

Chapter 1: Executive Summary

Slide 3

- Key Findings
- Top Macroeconomic & Automotive Industry Issues

Chapter 2: European Outlook to 2035

Slide 7

- EU Macroeconomic Factors
- European Light Vehicle Production & Sales Forecast to 2035

Chapter 3: National Markets Outlook to 2035

Slide 11

- National Markets' EV Incentives
- German Light Vehicle Production & Sales Forecast to 2035
- UK Light Vehicle Production & Sales Forecast to 2035
- France Light Vehicle Production & Sales Forecast to 2035
- Italy Light Vehicle Production & Sales Forecast to 2035
- Spain Light Vehicle Production & Sales Forecast to 2035

Chapter 4: New Market Entrants

Slide 23

- New Players Potentially Disrupting Europe
- New Players Disrupting Sales In Europe (1)
- New Players Disrupting Sales In Europe (2)

Chapter 5: Conclusions

Slide 28

- Macroeconomic Headwinds
- Recovery Phases
- Electrification
- Supply Chain Fragility
- Logistics

Chapter 6: Contacts

Slide 30

01

Executive Summary

The European automotive market faces multiple headwinds and a long road to recovery

Key Findings

- 2022 European light vehicle production to grow by 5.8% YoY to 14.05m units, but this is still 3.84m units below pre-pandemic levels
- 2022 European light vehicle sales to grow 5.4% YoY to 14.27m units, but this is still 3.73m units below pre-pandemic levels
- Volume growth is welcome, but is only partly recovering considerable lost ground from the pandemic and semiconductor shortages
- Supply & demand imbalances that were experienced through 2020/2021 will more closely align in 2022
- But volumes are still fundamentally restrained by production constraints, i.e. semiconductors, rather than demand side factors
- Multiple headwinds mean pre-pandemic EU production and sales volumes are unlikely to be reached until 2027-29
- Varying incentives & stimulus packages means different EU nation states are likely to recover at a different pace
- However, EV & PHEV volumes are bucking the trend and experiencing ~20% annual growth rates
- New OEM market entrants are just 0.6% of EU sales volume and will remain minor players, at least in the near term

Top Macroeconomic & Automotive Industry Issues

1. Potential Ukraine/Russia conflict

- Diplomatic solution – **most likely**. The following forecasts assume this outcome
- Localised conflict – **moderately likely**. Could impact vehicle plants in Poland, Romania, Slovakia, Hungary & Russia
- Full NATO / Russian war – **least likely**

2. Macroeconomic headwinds

- Inflationary pressures are increasing energy, fuel and food prices, and impacting consumer confidence and discretionary incomes
- Rising energy, fuel, materials, labour and shipping costs impacting business costs and also driving inflation

3. Semiconductor/materials shortages

- Chip shortages expected to continue through 2022 and 2023. Severe weather events and plant fires compounding the shortages

4. Logistics capacity crunch

- Inbound supply chains disrupted by continuing component shortages & driver shortages
- FVL providers cut asset capacity in the downturn, but as volumes recover, now don't have the reserves to invest in new capacity

5. Ongoing covid recovery

- Unwinding of government support & now tax rises are weakening economic confidence. Potential for yet more variants / waves

6. New car prices are rising

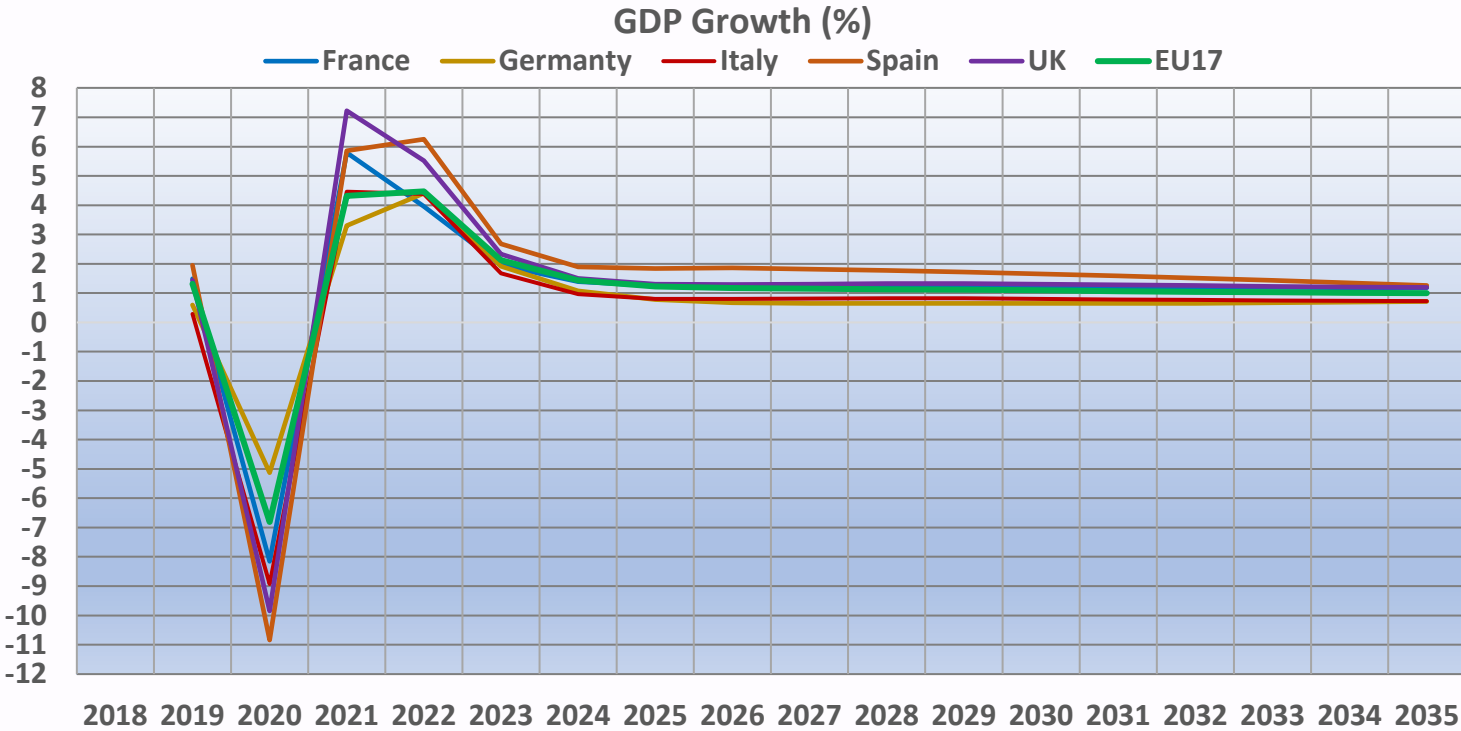
- Environmental & safety mandates, rising energy & materials costs are all driving up vehicle prices, making cars less affordable

02

European Outlook to 2035

Strong GDP recovery is masked by inflationary pressures impacting consumer sentiment
Semiconductor & other shortages persist, constraining supply chains & production

