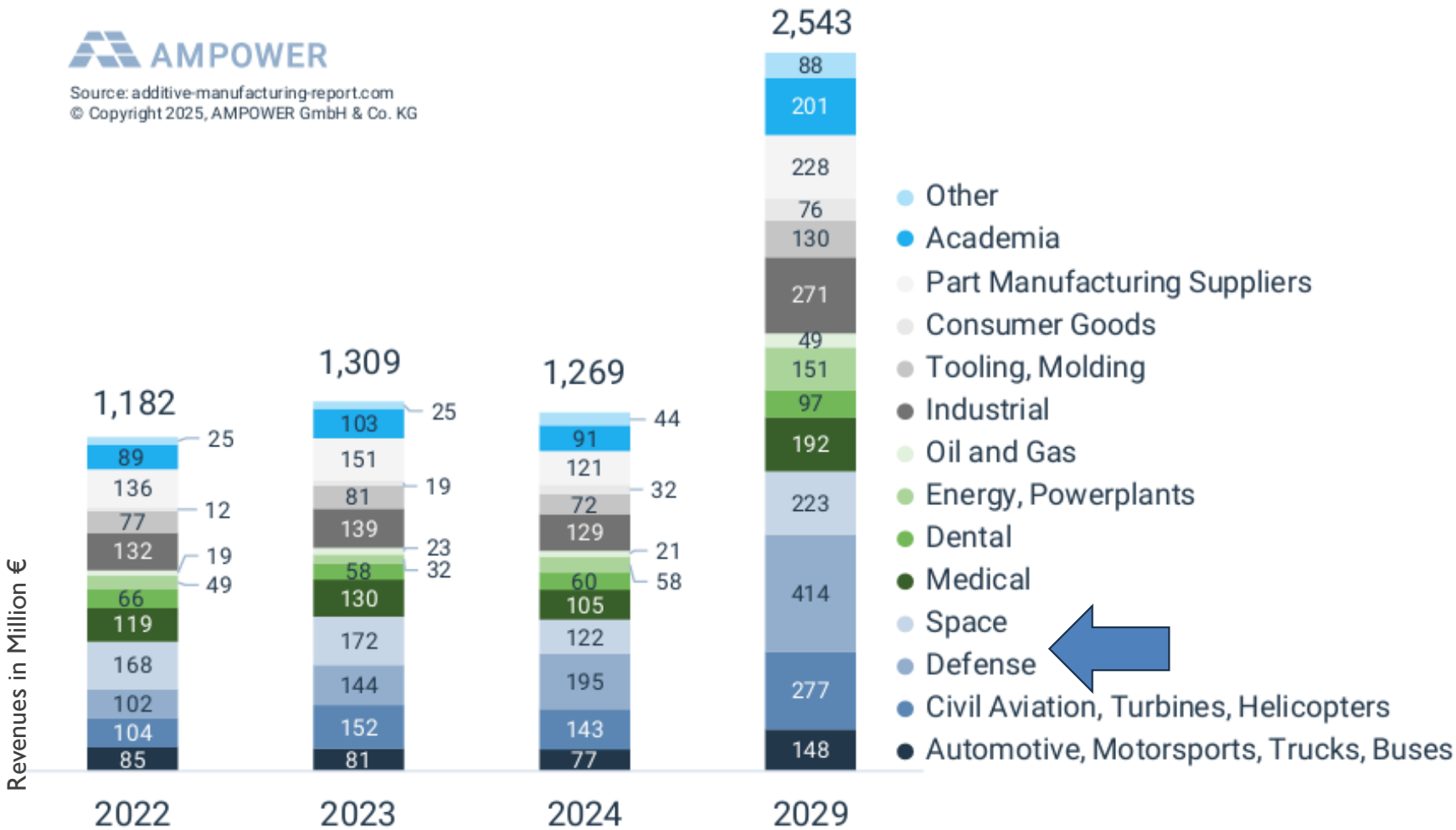
Source: AMPOWER Report 2024

Components manufactured by AM in Aerospace



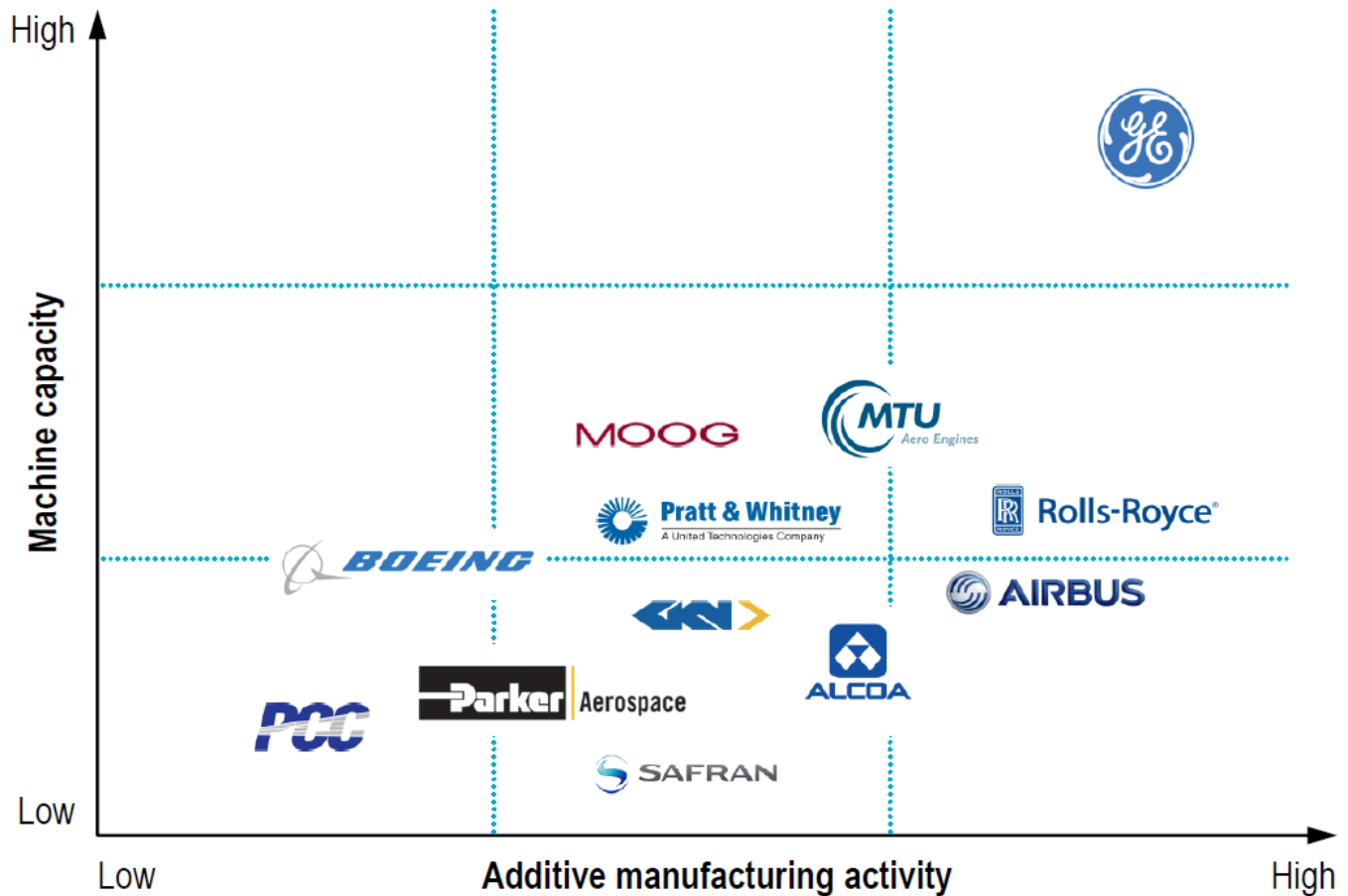
Source: 3Dprint.com

AM in Aerospace, Defence & Space



Source: AMPOWER

AM activity map of selected aerospace OEMs and Tier-1s

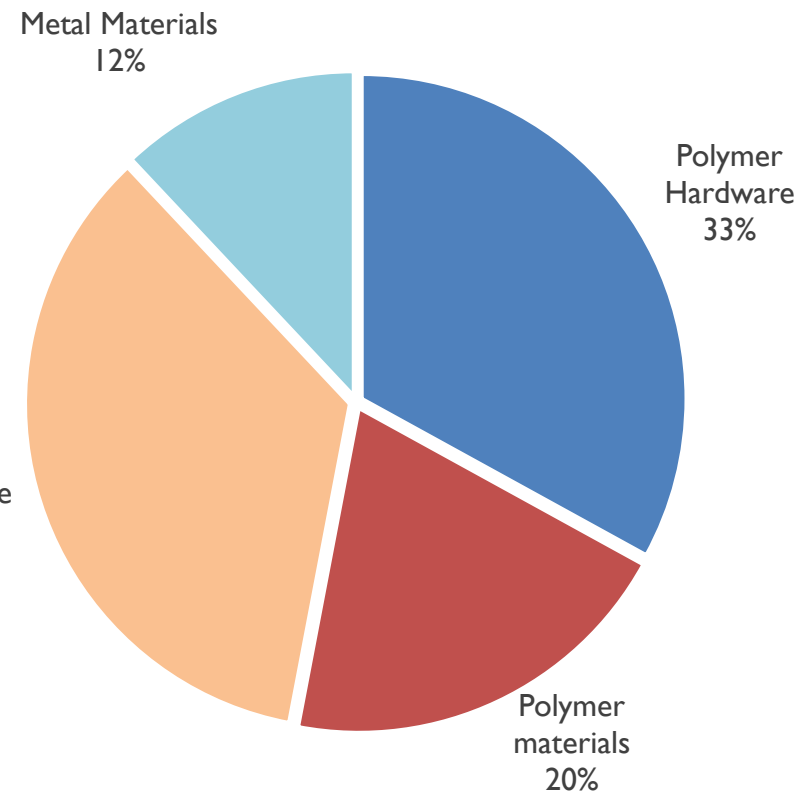


All major OEMs are currently investigating and developing AM capabilities, with >70% of OEMs having experience with AM

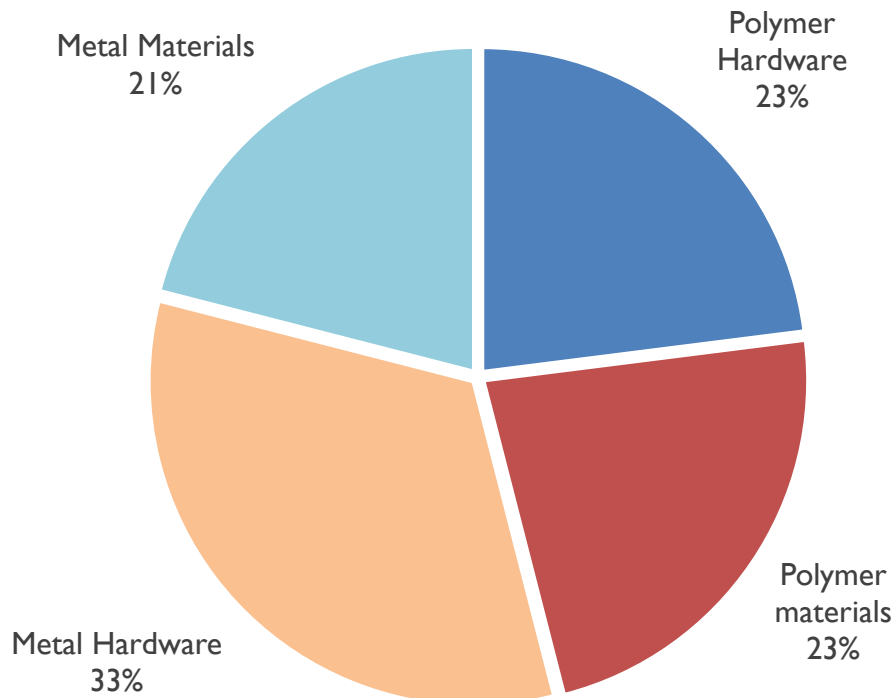
- GE leads the industry for total capacity and has announced plans to print more than 100k parts by 2020
- Safran/GE have issued a full-scale production part: the burner fuel nozzle
- RR, GKN, P&W and MTU have established AM competence centers
- Airbus (with its affiliates Premium Aerotec/APWorks) has selected 100s of small Ti parts (per aircraft) for AM, and has begun production for the A350

Source: Roland Berger

Aerospace AM market share by segment



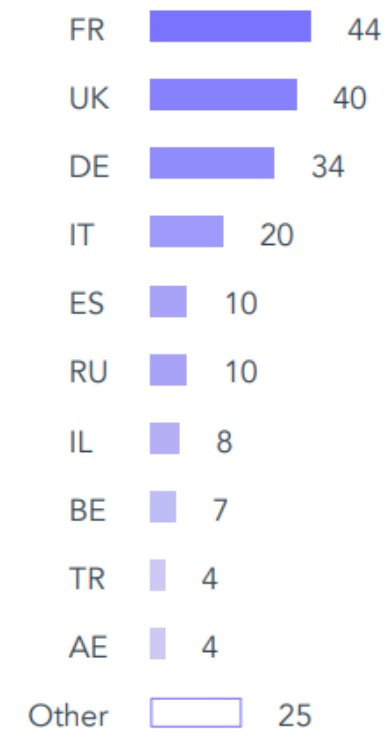
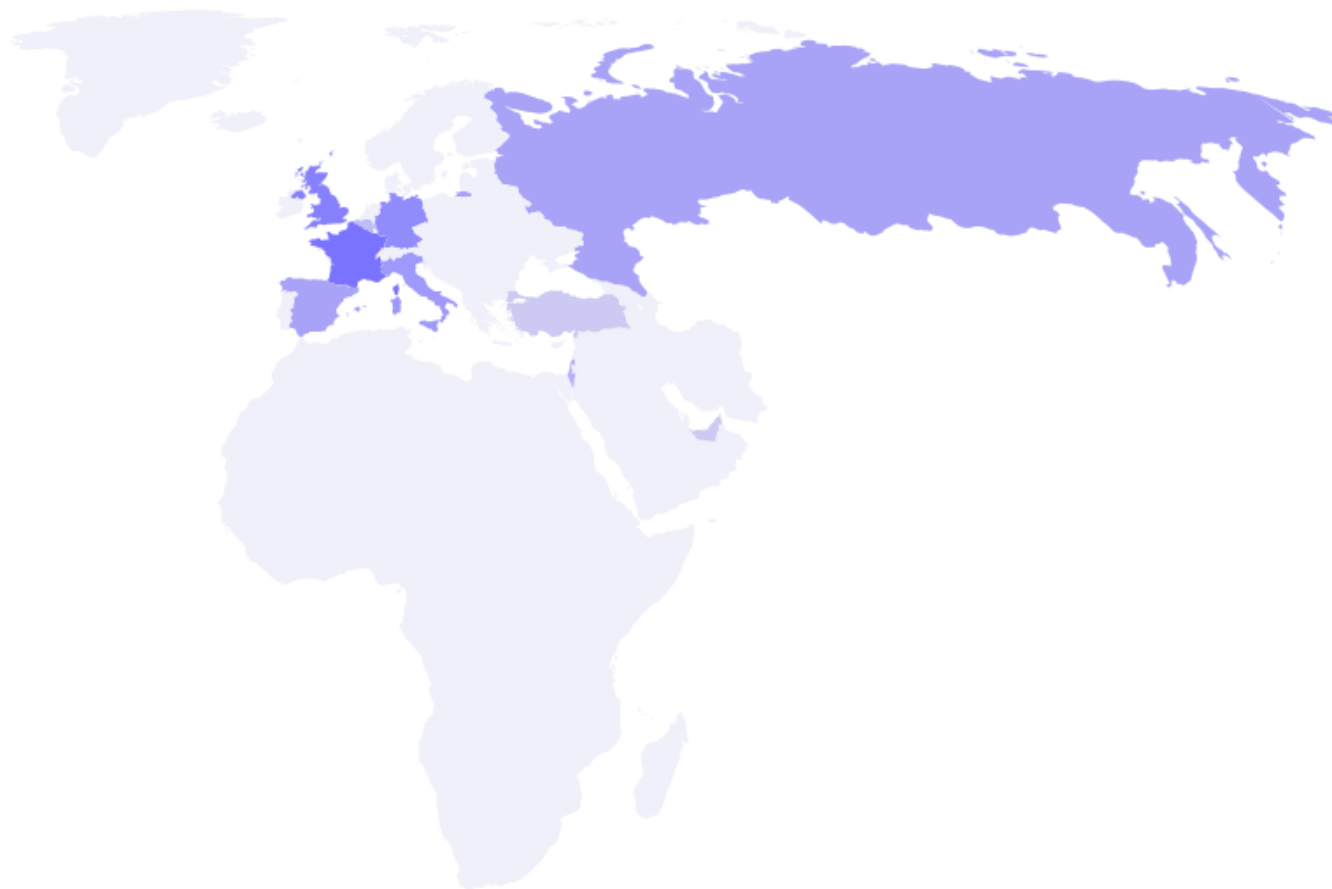
2018



2023

Source: Smartech Publishing

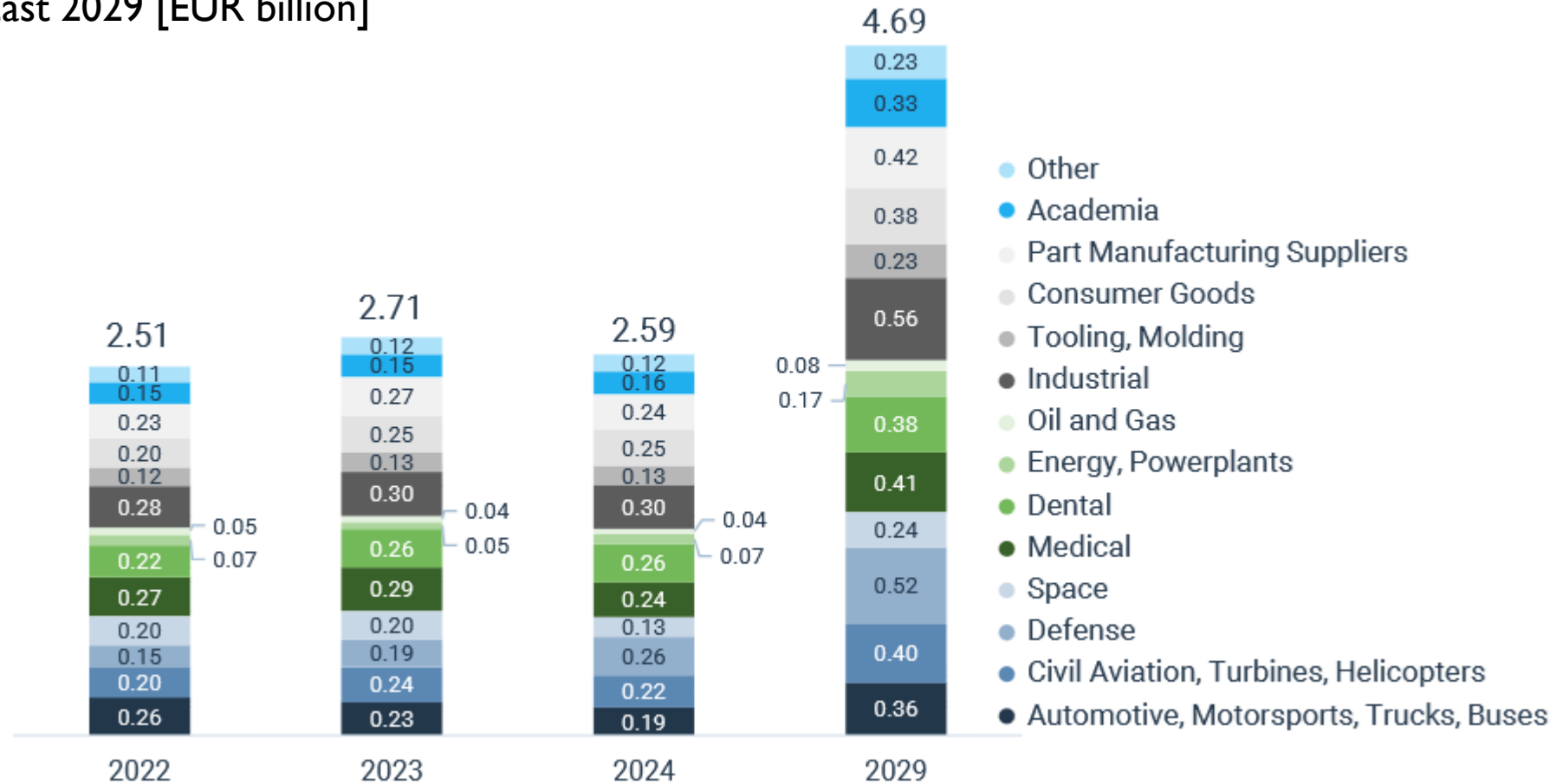
AM Adoption by AM Companies in EMEA



Source: 3dprintingmedia.network:

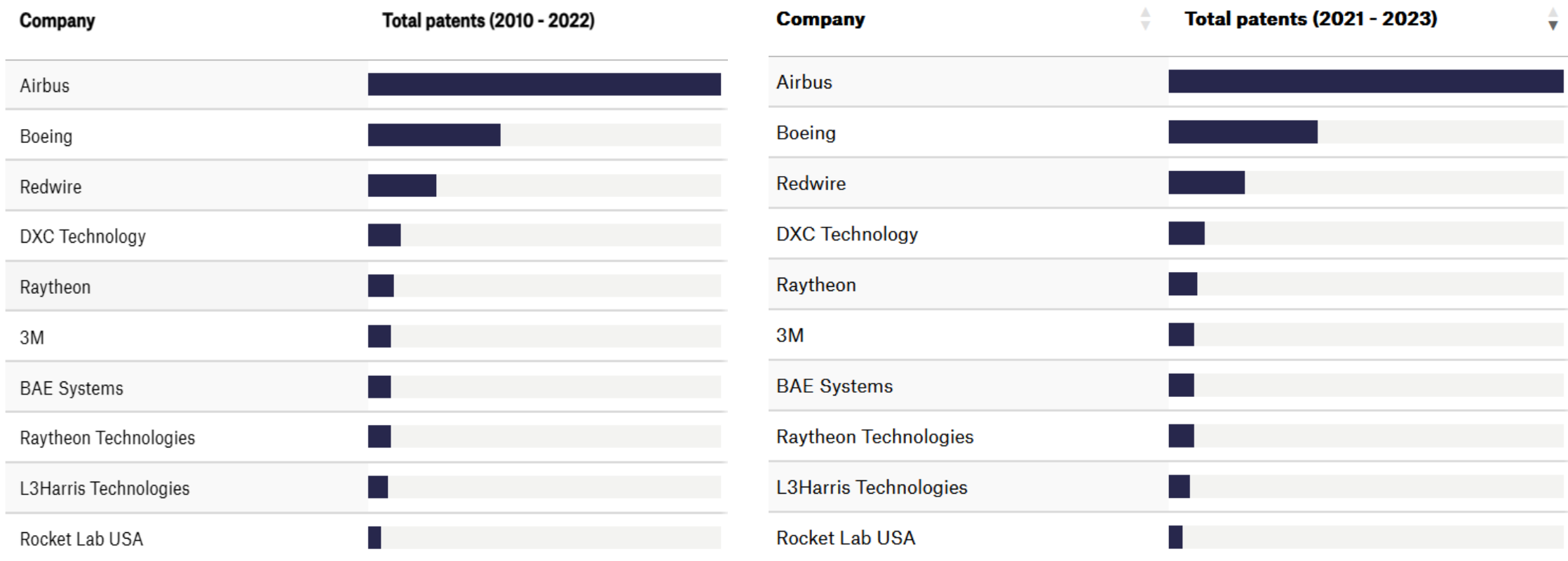
Overall Market for AM in Space Applications

Global metal and polymer additive manufacturing equipment revenue by industry 2022 to 2024 and forecast 2029 [EUR billion]



Source: AMPOWER

Patent volumes related to Spacecraft AM



Source: airport-technology.com

Global Aerospace AM Market Forecast



Source: www.strategicmarketresearch.com

Aerospace and Defence Market Leaders in AM

No New Data

1. Stratasys
2. 3D Systems
3. Arcam Group
4. Renishaw
5. ExOne
6. Optomec
7. SLM Solutions
8. EnvisionTEC
9. VoxelJet AG
10. Sciaky Inc
11. EOS e-Manufacturing Solutions

** According to "3D Printing & Additive Manufacturing in the Aerospace & Defence" Market 2021 Research Report by News Channel Nebraska*

Source: www.newschannelnebraska.com

Recent Announcements in the Aerospace Industry

- “Honeywell Tops First-Quarter Results on Aerospace Strength”
29 April 2025
 - [reuters.com](https://www.reuters.com)
- “Boeing Beats Wall Street Revenue Estimates as It Steps Up 737 Output”
24 April 2025
 - [thetimes.co.uk](https://www.thetimes.co.uk)
- “Airbus Deal with Supplier Spirit Raises Fears for 2,500 Jobs in Belfast”
20 April 2025
 - [ft.com](https://www.ft.com)
- “Thales Posts Higher Quarterly Revenue, Maintains 2025 Targets”
19 April 2025
 - [reuters.com](https://www.reuters.com)
- “Redwire Acquires Edge Autonomy to Expand into Defense Drone Market”
22 January 2025
 - [redwirespace.com](https://www.redwirespace.com)

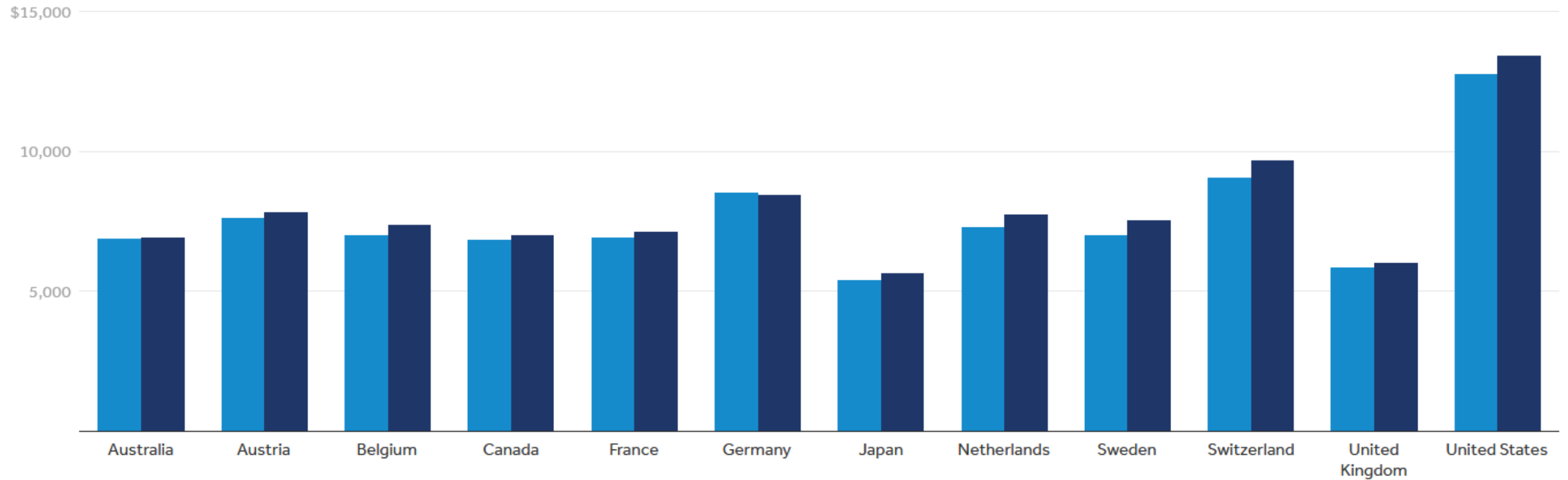
Medical

April 2025

Health Spending Per Capita (2023)

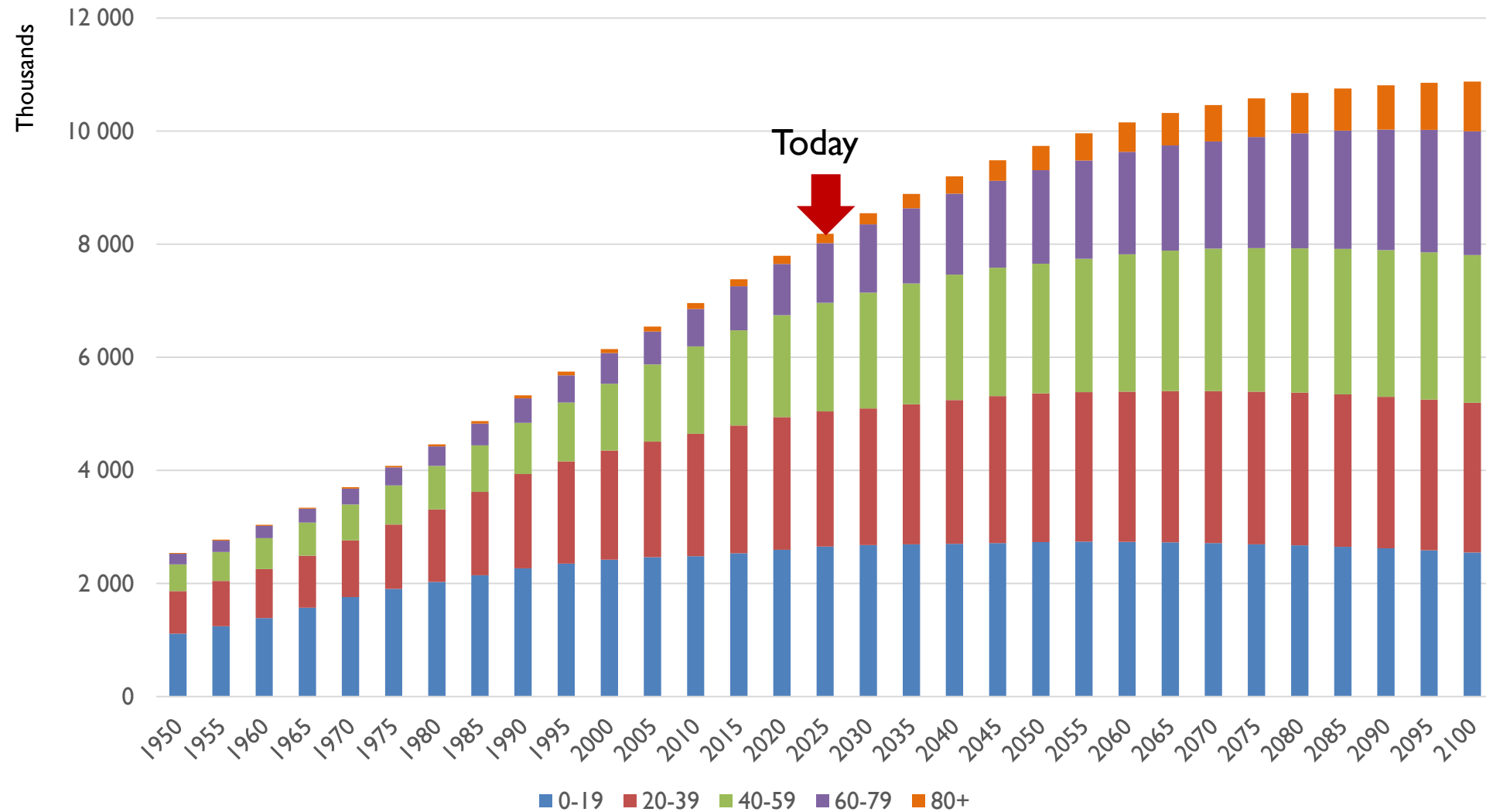
Health expenditures per capita, U.S. dollars, 2022 and 2023 (current expenditures and PPP adjusted)

