

PLATINUM QUARTERLY PRESENTATION Q3 2021

London

24th November 2021

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AGENDA: PLATINUM QUARTERLY: Q3 2021, UPDATED 2021 FORECAST AND INITIAL 2022 FORECAST

1. Introduction

Paul Wilson, CEO

2. Platinum Quarterly, fundamentals review

Trevor Raymond

3. Focus on fundamental drivers

Trevor Raymond

4. Questions

Paul Wilson

Trevor Raymond



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1. Introduction

Paul Wilson

2. Platinum Quarterly, fundamentals review

- Supply, demand and balance: Q3'21, 2021f update and initial 2022 forecast

Trevor Raymond, Director of Research

3. Focus on fundamental drivers

Trevor Raymond

4. Questions

Paul Wilson

Trevor Raymond



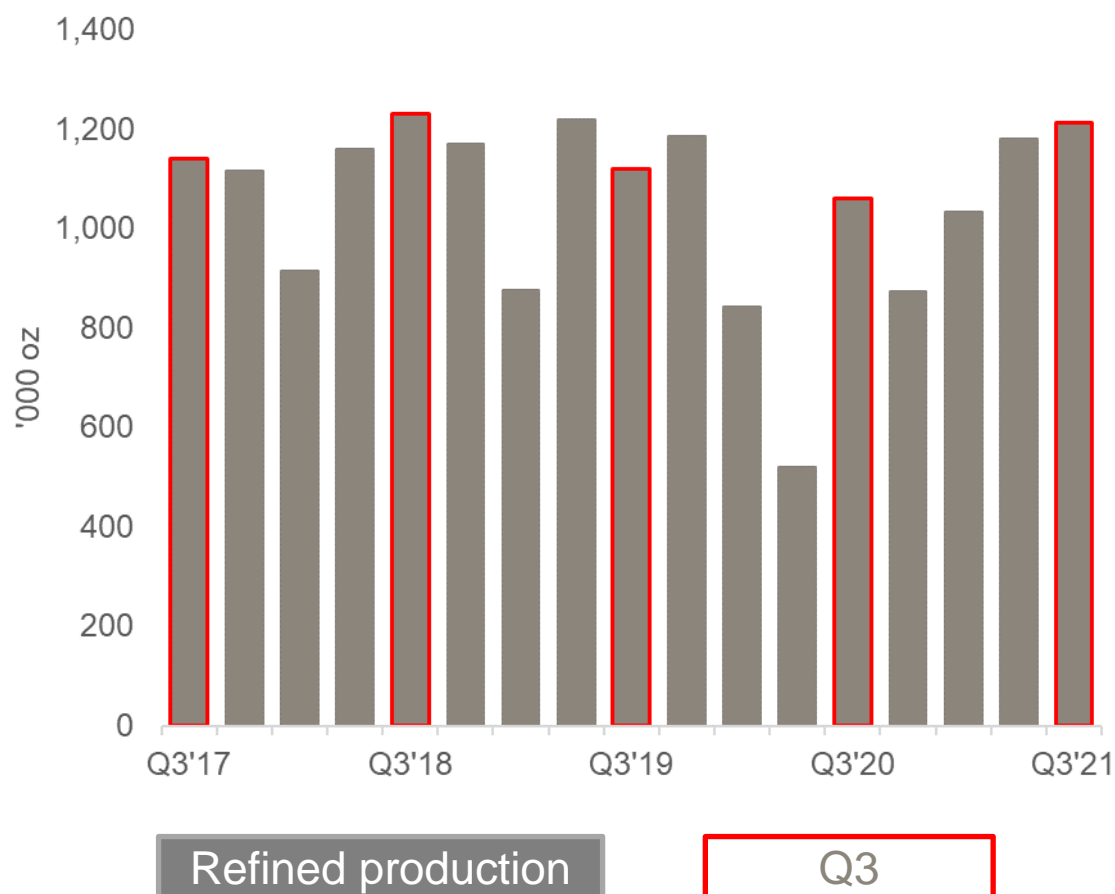
Q3 2021 SUPPLY: TOTAL SUPPLY UP 7% AS ACP BACKLOG UNWIND OFFSETS LOWER RECYCLING