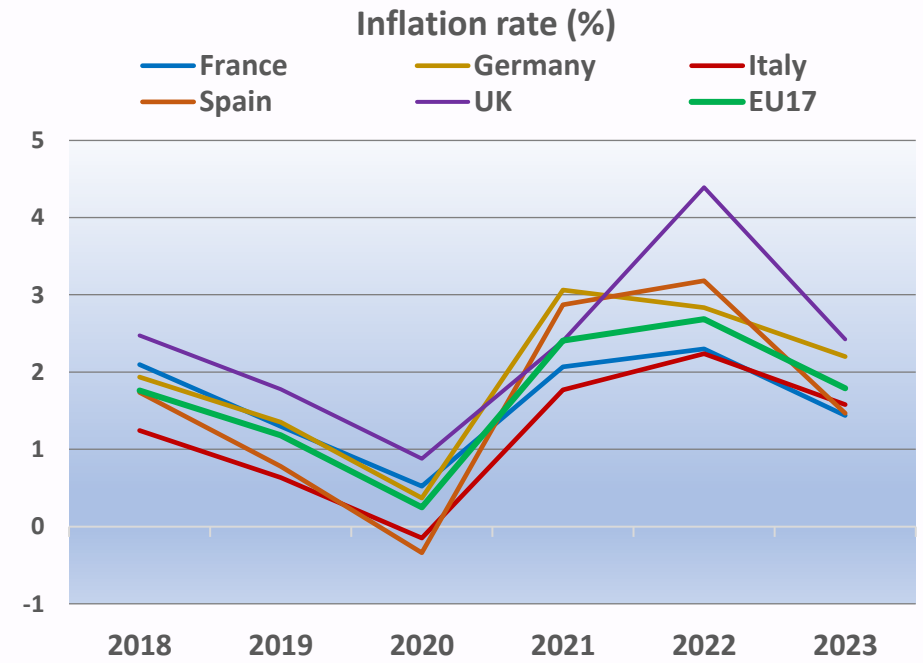
EU Macroeconomic Factors



Source: OECD 2022

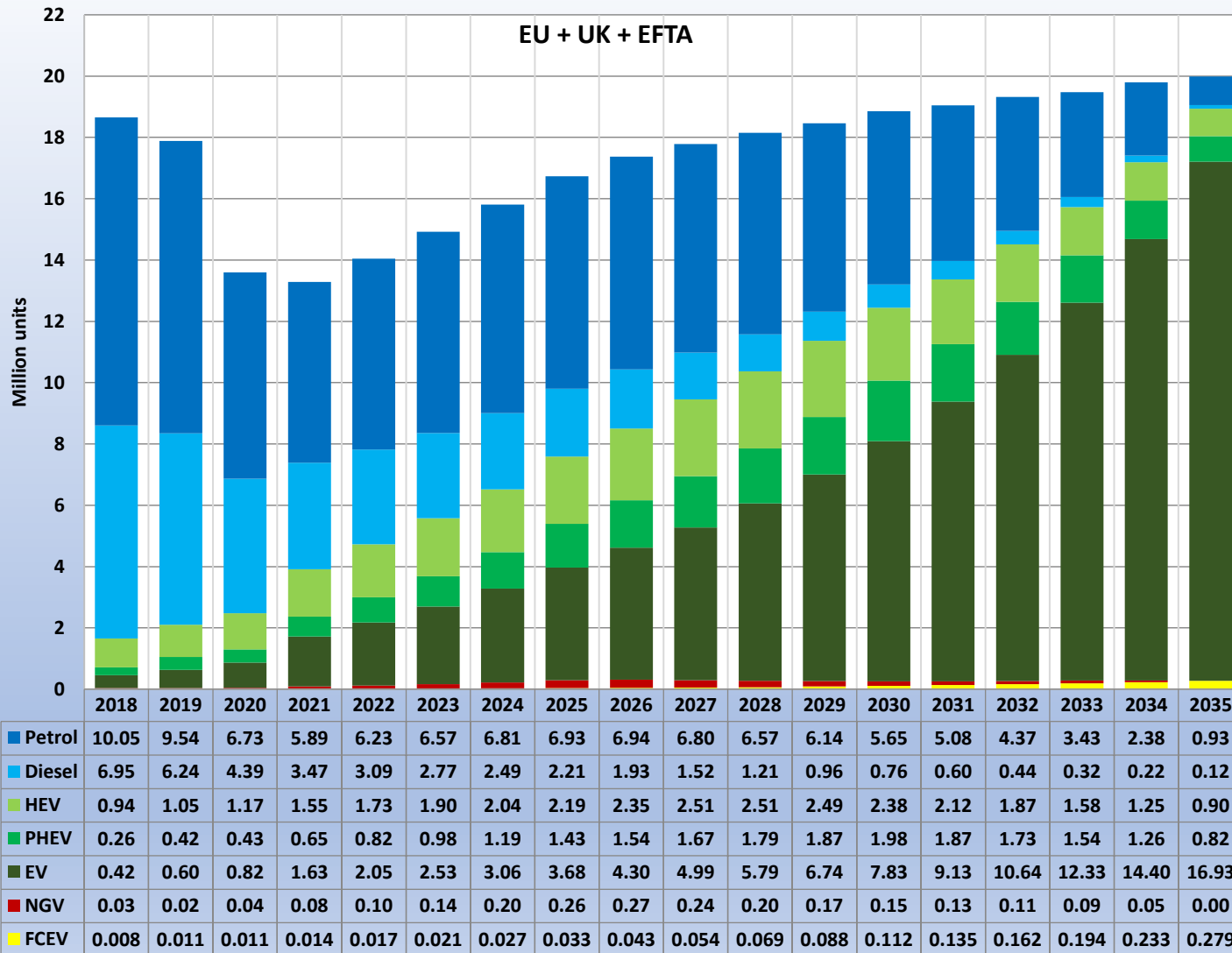
- Strong GDP rebound indicates a V-shaped recovery that is largely due to government monetary / fiscal intervention.
- But this is not real growth as it is only recovering lost ground and quickly subsides back to a low/stagnant trend in European GDP growth rates of 1%-2%

- Inflation is the major factor for 2022 (fuel, energy, food, materials, transport) and will impact consumer discretionary spending on big-ticket items such as vehicles
- But inflation is expected to subside in 2023 to trend levels of ~2%



Source: OECD 2022

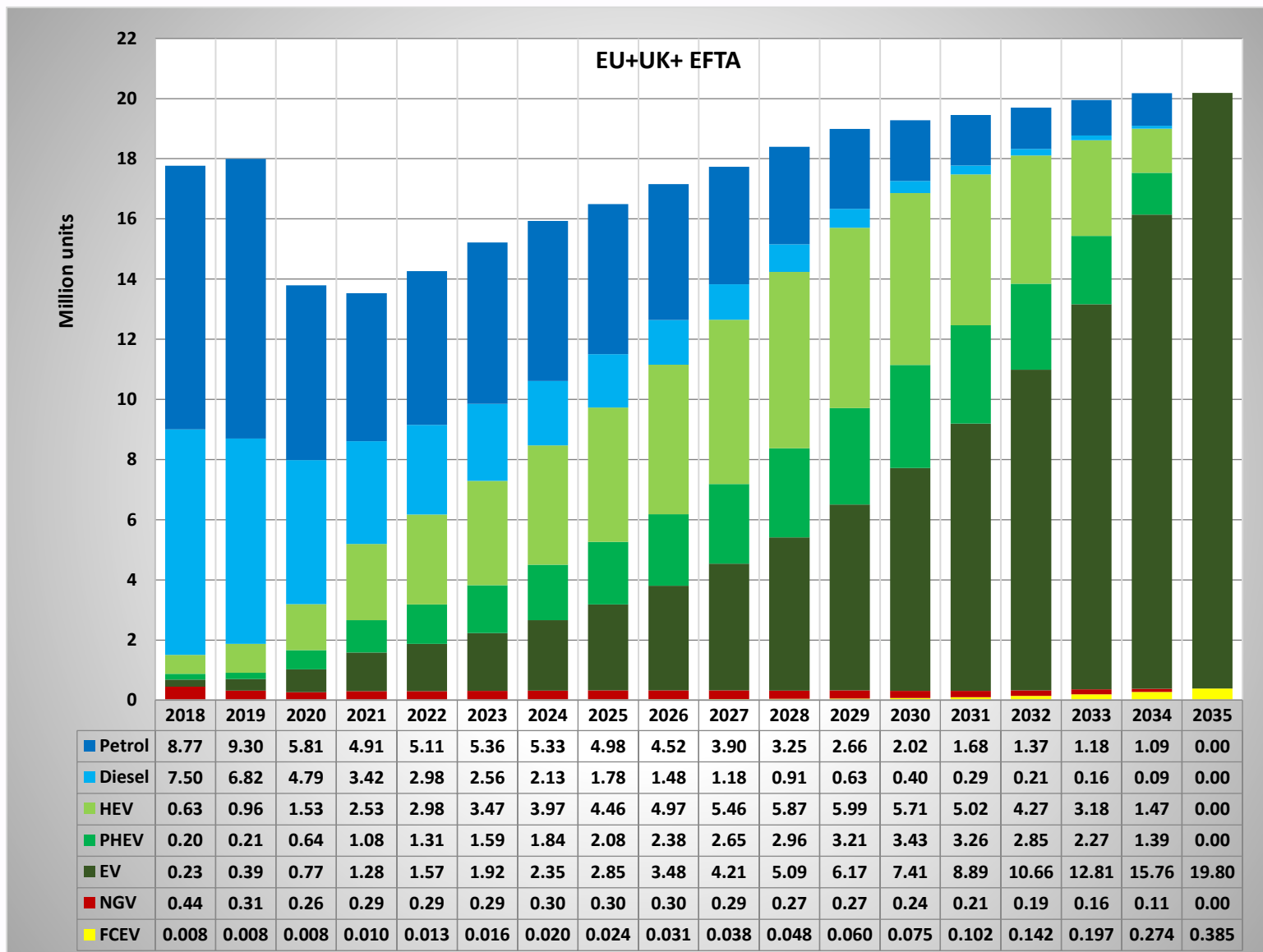
European Light Vehicle Production Forecast To 2035



Europe Analysis

- European production plummeted by 24% in 2020 YoY, and declined by a further 2.3% in 2021 YoY
- In 2022, European production is set to grow 5.8% YoY to 14.05m but this is still 3.84m units below pre-pandemic 2019 levels
- Supply/demand imbalances that we saw through 2020/2021 to more closely align in 2022 – but imbalances will remain
- However, pre-pandemic production levels will only be reached in 2026/2027
- Semiconductor shortages likely to persist throughout 2022 and beyond
- Supply chain disruptions and bottlenecks have become the “new normal”
- Rising energy & materials costs are pushing up manufacturing costs and new car prices

European Light Vehicle Sales Forecast To 2035



Europe Analysis

- Sales collapsed in 2020 by 23.9% YoY. In 2021 sales fell a further 1.9% YoY
- 2022 sales are expected to grow 5.4% YoY to 14.27m but not because of growing demand per se, but rather down to OEMs steadily improving ability to fulfil demand through 2022 – primarily because of the slight easing of semiconductor shortages
- But long waiting lists persist and are pushing consumers to the used car market
- Europe’s GDP forecast is strong at 4.3% in 2022 and 2.5% in 2023 (OECD), but quickly returns to low trend growth rate of 1% - 2%
- Inflation peaking in 2022 also reduces consumer confidence and spending power
- Therefore, pre-pandemic sales volumes are unlikely to be reached until 2029
- Regulations and incentives mean EV sales continue to buck the trend and increase in sales volume. High petrol and diesel prices are also accelerating the shift to EVs

