

PLATINUM PERSPECTIVES

Higher diesel sales to reduce massive EU CO₂ fines increases platinum demand growth potential

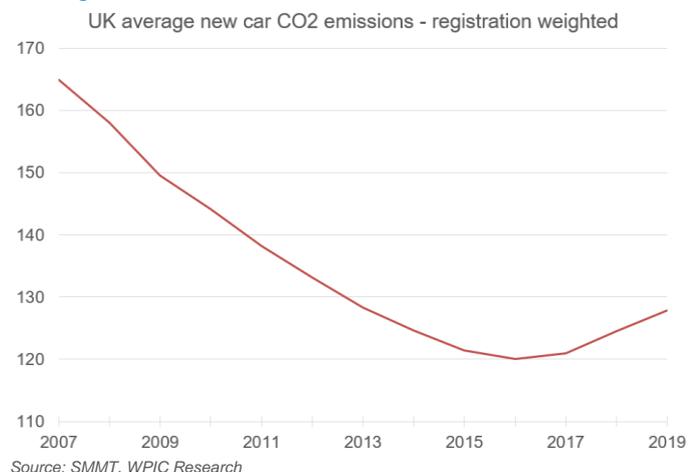
Average CO₂ per new car sold in the EU is increasing. The UK's Society of Motor Manufacturers and Traders (SMMT) published that 2019 UK fleet average CO₂ emissions were 127.9 g/km. This is up by 2.7% over 2018 and the third consecutive annual increase (*chart below left*). UK annual car sales are the second largest in the EU after Germany and this 2019 rise in CO₂ supports an expected similar rise across the EU.

In April 2019, automotive researcher JATO estimated total annual EU automaker fines from missed 2021 CO₂ targets at €34 billion, based on an EU fleet average of 119.7 g/km (*Figure 1, page 2 and [Platinum Perspectives July 2019](#)*). Using the CO₂ increase in the UK as an indicator would lift potential annual fines to levels well above €34 billion.

Commentary on automaker strategies to mitigate these fines has been dominated by increasing the number of battery-only vehicles available and their sales growth. However, many automakers are strongly favouring the mild hybrid diesel (mHEV) and its plug-in version (PHEV) as vital in reducing the fines they will pay (*table below right*).

Mild hybrid diesel vehicles produce far less CO₂ than equivalent gasoline or even diesel vehicles and growth in sales of models, already on sale, will reduce CO₂ fines and boost automotive platinum demand in 2020 and beyond.

Declining diesel share of sales has driven a rebound in average annual UK CO₂ emissions from new cars



Examples of mild & plug-in mild hybrid diesel sedan and SUV models launched in 2019

Make	Model	Engine	PHEV	mHEV	CO ₂ g/km
Audi	Q7 Sport 45 TDI	3.0 L		✓	184
	SQ7	4.0 L		✓	200
BMW	X3 - xDrive20d,	2.0 L		✓	134
	3 series - 320d xDrive	2.0 L		✓	117
Daimler	C-Class - C300de EQ Power	2.0 L	✓		38
	E-Class - E300de EQ Power	2.0 L	✓		41
	GLE 350de 4 Matic	2.0 L	✓		29
Ford	Kuga Ecoblue Hybrid	2.0 L		✓	113
Hyundai	Tucson 1.6 CRDi 2WD DCT	1.6 L		✓	114
	Tucson 2.0 CRDi 4WD Auto	2.0 L		✓	147
JLR	Range Rover Evoque	2.0 L		✓	149
Kia	Sportage 1.6 CRDi	1.6 L		✓	129
	XC60 B4/B5	2.0 L		✓	151
Volvo	X90 B5	2.0 L		✓	156

Source: Company data, WPIC Research.