SUPPLY	Q3 2020 // Q2 2021		Q3 2021
Refined Production	1,496	1,568	1,597
South Africa	1,062	1,180	1,213
Zimbabwe	115	125	111
North America	71	75	73
Russia	196	136	149
Other	52	52	50
Inc(-)/Dec(+) in Producer Inventory	-112	+18	-28
Total Mining Supply	1,384	1,587	1,569
Recycling	527	494	480
Autocatalyst	391	382	361
Jewellery	121	98	104
Industrial	14	14	15
Total Supply	1,911	2,081	2,049

- South Africa refined supply up 14% YoY (+151 koz), mainly due to faster ACP backlog unwind
- Russia mine supply down 24% YoY (-47 koz) due to the ongoing impact of mine flooding and concentrator building collapse
- Working inventory re-build of 28 koz on strong producer balance sheets
- Recycling supply down 9% (-46 koz)
- Total Q3 supply up 7% YoY (+138 koz) and down 2% QoQ (-32 koz)

Q3 2021 SOUTH AFRICAN MINE SUPPLY: UP 14% YOY ON ACP BACKLOG UNWIND AND PRODUCTION STABILITY

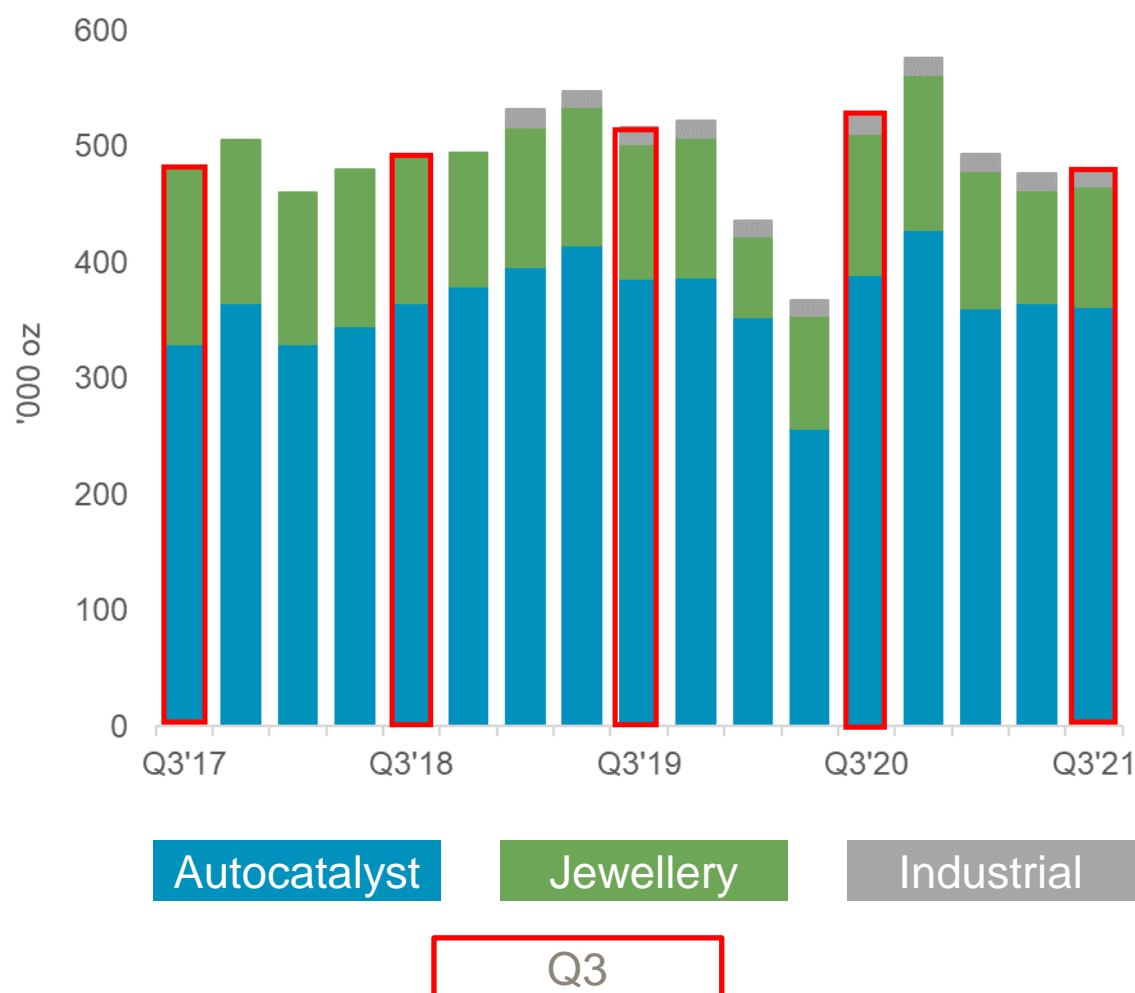
South African refined mine production (koz)