Source: Automotive from Ultima Media, January 2022

03

National Markets Outlook to 2035

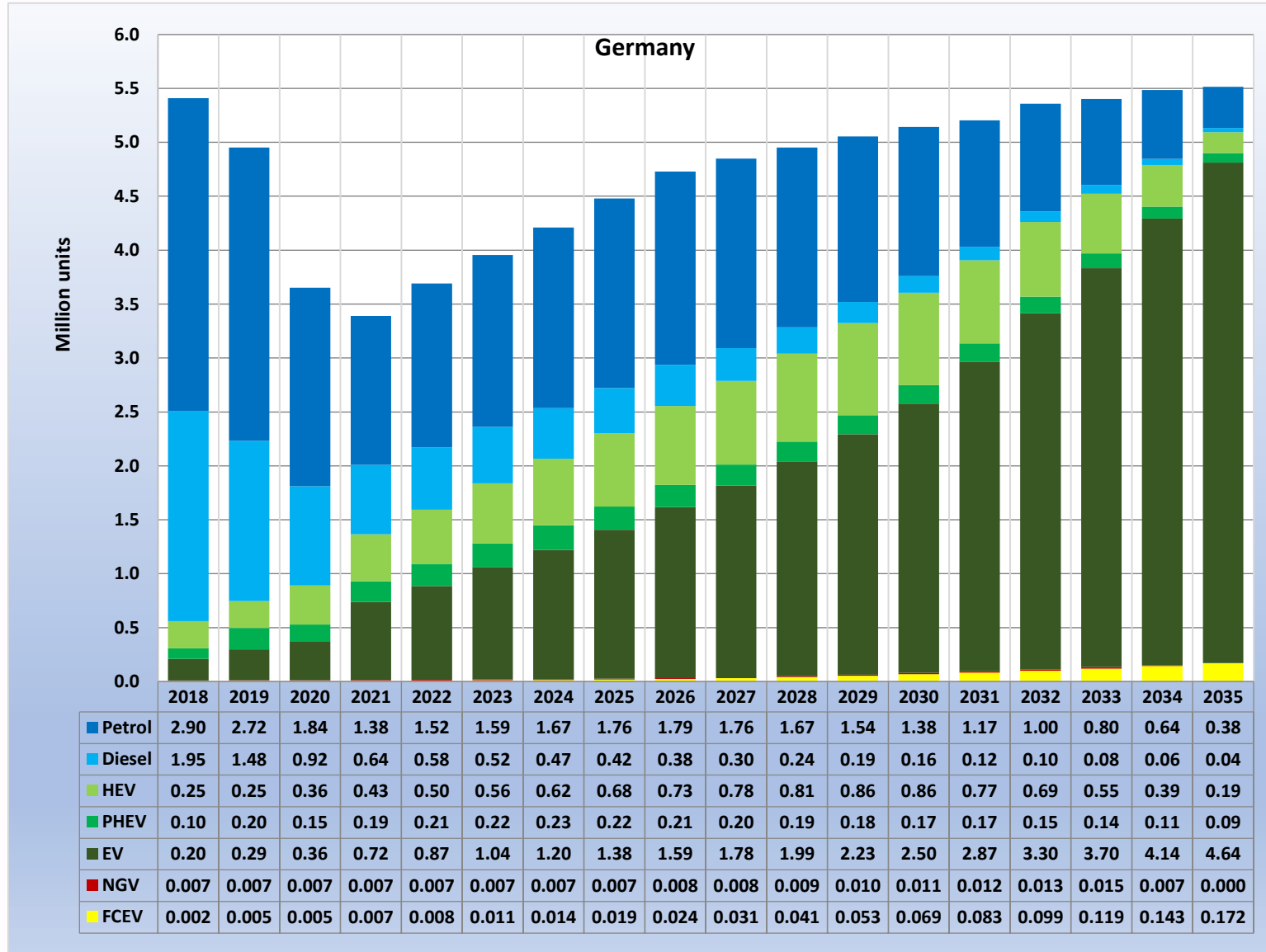
Covid, semiconductors and inflation (CSI) have impacted regions differently
Recovery trajectories also vary, in part because of different incentive programmes

National Market EV Incentives

Country	Purchase tax / subsidies	Usage tax	Charging incentives	Parking
Germany	EVs €9,000 (<€40,000), €7,500 (€40,000 to €60,000) PHEVs €6,750 (<€40,000), €5,625 (€40,000 to €60,000) Used EVs €5,000, Used hybrids €3,750	Exempt	Up to €900 private chargers €3,000 to €30,000 public chargers	Free in 100 cities
UK	£1,500 on cars below £32,000, £5,000 (large vans), £2,500 (small vans), limited to 1,000 customers	Exempt	75%/£350 for private chargers Up £6,500 for public chargers	Many city exemptions
France	27% of value, up to €6,000, for cars <€45,000. Up to €2,000 for cars €45- €60,000. Up to €1,000 for used EVs	Minimal	Up to 50% capped at €960 Up to €1,660 for a shared charger	Many city exemptions
Italy	None, but EVs typically 30-40% cheaper to insure	Exempt	Up to €2,000 for EV chargers	-
Spain	Up to €4,000 +€1,500 if scrapping at the same time. Cars eligible <€45,000. Up to €5,000 for LCVs	Exempt	Subsidised by up to 30% to 40% up to €100,000	Many city exemptions
Norway	Exempt from 25% VAT on new and used EVs	Minimal	Up to NOK 5,000/charger	Many
Netherlands	€4,000 new EV and €2,000 for a used EV	Lower rate	Citizens can request a free charger	Many
Denmark	Purchase taxes reduced to 65% in 2021 (85%-150% for ICE) saving ~€11,000. But being rolled back	Minimal	Tax exemption for commercial charging of around €0.13/KWh	Exempt up to €670
Austria	€5,000 EV, and €2,500 for PHEV	Exempt	Up to €600/€1,800 multi-storey	-
Belgium	15% income tax reduction capped at €5,150	Minimal	Up to €1,500 if green energy	Many
Estonia	Up to €18,000 for EVs	Not exempt	Country installed a public network	-

Source: Automotive from Ultima Media, January 2022

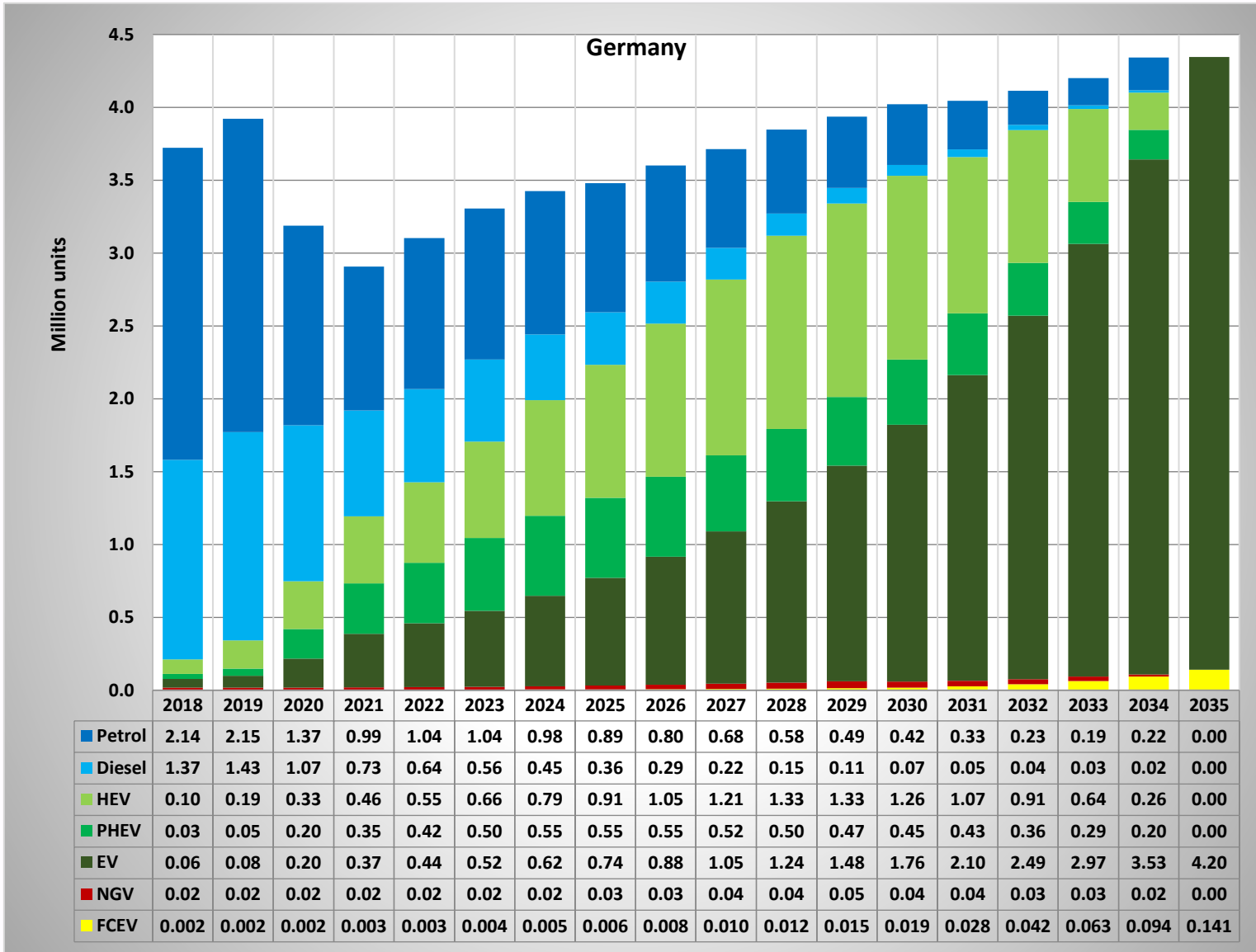
Germany Light Vehicle Production Forecast To 2035