■ 2022 ■ 2023



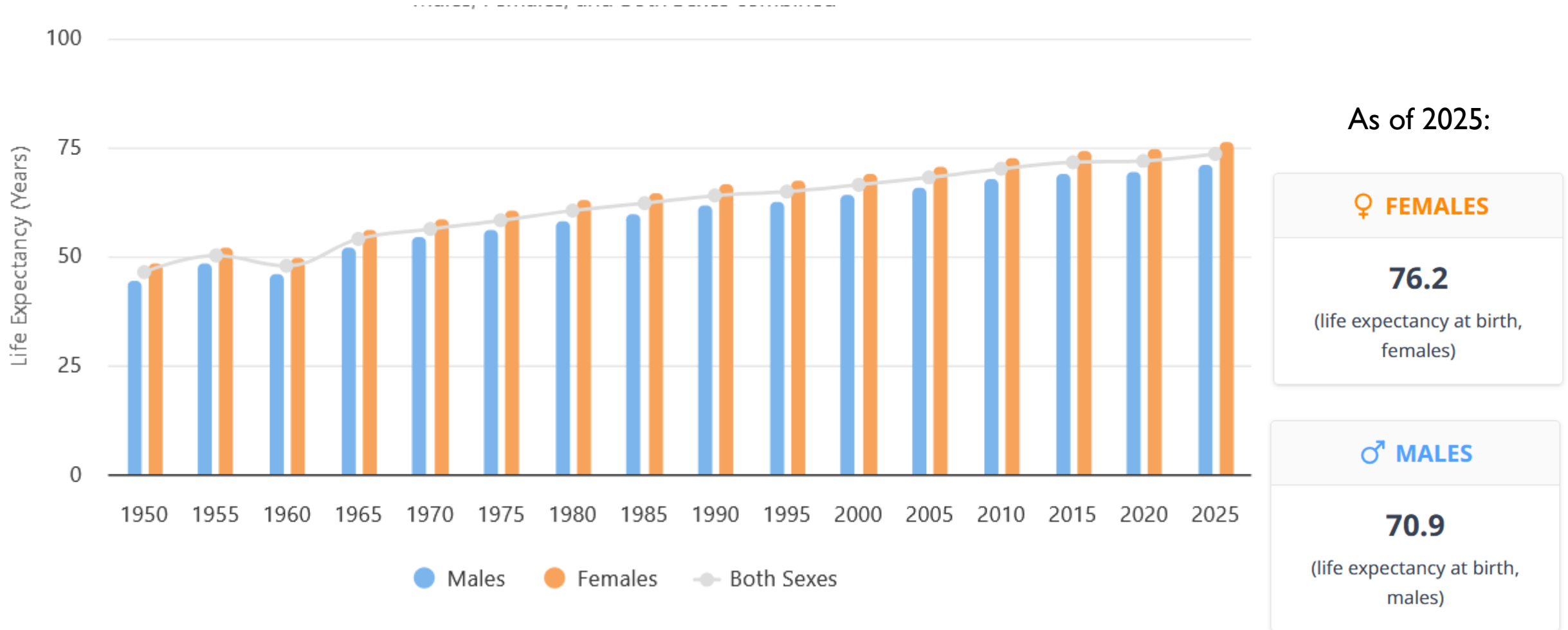
Source: OECD

World Growth in Population



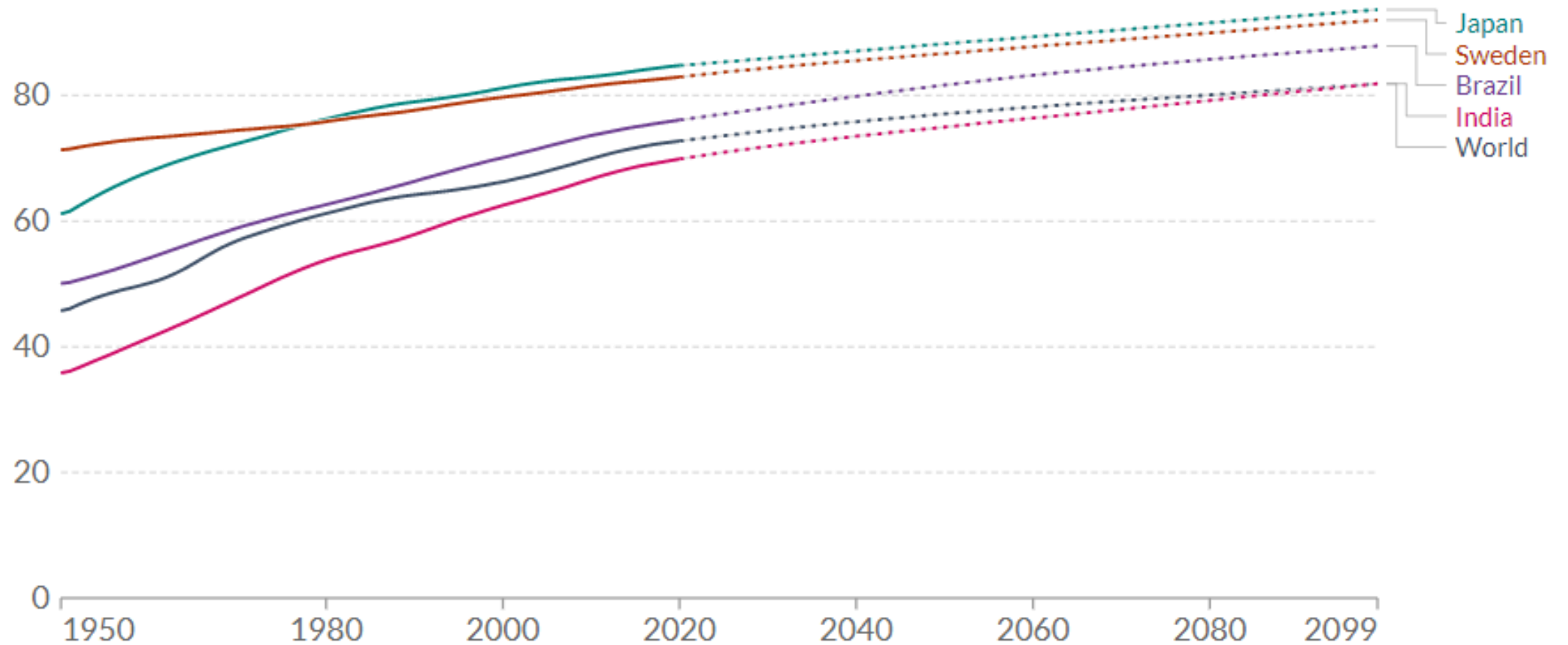
Source: United Nations

Life Expectancy Increases Creating Long-Term Demand in Medical Industry



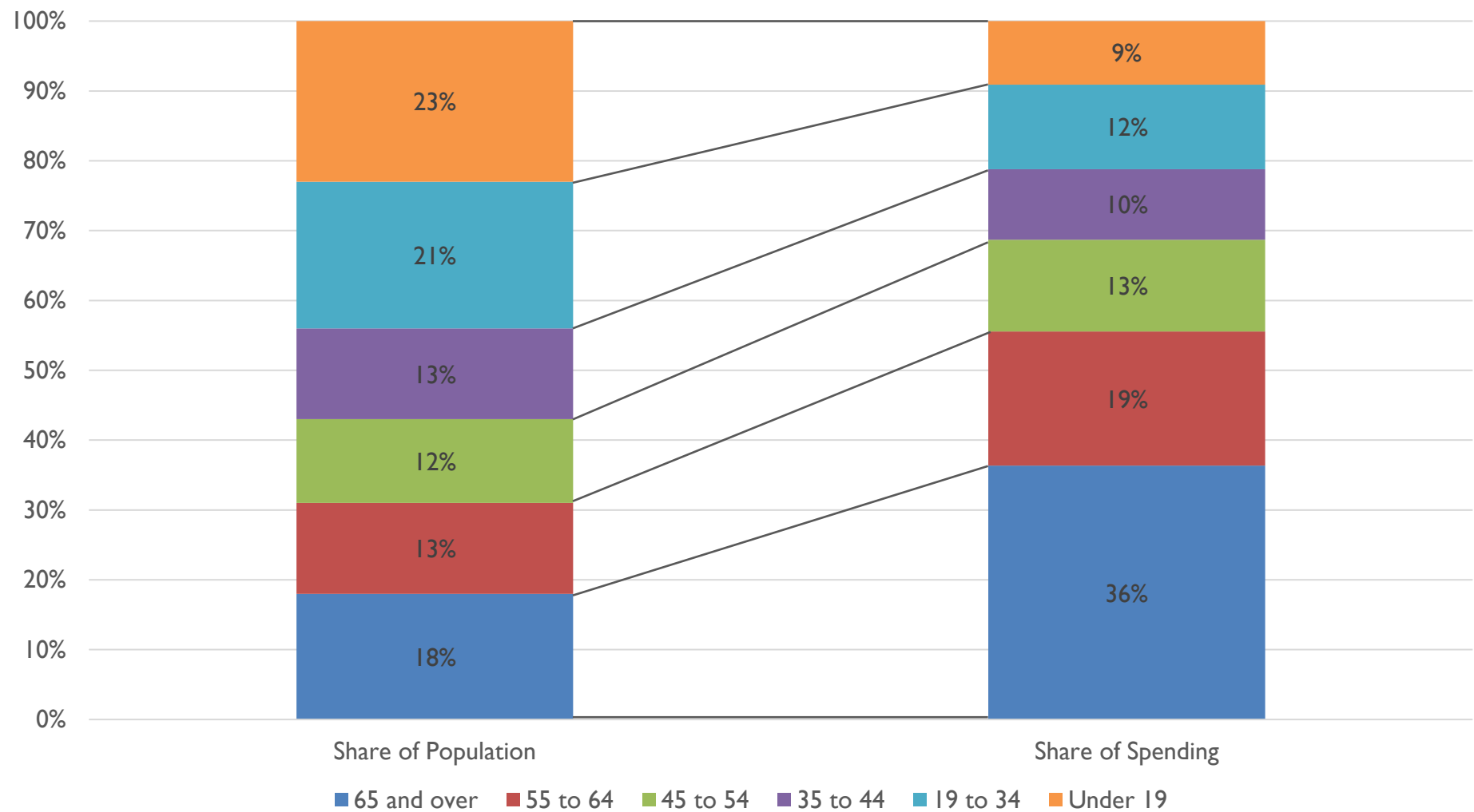
Source: www.worldometers.info

Life Expectancy at Birth



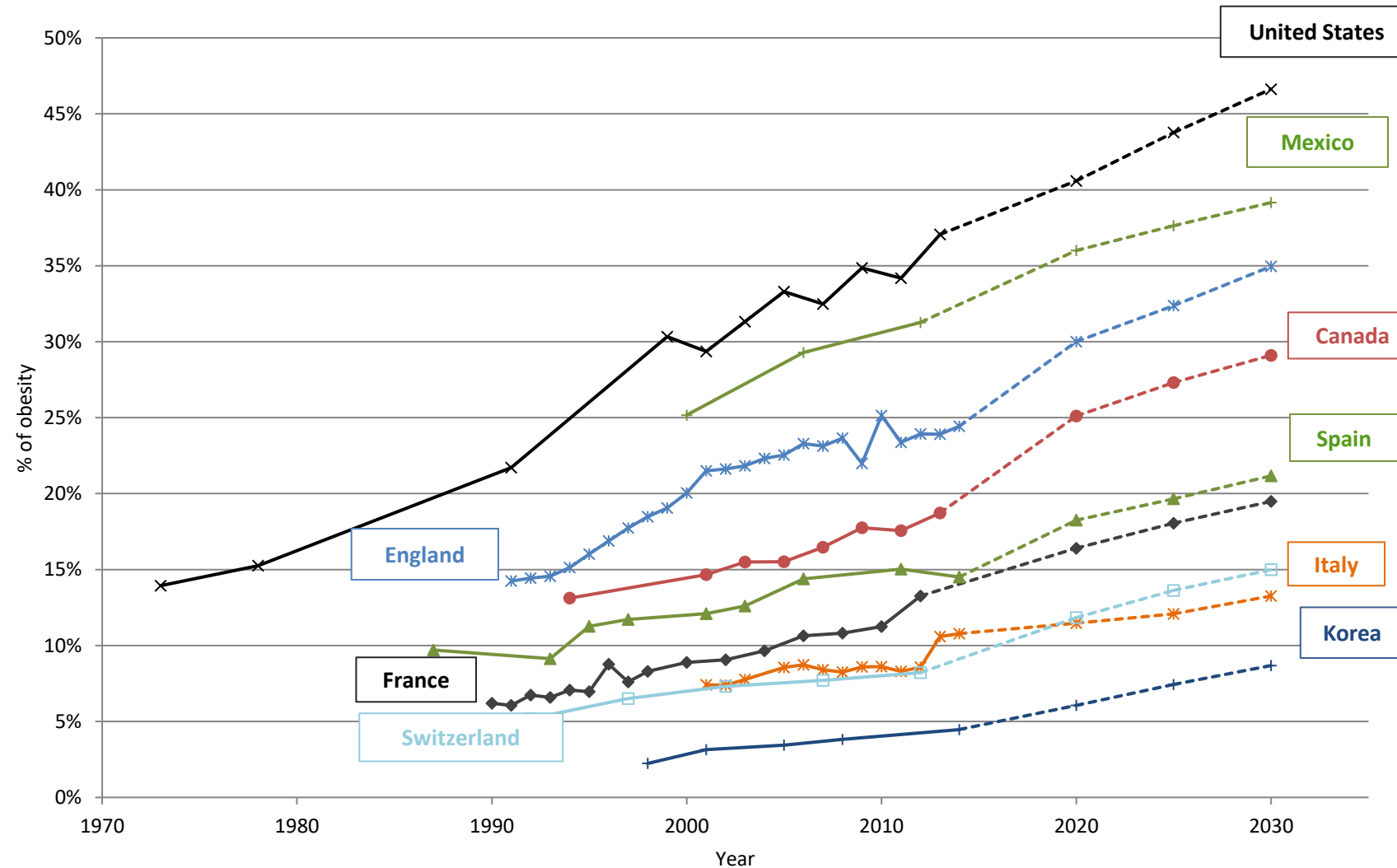
Source: ourworldindata.org

Share of total population and total health spending, by age group, 2021



People of age 55 and over account for over half of total health spending

Projected Rates of Obesity

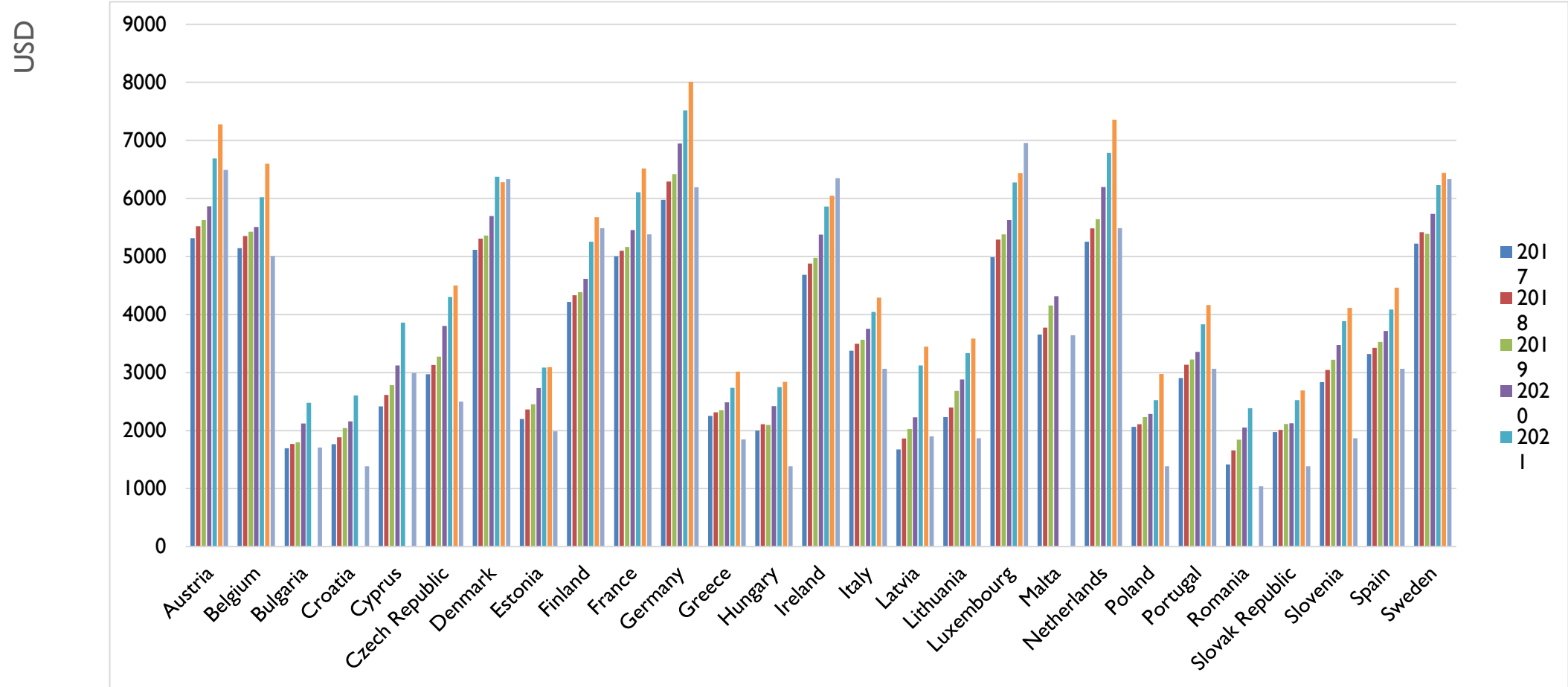


Note: Obesity defined as $BMI \geq 30 \text{ kg/m}^2$. OECD projections assume that BMI will continue to rise as a linear function of time.

BMI : Body mass index

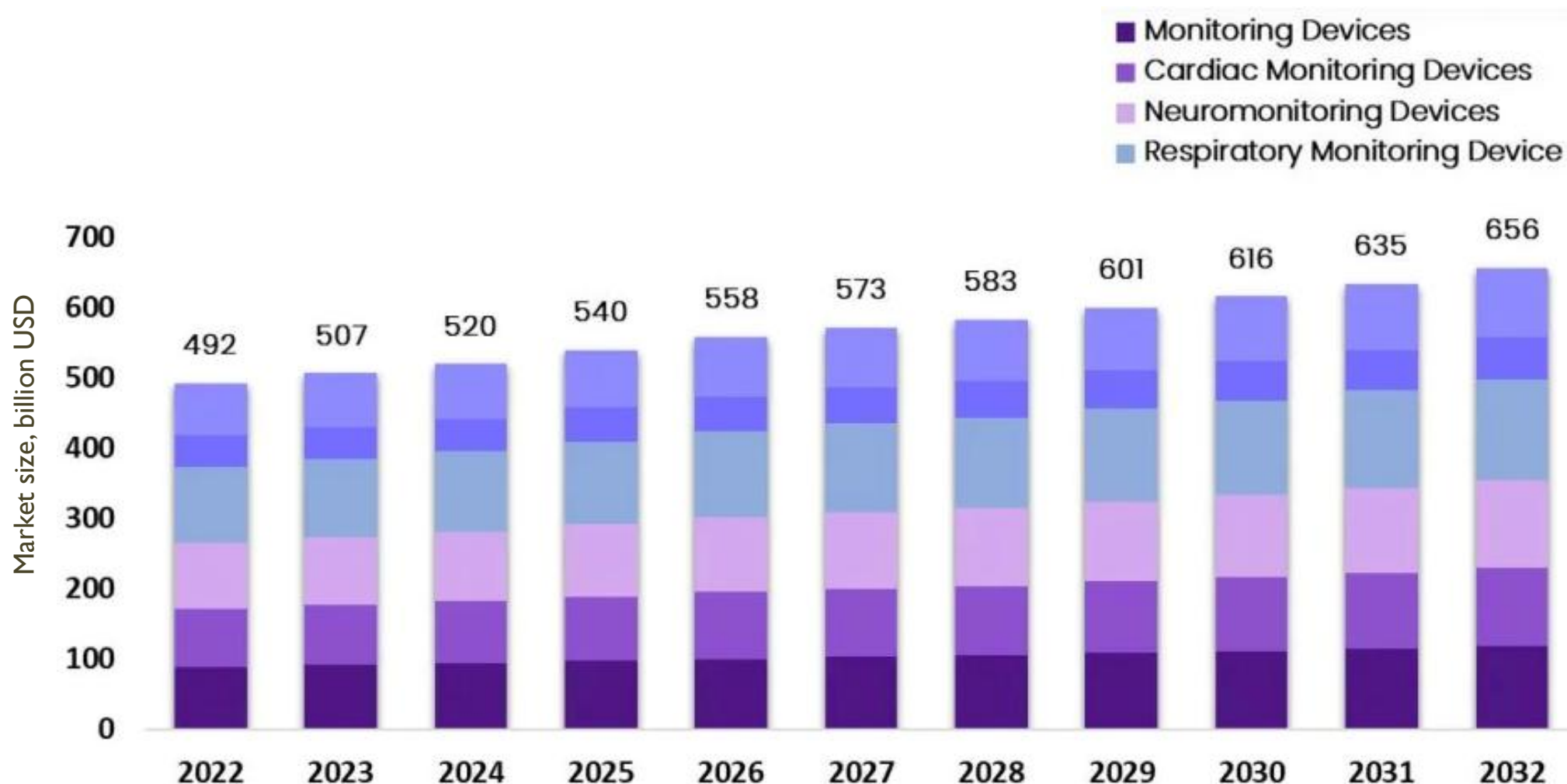
Source: oecd.org

EU Expenditure on Health per capita



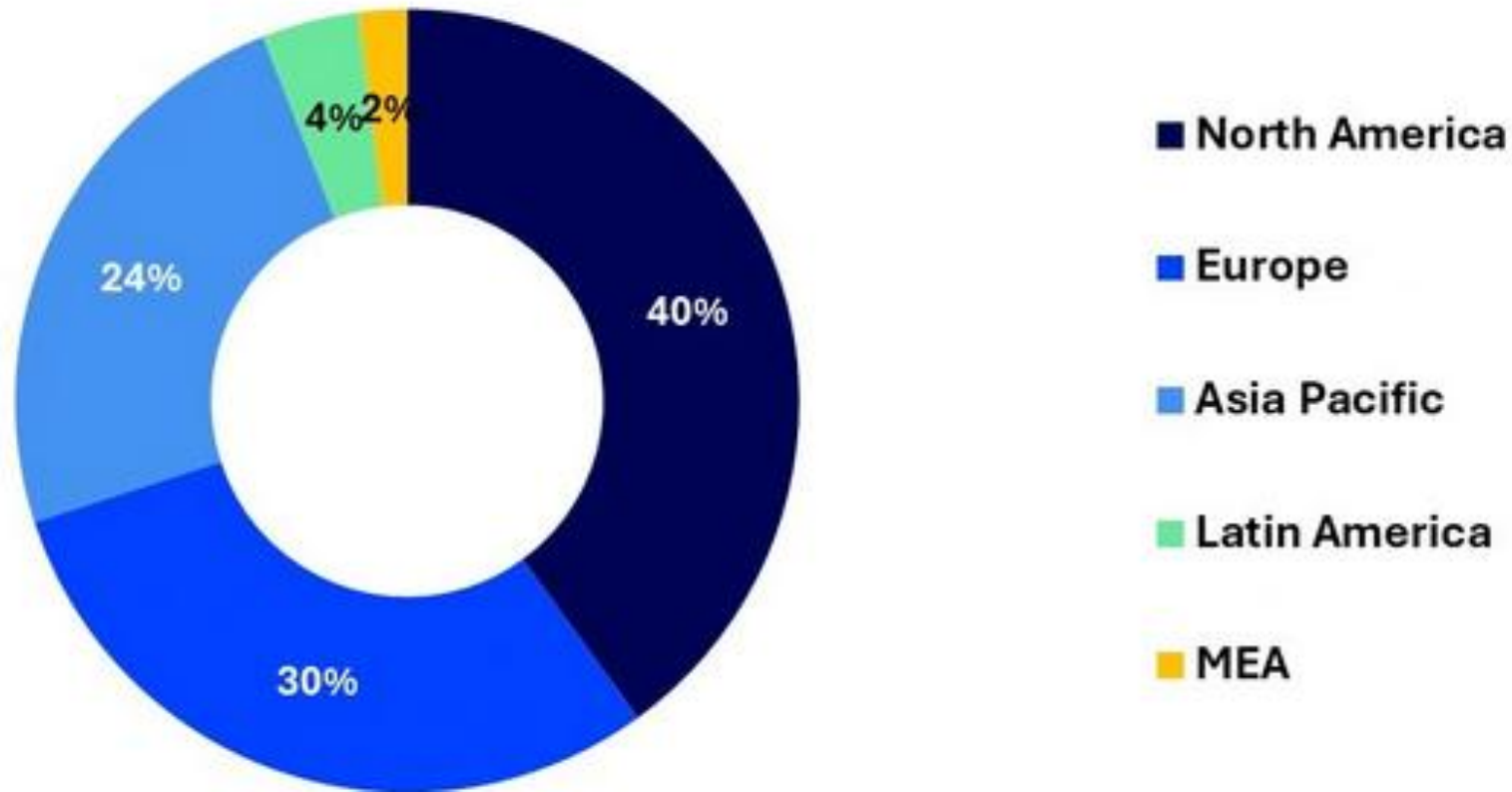
Source: OECD

Global Medical Device Sales Forecast



Source: finance.yahoo.com

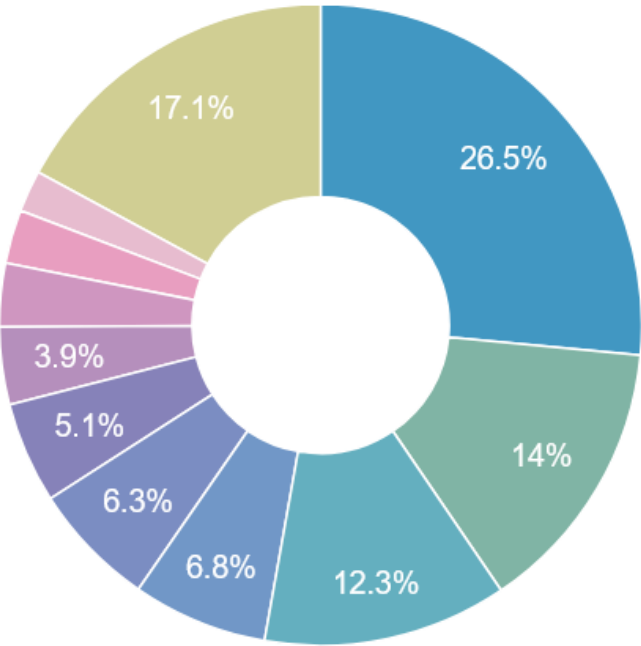
Global Medical Markets Revenue Shares by Region



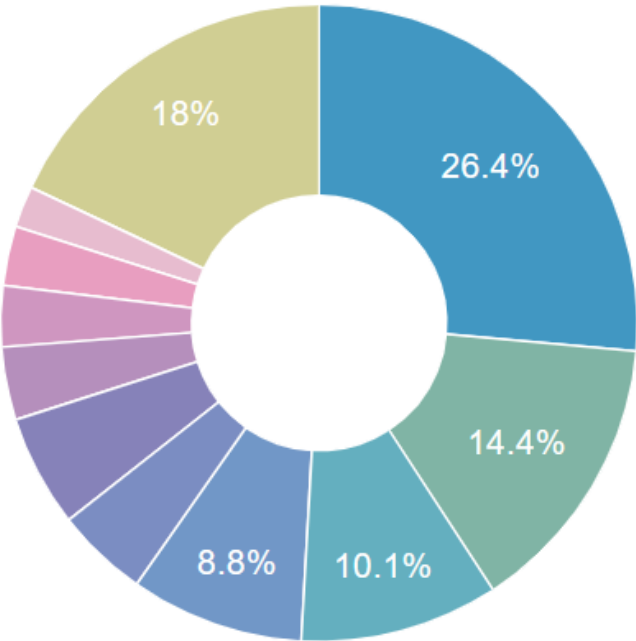
Source: precedenceresearch.com

European Medical Device Market by Country

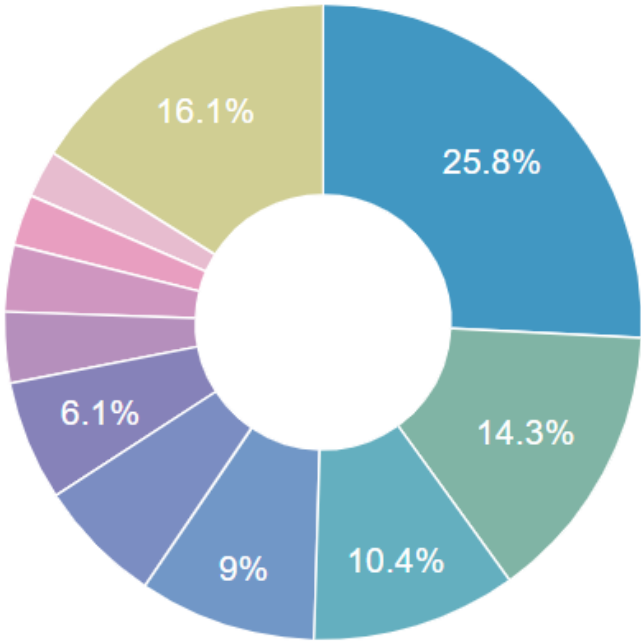
2023



2022



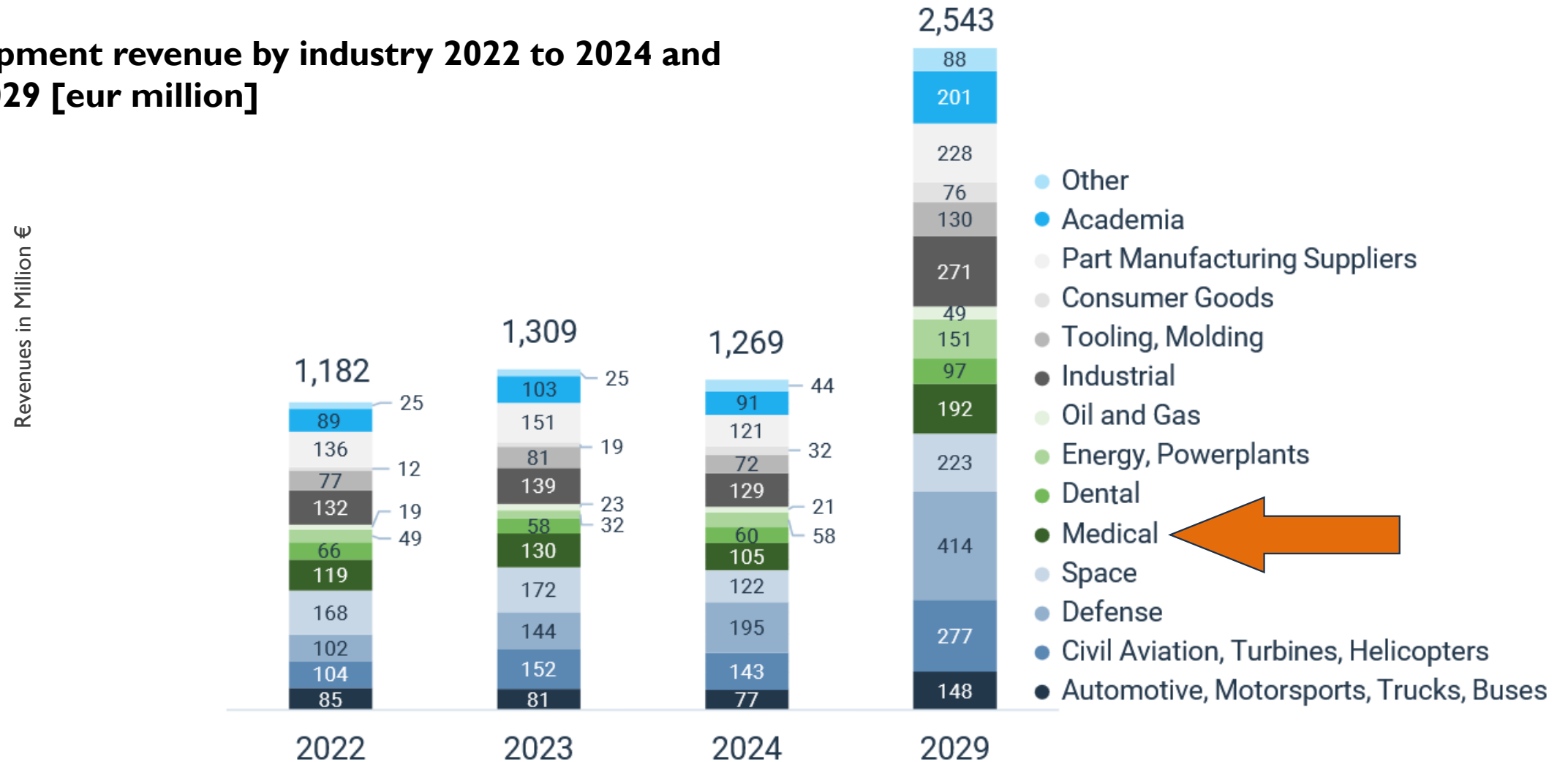
2021



- Germany
- France
- UK
- Italy
- Spain
- Switzerland
- Netherlands
- Belgium
- Sweden
- Austria
- Poland
- Others

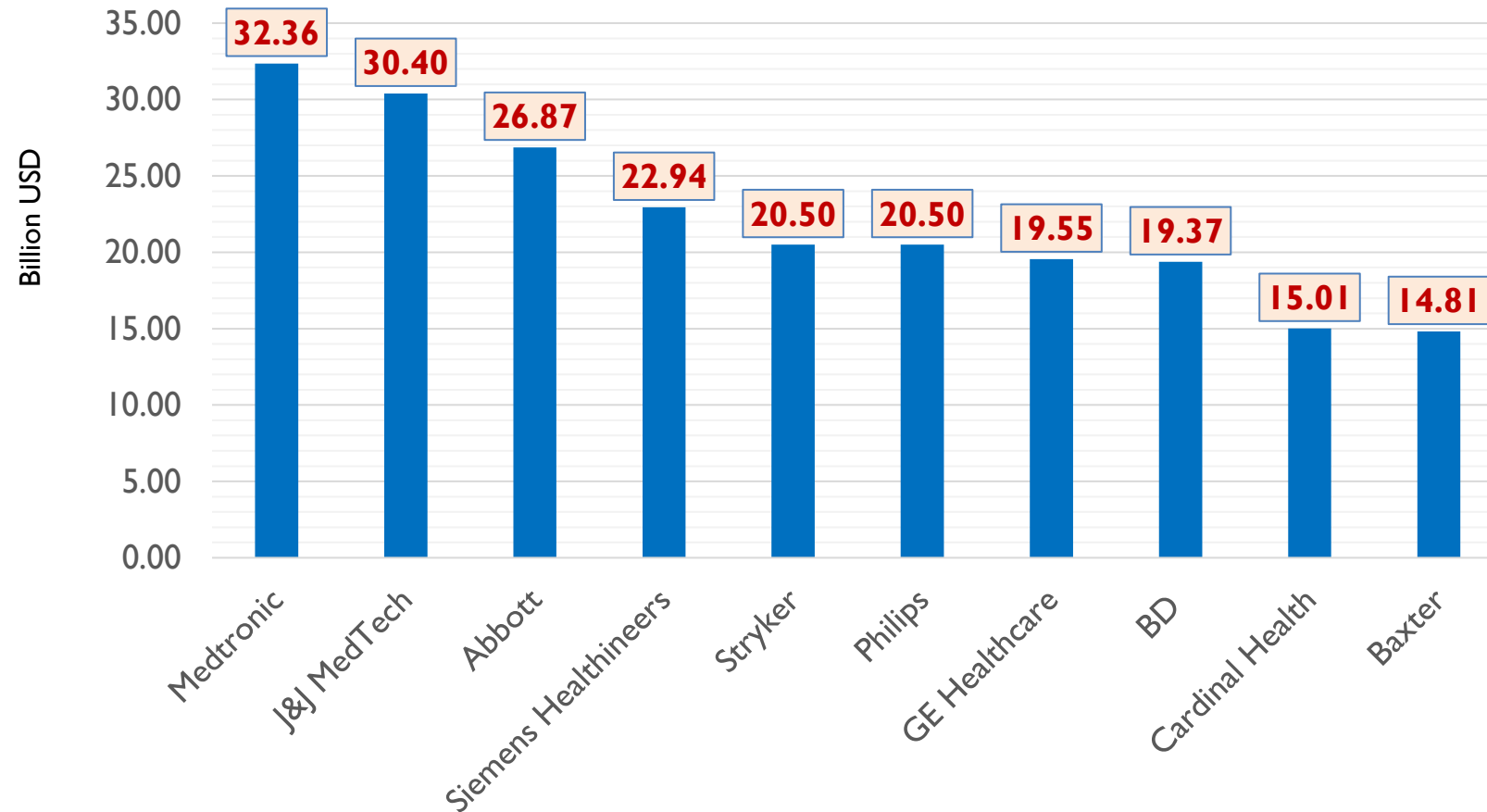
Additive Manufacturing in Medical Industry revenue

Metal equipment revenue by industry 2022 to 2024 and forecast 2029 [eur million]