- South African Q3 production up 14% YoY and up 2% QoQ
 - Increased mining costs have reduced production disruption risk
 - Includes 140 koz of revised 370 koz of ACP backlog being processed in 2021
 - Production up 1% YoY but -4% on Q3'19 if ACP unwind is excluded

Q3 2021 RECYCLING: DOWN 9% ON SOME STOCKPILING AND REDUCED CONSUMER JEWELLERY TRADE-INS

Recycling (koz)



- Recycling supply down 9% YoY (-46 koz), autocatalyst -28 koz, jewellery -17 koz
- Autocatalyst recycling down due to some scrapyard stockpiling, and Q3'20 being inflated by the first COVID lockdown rebound
- Jewellery recycling down due to lower consumer trading in of old for new pieces in China

Q3 2021 DEMAND: STRONG INDUSTRIAL, SOFT AUTO & JEWELLERY, -VE INVESTMENT. SURPLUS +592 KOZ

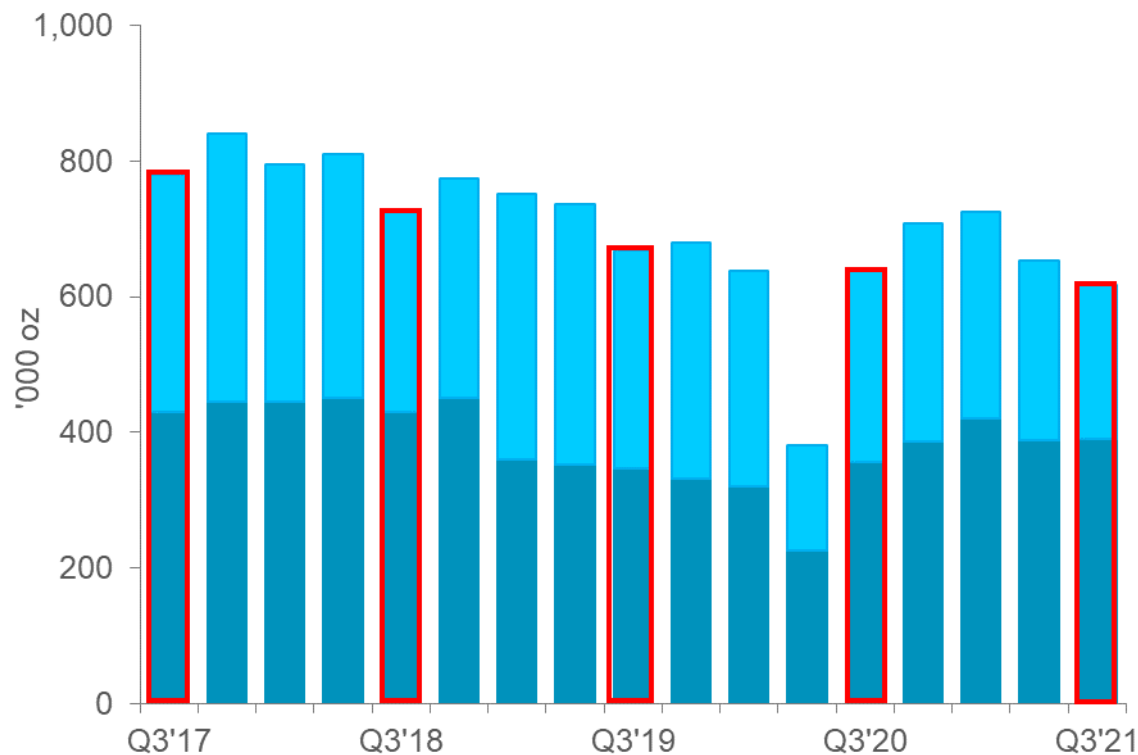
DEMAND	Q3 2020 // Q2 2021	Q3 2021
Automotive	638	653
Autocatalyst	638	653
Non-road	†	†
Jewellery	510	461
Industrial	505	664
Chemical	124	214
Petroleum	21	45
Electrical	33	35
Glass	131	169
Medical & Biomedical	60	59
Other	137	141
Investment	962	189
Change in Bars, Coins	97	109
Change in ETF Holdings	523	31
Change in Stocks Held by Exchanges	342	49
Total Demand	2,615	1,967
Balance	-704	114