Germany Analysis

- Vehicle production collapsed in 2020 by 26.3% YoY and 2021 was even worse falling an extra 7.2% YoY
- 2022 is set for a 8.9% YoY increase to 3.69m. But volumes in 2022 will still be 1.26m below pre-pandemic levels
- ~75% of German production is exported (2020) and ~60% of those exports were to Europe (2020). Hence Germany's production recovery is contingent upon demand recovery in Europe, Asia & the US
- Hence why beyond 2035, despite ICE sales banned in the EU, Germany will still be able to export ICE around the world
- German production is experiencing many of the same issues of semiconductor, materials and driver shortages disrupting supply chains and production

Germany Light Vehicle Sales Forecast To 2035

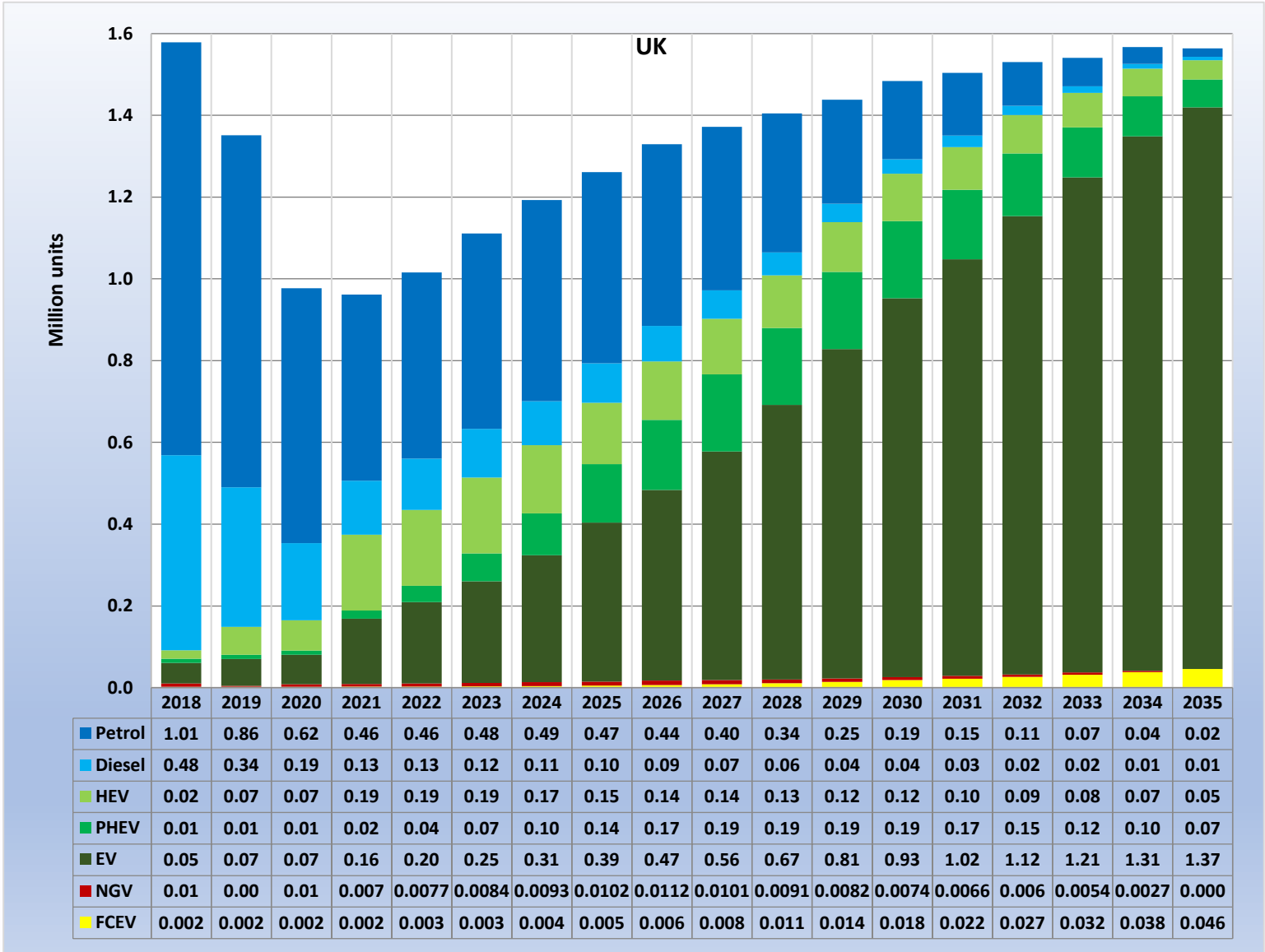


Germany Analysis

- In 2020, German sales fell 18.8% YoY and experienced a further fall of 8.8% in 2021
- We forecast a 6.7% increase in sales volumes for 2022 to 3.1m units. However, this is still below 2020 volumes of 3.2m units and will take until 2027/2028 to recover to pre-pandemic levels
- Nonetheless, GDP forecast is strong at 4.1% in 2022 and 2.4% in 2023 (OECD)
- For 2022, EV buyers will get a €9,000 incentive. PHEVs €6,750. But for 2023 the German state will only subsidise EVs with a “positive effect on climate protection”
- Germany currently has no target date for a national ban on the sale of ICE vehicles
- However, Germany is still bound by the same EU CO₂ targets and ‘Fit for 55’ proposal banning ICE sales by 2035

Source: Automotive from Ultima Media, January 2022

UK Light Vehicle Production Forecast To 2035

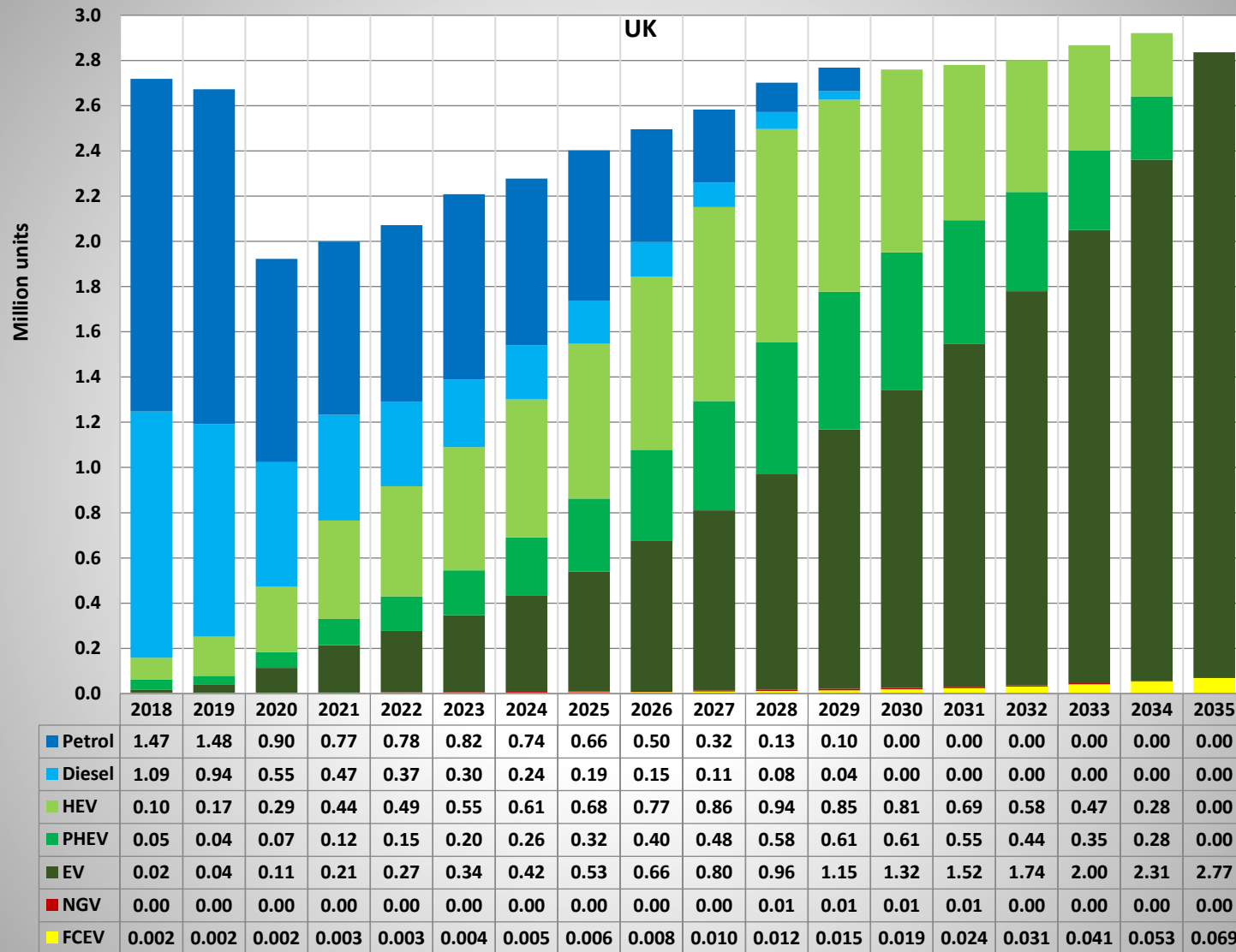


UK Analysis

- Vehicle production collapsed in 2020 by 27.7% YoY and in 2021 by an extra 1.6% YoY
- 2022 looks to set to recover by 5.7% YoY to reach 1.02m units but is still drastically below pre-pandemic levels of 1.35m
- The UK is experiencing many of the same issues of semiconductor, materials and driver shortages disrupting supply chains and production
- However, the post-Brexit trading arrangements compound these challenges including for exports, as the UK is a major net exporter
- Around 81% of production is exported (2021) and 55% of those exports were to the EU (2021). The UK is therefore heavily impacted by trading challenges