Source: AMPOWER.com

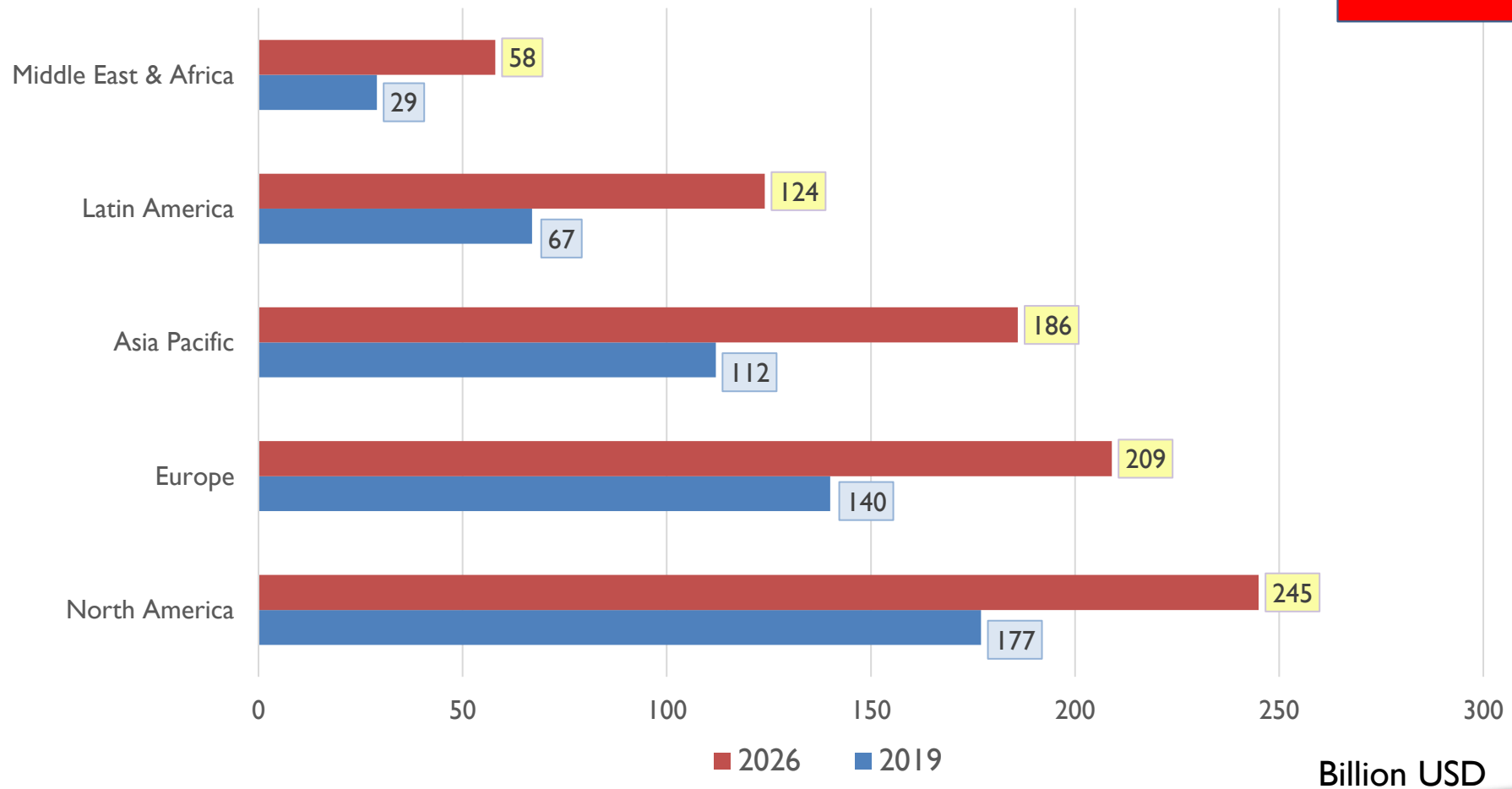
Top 10 Medical Device Companies - 2024



Source: mpo-mag.com

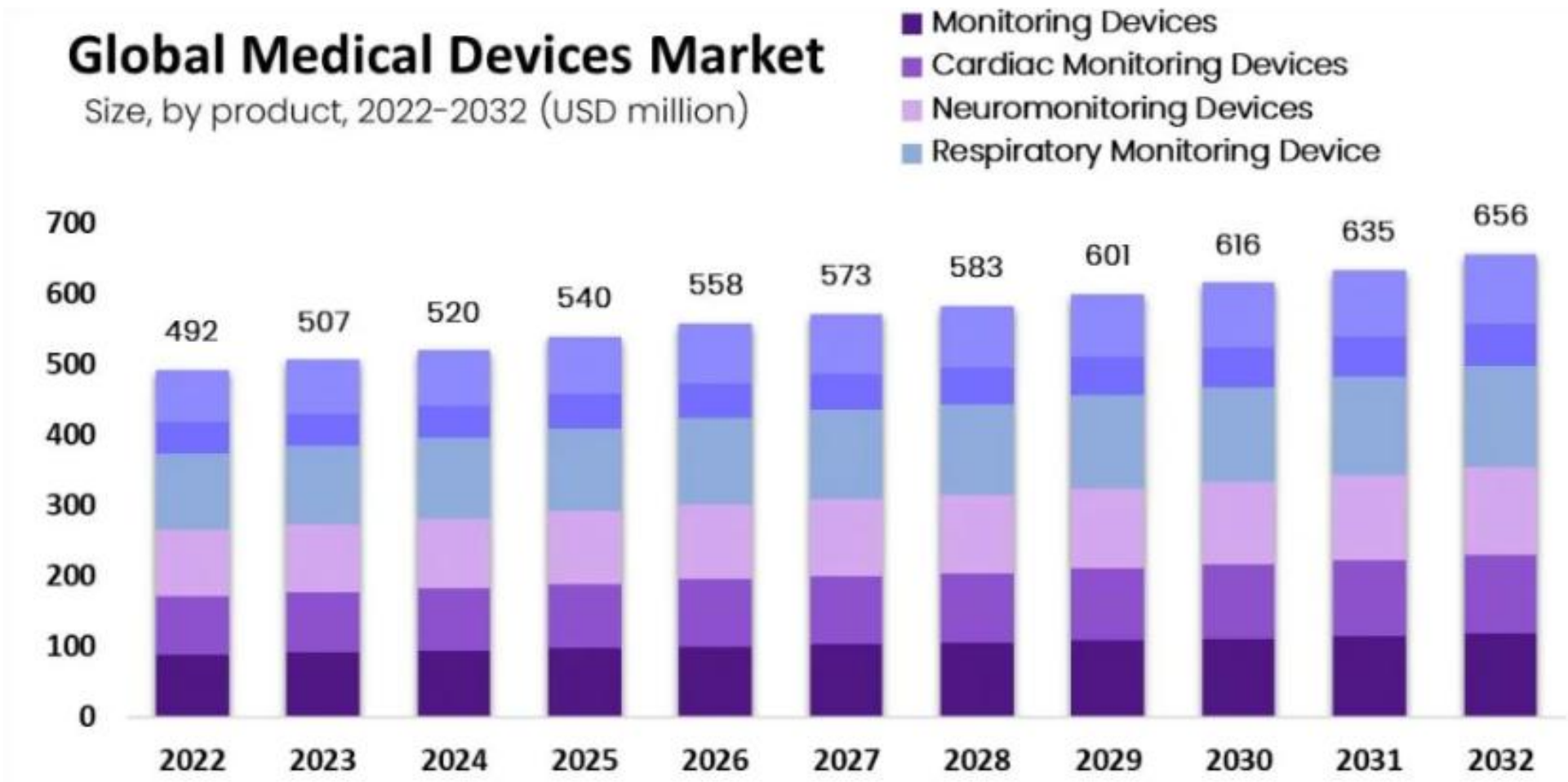
Global Medical Device Market Size Forecast by Region

No New Data



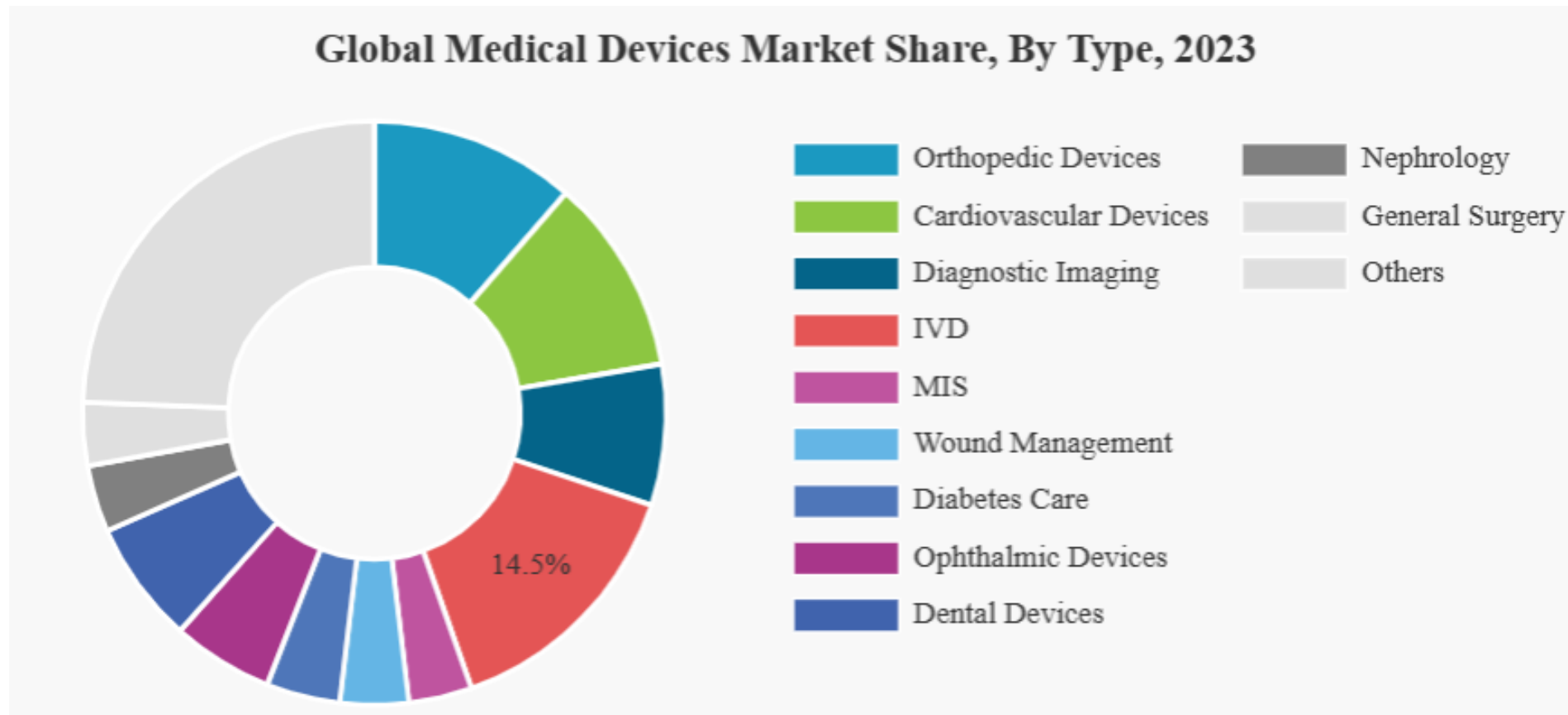
Source: gminsights.com

Global Medical Device Revenues Forecast



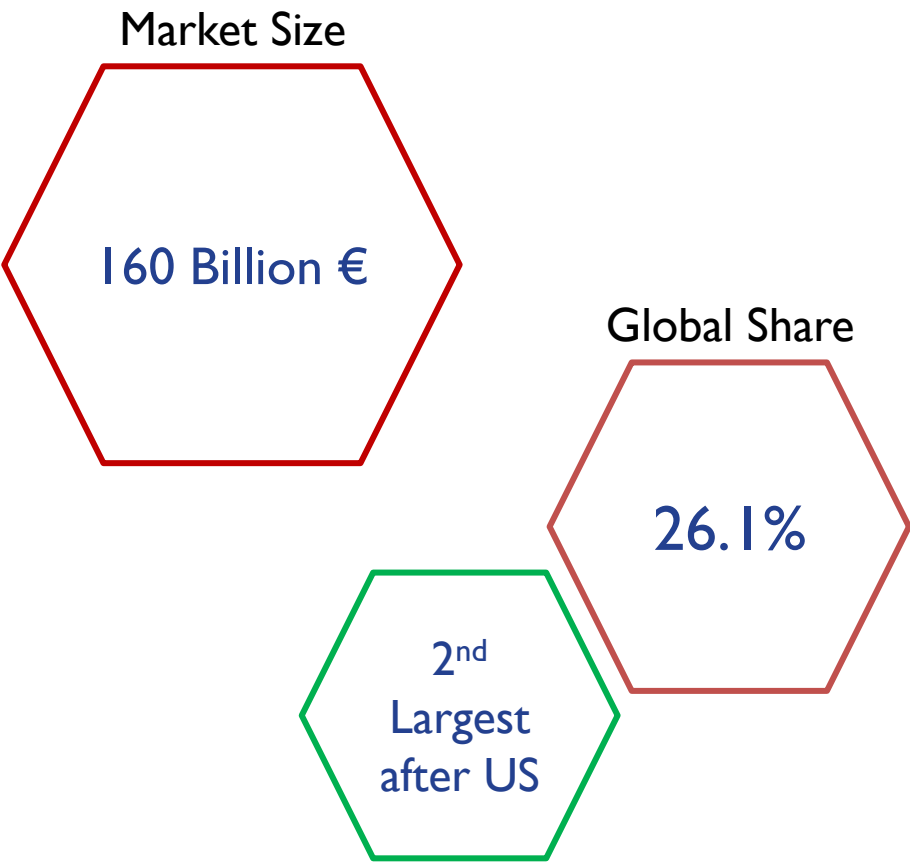
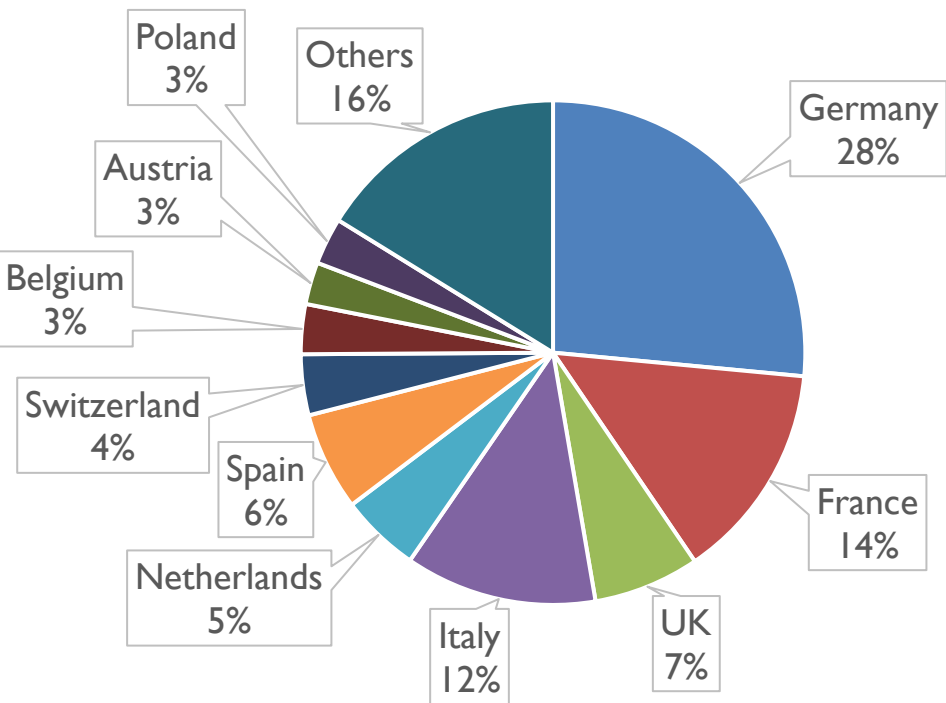
Source: finance.yahoo.com

Global Medical Device + Diagnostic Industry Revenue Breakdown



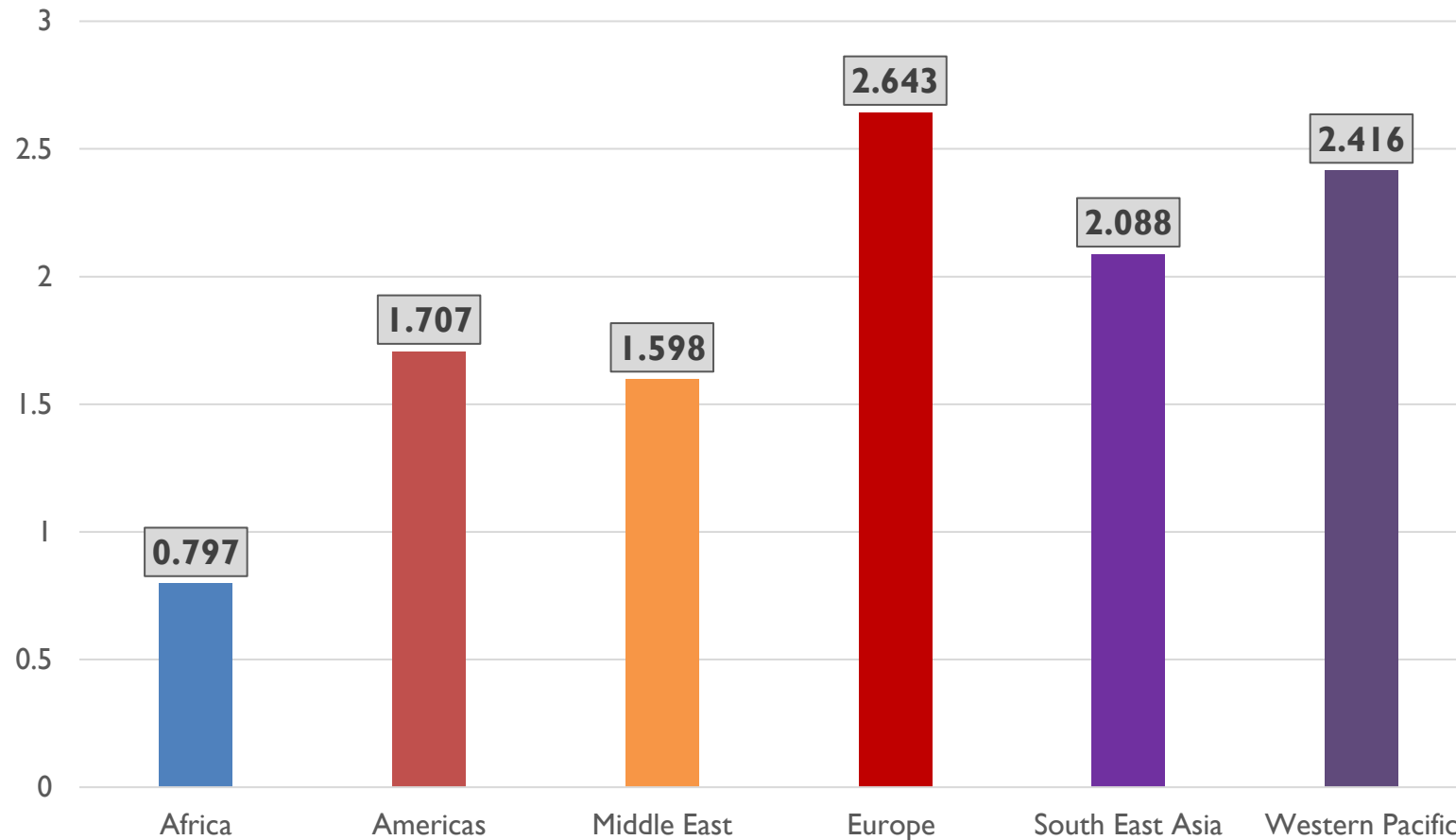
Source: fortunebusinessinsights.com

European Medical Device market (2023)



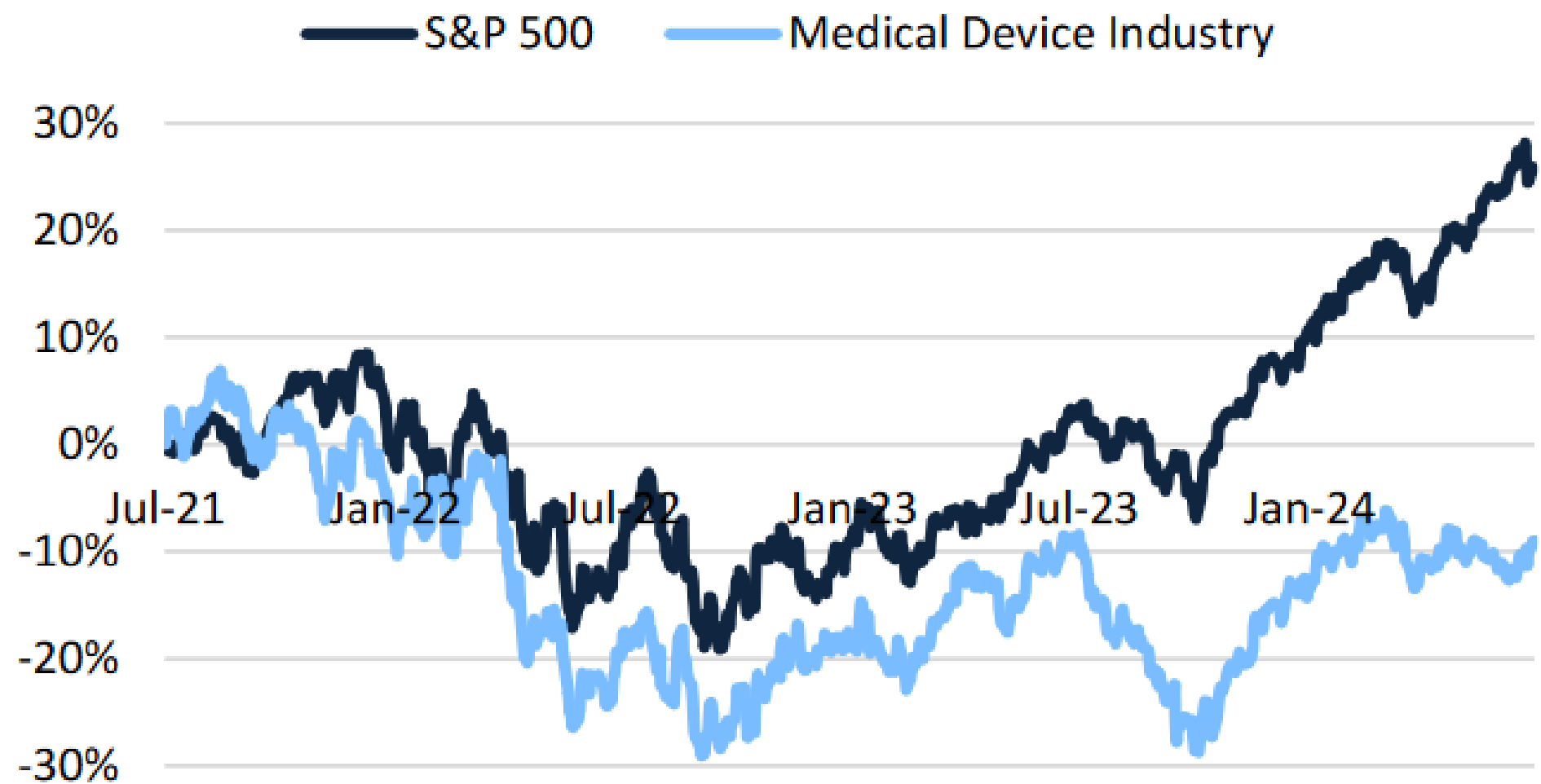
Source: medtecheurope.org

Hospitals: Total density per 100,000 population



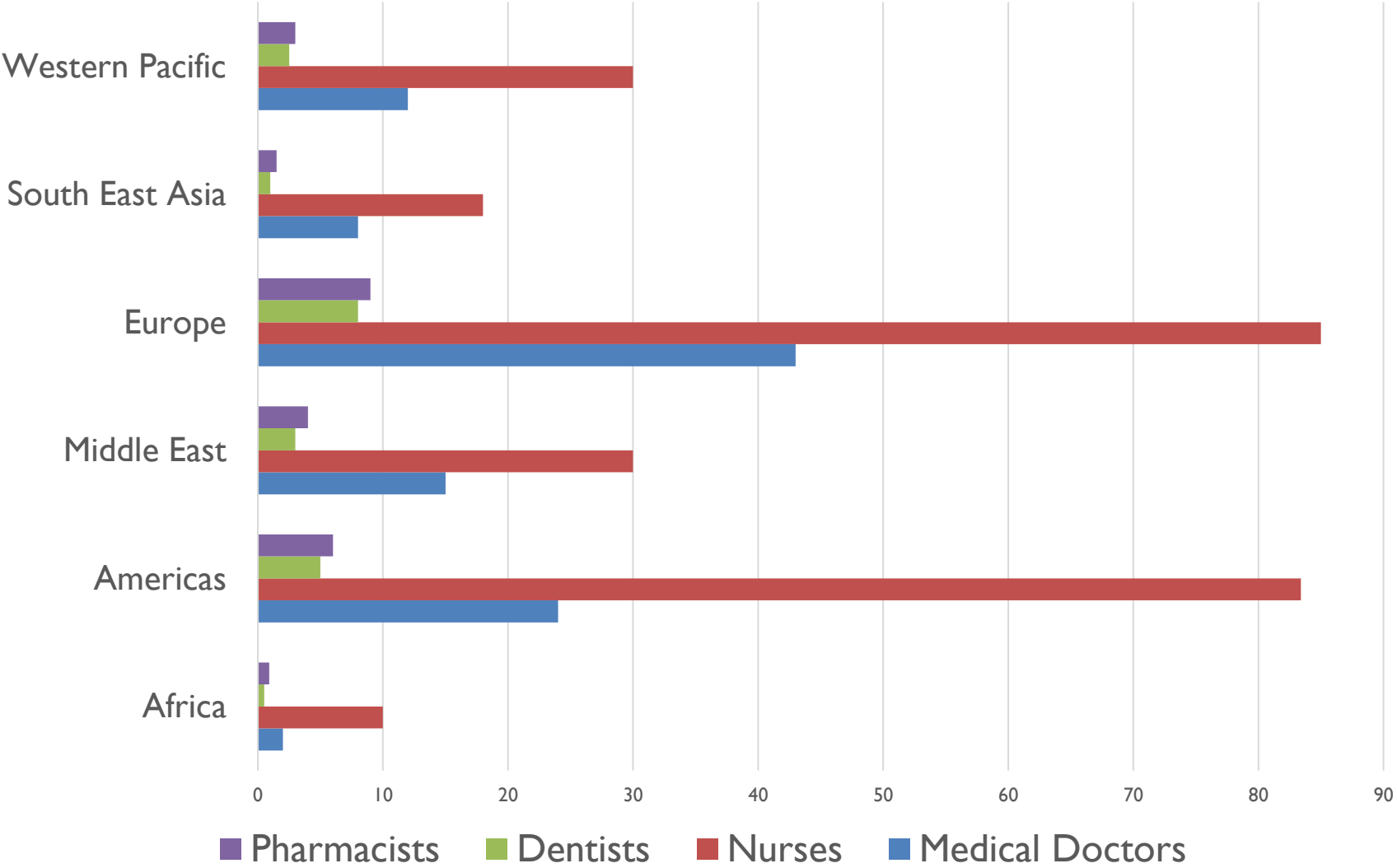
Source: who.int

Medical Technologies Valuations



Source: valuationresearch.com

Density of medical doctors, nurses, dentists and pharmacists (2024)



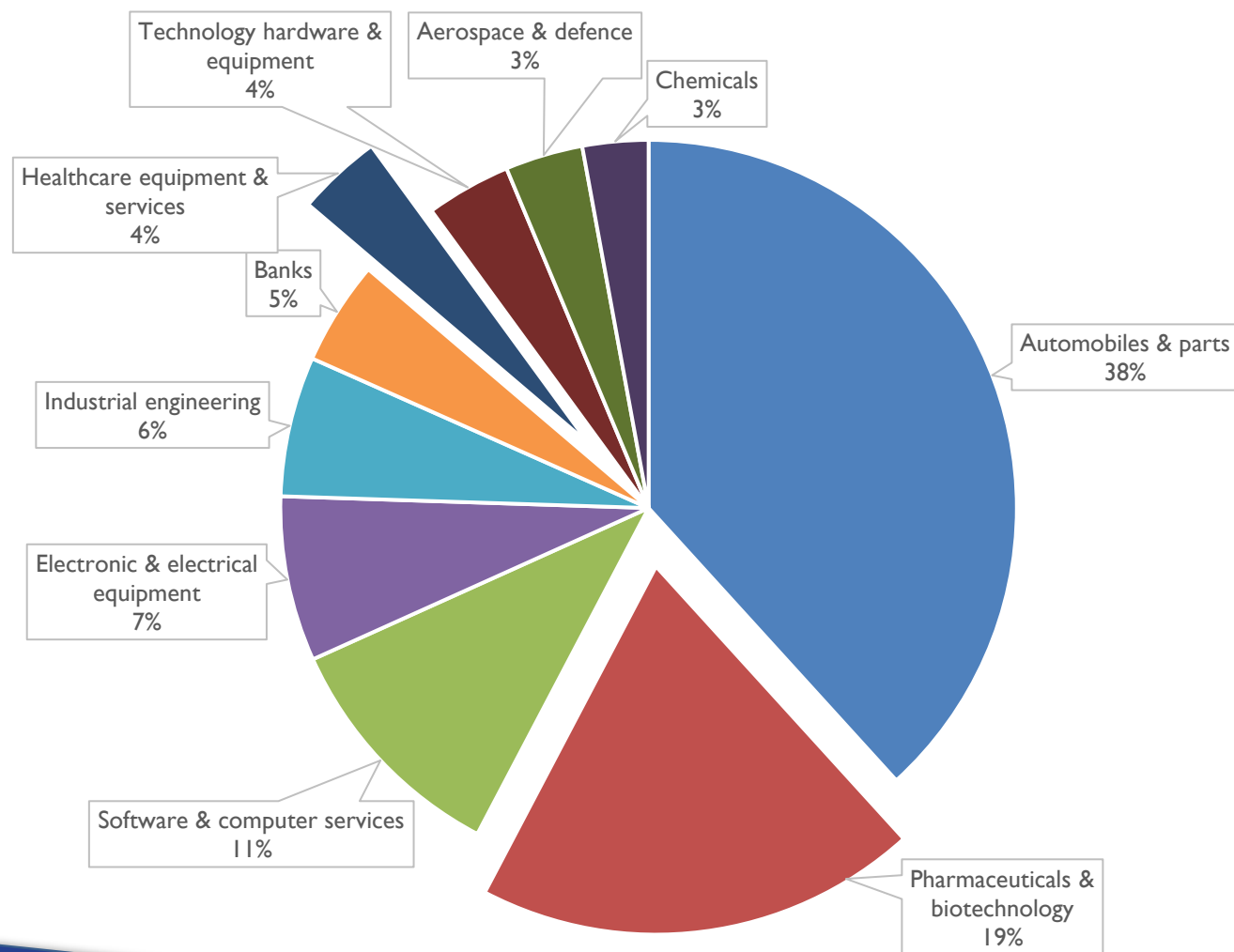
Source: who.int (World Health Statistics)

The new EU Regulations on medical devices

- Two new regulations on medical devices and in vitro diagnostic medical devices entered into force in May 2017. With effect from 26 May 2021, [Regulation \(EU\)](#) of the European Parliament and of the Council of 5 April 2017 on medical devices replaced [Council Directive 90/385](#) on active implantable medical devices and [Council Directive 93/42](#) on medical devices.
- With effect from 26 May 2022, [Regulation \(EU\) 2017/746](#) of the European Parliament and of the Council of 5 April 2017 on in vitro diagnostic medical devices replaces [Directive 98/79/EC of the European Parliament and of the Council](#) on in vitro diagnostic medical devices after a transition period.
- Regulation (EU) 2023/607 of the European Parliament and of the Council of 15 March 2023 amending Regulations (EU) 2017/745 and (EU) 2017/746 as regards the transitional provisions for certain medical devices and in vitro diagnostic medical devices. The Regulation introduces an extension of the transition period provided for in Regulation (EU) 2017/745 on medical devices (MDR), subject to certain conditions. It also deletes in both MDR and IVDR the "sell-off" deadline after which devices placed on the market before or during the transition periods that are still in the supply chain would have had to be withdrawn.