Mild hybrid diesel Sport Utility Vehicles (SUVs) (which are increasingly popular across the world and in EU markets (*Figure 2, page 2*)) are low CO₂ emitters. Automakers are now offering mild hybrid diesel SUVs with extremely low NO_x emissions. Independent tests of three 2019 Land Rover diesel SUVs showed on-road urban NO_x of between 17 mg/km and 34 mg/km, way below the RDE NO_x limit of 80 mg/km.

Higher sales in 2020 of diesel SUVs with low CO₂ and extremely low NO_x levels, that contain more platinum per vehicle than smaller diesel sedans, could materially lift platinum demand.

The decline in the share of diesel sales in the EU continued in 2019 albeit at a slower rate (*Figure 3, page 2*). The pickup in diesel share in Germany, Spain and France in the second half of 2019 may partly be due to this new offering of diesel vehicles (*Figure 4, page 2*).

Trevor Raymond
Director of Research
+44 203 696 8772
traymond@platinuminvestment.com

David Wilson
Manager, Investment Research
+44 203 696 8786
dwilson@platinuminvestment.com

Brendan Clifford
Manager, Investor Development
+44 203 696 8778
bclifford@platinuminvestment.com

World Platinum Investment Council
www.platinuminvestment.com
64 St James's Street
London SW1A 1NF

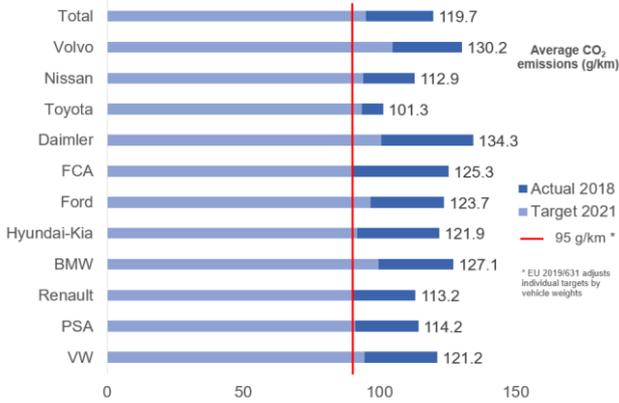
January 2020

Diesels can preserve automaker profits and meet consumer needs

Platinum's attraction as an investment asset arises from:

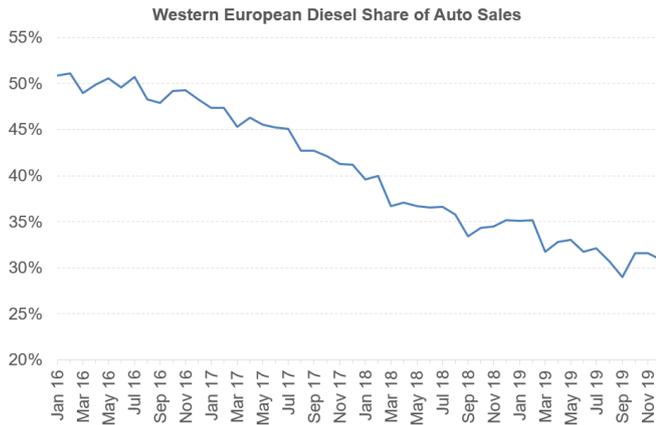
- Supply is relatively constrained with limited investment in new platinum group metal (PGM) mines
- Platinum price is near all-time lows relative to gold and at record lows relative to palladium
- Total PGM demand growth should continue due to increasingly restrictive emissions rules
- Market balance and price mismatches between palladium and platinum argues for substitution
- Investment demand has surged as institutions begin to factor low price and positive fundamental outlook

Figure 1: End 2018 European automaker fleet average CO₂ emissions were well above EU 2020 targets