Source: Automotive from Ultima Media, January 2022

UK Light Vehicle Sales Forecast To 2035

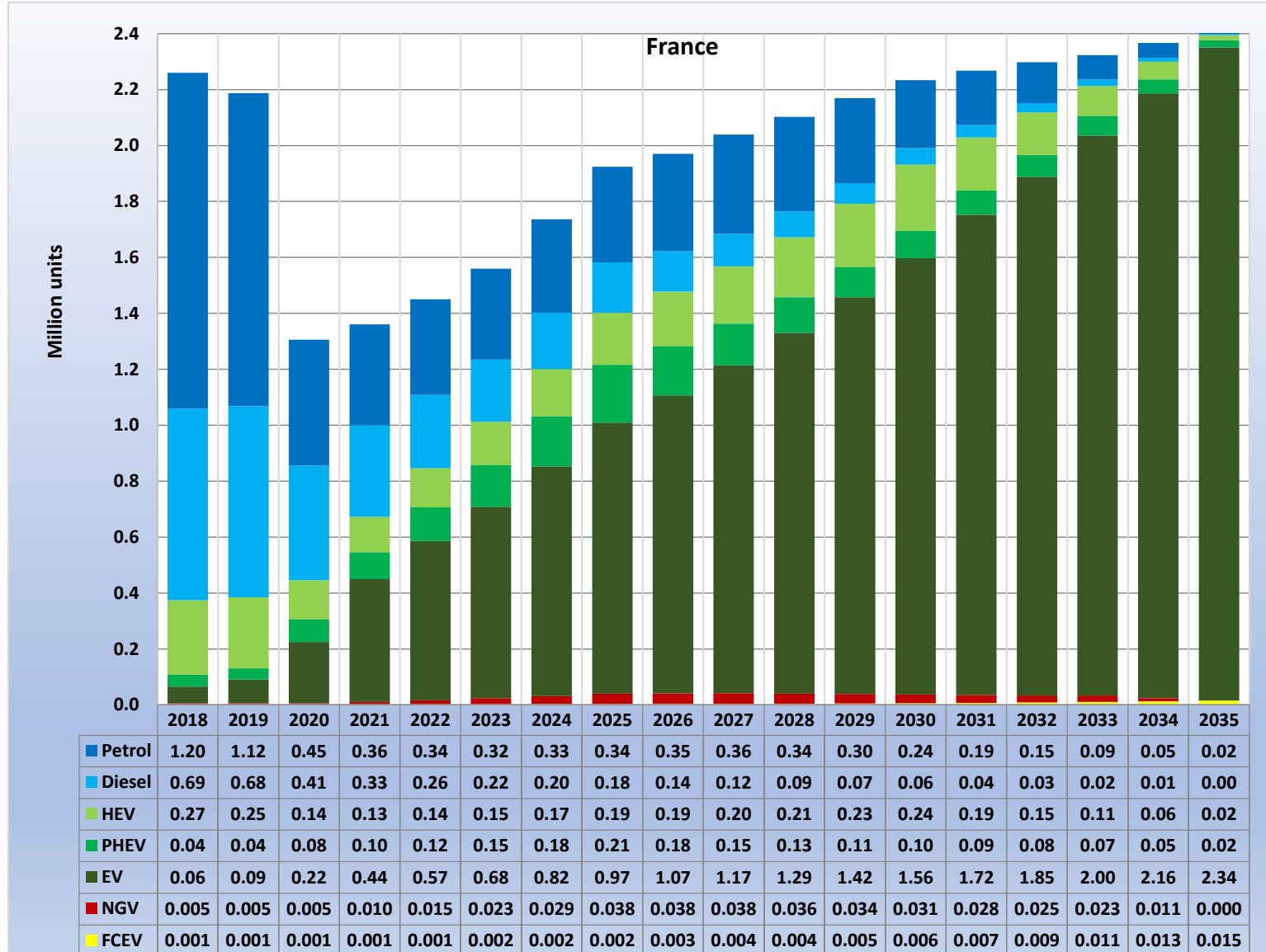


UK Analysis

- In 2020 the UK sales volume fell off a cliff and were down 28.0% YoY. In 2021 sales volume only recovered by 3.9% YoY
- In 2022, sales volumes are expected to grow by 3.6% to 2.07m but this is still well below pre-pandemic levels of 2.67m
- However, the GDP forecast is strong at 4.7% in 2022 and 2.1% in 2023 (OECD)
- The weak pound-euro exchange rate, makes EU imports more expensive
- In December 2021 the plug-in car grant (EV & PHEV) was reduced from £2,500 to £1,500 and the price threshold lowered from £35,000 to £32,000
- The plug-in van grant was also cut to £5,000 (large vans) and £2,500 (small vans) and limited to the first 1,000 customers
- Despite Brexit, the UK is likely to follow the EU CO₂ targets and 'Fit for 55' proposals by banning 'pure' ICE by 2030 and all ICE (including hybrid) by 2035