EU R&D Investment in Medical-2022

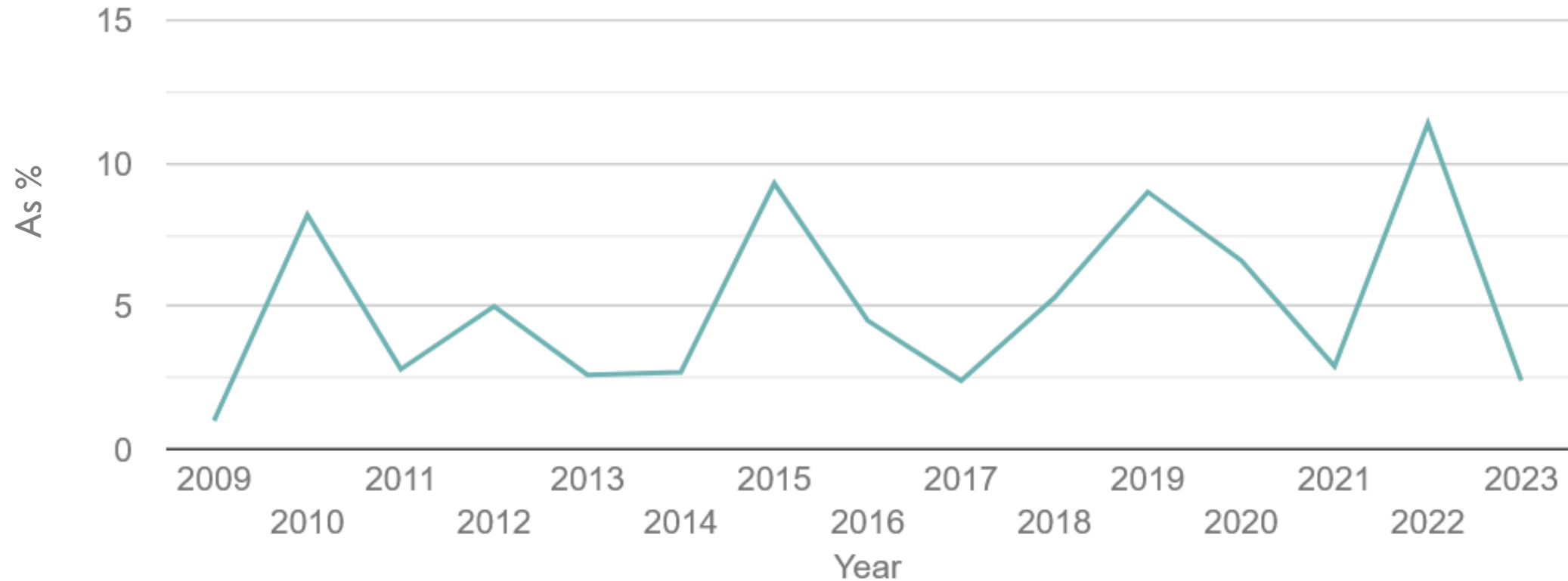
Total of 36.3 Billion Euros



Industry	Billion €
Automobiles & parts	72,8
Pharmaceuticals & biotechnology	37
Software & computer services	20,1
Electronic & electrical equipment	13,8
Industrial engineering	11,7
Banks	8,7
Healthcare equipment & services	7,1
Technology hardware & equipment	7,1
Aerospace & defence	6,5
Chemicals	5,5

Source: acea.be

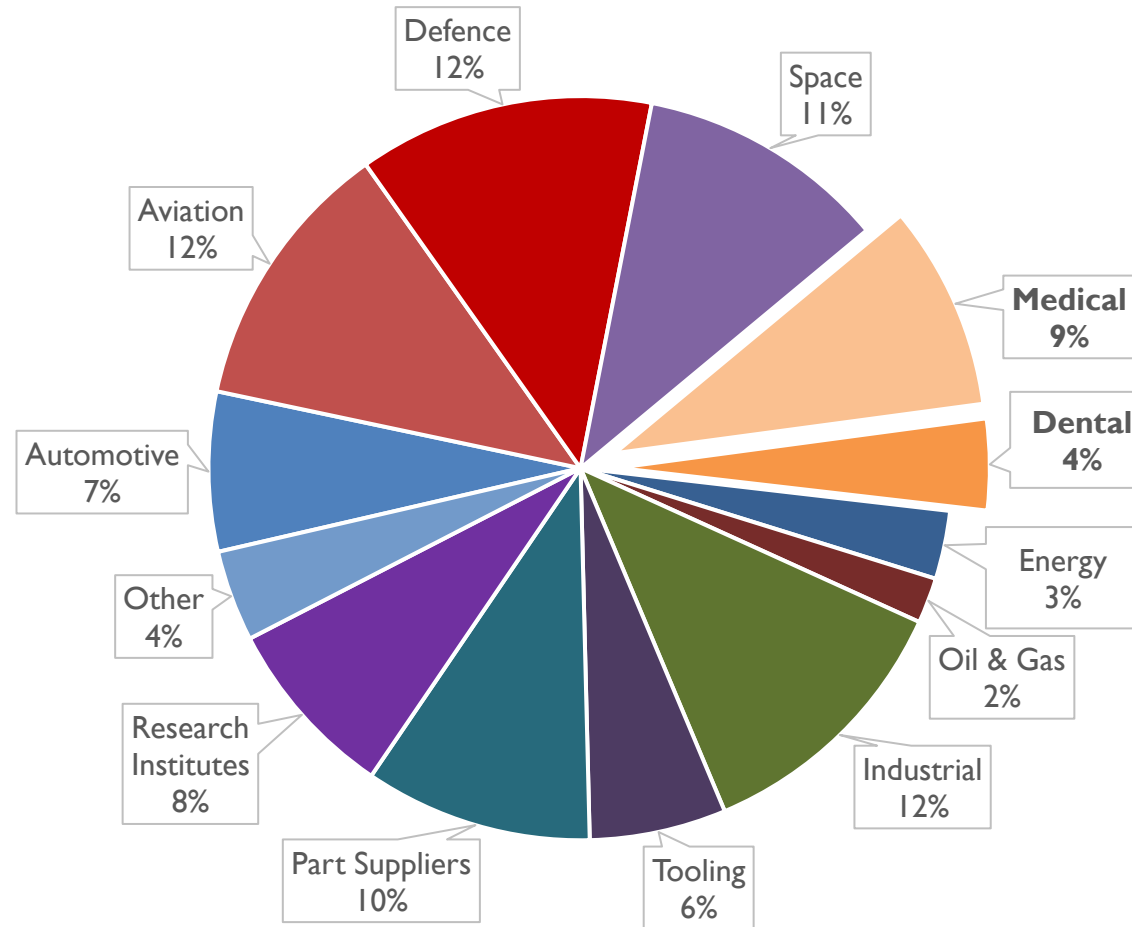
European Medical Device Market Annual Growth Rates



Source: medtecheurope.org

Medical Industries in Additive Manufacturing

Total AM market is 10.5 billion € in 2023



Source: AMPOWER Report 2024

The Global Healthcare Additive Manufacturing Market



Source: Precedence Research

The Medical Device + Diagnostic Industry

- “GE HealthCare cuts annual profit forecast on impact from Trump's tariffs”
 - reuters.com; April 2025
- “Boston Scientific's Q1 earnings exceed expectations, driven by strong cardiovascular sales”
 - investors.com ; 13 April 2025
- “EU threatens to curb access for makers of Chinese medical devices”
 - ft.com; January 2025
- “2025 Medical Device Cybersecurity Trends: What Will Shape The Industry”
 - Forbes.com; January 2025
- “Cytel seeks funds for US expansion after promising cancer test”
 - thetimes.co.uk; February 2025

Recent Announcements in the Medical Industry

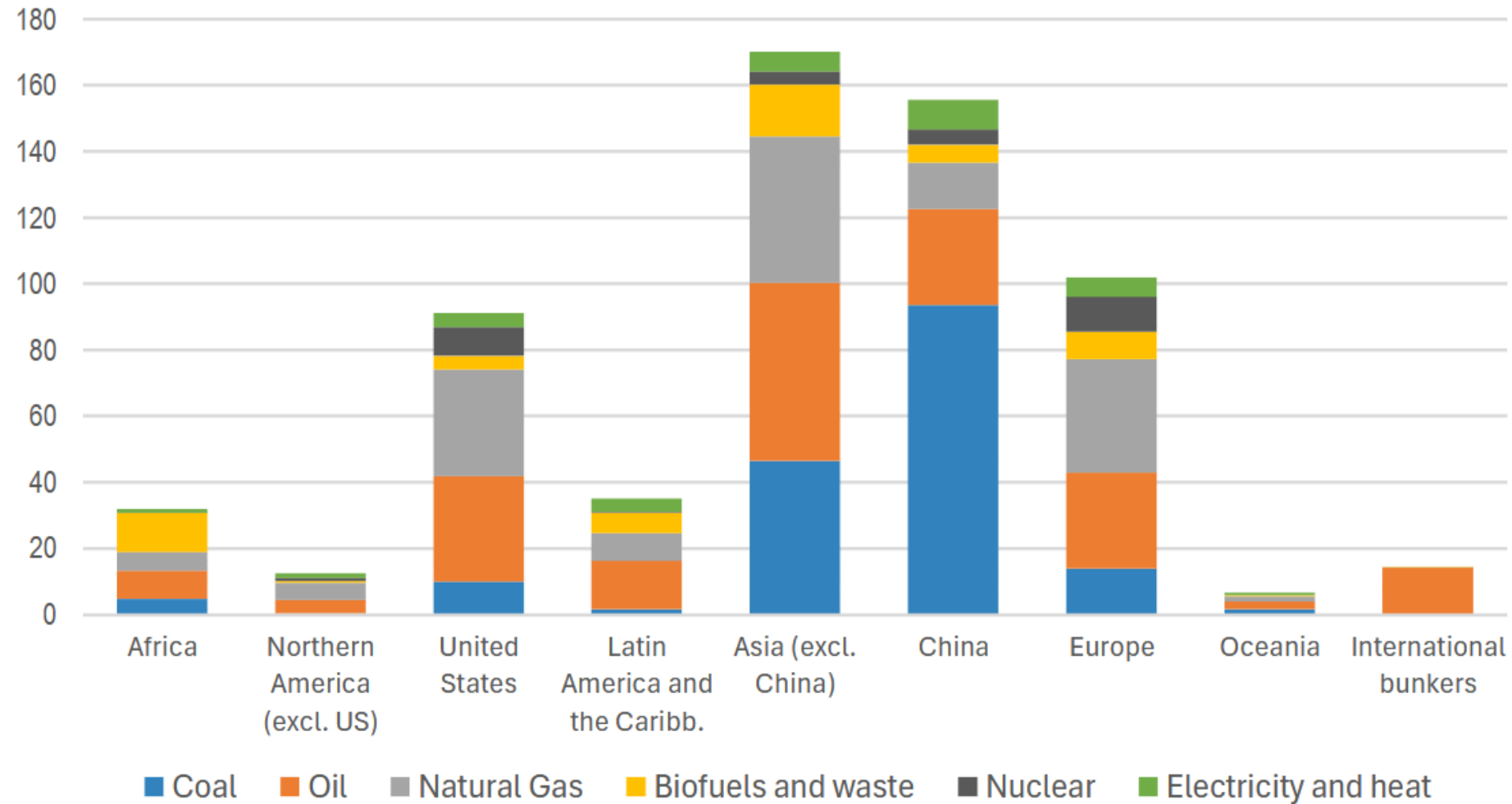
- “Illumina and Broad Clinical Labs Collaborate to Advance Single-Cell Sequencing ”
 - illumina.com; 21 February 2025
- “Study Finds Pregnancy May Lower Long COVID Risk.”
 - contemporaryobgyn.net; 9 April 2025
- “FDA Requests Novavax to Conduct New Clinical Trial for Delayed COVID-19 Vaccine.”
 - reuters.com; 25 April 2025
- “WHO Declares Mpox Outbreak a Public Health Emergency of International Concern.”
 - who.int; 14 April 2025
- “Europe's Rising Temperatures Contributed to 47,000 Deaths in 2023, New Study Finds(Mpox) constitutes a Public Health Emergency of International Concern (PHEIC).”
 - euronews.com; 13 April 2025

Energy

April 2025

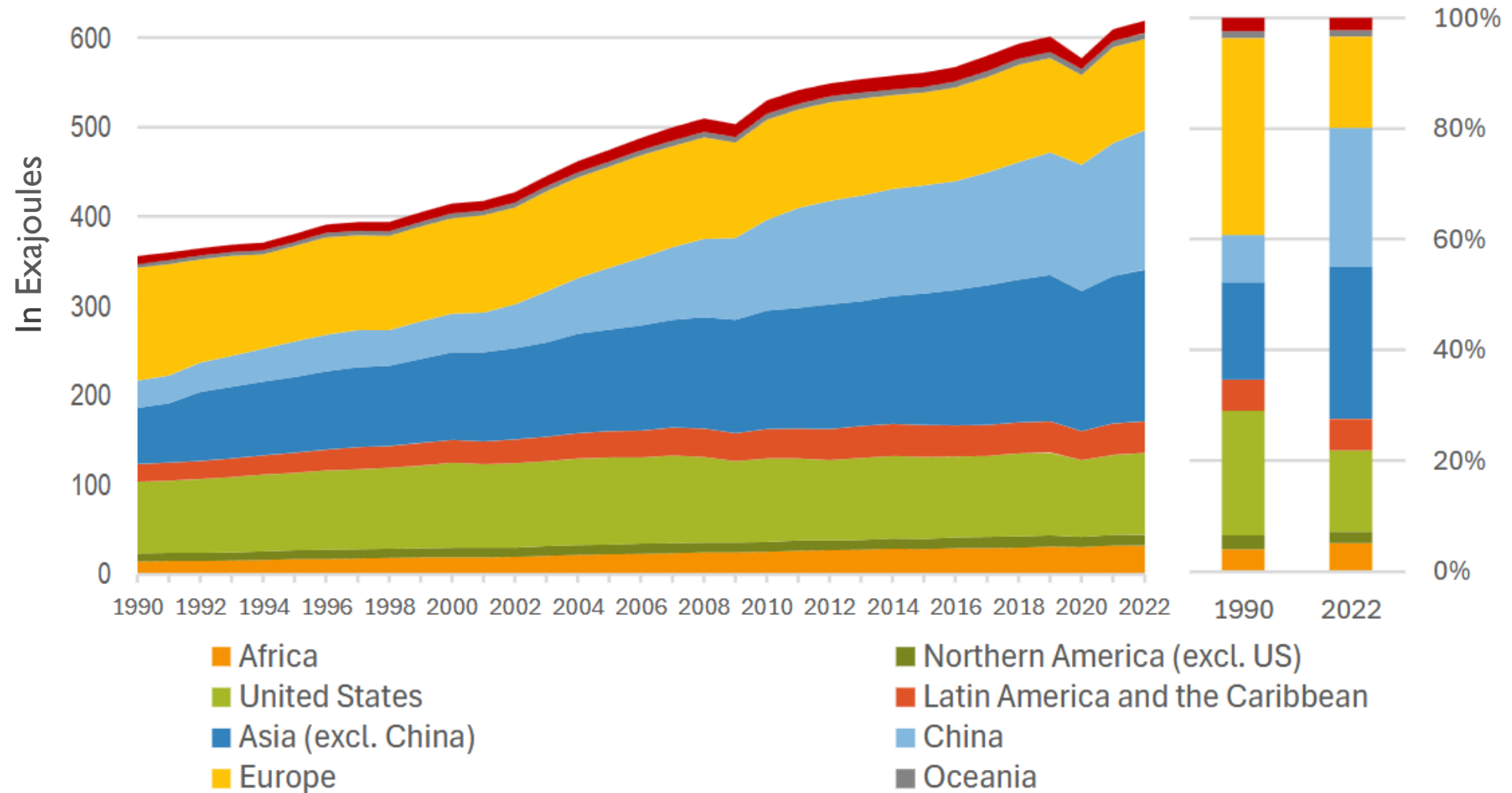
World Total Energy Supply by Region & Source (2022)

Exajoules



Source : un.org

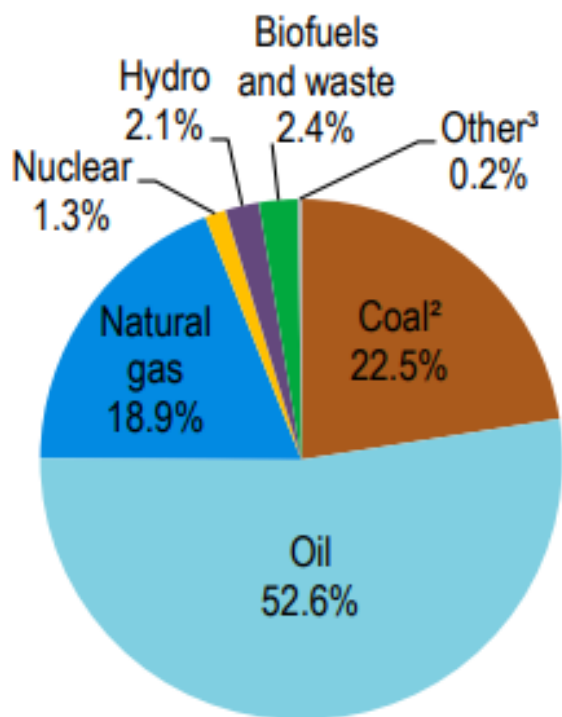
World Total Energy Supply by Region 1990-2022



Source : un.org

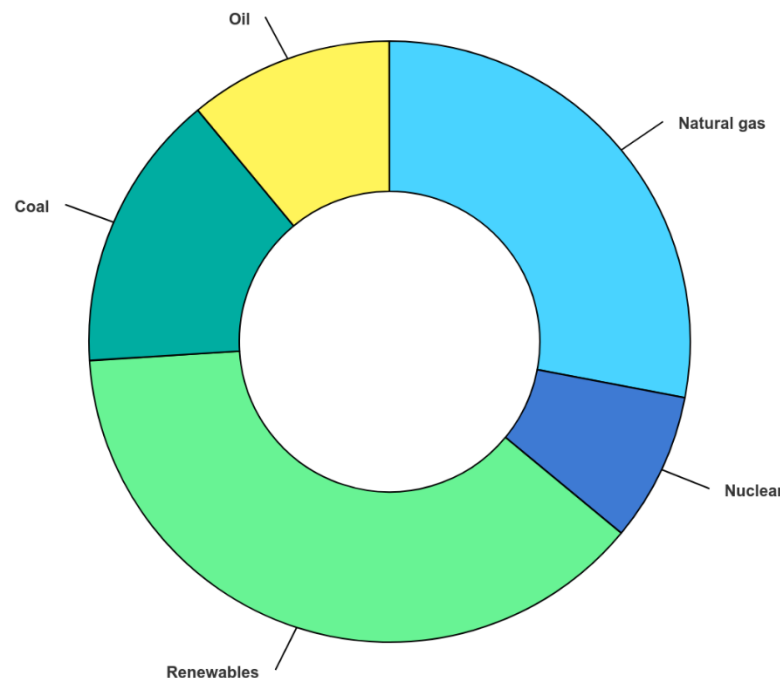
OECD total energy supply by source

1973



157 EJ

2024



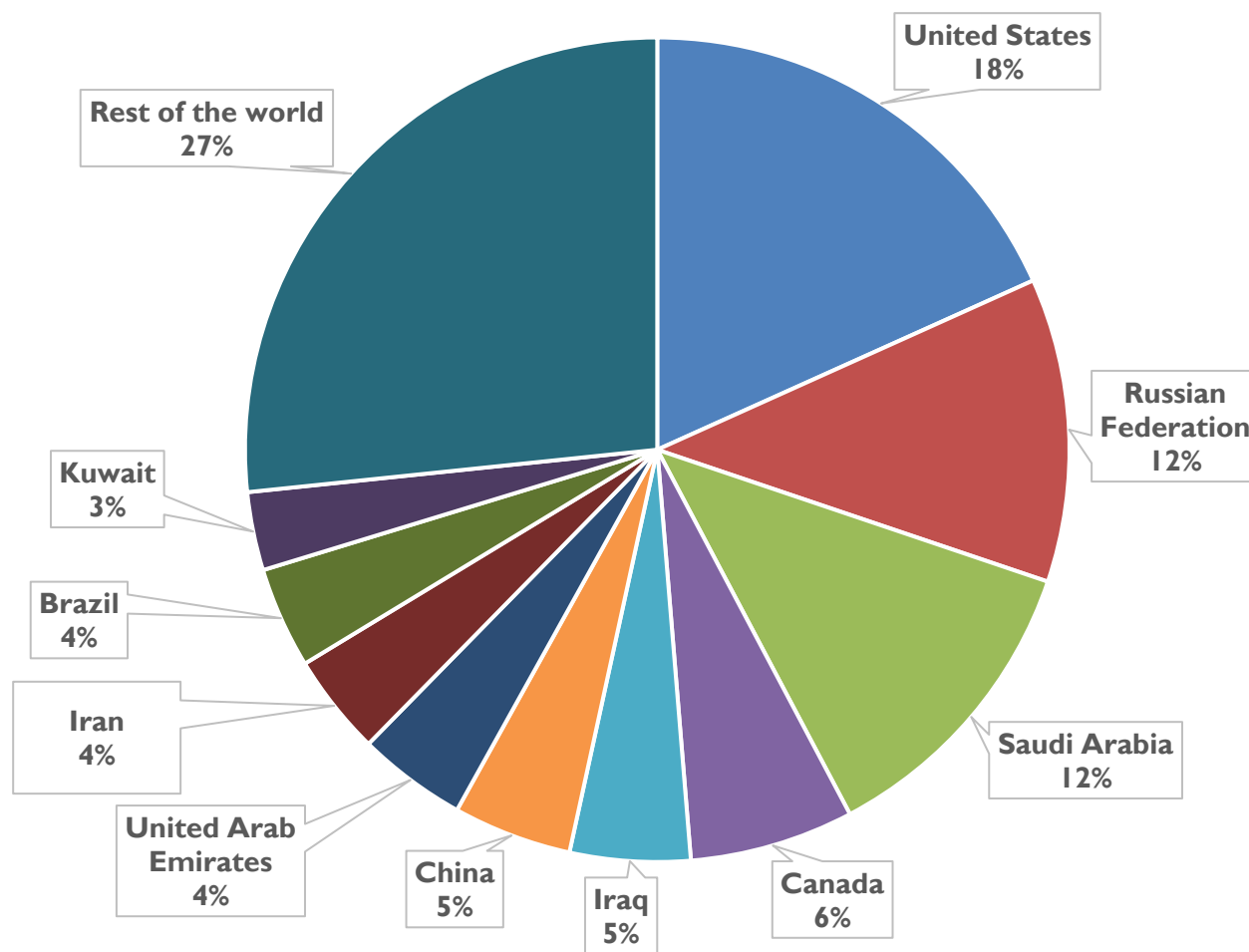
No New Data

1. Excludes electricity trade.
2. In these graphs, peat and oil shale are aggregated with coal.
3. Includes geothermal, solar, wind, tide/wave/ocean, heat and other sources.

Renewables accounted for the largest share of the growth in **global energy supply** (38%), followed by natural gas (28%), coal (15%), oil (11%) and nuclear (8%).

Source : iea.org

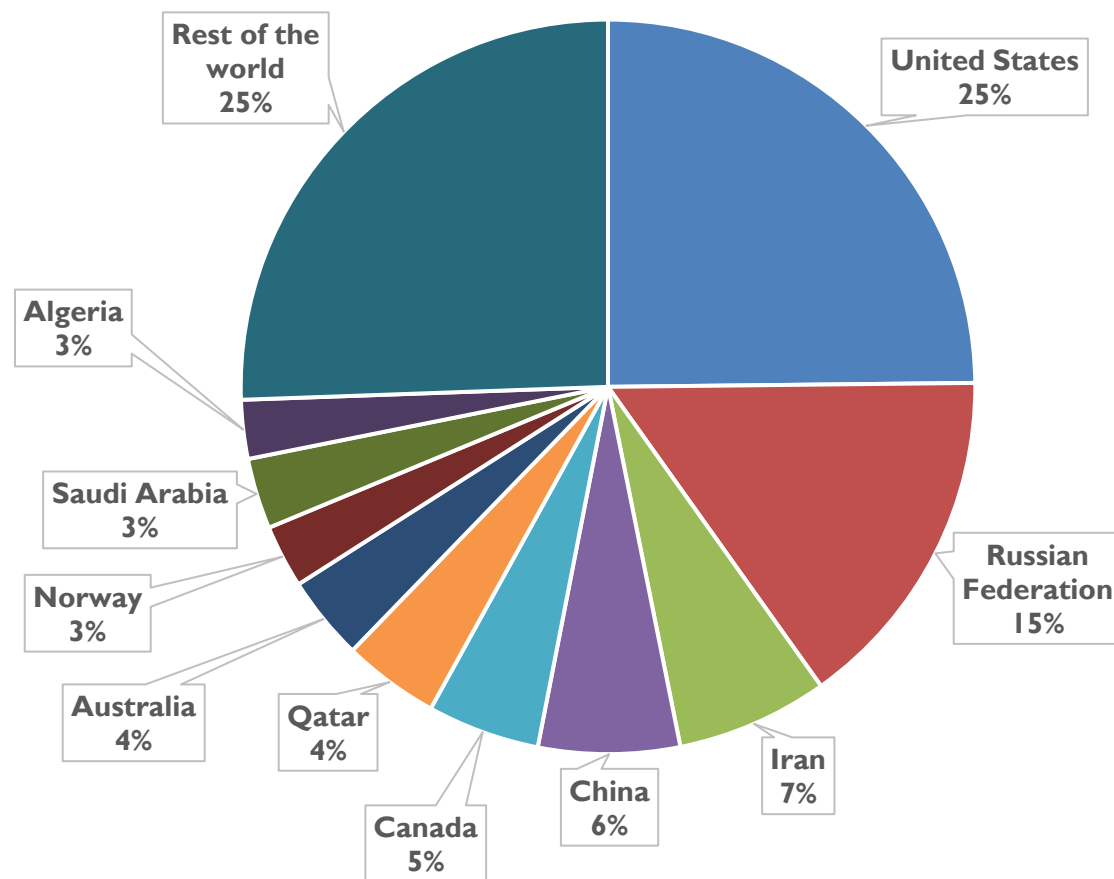
World Crude oil production-2023



Producer	Million Tonnes	Percentage
United States	820	18.27%
Russian Federation	535	11.92%
Saudi Arabia	542	12.07%
Canada	289	6.44%
Iraq	212	4.72%
China	209	4.66%
UAE	192	4.28%
Iran	178	3.97%
Brazil	178	3.97%
Kuwait	138	3.07%
Rest of the world	1196	26.64%
TOTAL (World)	4489	100.0%

Source : [iea.org](https://www.iea.org)

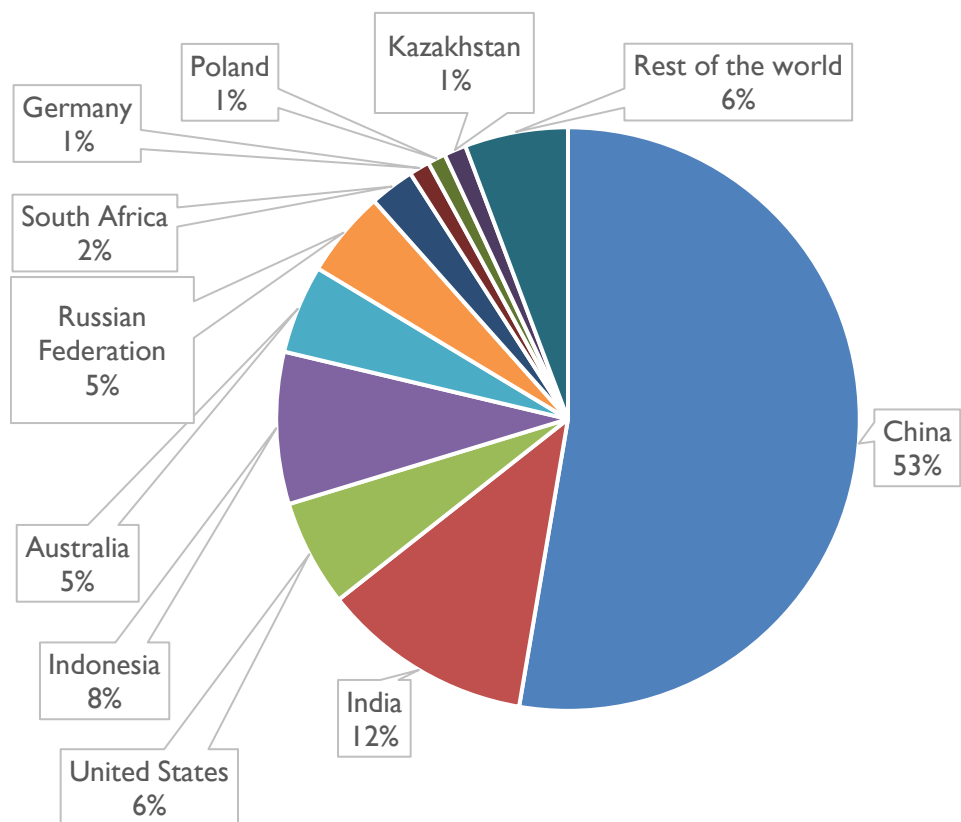
World Natural Gas production-2023



Producer	Billion Cubic Meters	Percentage
United States	1,084	24.8%
Russian Federation	669	15.3%
Iran	292	6.7%
China	272	6.2%
Canada	216	4.9%
Qatar	185	4.2%
Australia	162	3.7%
Norway	121	2.8%
Saudi Arabia	136	3.1%
Algeria	113	2.6%
Rest of the world	1116	25.6%
TOTAL (World)	4366	100.0%

Source : [iea.org](https://www.iea.org)

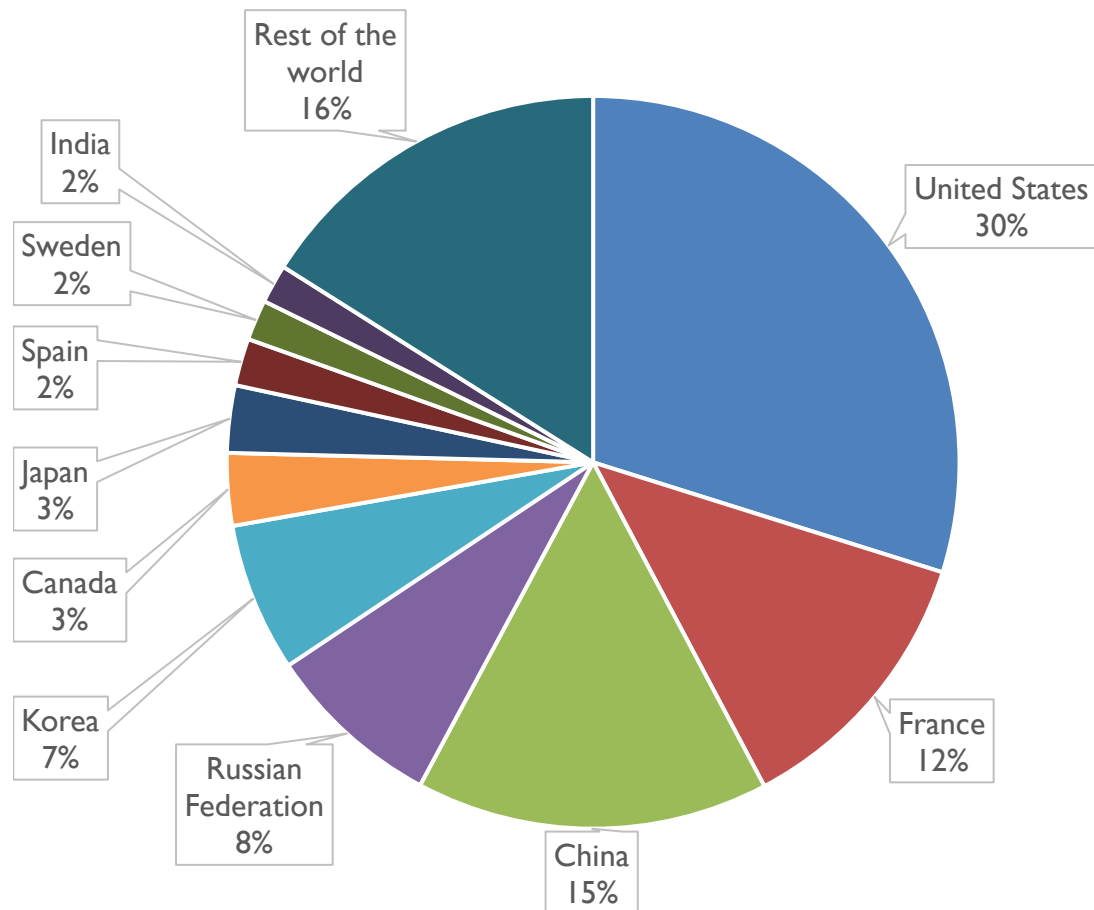
World Coal production-2023



Producer	Million Tonnes	Percentage
China	4,705	52.7%
India	1,045	11.7%
United States	528	5.9%
Indonesia	752	8.4%
Australia	439	4.9%
Russian Federation	429	4.8%
South Africa	222	2.5%
Germany	102	1.1%
Poland	89	1.0%
Kazakhstan	109	1.2%
Rest of the world	511	5.7%
TOTAL (World)	8931	100.0%

Source : enerdata.net

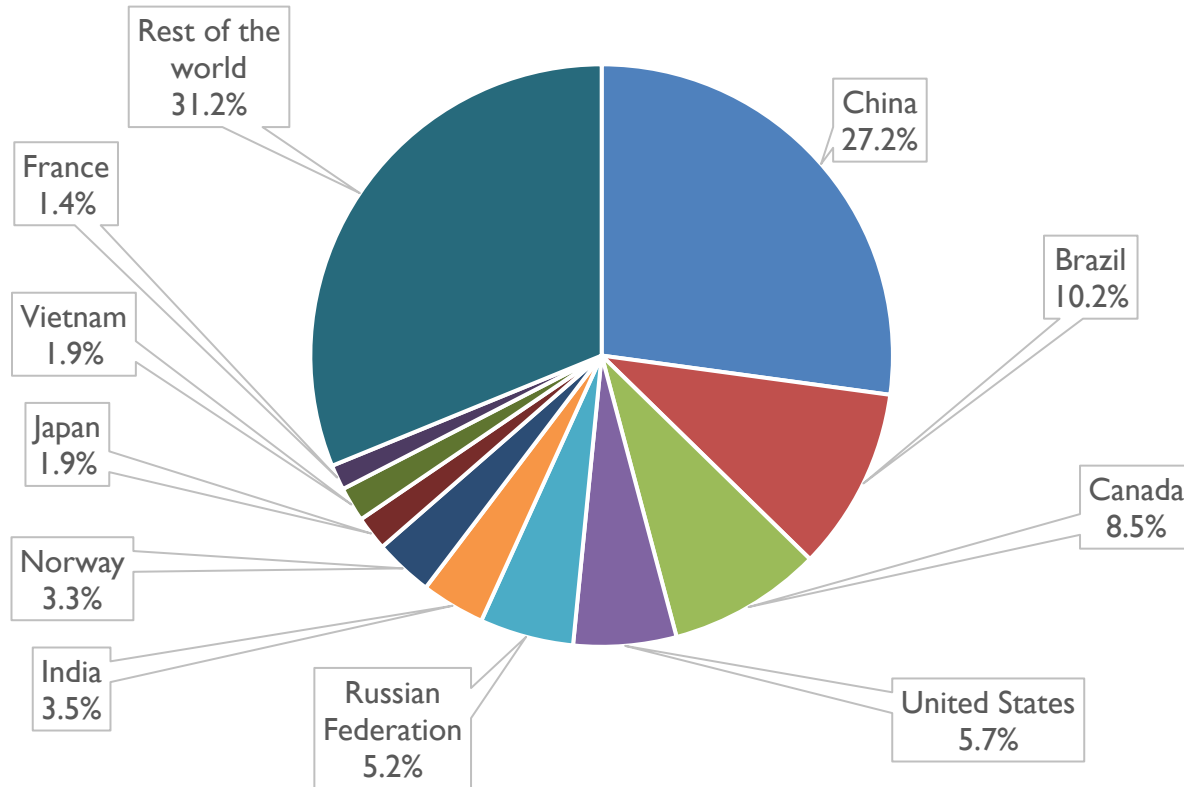
World Nuclear Electricity production-2023



Producer	Terawatts per hour	Percentage
United States	779.1	29.9%
France	323.7	12.4%
China	406.4	15.6%
Russian Federation	203.9	7.8%
Korea	171.6	6.6%
Canada	83.4	3.2%
Japan	77.5	3.0%
Spain	54.3	2.1%
Sweden	46.6	1.8%
India	44.6	1.7%
Rest of the world	418.6	16.0%
TOTAL	2609.7	100.0%

Source : nei.org

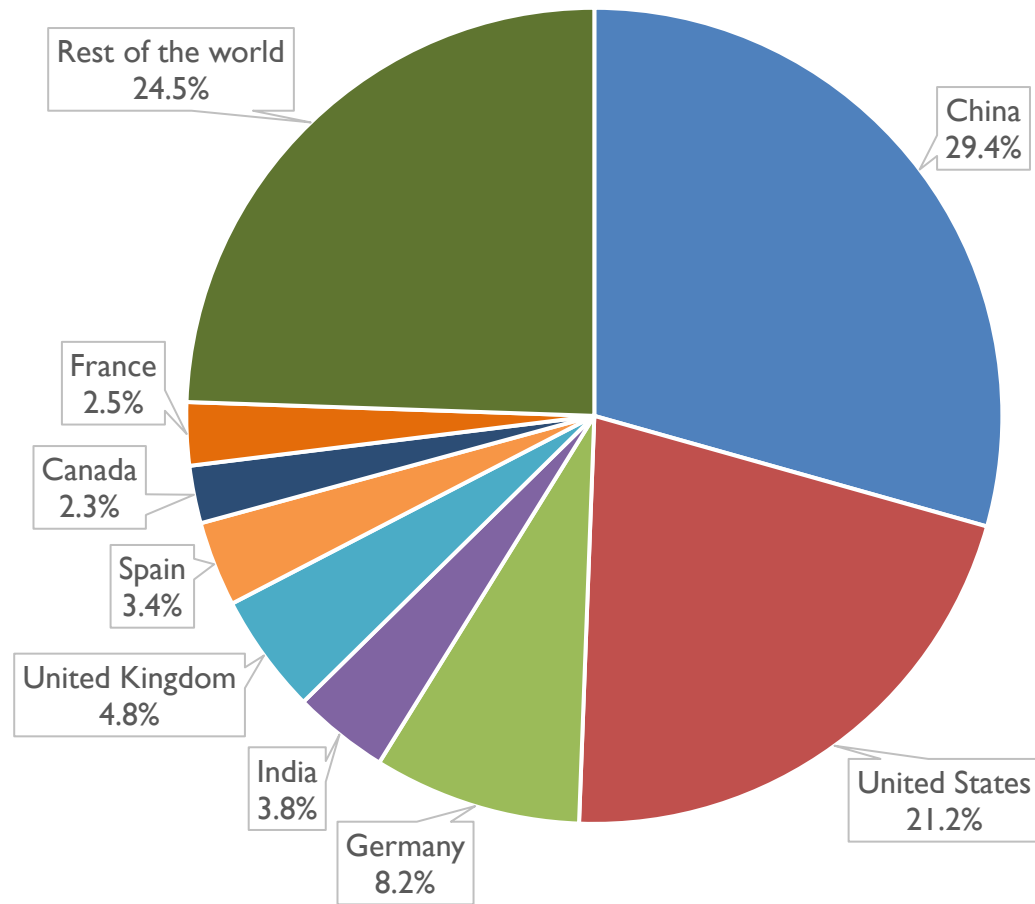
World Hydroelectricity production-2023



Producer	Terawatts per hour	Percentage
China	1141	27.2%
Brazil	427	10.2%
Canada	359	8.5%
United States	240	5.7%
Russian Federation	219	5.2%
India	149	3.5%
Norway	137	3.3%
Japan	80	1.9%
Vietnam	81	1.9%
France	59	1.4%
Rest of the world	1310	31.2%
TOTAL	4202	100.0%