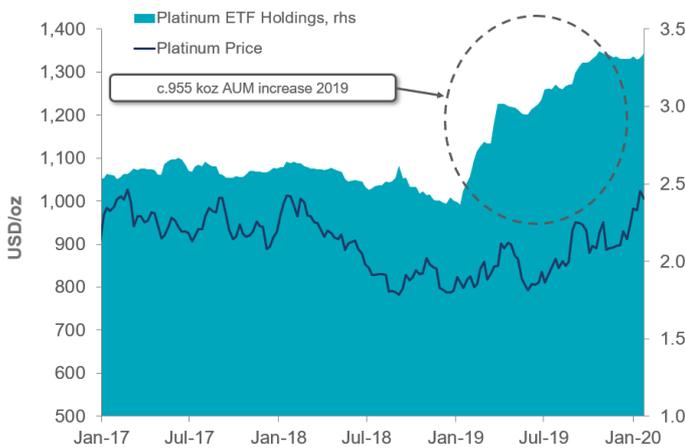
Source: JATO, WPIC Research

Figure 3: European diesel share of auto sales, a constant downtrend since 2016



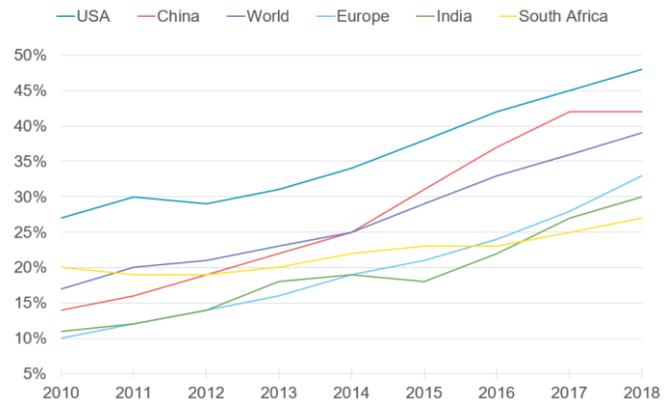
Source: LMC, WPIC Research

Figure 5: Platinum's ETF holdings increased by 955 koz in 2019, ahead of investor expectations of Pd-Pt substitution



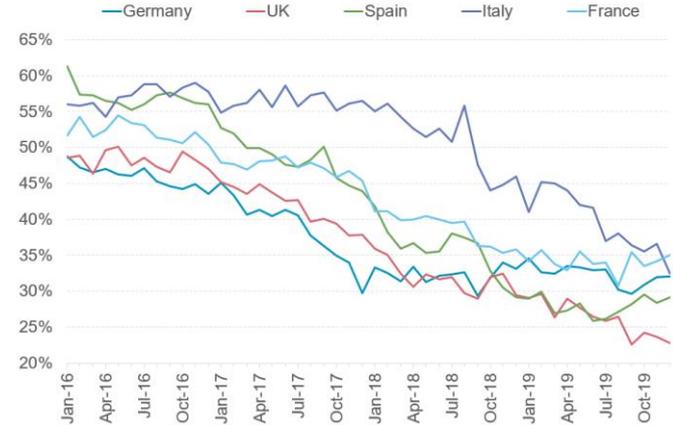
Source: Bloomberg, WPIC Research, as at 24 January 2020

Figure 2: Growing share of SUV sales has also contributed to CO₂ emissions



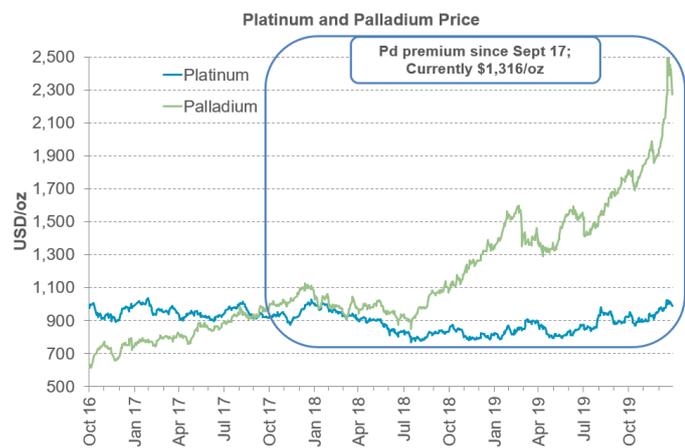
Source: IEA, WPIC Research

Figure 4: Diesel share of auto sales, by country. Q4-19 rebounds seen in Germany, France and Spain