Source: Automotive from Ultima Media, January 2022

France Light Vehicle Production Forecast To 2035

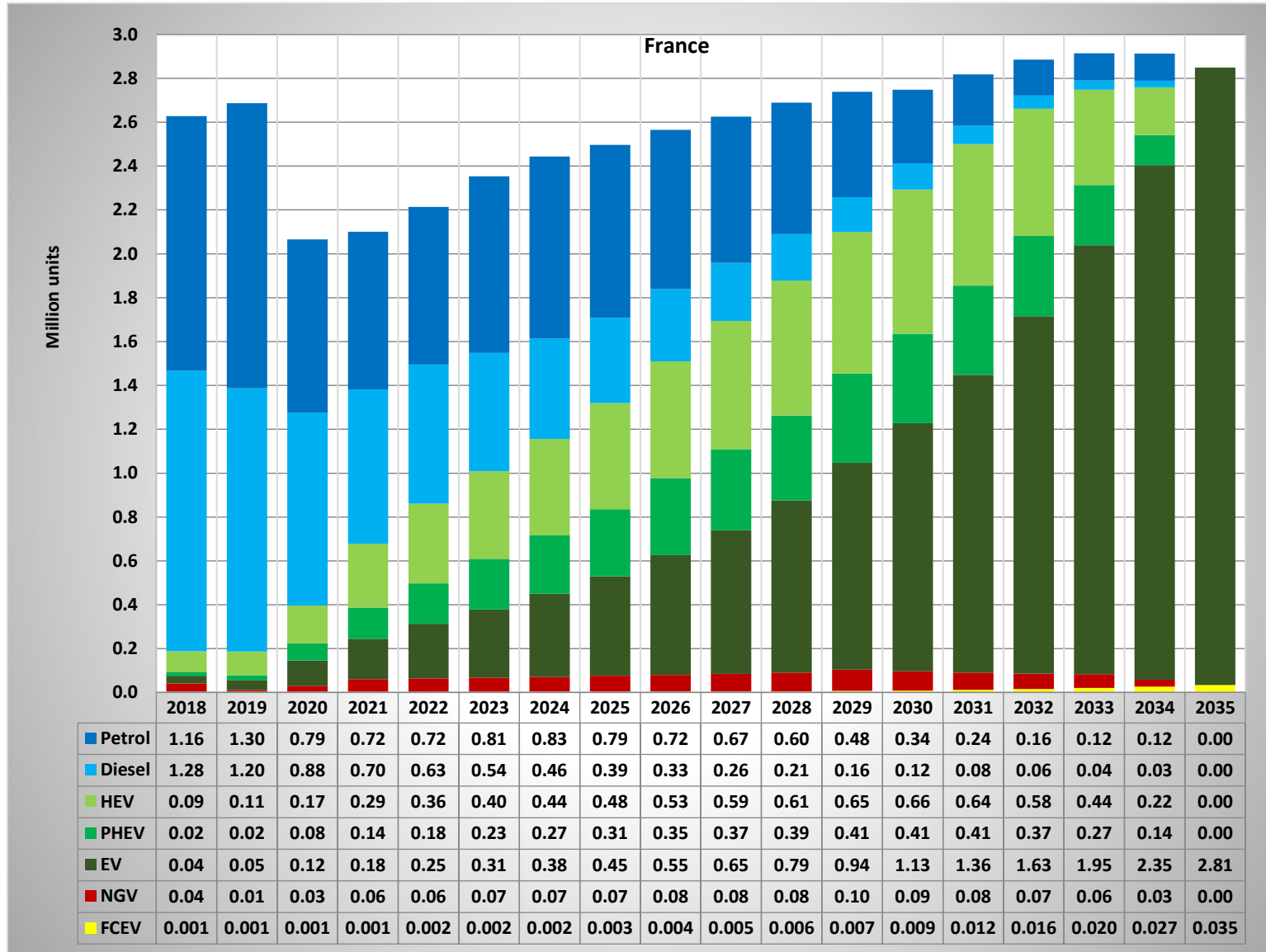


France Analysis

- In 2020, light vehicle production collapsed by 40.3% YoY and in 2021 only gained 4.2% YoY
- 2022 is set for a 6.6% increase to 1.45m but this is still well below the pre-pandemic levels of 2.19m
- It is likely to be 2028/2029 before pre-pandemic levels are reached
- France's exports are fairly low and therefore French production is primarily for the French domestic market, which has similarly been hit hard recently
- France is experiencing many of the same issues of semiconductor, materials and driver shortages disrupting supply chains and production

Source: Automotive from Ultima Media, January 2022

France Light Vehicle Sales Forecast To 2035

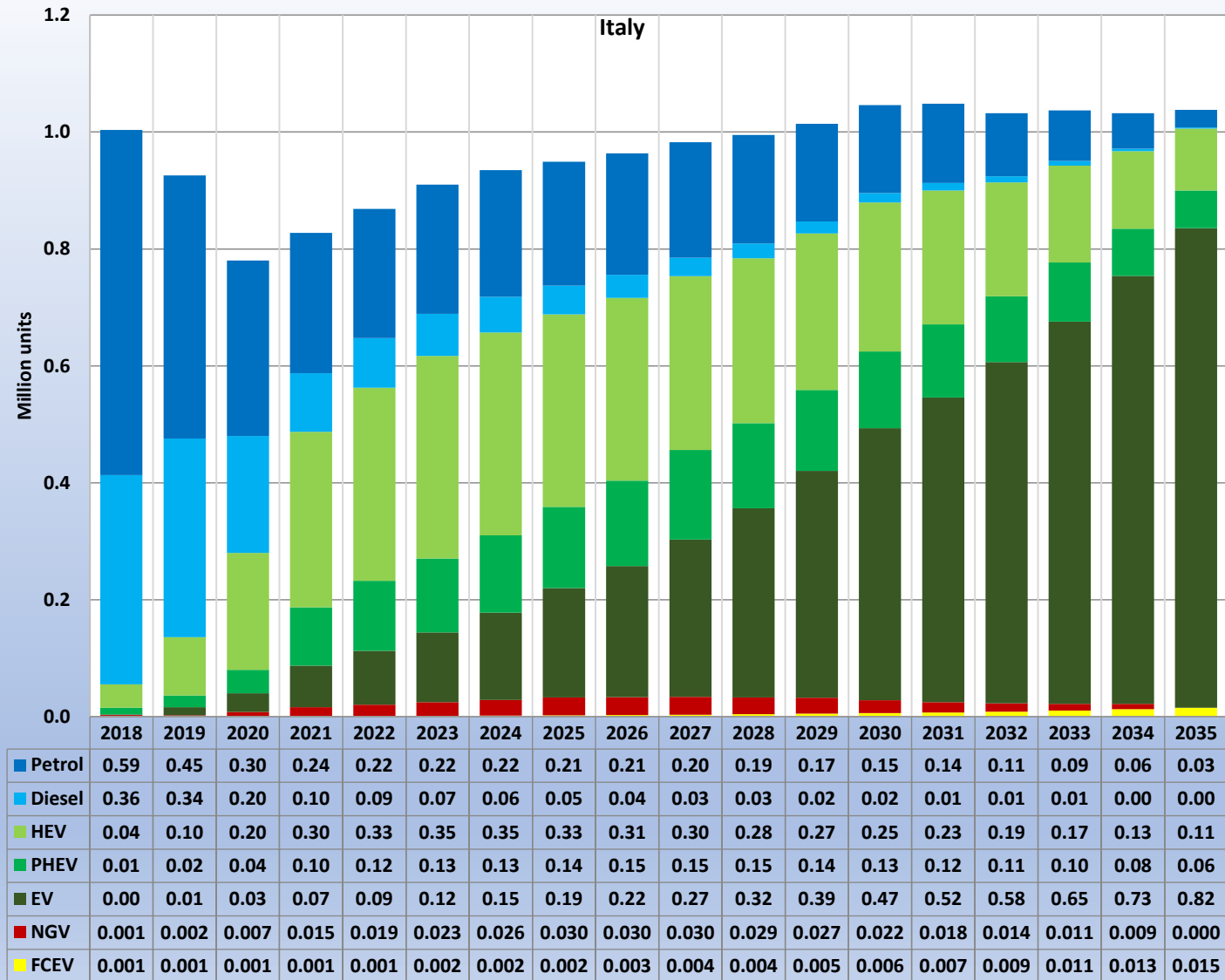


France Analysis

- In 2020, light vehicle sales fell by 23.1% YoY and in 2021 only recovered by 1.7% YoY
- For 2022, we expect a 5.4% increase YoY to reach 2.21m units. However this is still well below the pre-pandemic levels of 2.69m
- We expect it will take until 2027/2028 to reach pre-pandemic levels
- GDP forecast is strong at 4.2% in 2022 and 2.1% in 2023 (OECD)
- EV incentives were cut on July 1, 2021 impacting EV demand. The government may reduce this again from July 1, 2022.
- The *malus* (penalty) for cars registered with emissions of >128g CO₂/km has increased up to a maximum of €40,000 for cars with emissions >224g/km
- France currently has a 2040 target date for a national ban on the sale of ICE vehicles
- However, France is still bound by the same EU CO₂ targets and 'Fit for 55' proposal banning ICE sales by 2035

Source: Automotive from Ultima Media, January 2022

Italy Light Vehicle Production Forecast To 2035

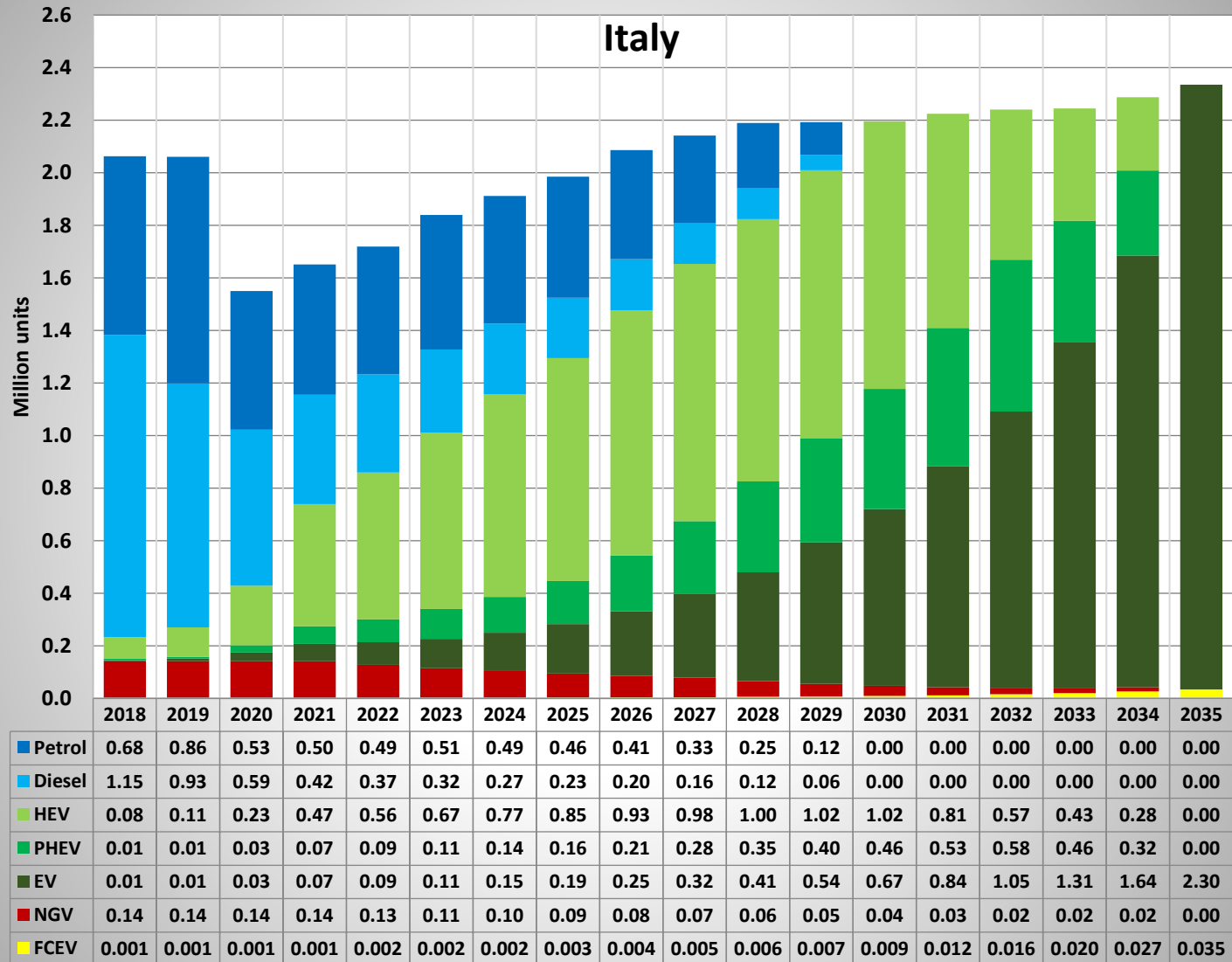


Italy Analysis

- In 2020, light vehicle production dropped by 15.7% YoY. However, in 2021 volumes recovered by 6.0% YoY
- 2022 is set for a 5.0% increase YoY to 0.87m but still well below pre-pandemic levels of 0.93m units
- And it will still take until 2024 until volumes even approach pre-pandemic norms
- In terms of production, the volume impact of Covid and then the semiconductor shortage appears to have been less severe than for other EU nations, so Italy has less ground to recover
- Nonetheless, Italy is experiencing many of the same issues of semiconductor, materials and driver shortages disrupting supply chains and production