Source : hydropower.org

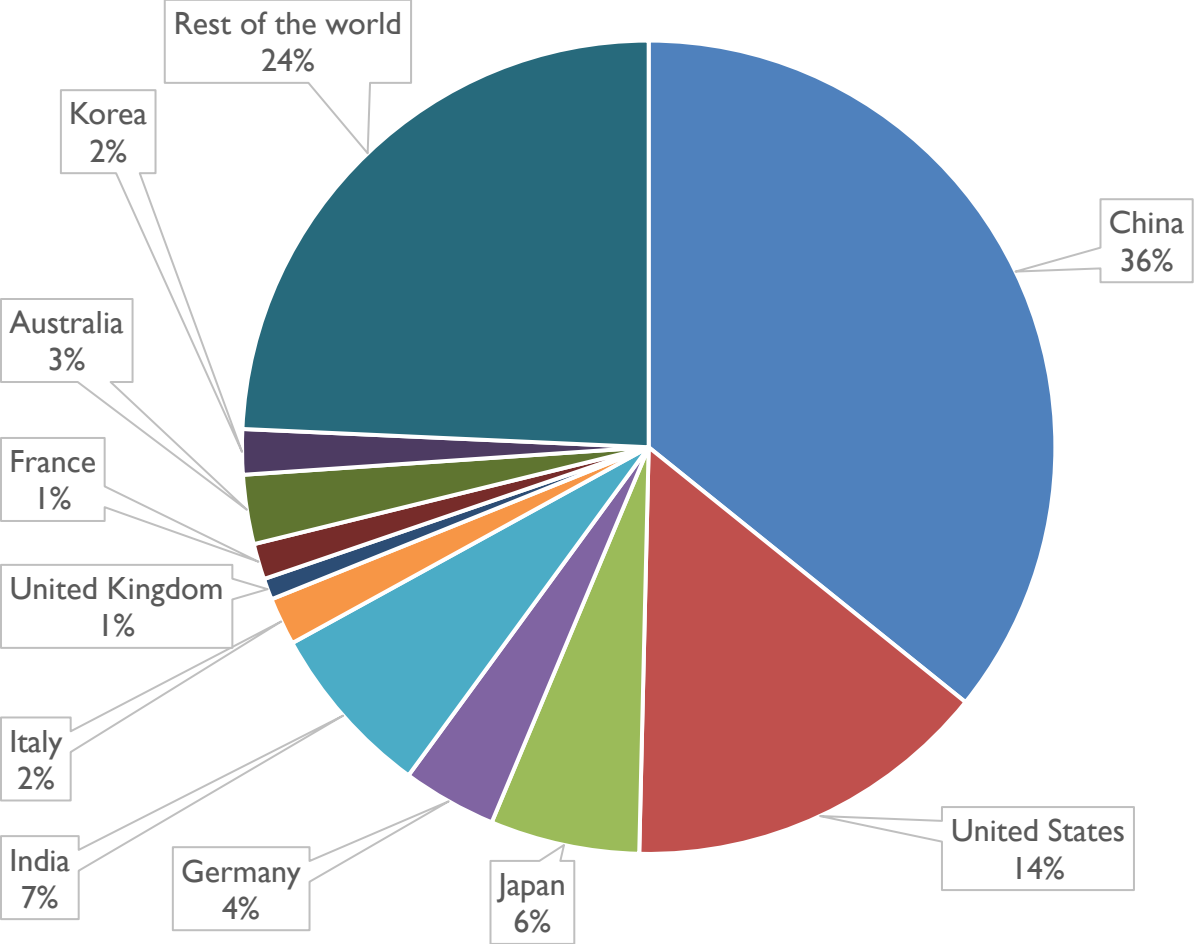
World Wind Electricity production-2021



Producer	TeraWatts per hour	Percentage
China	467	29.4%
United States	337.5	21.2%
Germany	131	8.2%
India	60.4	3.8%
United Kingdom	75.6	4.8%
Spain	53.6	3.4%
Canada	36.3	2.3%
France	39.7	2.5%
Rest of the world	388.9	24.5%
TOTAL	1590	100.0%

Source : iea-wind.org

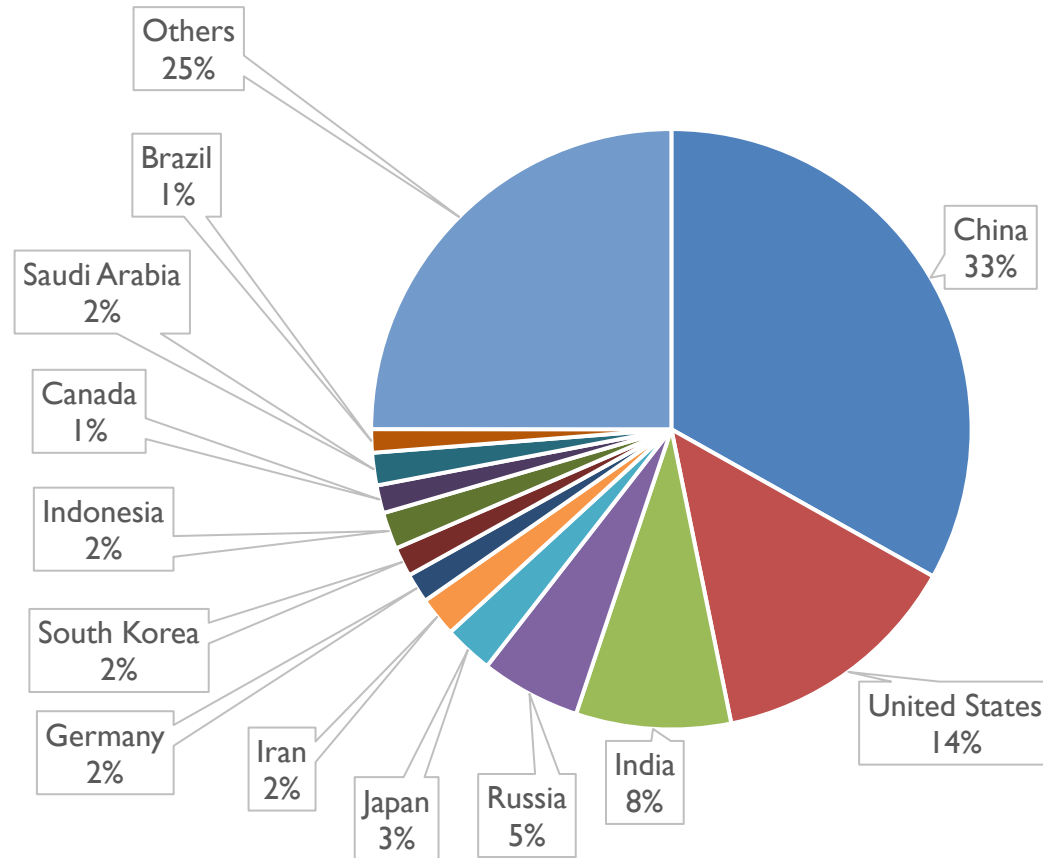
World Solar Electricity production-2023



Producer	TeraWatts per hour	Percentage
China	584.1	35.8%
United States	238.1	14.6%
Japan	96.9	5.9%
Germany	61.2	3.7%
India	113.4	6.9%
Italy	31	1.9%
United Kingdom	13.8	0.8%
France	23.2	1.4%
Australia	44.9	2.8%
Korea	29.3	1.8%
Rest of the world	396.4	24.3%
TOTAL	1632.3	100.0%

CO₂ Emissions from fuel combustion-2023

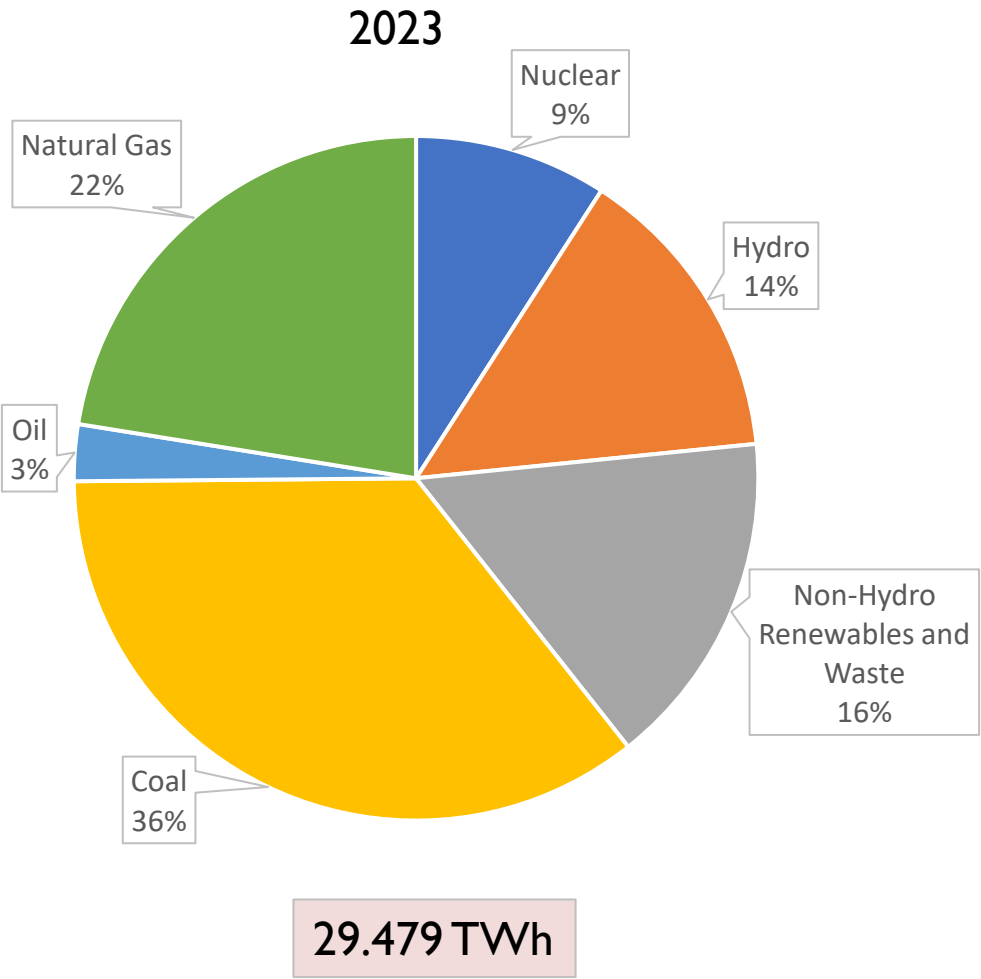
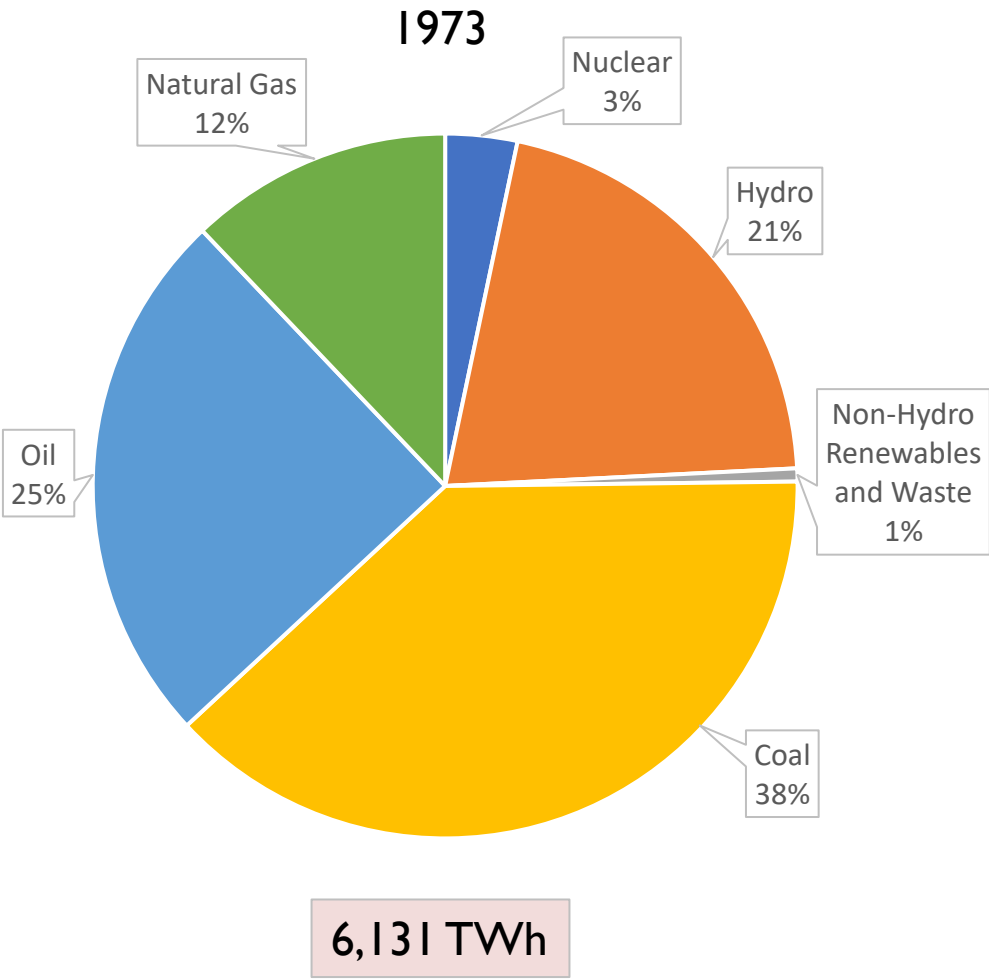
CO₂ emissions reached a new record in 2023 (+1.7%), as lower hydropower availability raised coal consumption



Country	Million Tonnes
China	11,900
United States	4,900
India	2,995
Russia	1,933
Japan	952
Iran	769
Germany	572
South Korea	569
Indonesia	715
Canada	540
Saudi Arabia	629
Brazil	452
Others	8971
TOTAL	35897

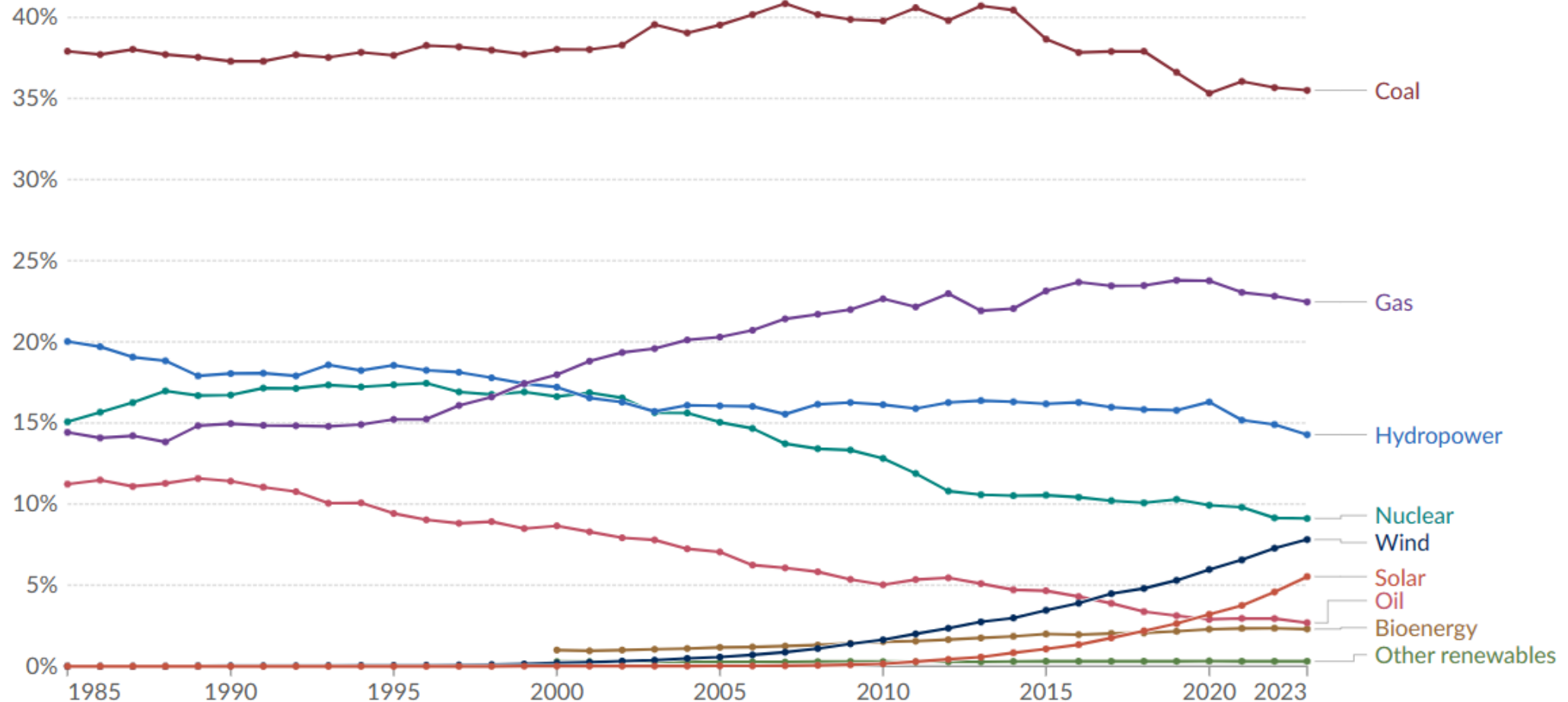
Source : enerdata.net

Source Shares of Electricity Generation - Past and Today



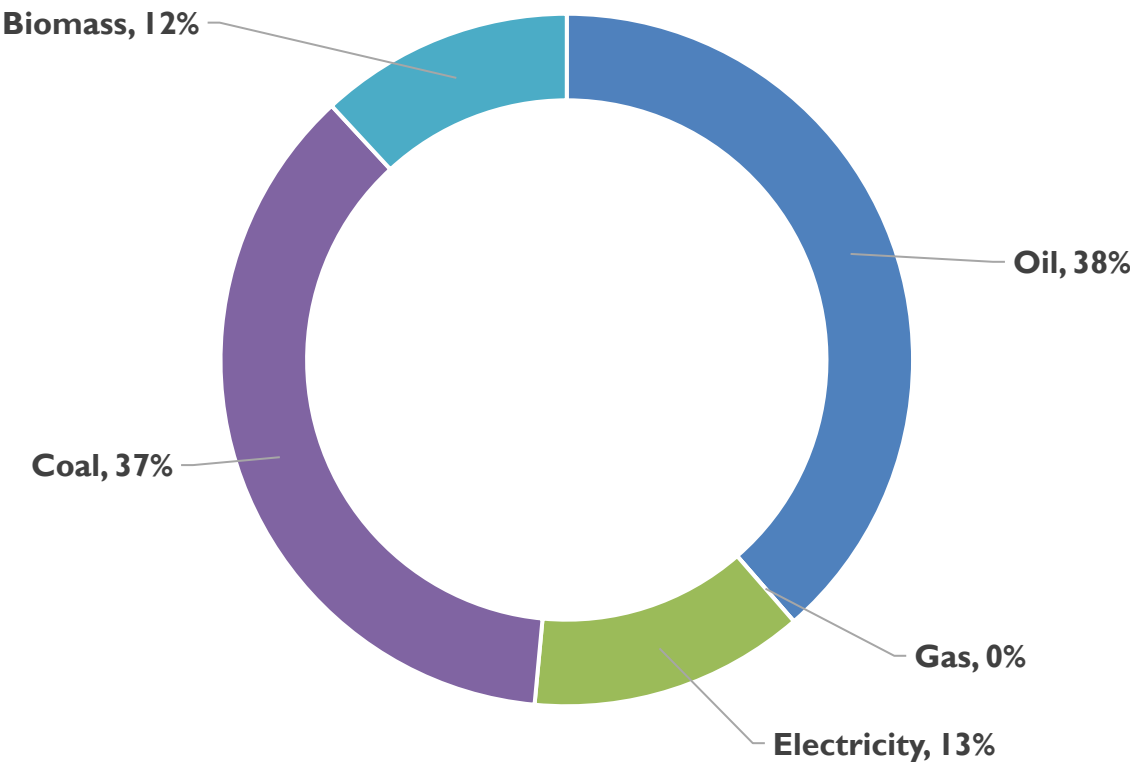
Source : [iea.org](https://www.iea.org)

World Total Electricity Production by Source



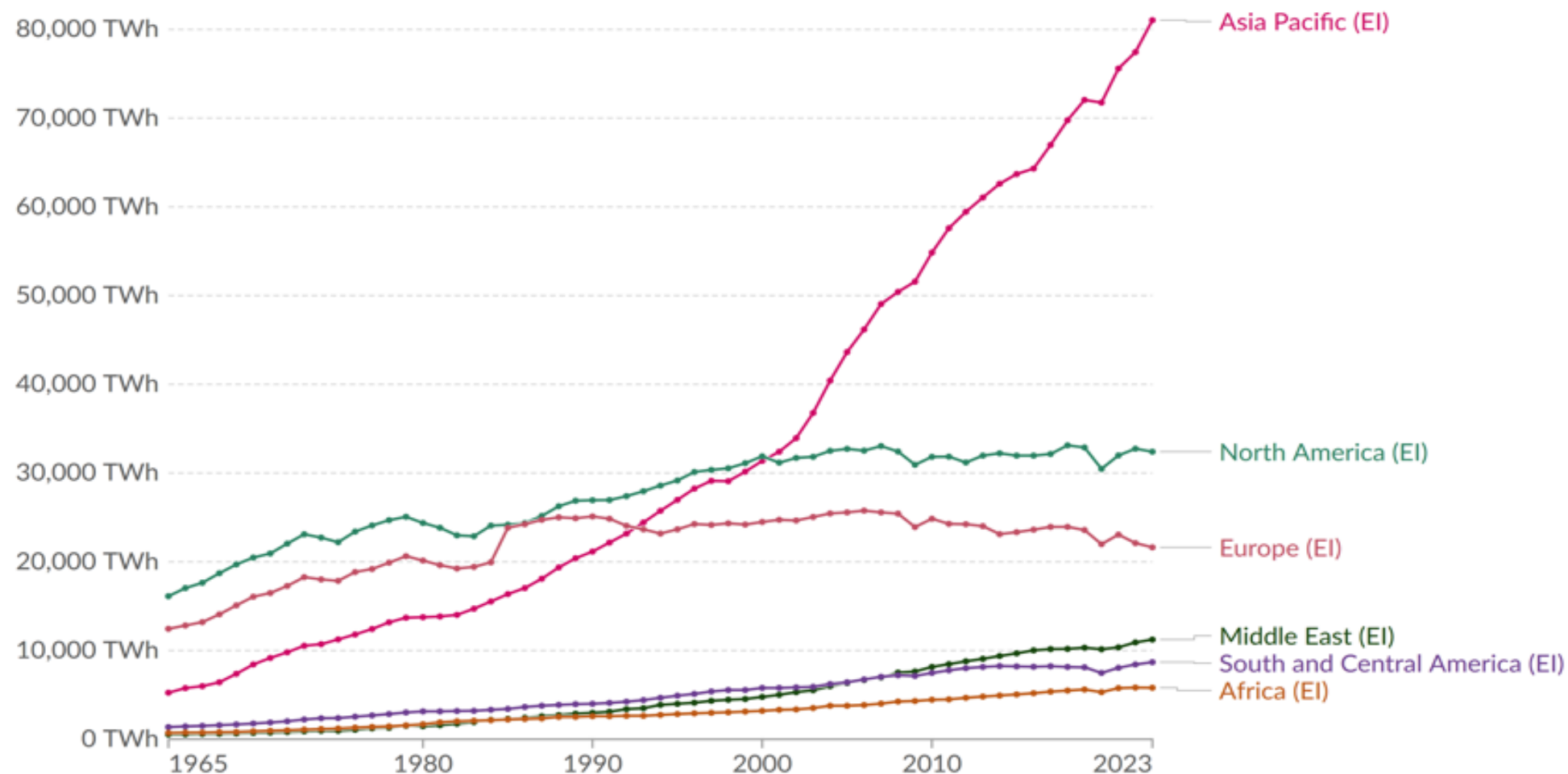
Source : ourworldindata.org

World Energy Consumption by Source (2023)



Country	Mtoe
China	4,060
United States	2,172
India	1,135
Russia	838
Japan	391
Brazil	336
Canada	297
South Korea	291
Iran	317
Indonesia	298
Germany	246
Saudi Arabia	279
Other	4401
TOTAL	15061

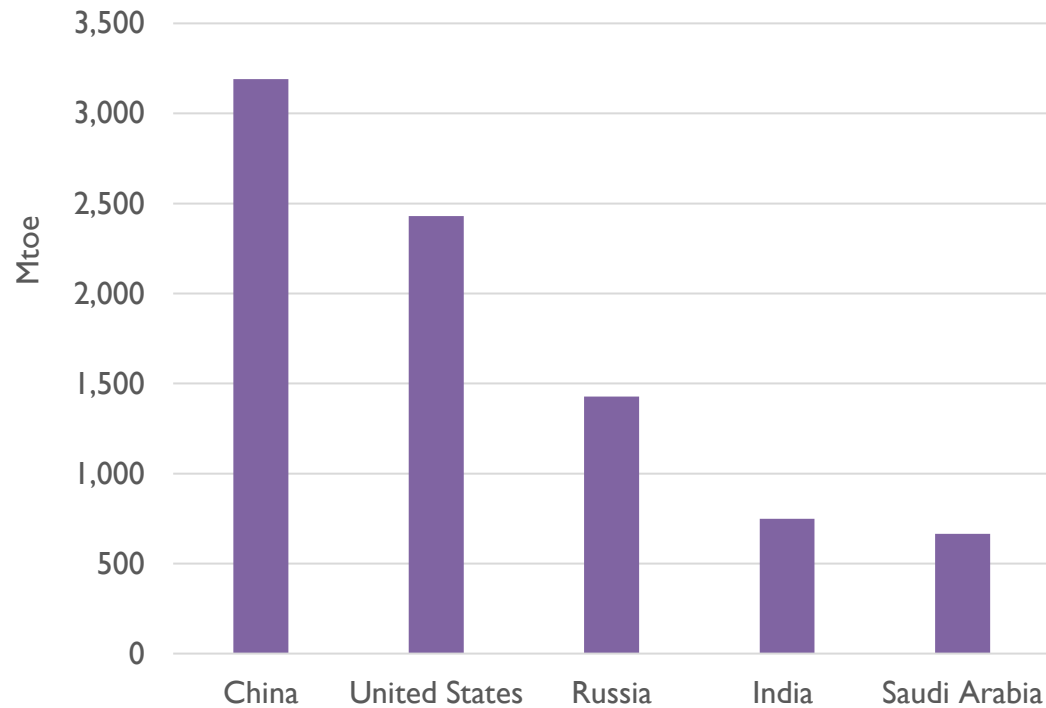
World Total Energy Consumption by Region



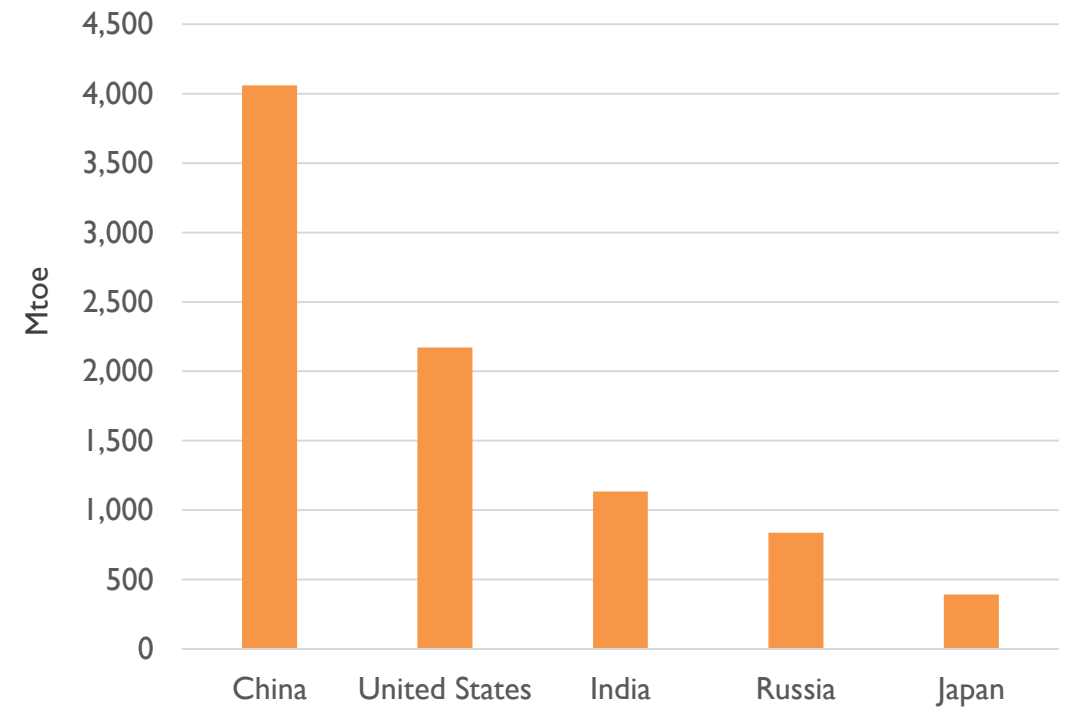
Source : ourworldindata.org

Top five countries by total energy supply and Consumption – 2023

Supply

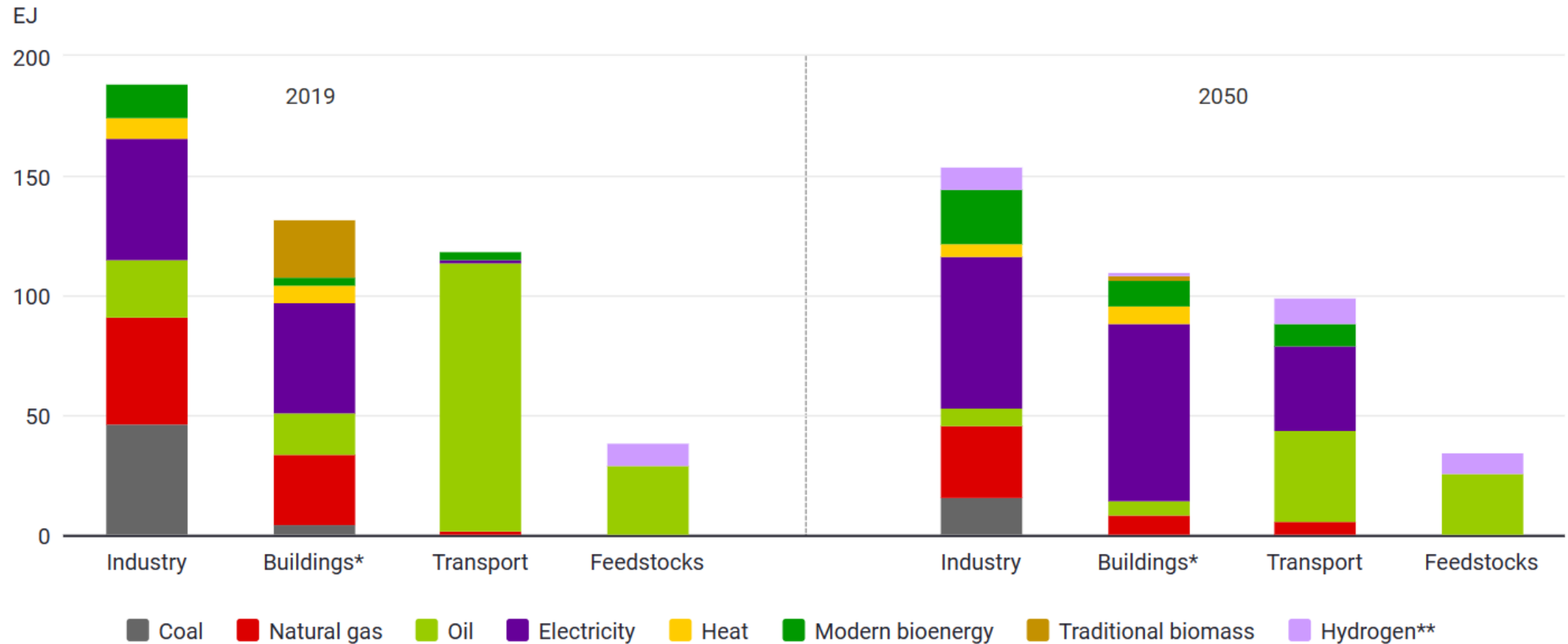


Consumption



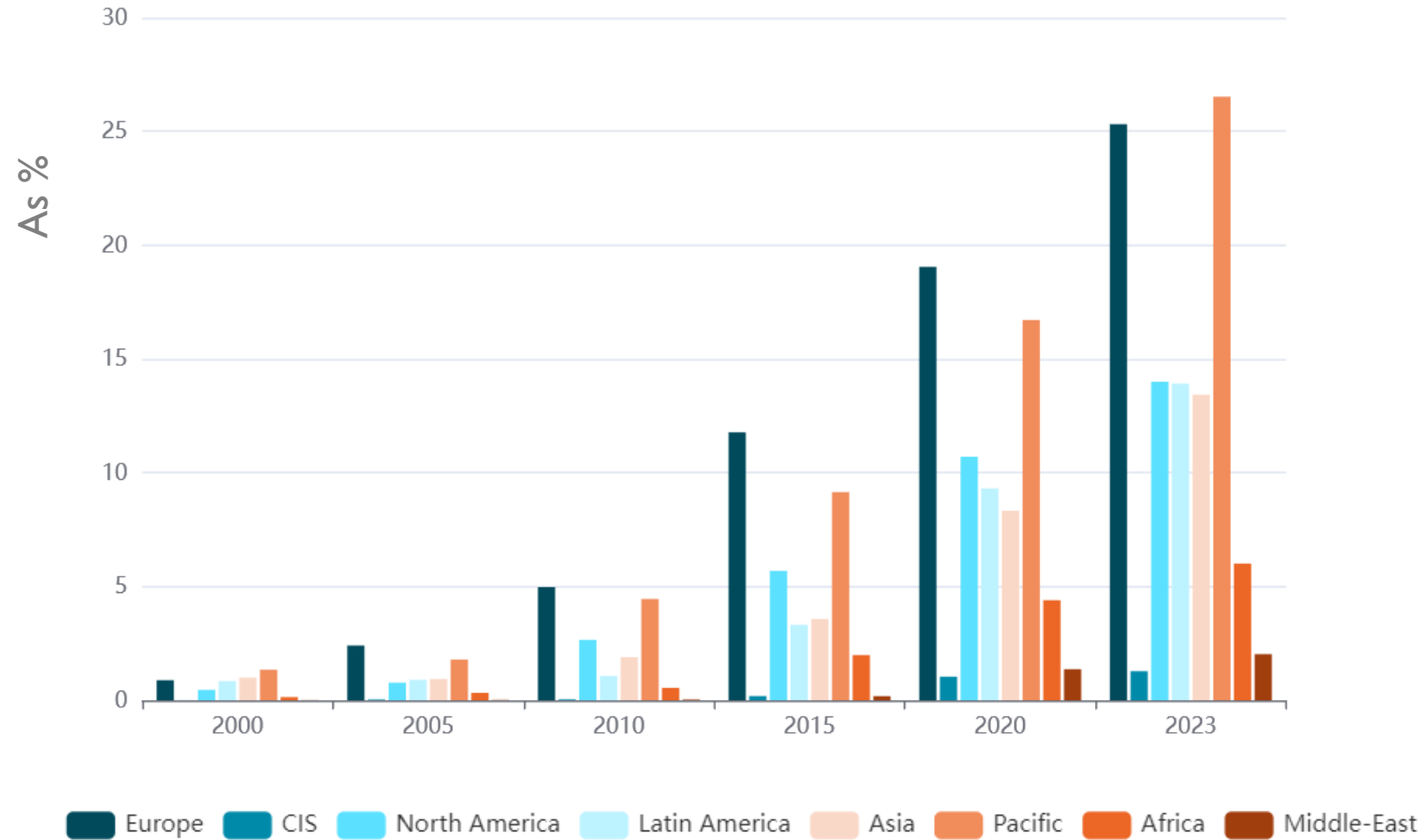
Source : enerdata.net

Energy Consumption Pattern



Source : bp.com

Share of wind and solar in electricity production



Source : enerdata.net

Energy Demand & Supply by Region

	Population (million)	Total energy supply (EJ)	Electricity demand (kWh per capita)	Cars per thousand people	CO ₂ emissions (Gt)	CO ₂ emissions (t per capita)
United States	336	94	12 133	682	4.7	14
Latin America and the Caribbean	658	37	2 253	137	1.7	3
European Union	449	56	5 521	557	2.7	6
Africa	1 425	36	508	25	1.4	1
Middle East	265	36	4 190	175	2.1	8
Eurasia	238	42	5 051	193	2.4	10
China	1 420	160	5 612	201	12.1	9
India	1 417	42	926	31	2.6	2
Japan and Korea	177	29	8 703	490	1.7	9
Southeast Asia	679	30	1 592	63	1.7	3