Source: SMMT, ANFAC, ANFIA, KBA, CCF, WPIC Research

Figure 6: Palladium's price premium to platinum reflects a tight market and highlights the incentive for substitution



Source: Bloomberg, WPIC research, as at 29 January 2020

IMPORTANT NOTICE AND DISCLAIMER: This publication is general and solely for educational purposes. The publisher, The World Platinum Investment Council, has been formed by the world's leading platinum producers to develop the market for platinum investment demand. Its mission is to stimulate investor demand for physical platinum through both actionable insights and targeted development: providing investors with the information to support informed decisions regarding platinum; working with financial institutions and market participants to develop products and channels that investors need.

This publication is not, and should not be construed to be, an offer to sell or a solicitation of an offer to buy any security. With this publication, the publisher does not intend to transmit any order for, arrange for, advise on, act as agent in relation to, or otherwise facilitate any transaction involving securities or commodities regardless of whether such are otherwise referenced in it. This publication is not intended to provide tax, legal, or investment advice and nothing in it should be construed as a recommendation to buy, sell, or hold any investment or security or to engage in any investment strategy or transaction. The publisher is not, and does not purport to be, a broker-dealer, a registered investment advisor, or otherwise registered under the laws of the United States or the United Kingdom, including under the Financial Services and Markets Act 2000 or Senior Managers and Certifications Regime or by the Financial Conduct Authority.

This publication is not, and should not be construed to be, personalized investment advice directed to or appropriate for any particular investor. Any investment should be made only after consulting a professional investment advisor. You are solely responsible for determining whether any investment, investment strategy, security or related transaction is appropriate for you based on your investment objectives, financial circumstances and risk tolerance. You should consult your business, legal, tax or accounting advisors regarding your specific business, legal or tax situation or circumstances.

The information on which this publication is based is believed to be reliable. Nevertheless, the publisher cannot guarantee the accuracy or completeness of the information. This publication contains forward-looking statements, including statements regarding expected continual growth of the industry. The publisher notes that statements contained in the publication that look forward in time, which include everything other than historical information, involve risks and uncertainties that may affect actual results. The logos, services marks and trademarks of the World Platinum Investment Council are owned exclusively by it. All other trademarks used in this publication are the property of their respective trademark holders. The publisher is not affiliated, connected, or associated with, and is not sponsored, approved, or originated by, the trademark holders unless otherwise stated. No claim is made by the publisher to any rights in any third-party trademarks

WPIC Research MiFID II Status

The World Platinum Investment Council (WPIC) has undertaken an internal and external review of its content and services for MiFID II. As a result, WPIC highlights the following to the recipients of its research services, and their Compliance/Legal departments:

WPIC research content falls clearly within the Minor Non-Monetary Benefit Category and can continue to be consumed by all asset managers free of charge. WPIC research can be freely shared across investment organisations.

1. WPIC does not conduct any financial instrument execution business. WPIC does not have any market making, sales trading, trading or share dealing activity. (No possible inducement).
2. WPIC content is disseminated widely and made available to all interested parties through a range of different channels, therefore qualifying as a "Minor Non-Monetary Benefit" under MiFID II (ESMA/FCA/AMF). WPIC research is made freely available through the WPIC website. WPIC does not have any permissioning requirements on research aggregation platforms.
3. WPIC does not, and will not seek, any payment from consumers of our research services. WPIC makes it clear to institutional investors that it does not seek payment from them for our freely available content.

More detailed information is available on the WPIC website:

<http://www.platinuminvestment.com/investment-research/mifid-ii>