Source: Automotive from Ultima Media, January 2022

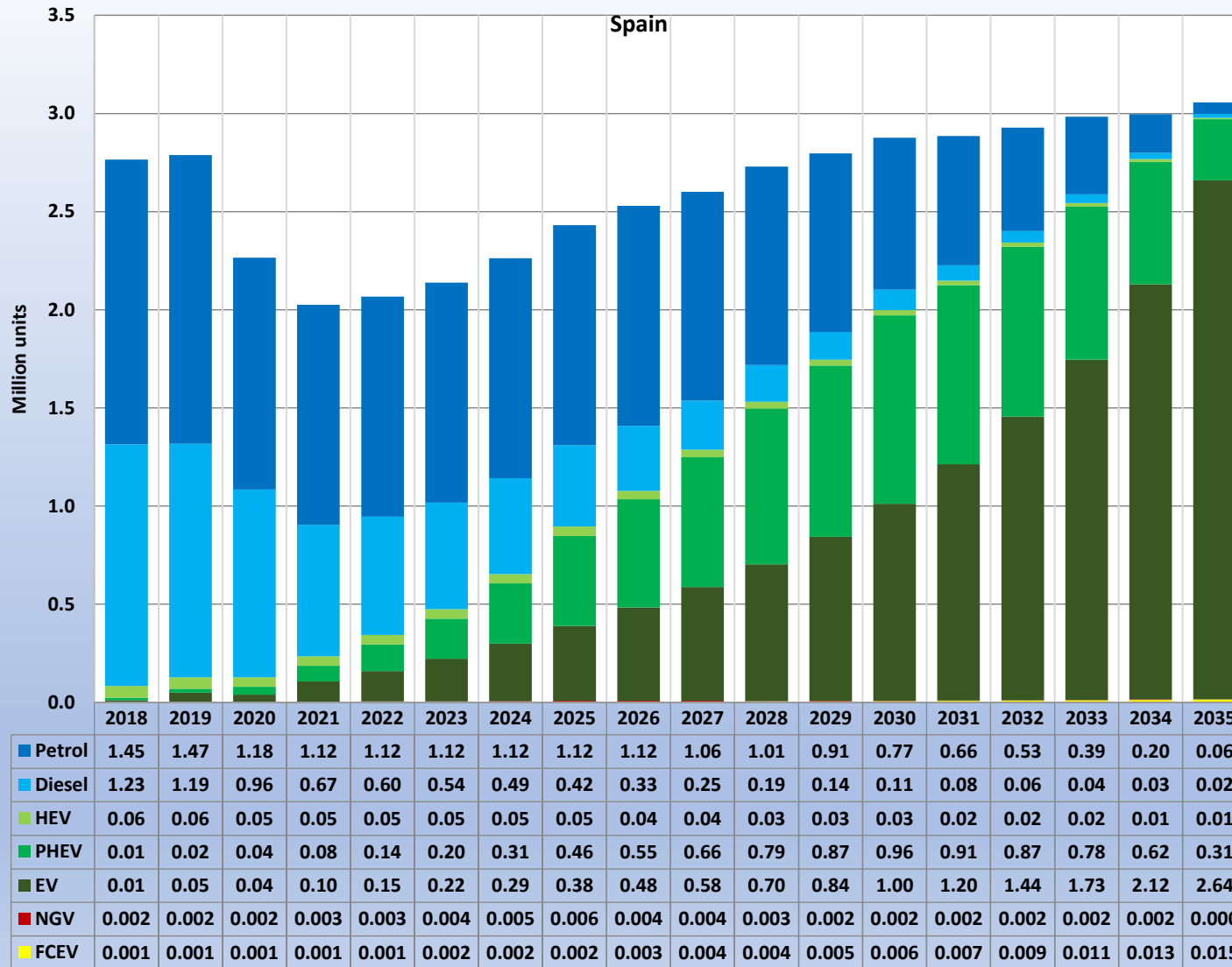
Italy Light Vehicle Sales Forecast To 2035



Italy Analysis

- In 2020, light vehicle sales volumes fell by 24.8% YoY and in 2021 recovered by 6.5% YoY
- In 2022, we forecast a 4.1% increase YoY in sales volumes to reach 1.72m units, but still well below pre-pandemic levels of 2.06m
- GDP forecast is strong at 4.6% in 2022 and 2.6% in 2023 (OECD)
- However, it will take until 2026 / 2027 for sales to reach pre-pandemic levels
- Notably, Italy has had various short-lived vehicle incentive schemes but is now the only EU country not to have any EV or LEV incentives
- However, one plus is that EVs are typically 30-40% cheaper to insure
- Italy currently has no target date for a national ban on the sale of ICE vehicles
- Nonetheless, Italy is still bound by the same EU CO₂ targets and 'Fit for 55' proposal banning ICE sales by 2035