EJ = exajoules; kWh = kilowatt-hours; Gt = gigatonnes; t = tonnes

Source : iea.org

Crude Oil Prices per Barrel (USD)



Source : tradingeconomics.com

Coal Prices (USD/tonnes)



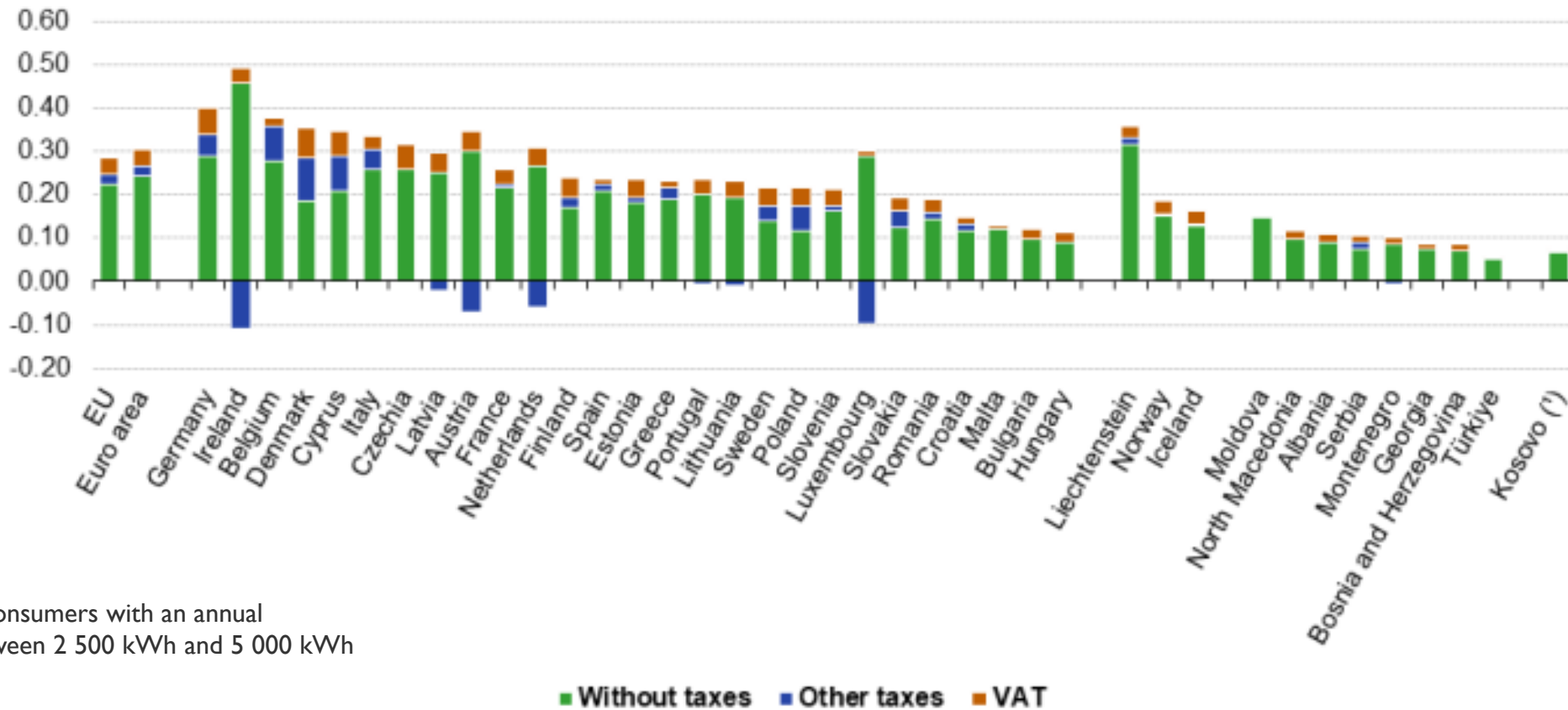
Source : tradingeconomics.com

Natural Gas Prices (USD/M Btu)



Source : macrotrends.net

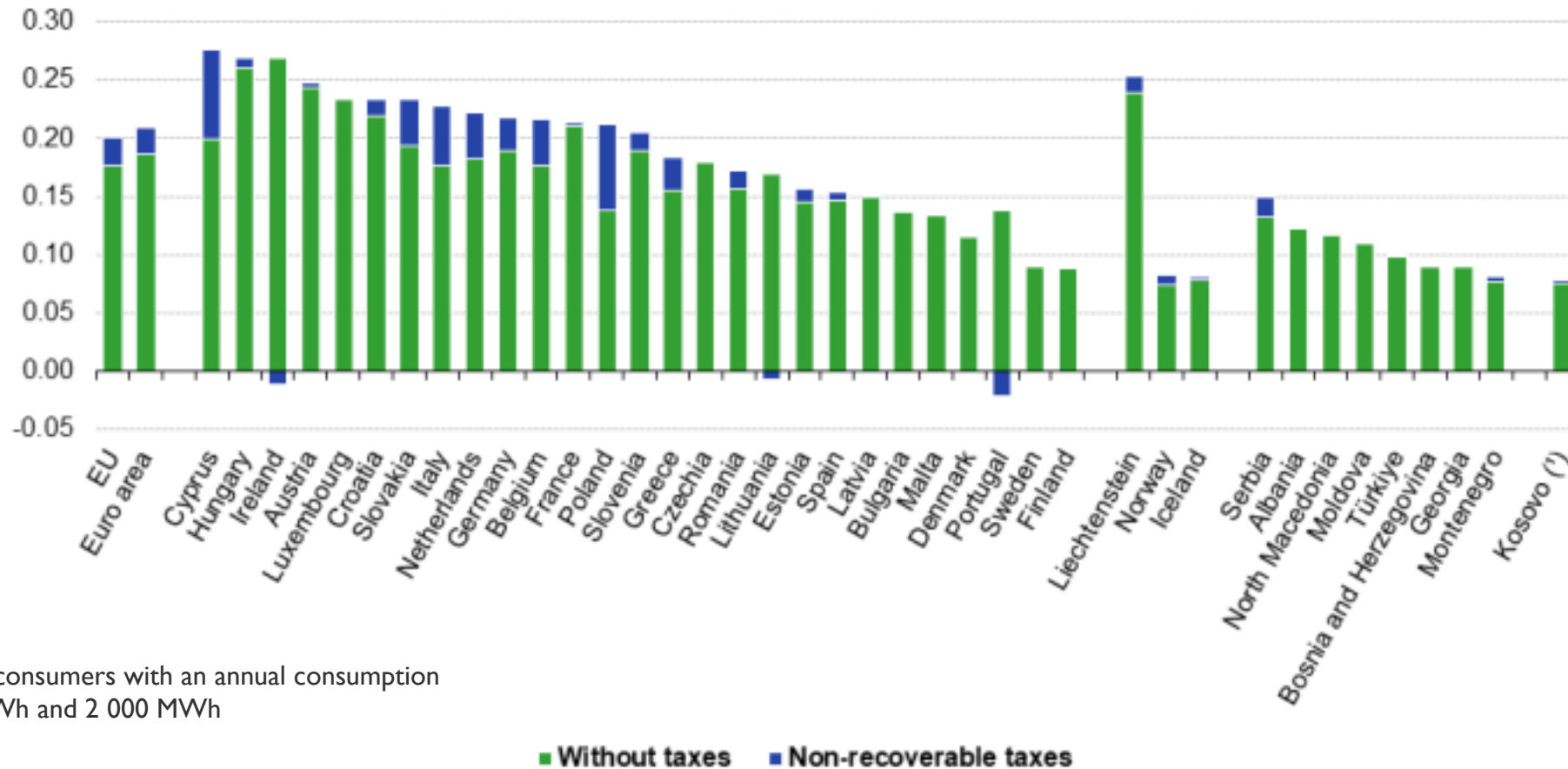
Electricity prices for household* consumers, second half of 2023 (EUR per kWh)



* medium-sized consumers with an annual consumption between 2 500 kWh and 5 000 kWh

Source : ec.europa.eu/eurostat

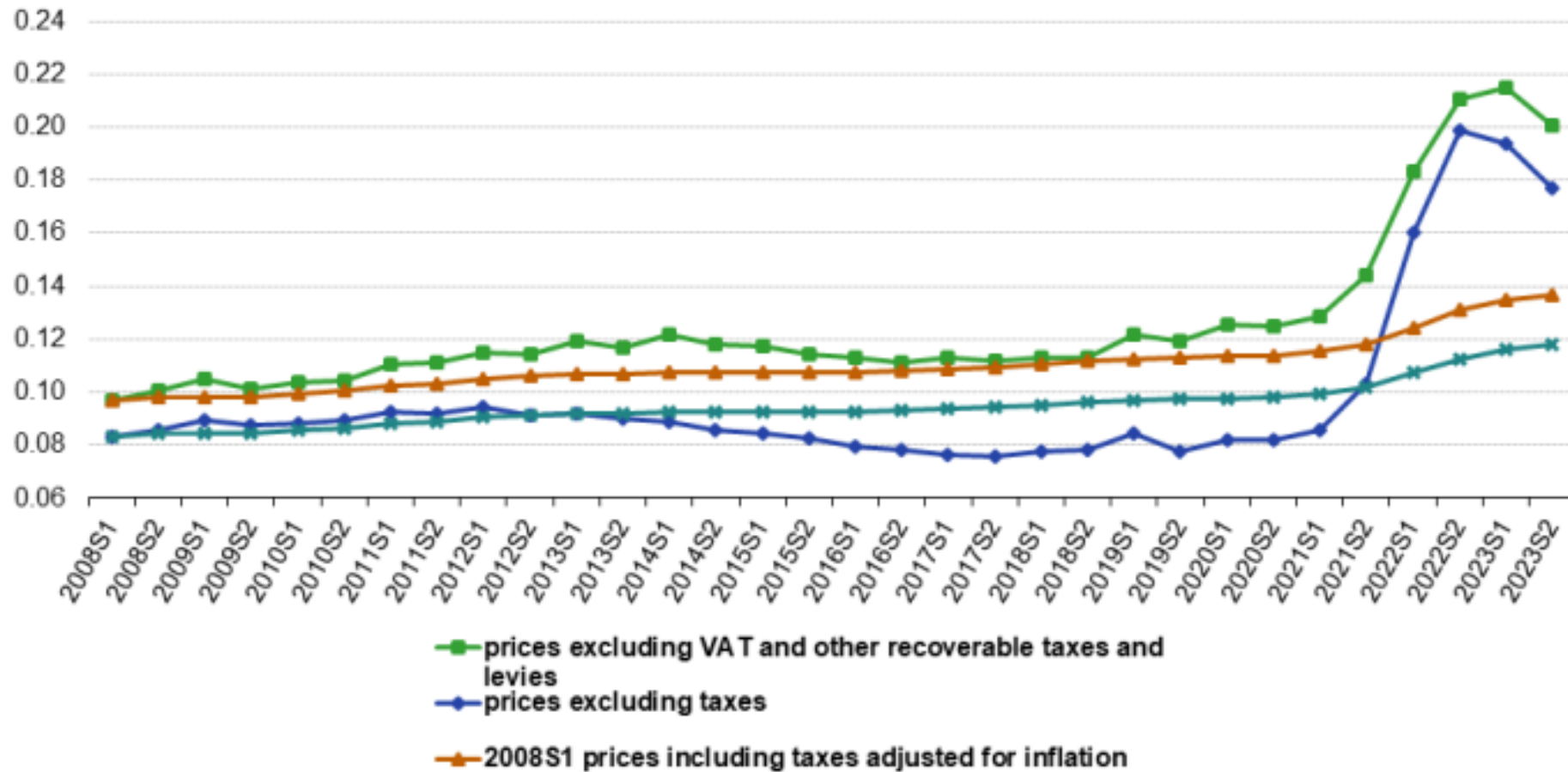
Electricity prices for non-household* consumers, second half of 2023 (EUR per kWh)



* medium-sized consumers with an annual consumption between 500 MWh and 2 000 MWh

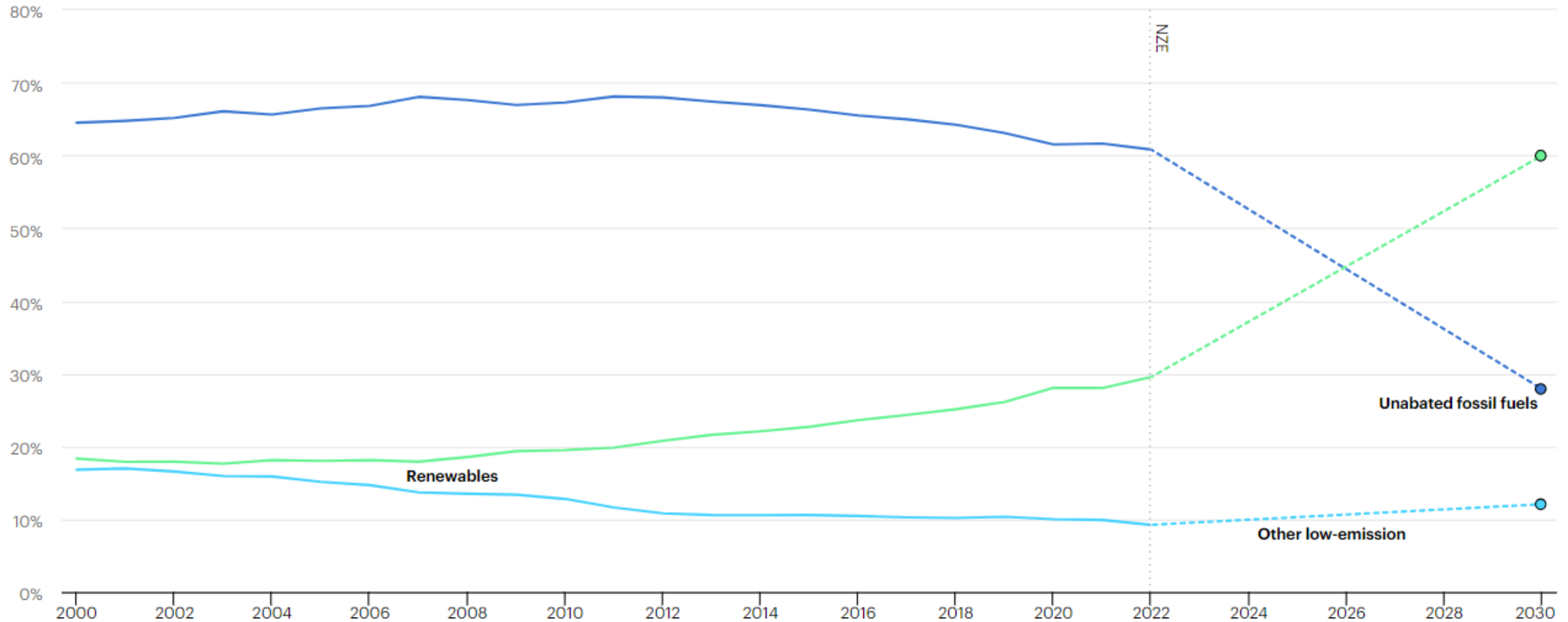
Source : ec.europa.eu/eurostat

Development of electricity prices for non-household consumers in EU, 2008-2023



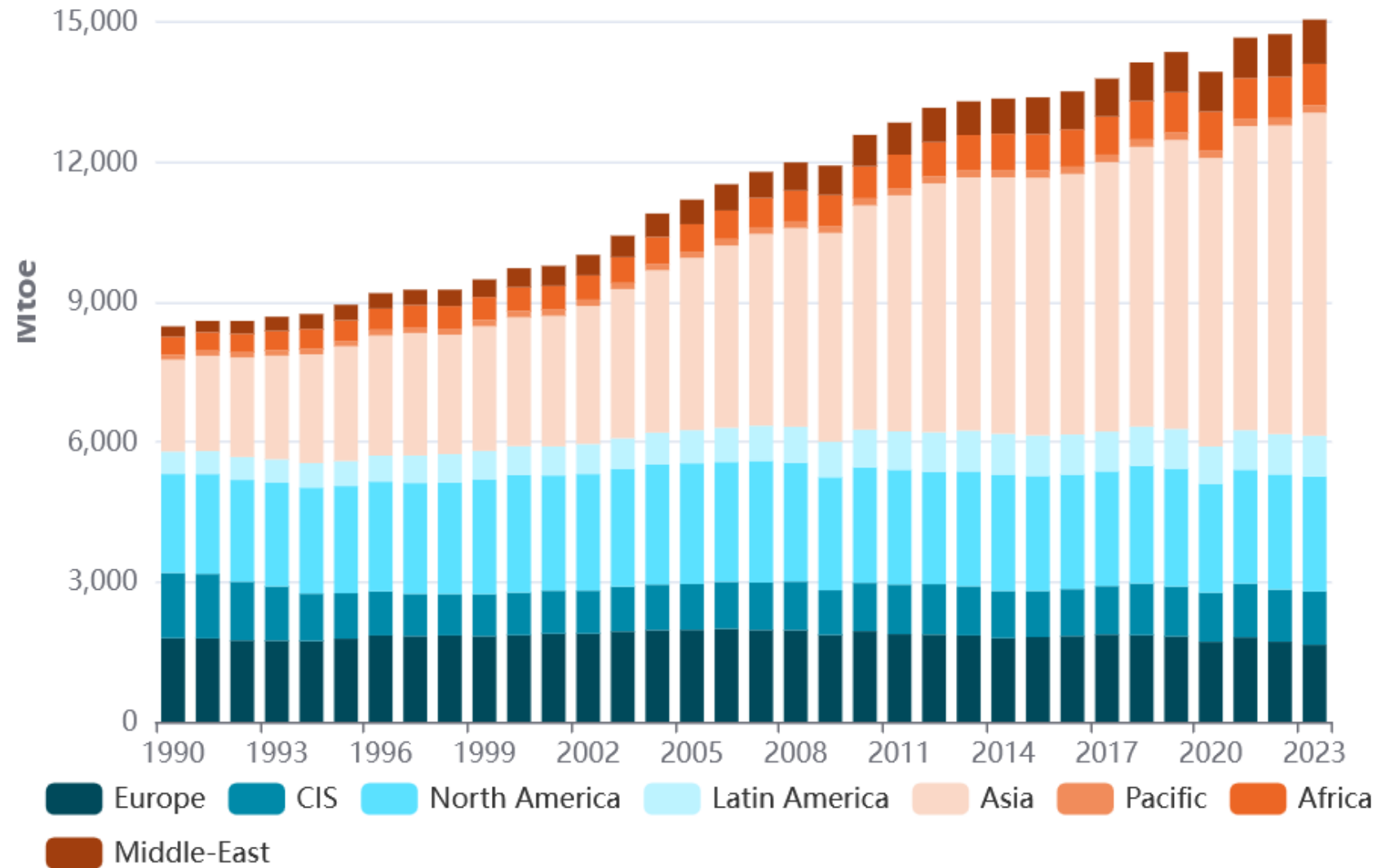
Source : ec.europa.eu/eurostat

Shares of global electricity generation by source in the Net Zero Scenario



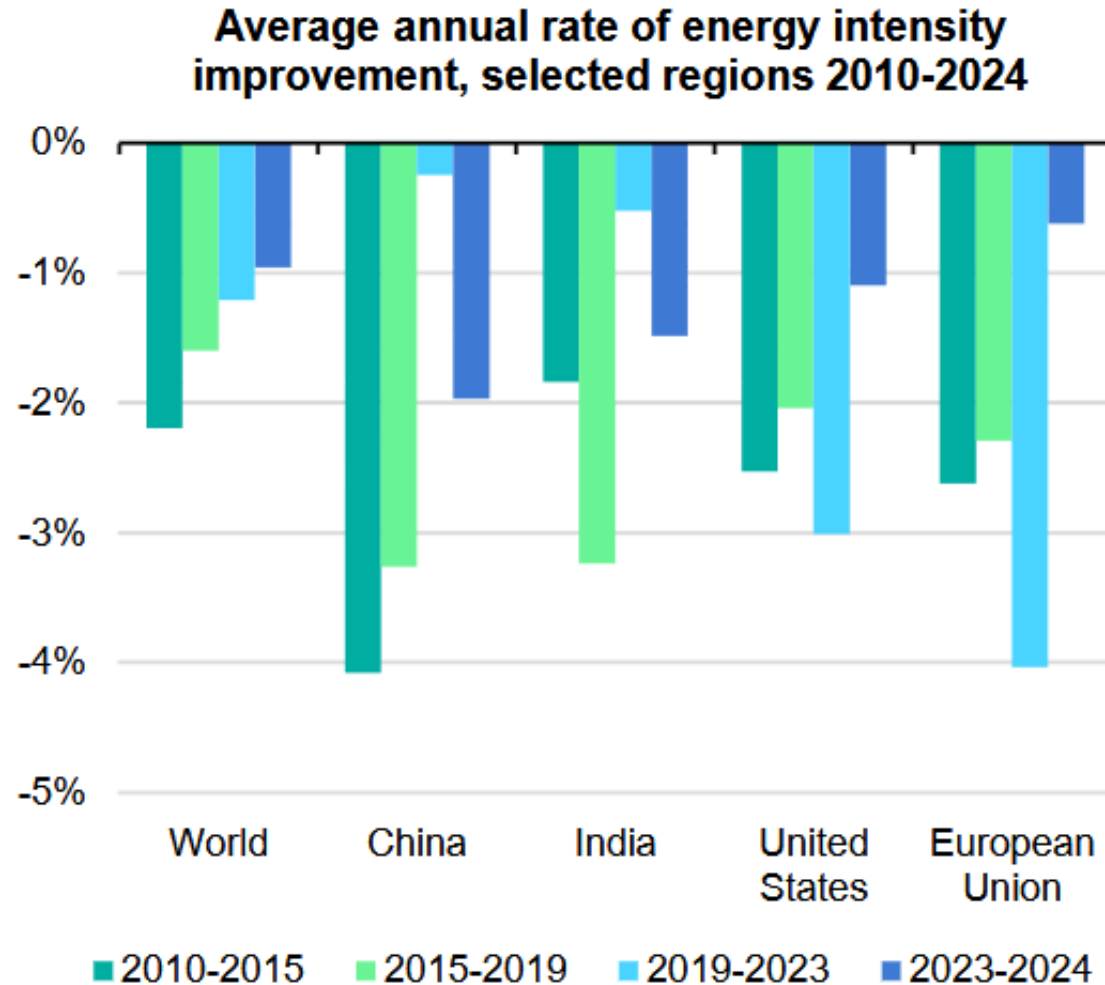
Source : [iea.org](https://www.iea.org)

Total energy consumption growth (% per year)



Source : enerdata.net

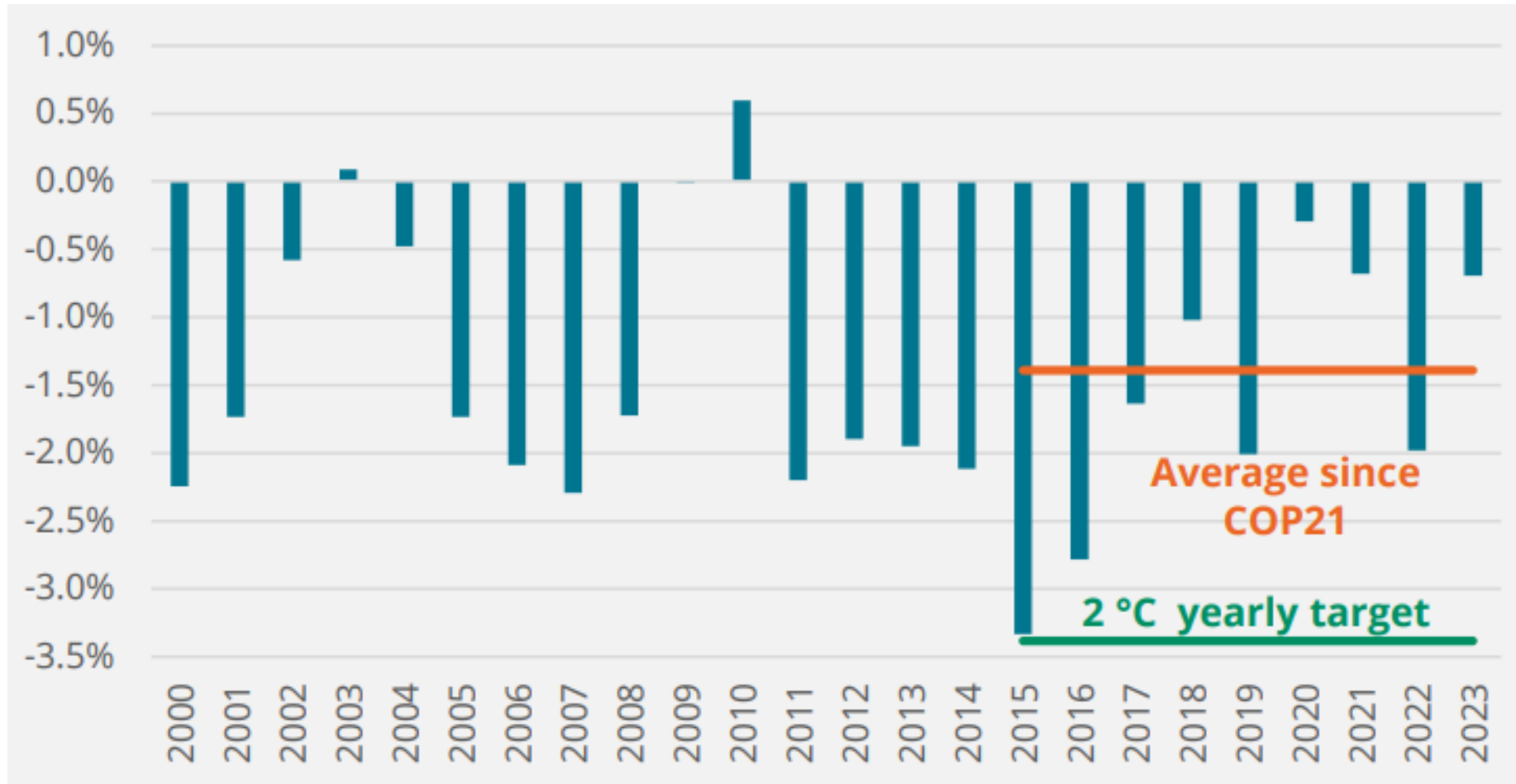
Energy intensity trends (% per year)



Energy intensity = Energy consumption / GDP

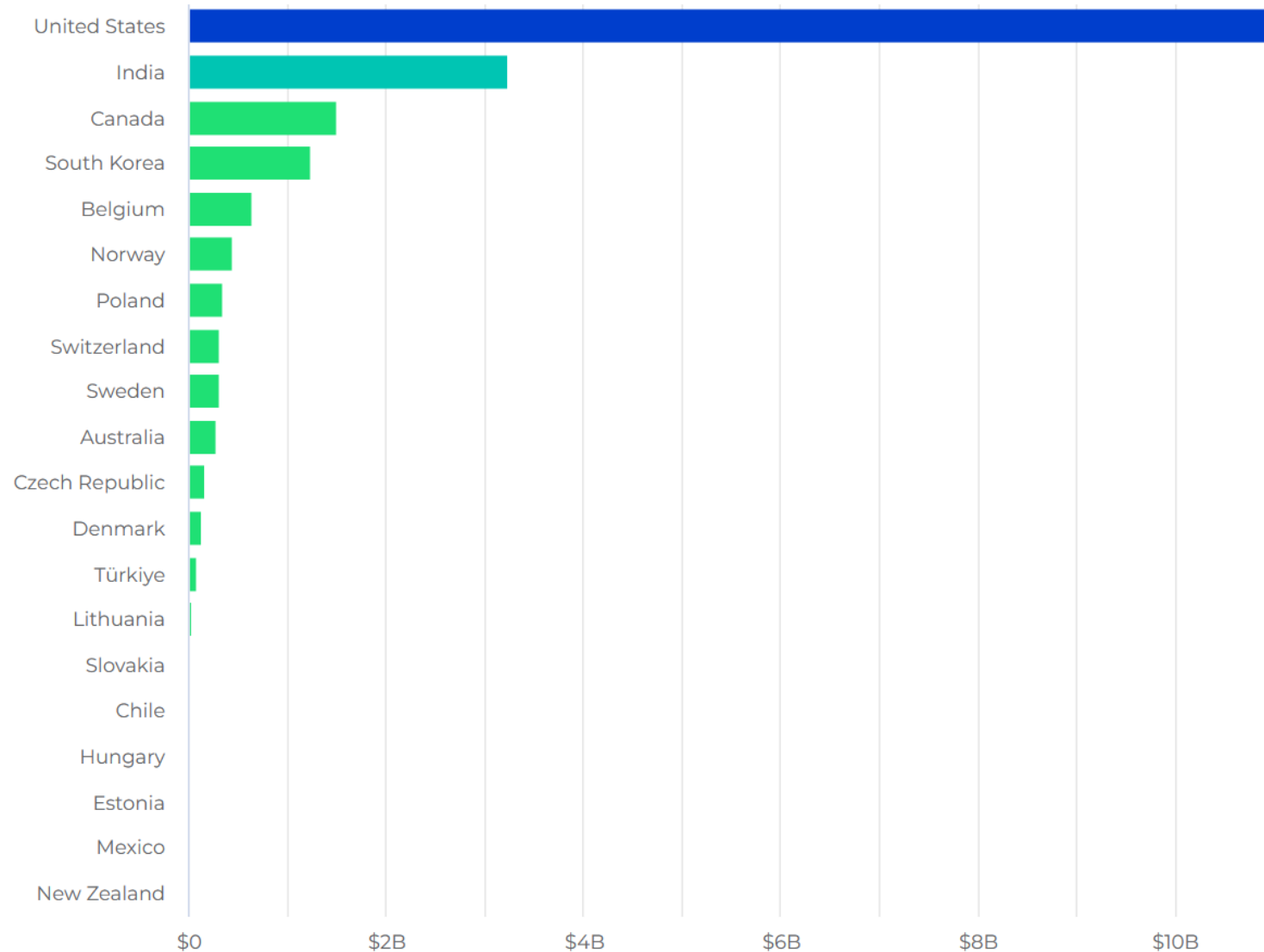
Source : enerdata.net

G20 energy intensity evolution



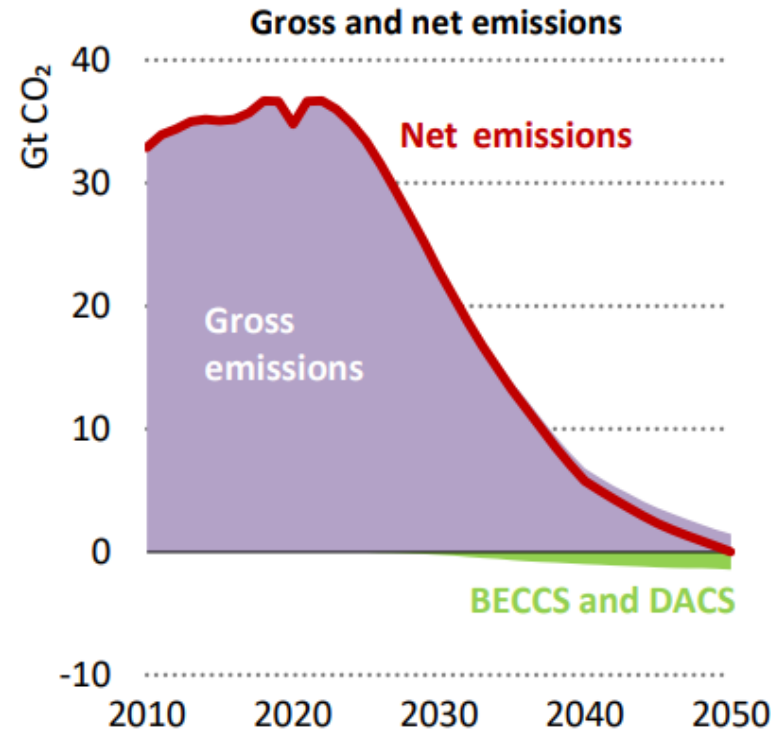
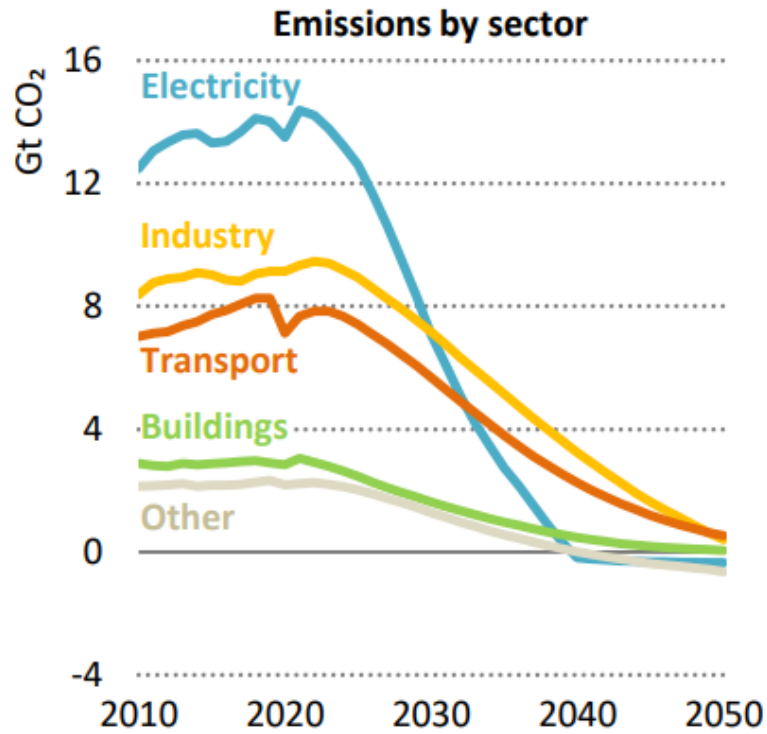
Source : enerdata.net

Public Energy RD&D budgets by country – 2023



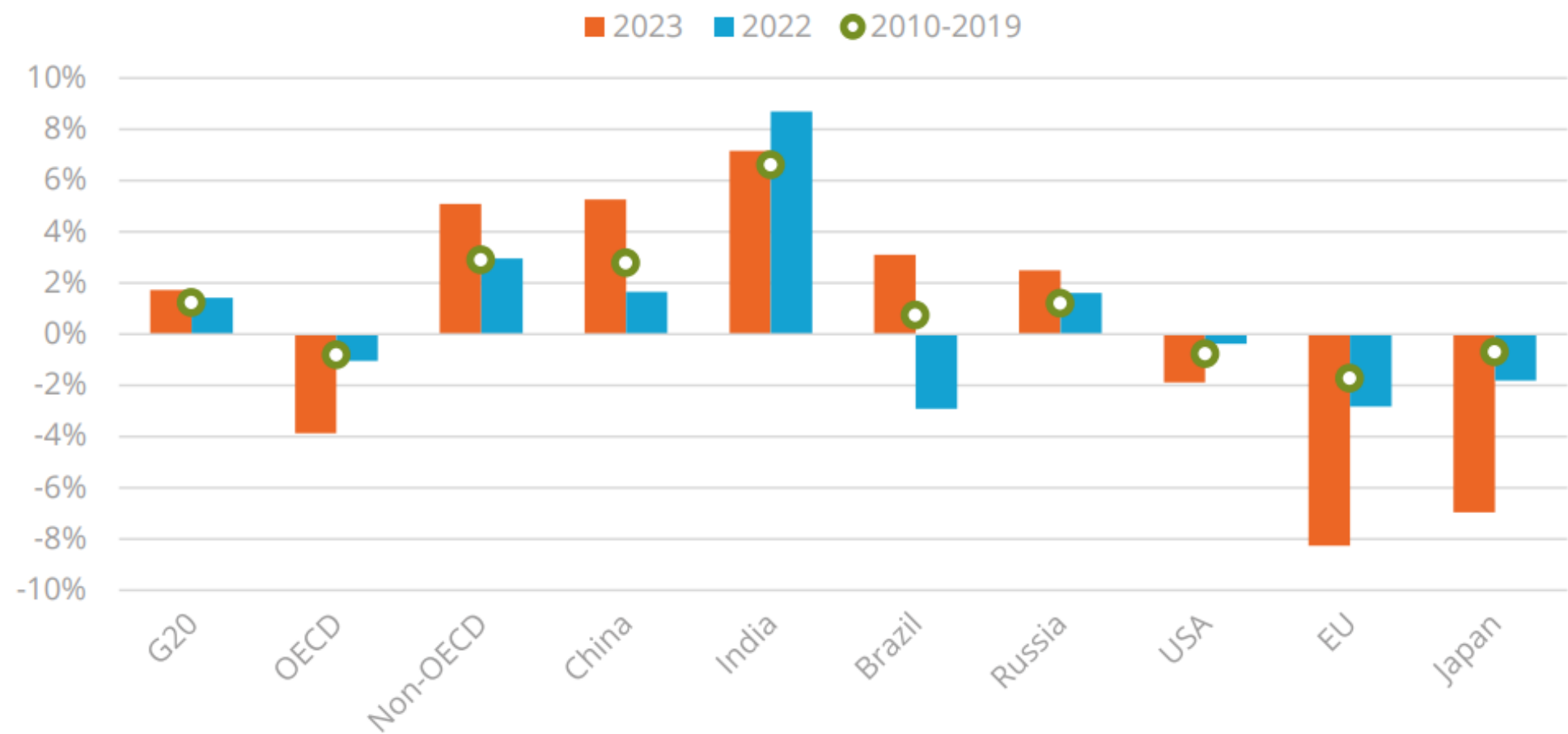
Source : [iea.org](https://www.iea.org)

Net Zero Emissions Scenario of IEA



- Between 2021 and 2030, CO₂ emissions from the energy sector decrease by more than **one-third** in the NZE Scenario, falling from 36.6 Gt today to less than 23 Gt in 2030
- Between 2031 and 2040, the speed of emissions reductions in the industry and transport sectors accelerates to almost 10% per year
- By 2050, all end-use sectors achieve emissions reductions of more than 90% compared to current levels, although residual CO₂ emissions

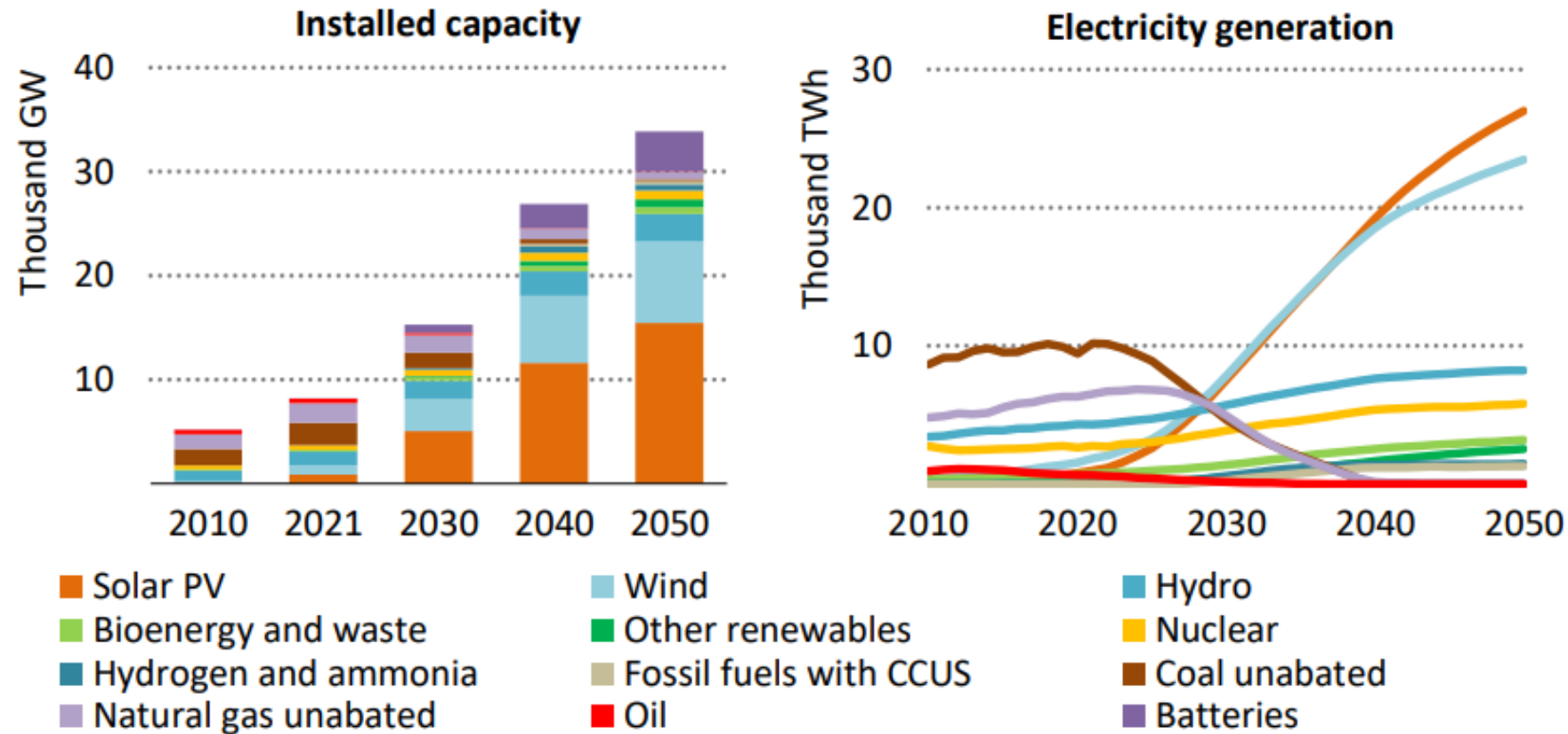
Energy-related (combustion) CO2 emissions (% per year)



Source : enerdata.net

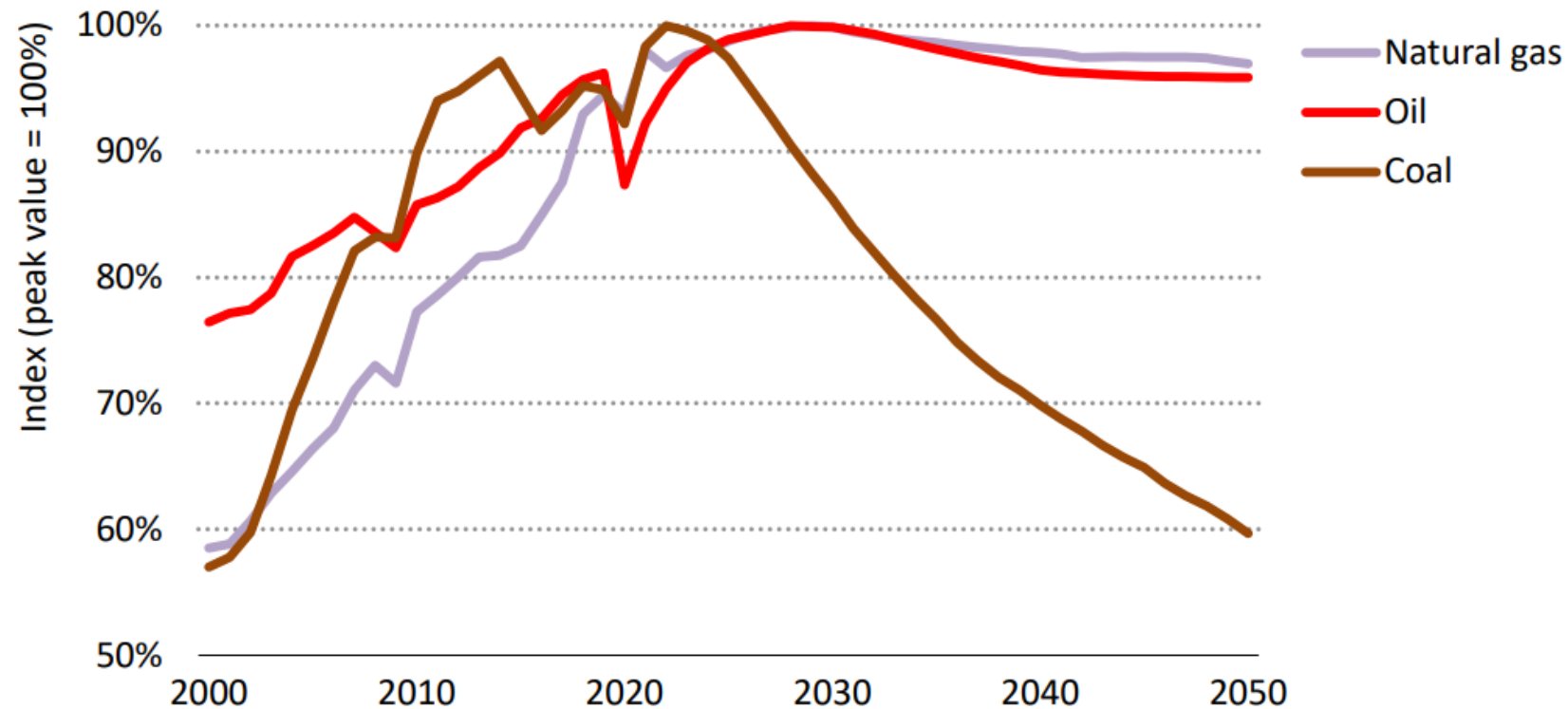
Electricity generation by source in the NZE Scenario

- Total electricity generation nearly triples to 2050, with a rapid shift away from unabated coal and natural gas to low-emissions sources, led by solar PV and wind



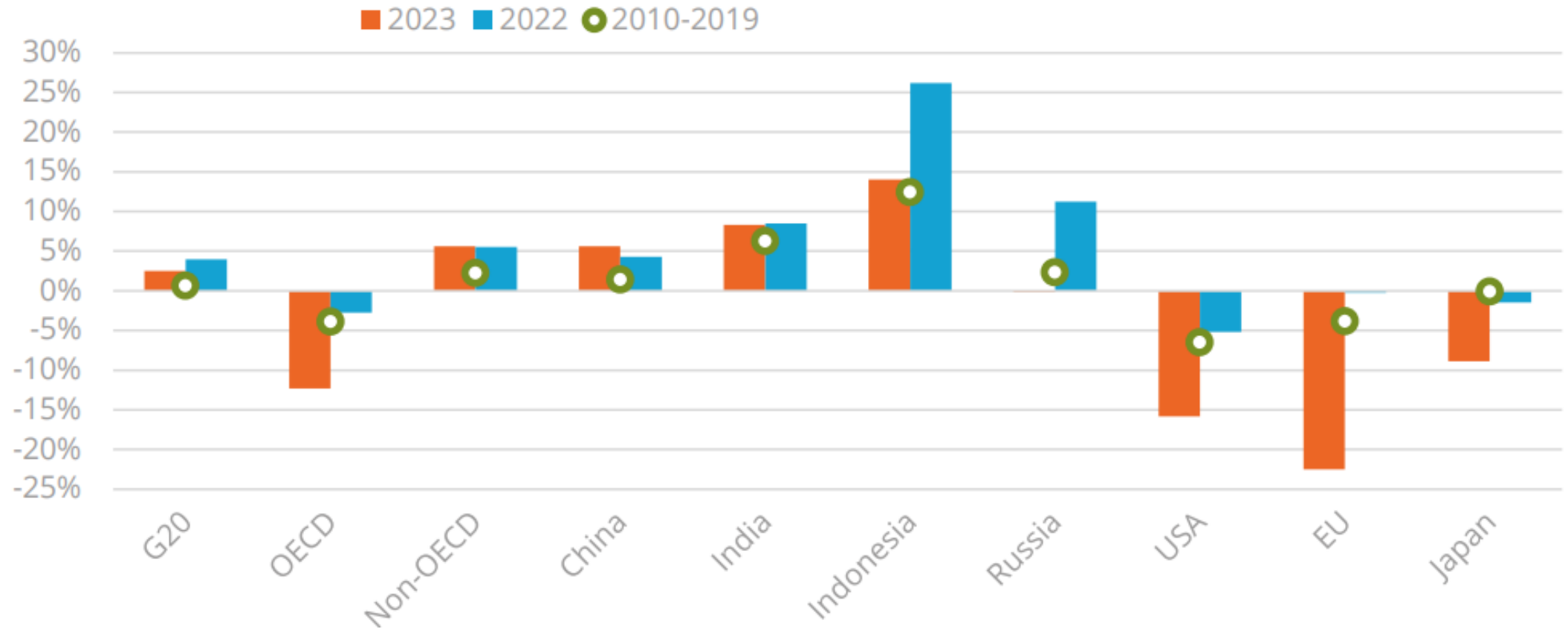
Source : [iea.org](https://www.iea.org)

Fossil fuel consumption by type according to the STEPS (Stated Policies Scenario)



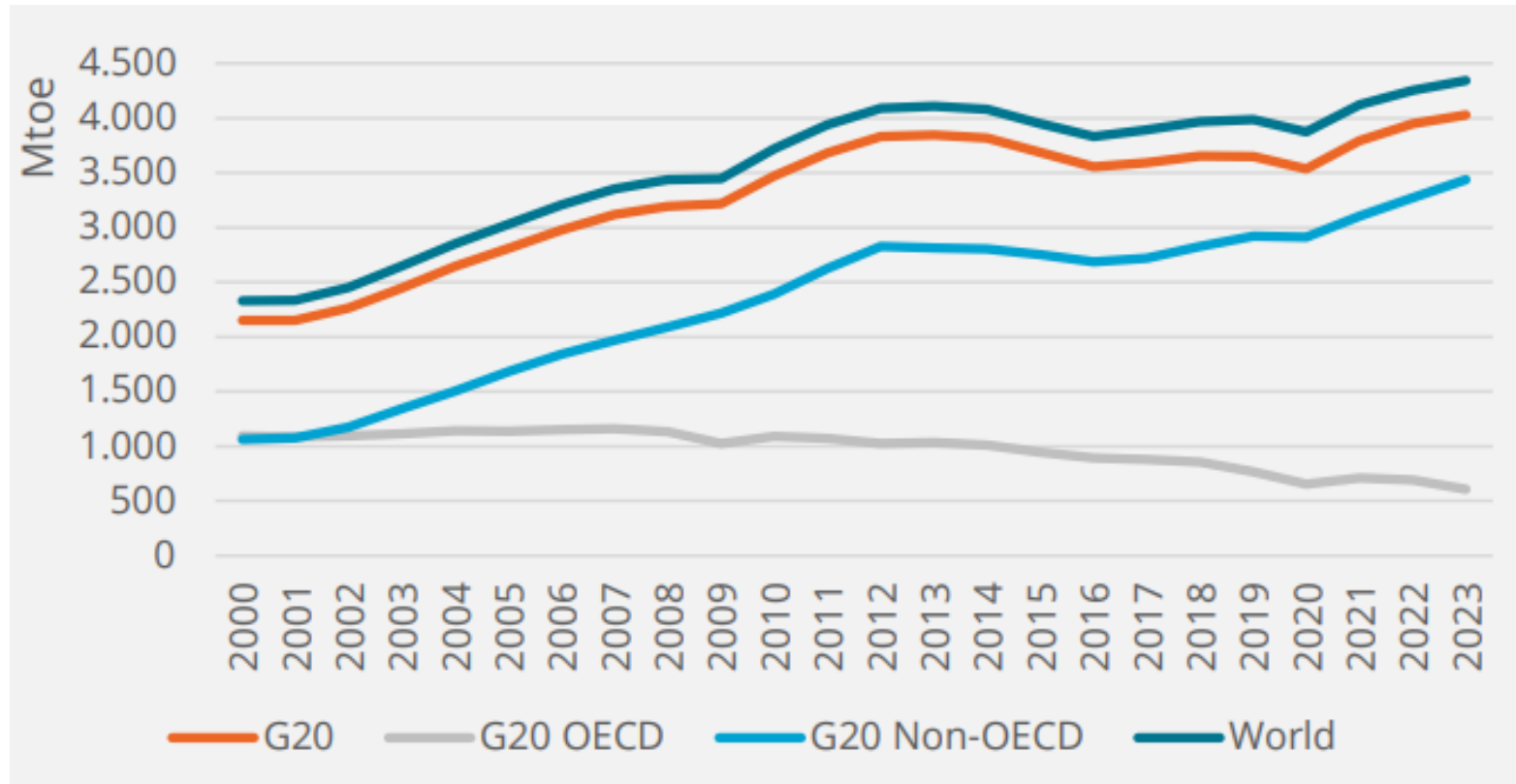
- All fossil fuels peak before the end of this decade, with declines in advanced economies and China offsetting increasing demand elsewhere

Trends in coal consumption (% per year)



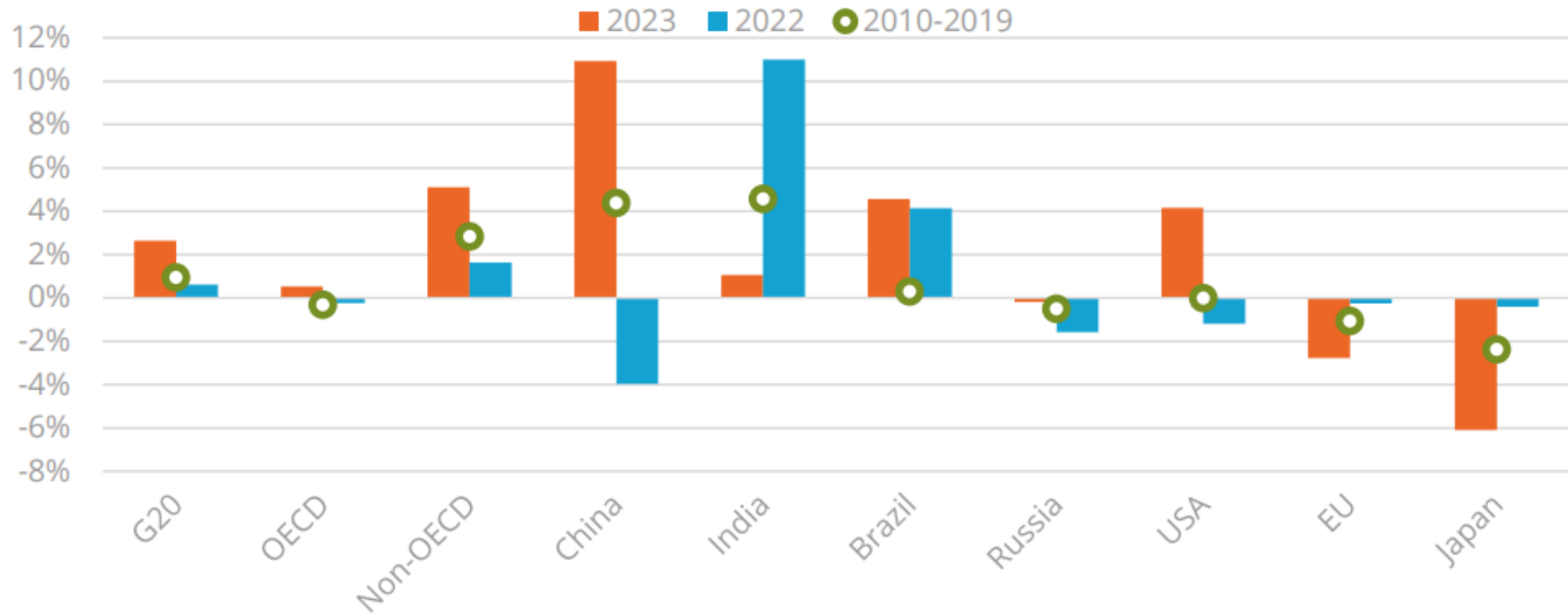
Source : enerdata.net

Primary coal consumption mega tonnes of oil equivalent (Mtoe)



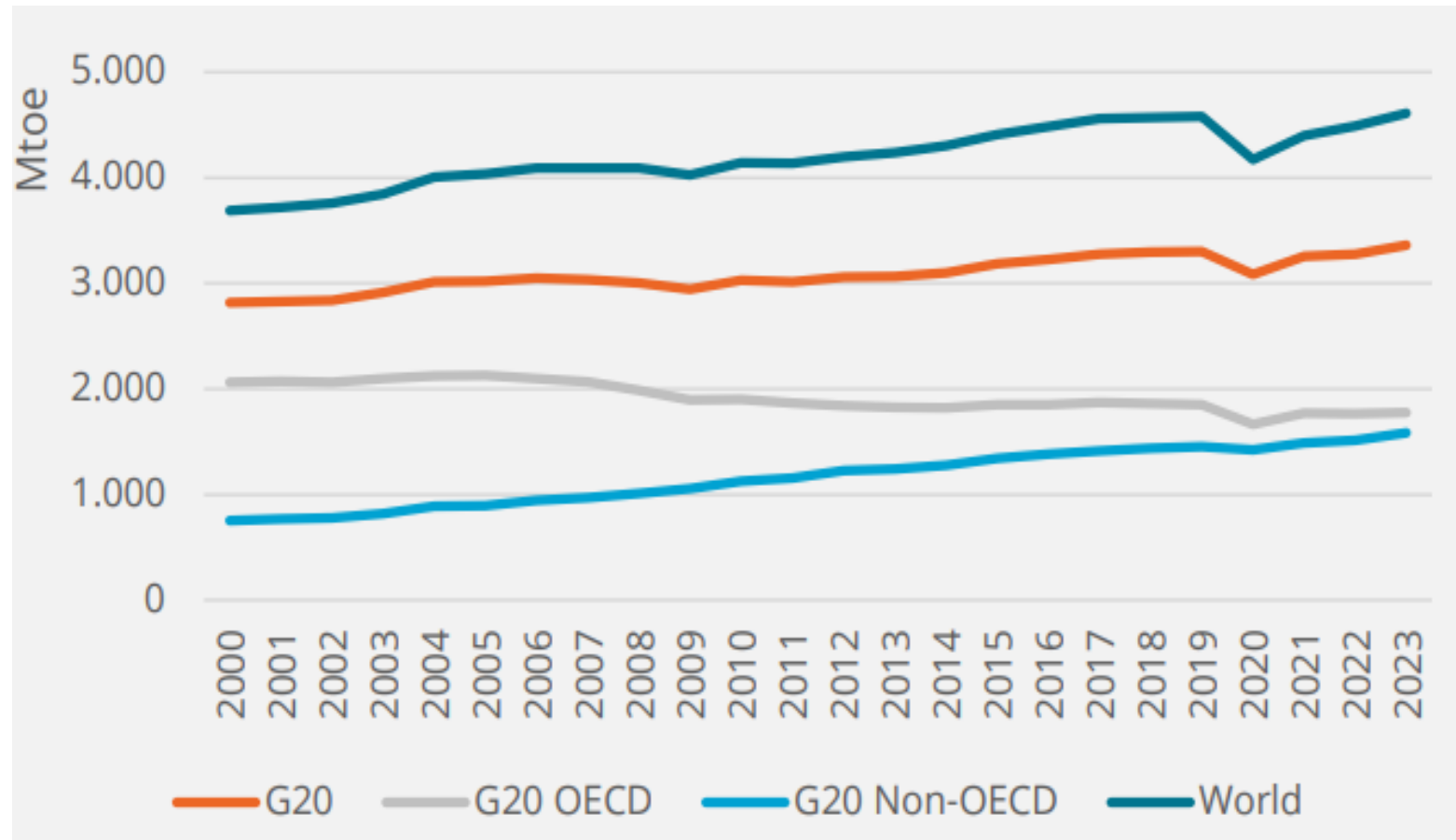
Source : enerdata.net

Trends in oil consumption (% per year)



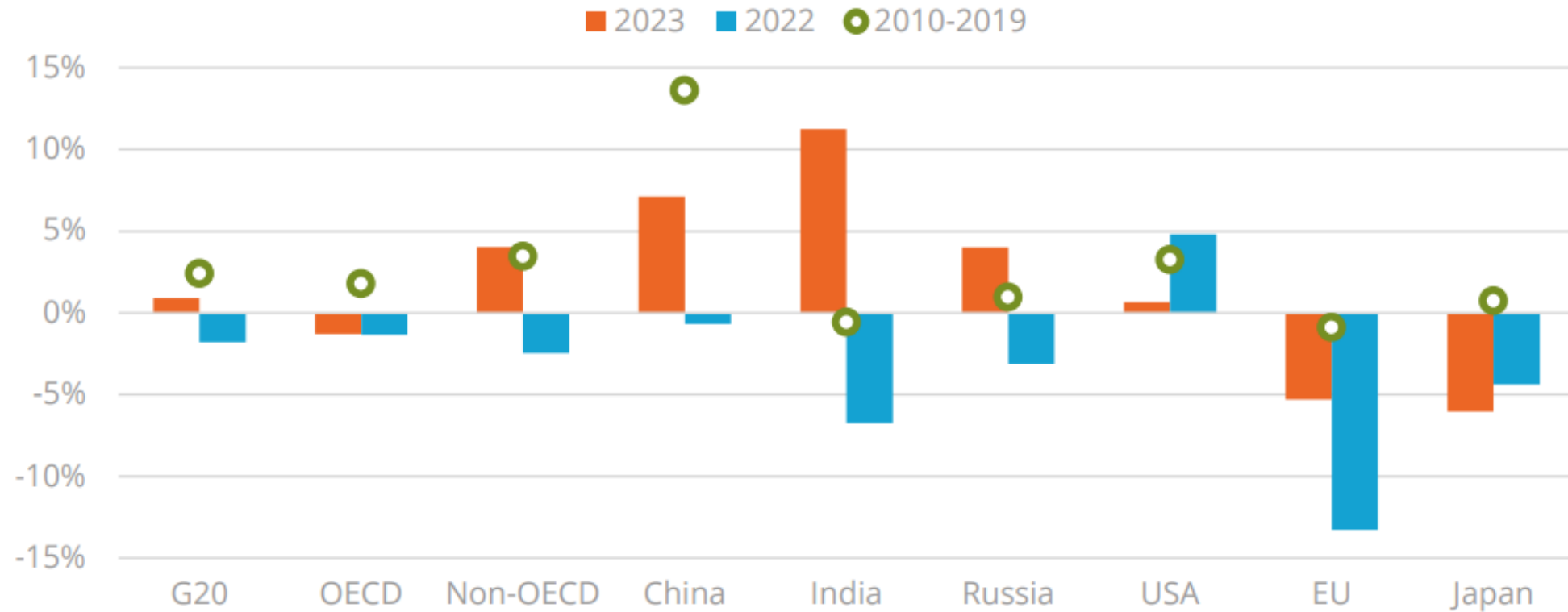
Source : enerdata.net

Primary oil consumption (Mtoe)



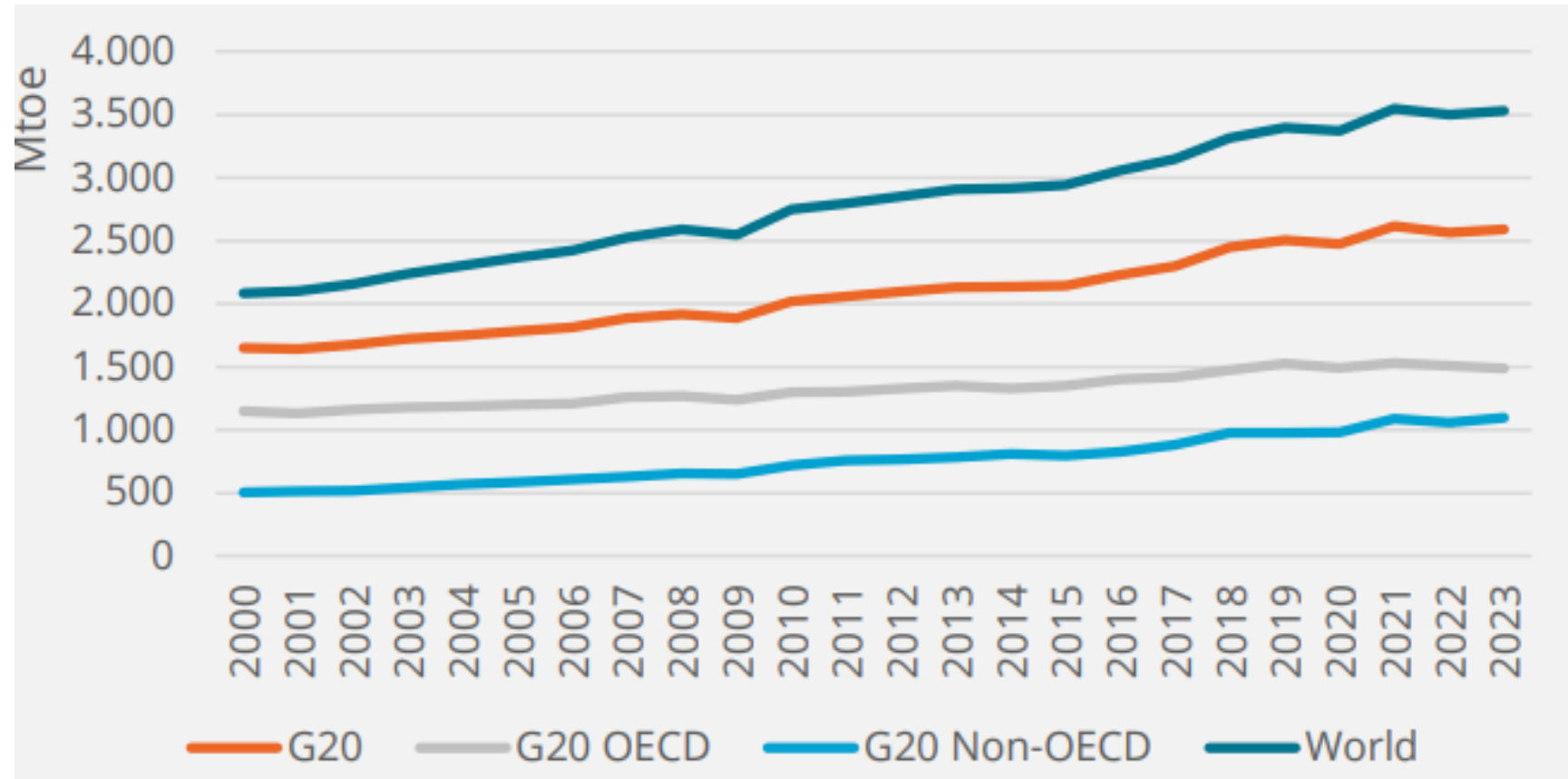
Source : enerdata.net

Trends in gas consumption (% per year)