Spain Light Vehicle Production Forecast To 2035

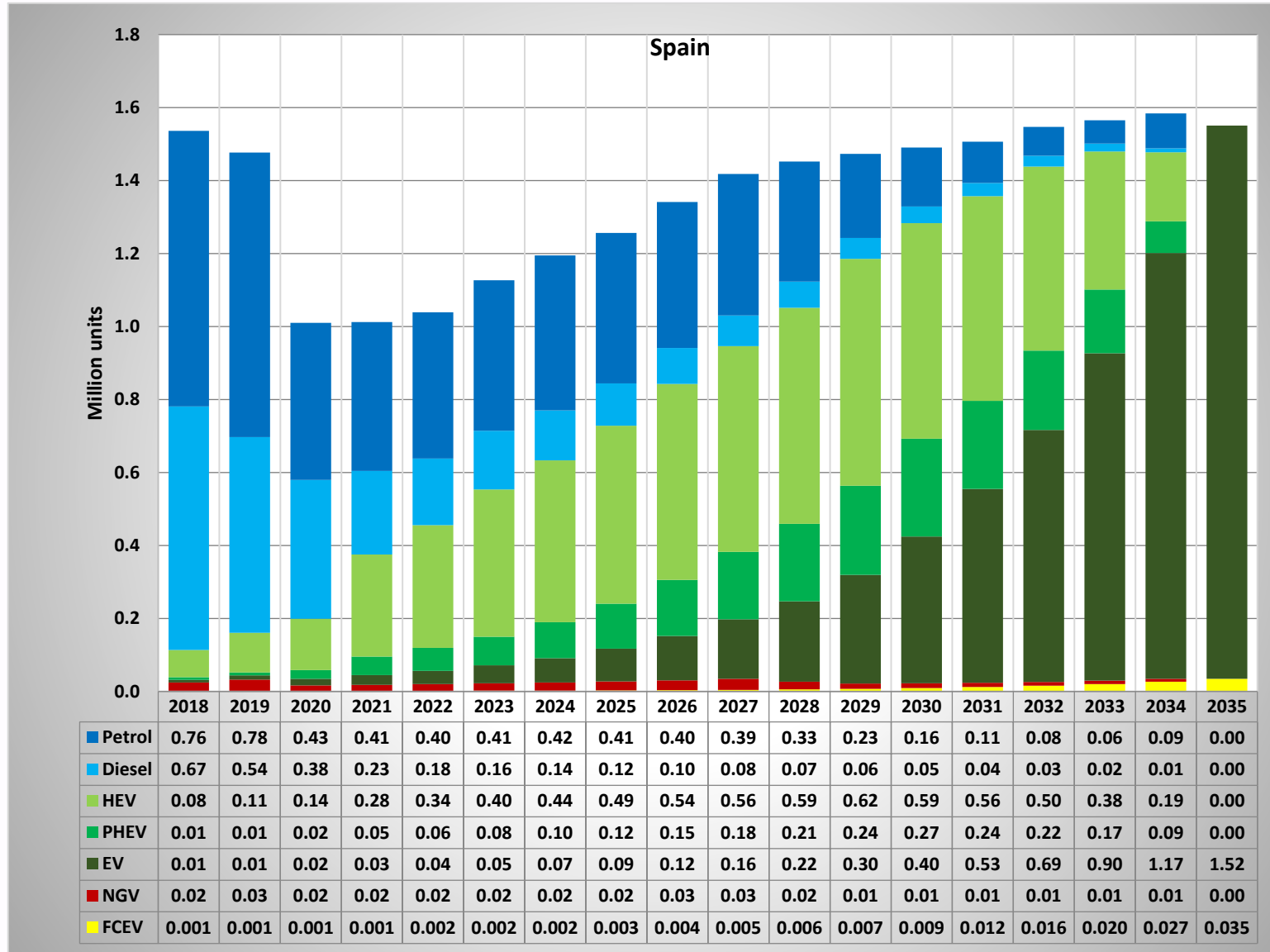


Spain Analysis

- In 2020, light vehicle production dropped by 18.7% and 2021 was even worse with a further drop of 4.7% YoY
- But 2022 is set for a 2.0% increase YoY to 2.07m, albeit at well below pre-pandemic levels of 2.79m
- It will take until 2028/2029 before pre-pandemic levels are reached
- Spain is a major net exporter. Of Spain's 2.1m production in 2021, ~80% was exported, primarily to the rest of Europe
- Therefore, production recovery is more contingent upon demand in those EU markets than with domestic demand
- In production terms, Spain is experiencing many similar issues of semiconductor, materials and driver shortages disrupting supply chains and production

Source: Automotive from Ultima Media, January 2022

Spain Light Vehicle Sales Forecast To 2035



Spain Analysis

- In 2020 sales collapsed by 31.6% and in 2021 by a further 0.3% YoY
- For 2022, we forecast a 2.6% increase YoY in sales volumes to 1.04m units, but this is still well below pre-pandemic volumes of 1.48m
- GDP forecast is very strong at 5.5% in 2022 and 3.8% in 2023 (OECD)
- However, pre-pandemic sales volume are unlikely to be reached until at least 2029/2030
- The reduction of vehicle registration taxes since July 1, 2021 helped stimulate demand, but this ended in January 2022.
- Spain's market remains subdued and will remain below pre-pandemic levels for most of the decade
- Spain currently has a 2040 target date for a national ban on the sale of ICE vehicles
- Nevertheless, Spain is still bound by the same EU CO₂ targets and 'Fit for 55' proposal banning ICE sales by 2035

Source: Automotive from Ultima Media, January 2022

04

New Market Entrants

Asian and American EV start-ups to watch in the future European market

New players potentially disrupting Europe



Destination
Europe!

New Players Disrupting Vehicle Sales In Europe (1)

'Disruptor' OEMS	Start of Sales Europe (+UK)	Countries Targeted	Global Sales 2021	Europe (Inl UK) Sales Volume 2021	Europe Production Plans	Website
MG (SAIC)	2019	UK, France, Sweden, Germany, Norway, Denmark, Netherlands, Italy, Spain, Belgium, Luxembourg, Austria, Ireland, Iceland, Malta, Portugal	471,992	52,546	NO	https://mgmotor.eu
Lynk & Co	mid-2020	Germany, Denmark, Belgium	220,516	11,602	MAYBE	https://www.lynkco.com/en/
Polestar	2021	Sweden, UK, Belgium, Norway, Netherlands, Germany	29,000	8,000	YES	www.polestar.com
Maxus (SAIC)	2021	Norway, UK, Ireland	232,844	5,000	MAYBE	www.saicmaxus.co.uk
Aiways	mid-2020	Germany, Netherlands, France, Belgium, Denmark, Italy with Switzerland, Spain, Portugal SOS 2022	2,992	2,992	MAYBE	https://www.ai-ways.eu
BYD (PC)	2021	Norway	593,745	1,000	MAYBE	https://bydeurope.com
BYD (CV)	2017	20 countries in Europe	136,255	1,000	YES	https://bydeurope.com
Geometry	2021	Belarussia region	11,000	500	NO	https://www.geometryauto.com
Xpeng	late-2021	Norway with SOS in Sweden, Denmark, Netherlands in 2022	98,155	100	NO	https://en.xiaopeng.com
Nio	mid-2021	Norway, SOS Germany late 2022	91,429	50	MAYBE	https://www.nio.com
Great Wall Motors	mid-2022	Germany	1,280,993	0	MAYBE	https://www.gwm-global.com
Chery	2023?	Germany?	839,781	0	NO	https://www.cheryinternational.com
WM Motors	late-2022	Italy?	44,157	0	NO	https://www.wm-motor.com
Vinfast	mid-2022	France, Germany, Netherlands	30,000	0	YES	https://vinfastauto.eu

New Players Disrupting Vehicle Sales In Europe (2)

'Disruptor' OEMS	Start of Sales Europe (+UK)	Countries Targeted	Global Sales 2021	Europe* (Inl UK) Sales Volume 2021	Europe Production Plans	Website
Arcfox (BAIC)	2023?	Germany ?	6,009	0	YES	http://en.arcfox.cn
Zeekr	2023	UK, Germany?	4,000	0	NO	https://zeekrlife.com
Rivian	mid-2022	Netherlands, UK	920	0	YES	https://rivian.com
Ineos	mid-2022	Germany	0	0	YES	https://www.ineos.com
Byton	2023?	Germany	0	0	MAYBE	https://www.byton.com
Fisker	2022	Germany,Norway, Denmark in 2022, then in 2023 UK	0	0	YES	www.fiskerinc.com
Volta Trucks	2022	UK, Germany, Italy, Spain, France	0	0	YES	https://voltatrucks.com
Lightyear	2022	Netherlands, Finland?	0	0	YES	https://lightyear.one
Sono Motors	2023	Sweden, UK, Belgium, Norway, Netherlands, Germany	0	0	YES	https://sonomotors.com
Arrival	2022	UK, ROE (Rest of Europe)	0	0	YES	https://arrival.com/uk/en
Switch Mobility	2023?	Spain, ROE (Rest of Europe)	300	0	YES	www.switchmobility.tech
Canoo	CANCELLED		0	0	NO	https://www.canoo.com
Gunsel	?	Cyprus	0	0	YES	https://www.gunsel.com.tr/
Riversimple	?	UK	0	0	YES	http://www.riversimple.com
Izera	?	Poland	0	0	YES	https://izera.com
Uniti	?	Sweden	0	0	YES	http://www.uniti.earth/
Frescoe Motors	?	Norway	0	0	YES	https://www.frescomotors.com

Disruptor Brands/OEMs Face Challenges

Brand Awareness

- New disruptor brands often lack a recognisable brand name in Europe. Trust is built slowly and, although many start-ups hope to break into the market with volume sales, lack of reputable brand awareness hinders penetration into developed markets in Europe

Dealer Network

- New disruptor brands often lack a comprehensive dealer network across Europe, thereby limiting potential to penetrate the market. Dealers, like consumers, are nervous of investing and partnering with new start-ups

Credibility

- Lack of history and lack of presence in any developed market hinders new start ups from being potential disruptors in Europe.
- Disruptor penetration 2021 in Europe: in 2021 total sales from 'disruptor' OEMs, or new players in the market totaled 82,700 units. Total European LV sales hit 13.53m in 2021, with new players accounting for just 0.6% of European sales
- Disruptor brands and OEMS can gain from purchase of an existing European brand to gain a 'historical' presence in Europe (example: SAIC purchase of UK's MG brand, Geely's purchase of Sweden's Volvo).
- Disruptor brands and OEMs are pushing the use of subscription services to bypass the need for a historical presence and strong dealer network

05

Conclusions

Multi-layered challenges lie ahead

Conclusions

Macroeconomic Headwinds

- Post-Covid economic recovery remains a key headwind. Inflation, tax rises and rising interest rates are reducing consumer confidence
- In the medium-long term, slow EU population growth and anaemic GDP growth will restrain sales volume growth

Recovery Phase

- Recovery in European production and sales volumes will be gradual and take until 2027-2028 to return to pre-pandemic levels
- However, demand is still outpacing supply, maintaining long lead/waiting times. However, that will gradually ease as production increases

Electrification

- Over the coming years the transition to EVs will become the most significant industry transformation for all stakeholders
- The impact of new EV market entrants from Asia may be limited for now but will widen choice, competition and the number of OEMs

Supply Chain Fragility

- Supply chains remain fragile, with chronic shortages of semiconductors and other materials continuing in the short to medium-term
- In the medium to longer-term future a potential shortages of batteries and supporting supply chains could well restrain EV volume growth

Logistics

- As production slowly recovers, inventory levels will be gradually replenished, albeit at somewhat lower levels than pre-pandemic
- Logistics asset capacity and driver shortages will remain a key challenge as vehicle production and sales are ramped back up

06

Contacts

Drop us an email or get in touch with any questions!

For more details, contact:

Mike Sturgeon

Executive Director, ECG

Mike.Sturgeon@ecgassociation.eu

Christopher Ludwig

Editor-In-Chief, Ultima Media

Christopher.Ludwig@ultimamedia.com

Daniel Harrison

Automotive Analyst, Ultima Media

Daniel.Harrison@ultimamedia.com

Namrita Chow

Automotive Analyst, Ultima Media

Namrita.Chow@ultimamedia.com

More research can be found at: ecgassociation.eu/ecg-business-intelligence