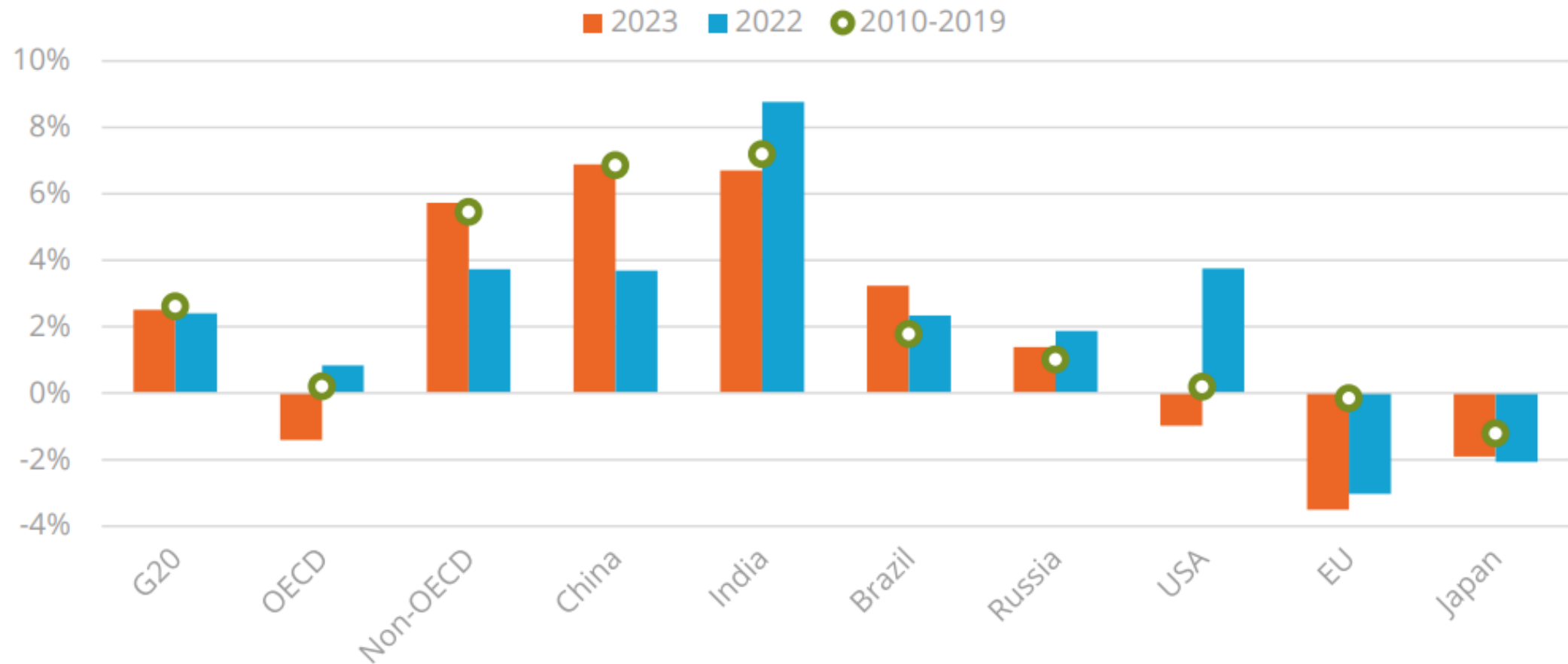
Source : enerdata.net

Natural gas consumption (Mtoe)



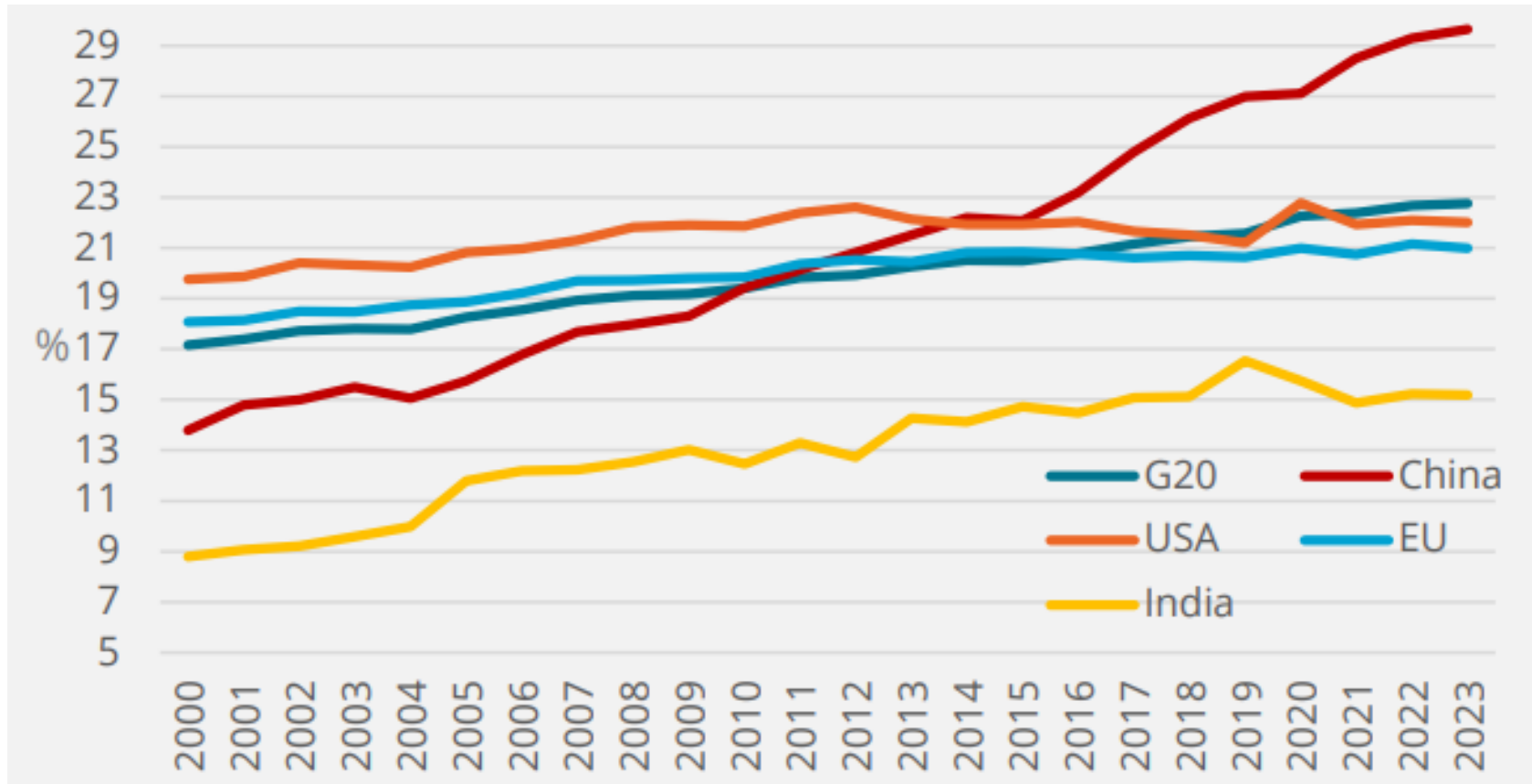
Source : enerdata.net

Trends in electric consumption (% per year)



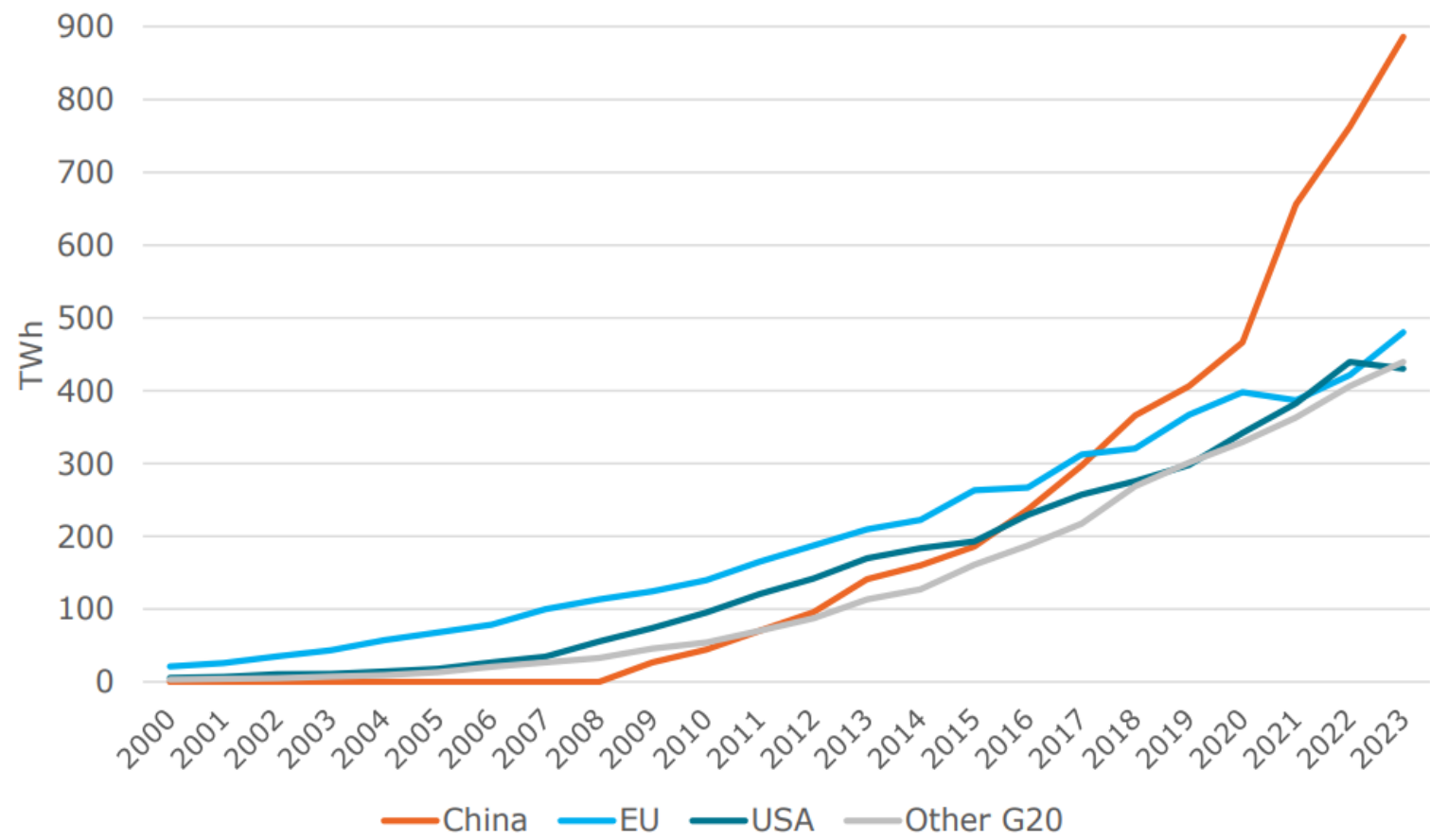
Source : enerdata.net

Share of electricity in final energy consumption



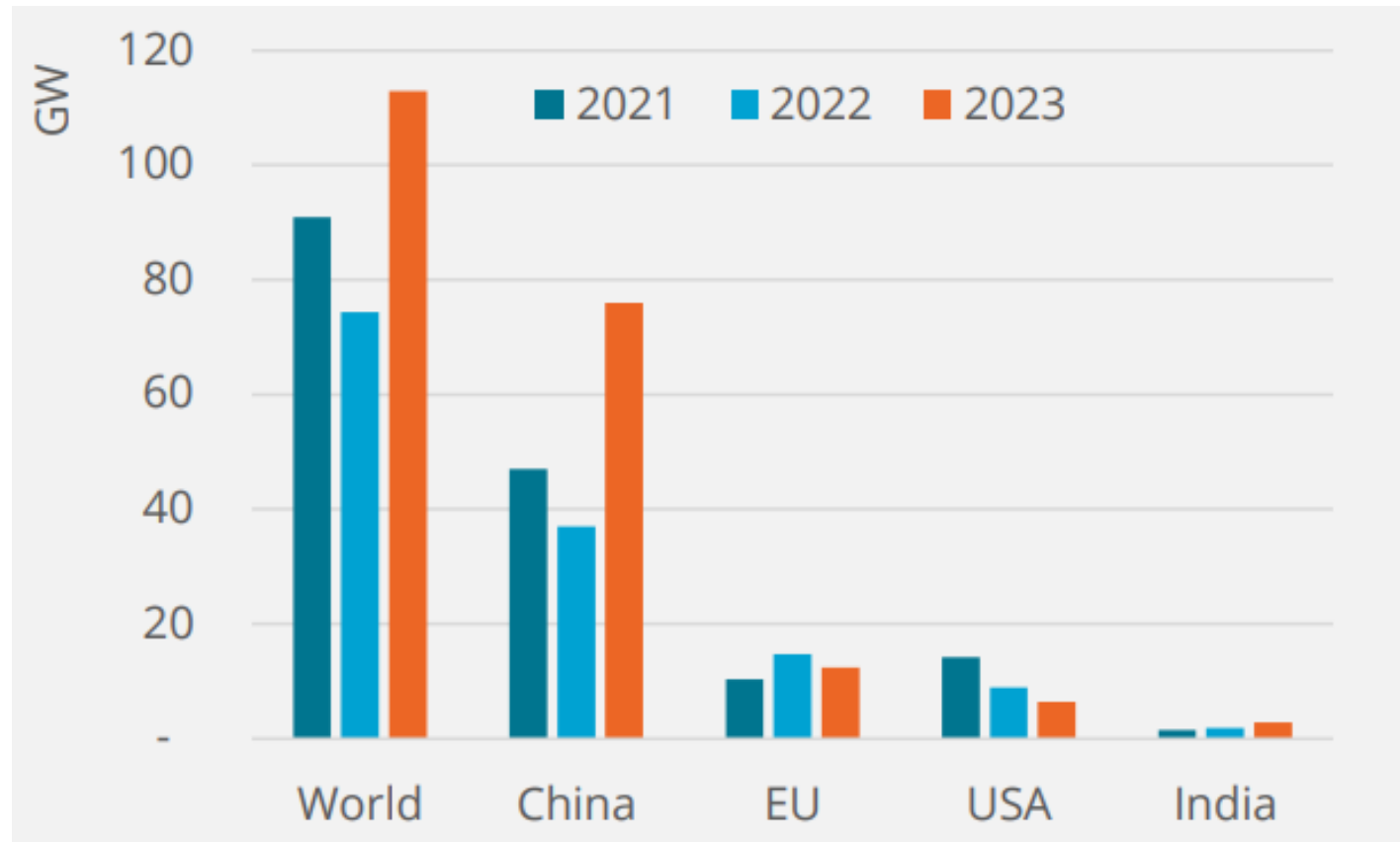
Source : enerdata.net

Wind power generation in the main G20 countries (TWh)



Source : enerdata.net

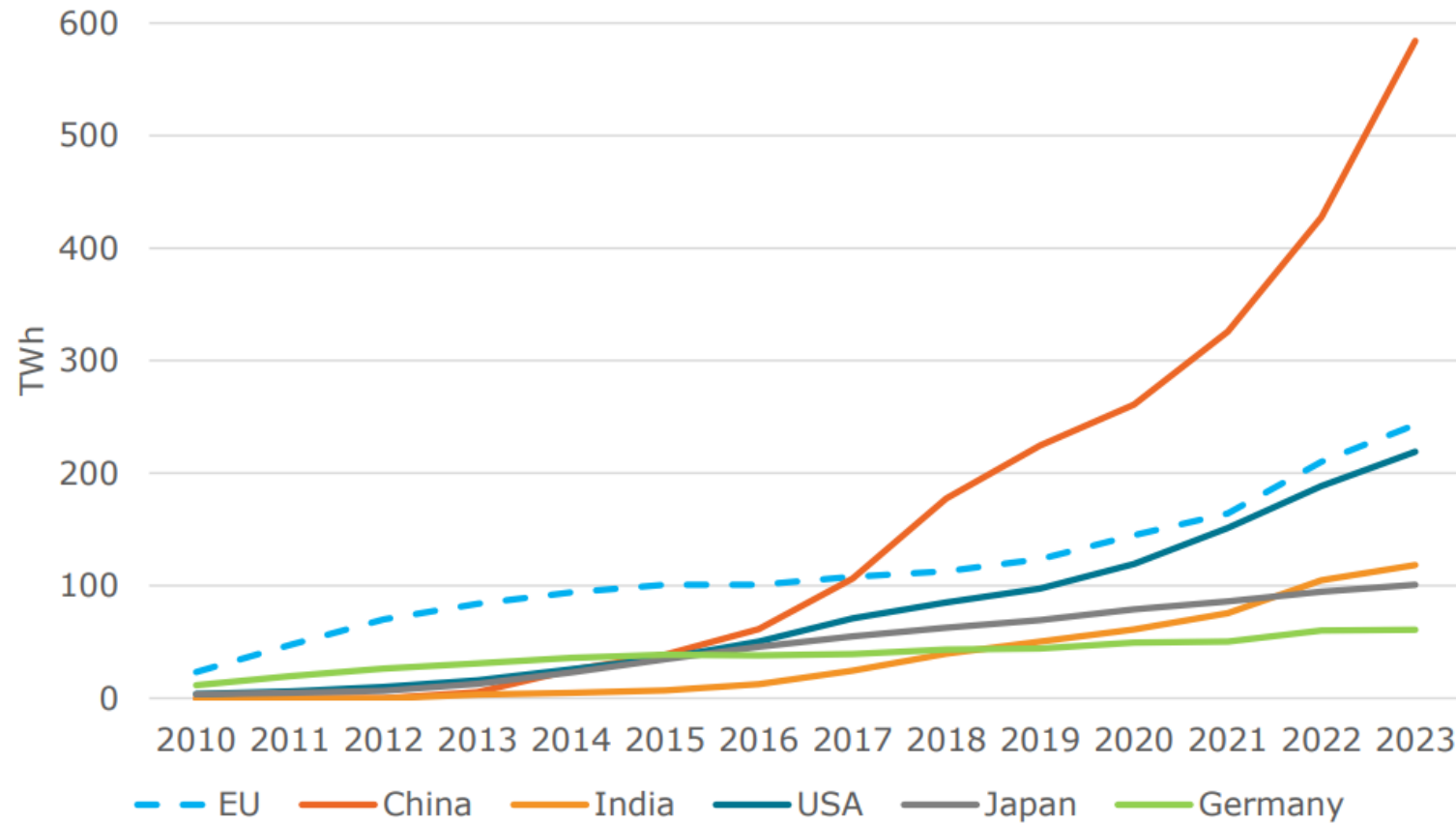
Wind power: new capacity additions (GW)



New record in wind installations (+113 GW)

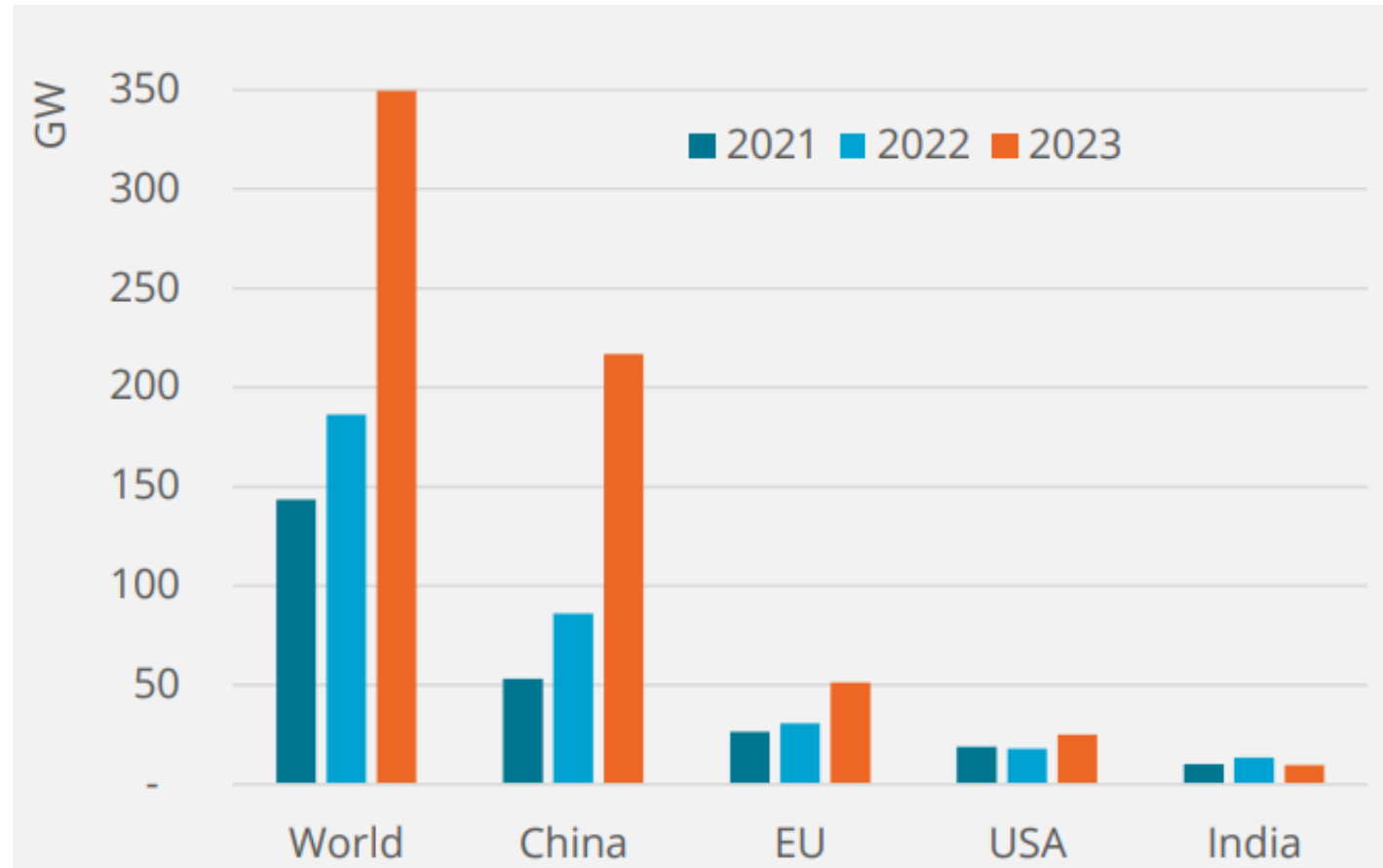
Source : enerdata.net

Solar power generation in the main G20 countries (TWh)



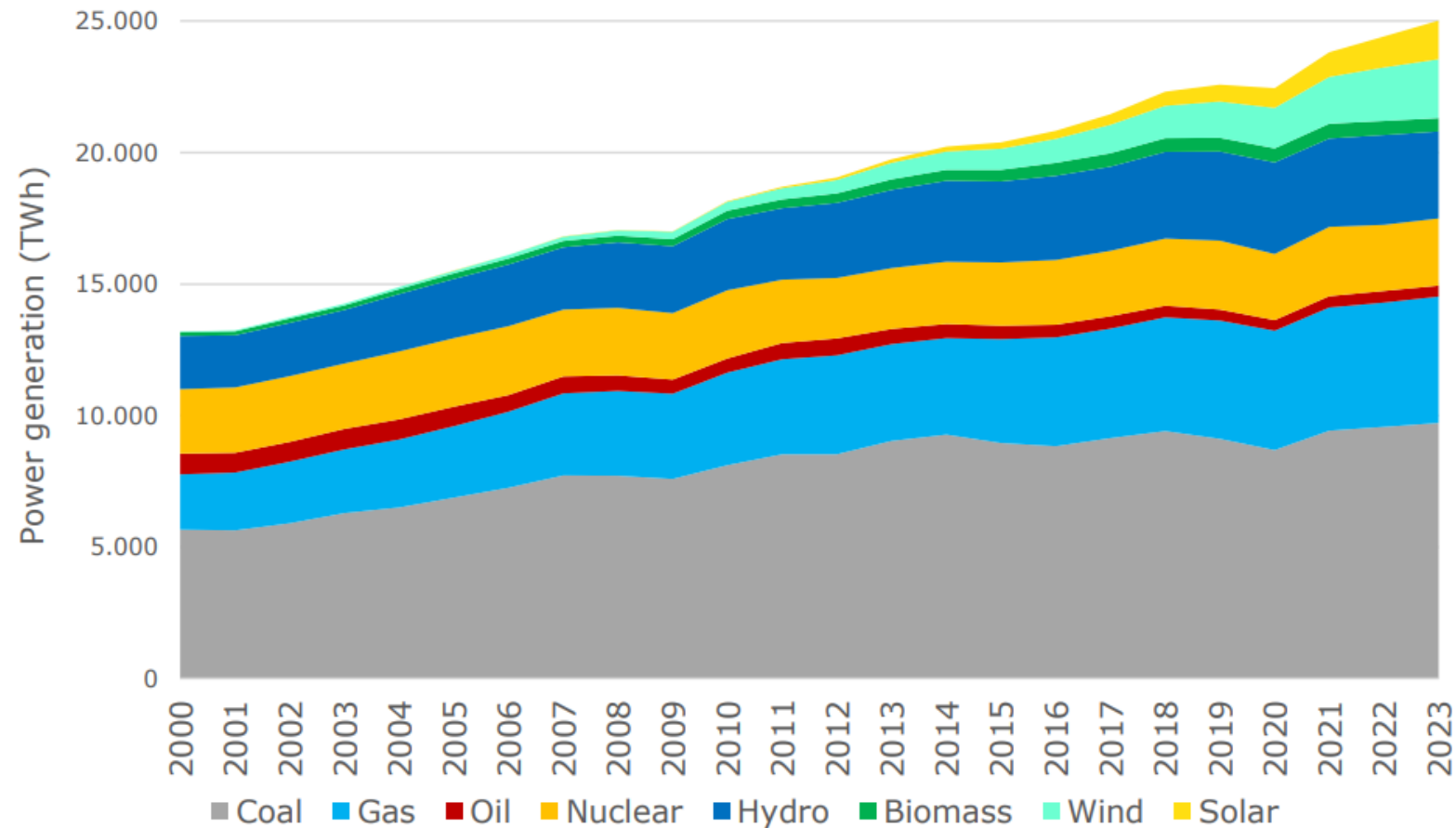
Source : enerdata.net

Solar power: new capacity additions (GW)



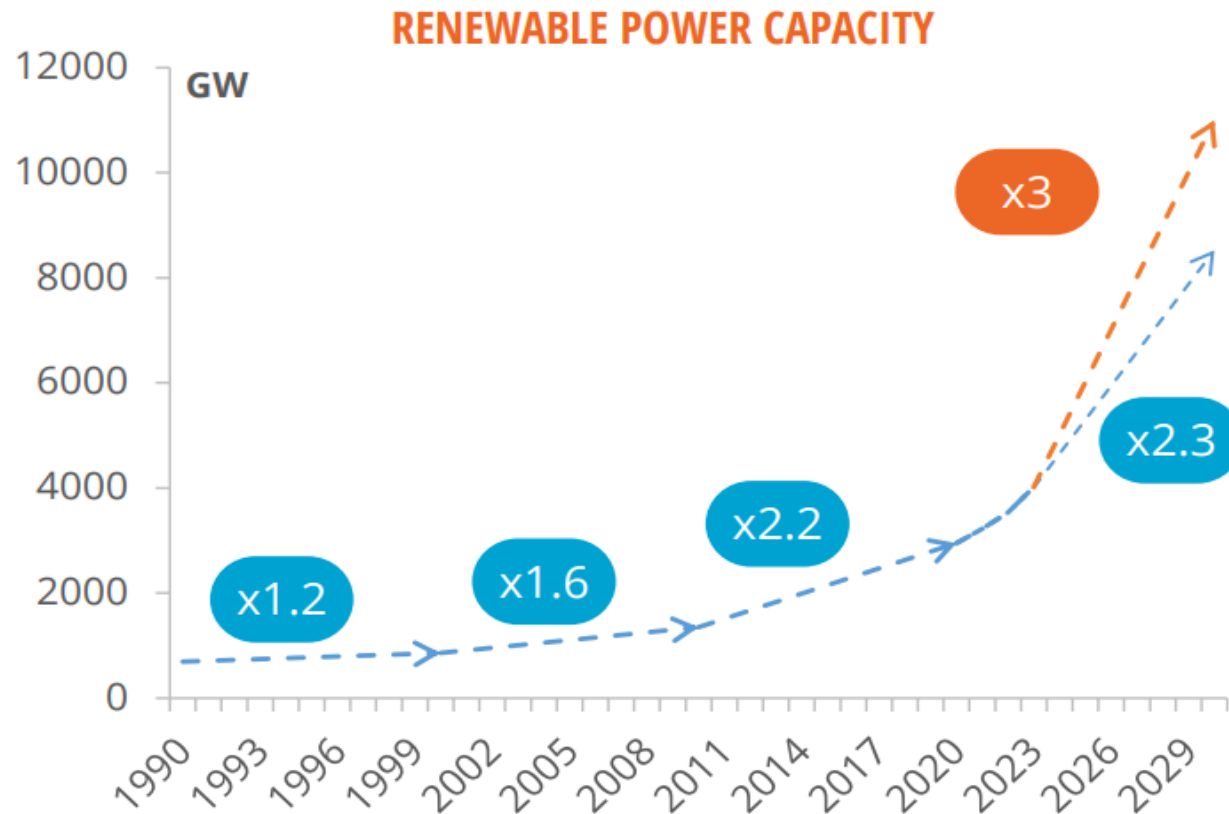
Source : enerdata.net

Evolution of power generation by source - G20



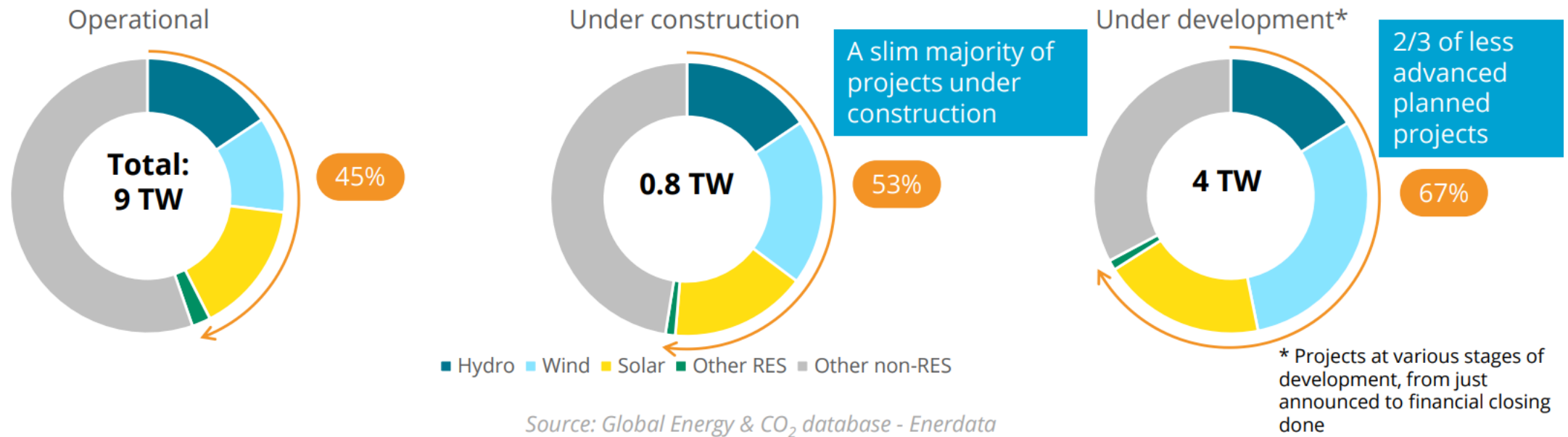
Source : enerdata.net

Renewable energy capacity (GW)



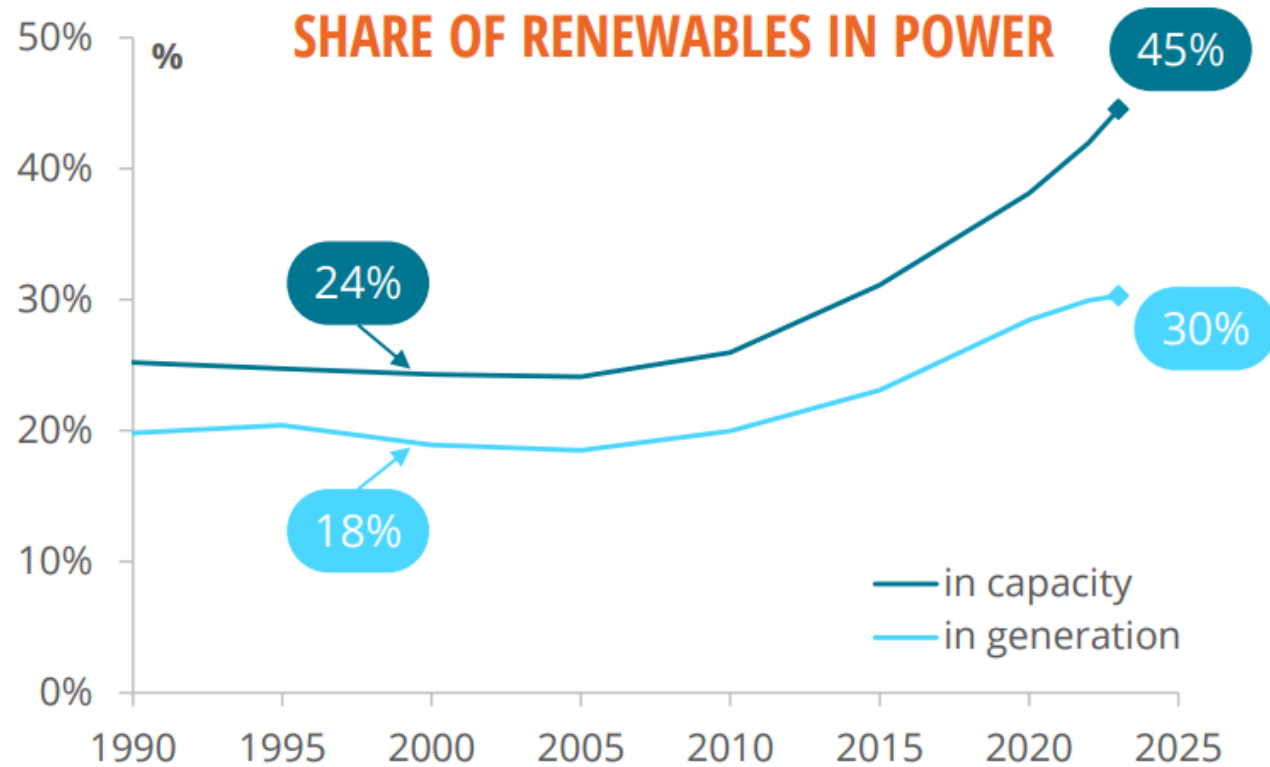
Renewables clearly on an upward trend but tripling capacity requires a major boost by **+16%/year**

Trends in renewable energy shift



Accelerating trend, but fossil-based capacities are still being constructed and planned

Share of renewables in power



Renewable capacity grows in absolute terms, also in share of total power capacity: from 24% in 2000 to 45% in 2023

But not without issues to consider...

- “Hexa Climate acquires Fortum's India renewables portfolio, plans \$500 million investment”
 - April 2025, reuters.com
- “Oil market exhibits unusual 'smile' shaped futures curve amid global demand uncertainties”
 - April 2025, ft.com
- “Renewable energy set to overtake coal for first time in 2025, says IEA”
 - January 2025, newsflash.tdsynnex.co.uk
- “S&P Global forecasts 2025 energy demand surge to outpace clean energy growth, increasing emissions”
 - December 2024, spglobal.com
- “China expected to reach renewable energy targets five years ahead of schedule, leading global installations”
 - March 2025 renewableenergyhub.co.uk

Data Summarised by EPMA



For more information about the European Powder Metallurgy Association, please visit our website: www.epma.com

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