Q3 demand change YoY:

- Automotive down 3% (-21 koz)
- Jewellery down 5% (-27 koz)
- Industrial up 20% (+98 koz)
- Investment swing of 1,208 koz, from record Q3'20 to significant disinvestment in Q3'21
 - Bar and coin up 25% (+24 koz)
 - ETF swing of 718 koz
 - Exchange stocks swing of 515 koz
- Market surplus of +592 koz

Q3 2021 AUTOMOTIVE: DOWN 3% YOY AS CHIP-RELATED LOSS EXCEEDS GROWTH IN LOADINGS & SUBSTITUTION

Automotive demand (koz)



World ex-W.E.

Western Europe

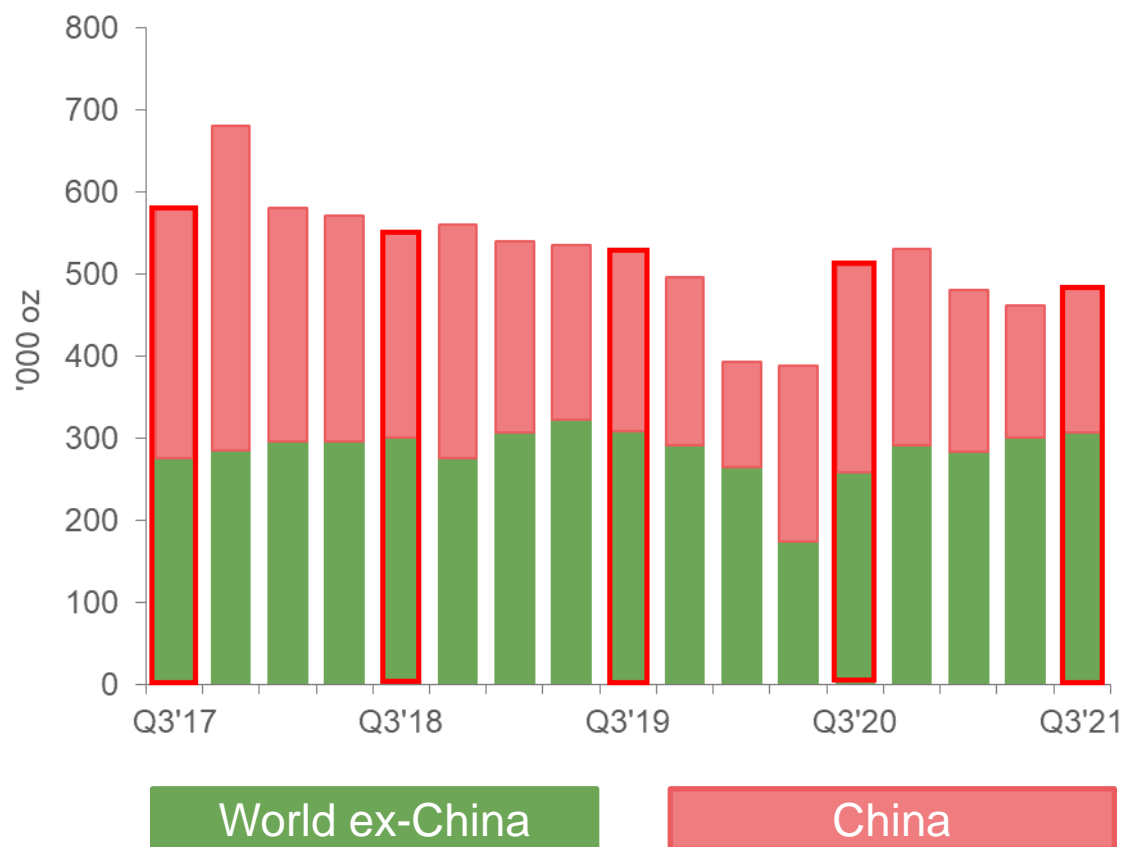
Q3

Q3'21 demand change YoY:

- Automotive demand -3% (-21 koz) as 16% lower vehicle production is almost offset by higher loadings and substitution
- European LV production down 24%, platinum demand down 20% (-57 koz)
- North American LV production down 24% and HD down 3% but platinum demand unchanged on preference for larger vehicles and substitution
- China LV production down 16% and HD down 62% but platinum demand up 33% on implementation of tighter emissions standards

Q3 2021 JEWELLERY: DOWN 5% YOY AS STRONG NORTH AMERICA AND EUROPE COUNTER WEAK CHINA

Jewellery demand (koz)

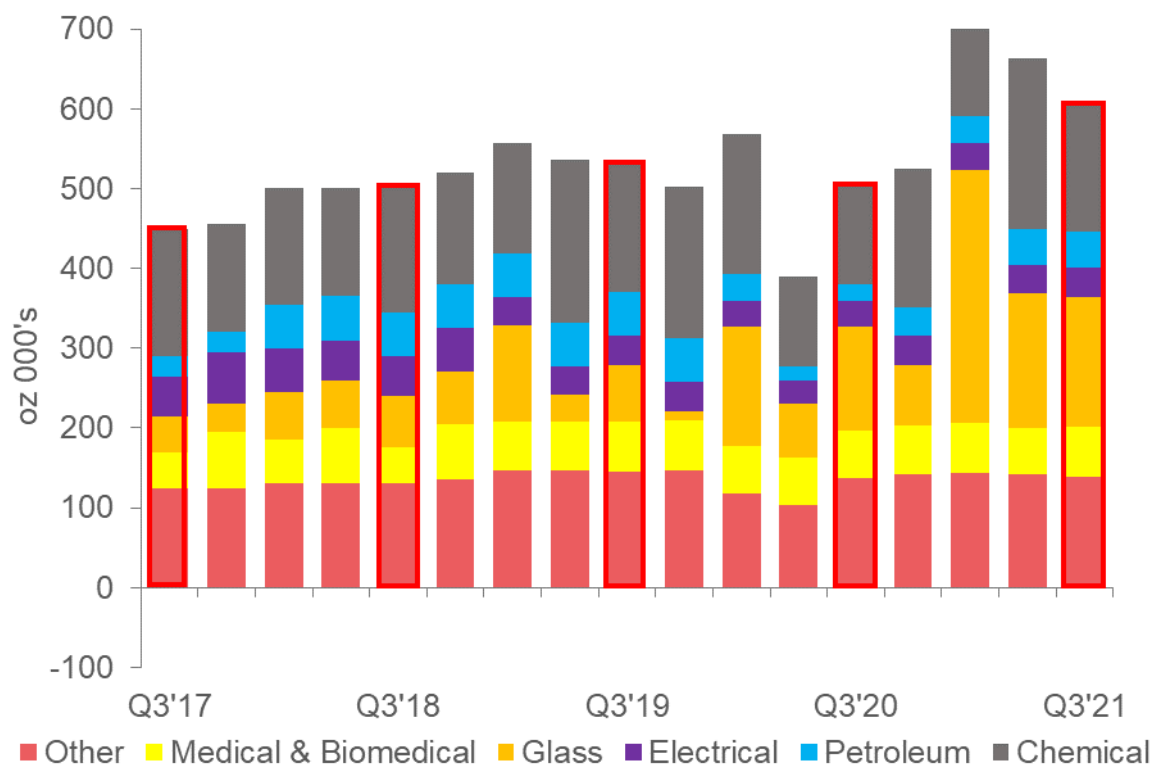


Q3

- Jewellery down 5% (-27 koz) YoY to 483 koz but up 4% (+22 koz) QoQ
- Continued YoY rebound
 - N. America up 64% (+41 koz) and Europe up 25% (+13 koz) on disposable income boost
 - Japan down 20% (-19 koz) on state of emergency
 - China demand down 30% (-76 koz) on current consumer preference for other metals

Q3 2021 INDUSTRIAL DEMAND: UP 20% YOY BUT EASING FROM RECENT RECORD HIGHS

Industrial demand by category (koz)

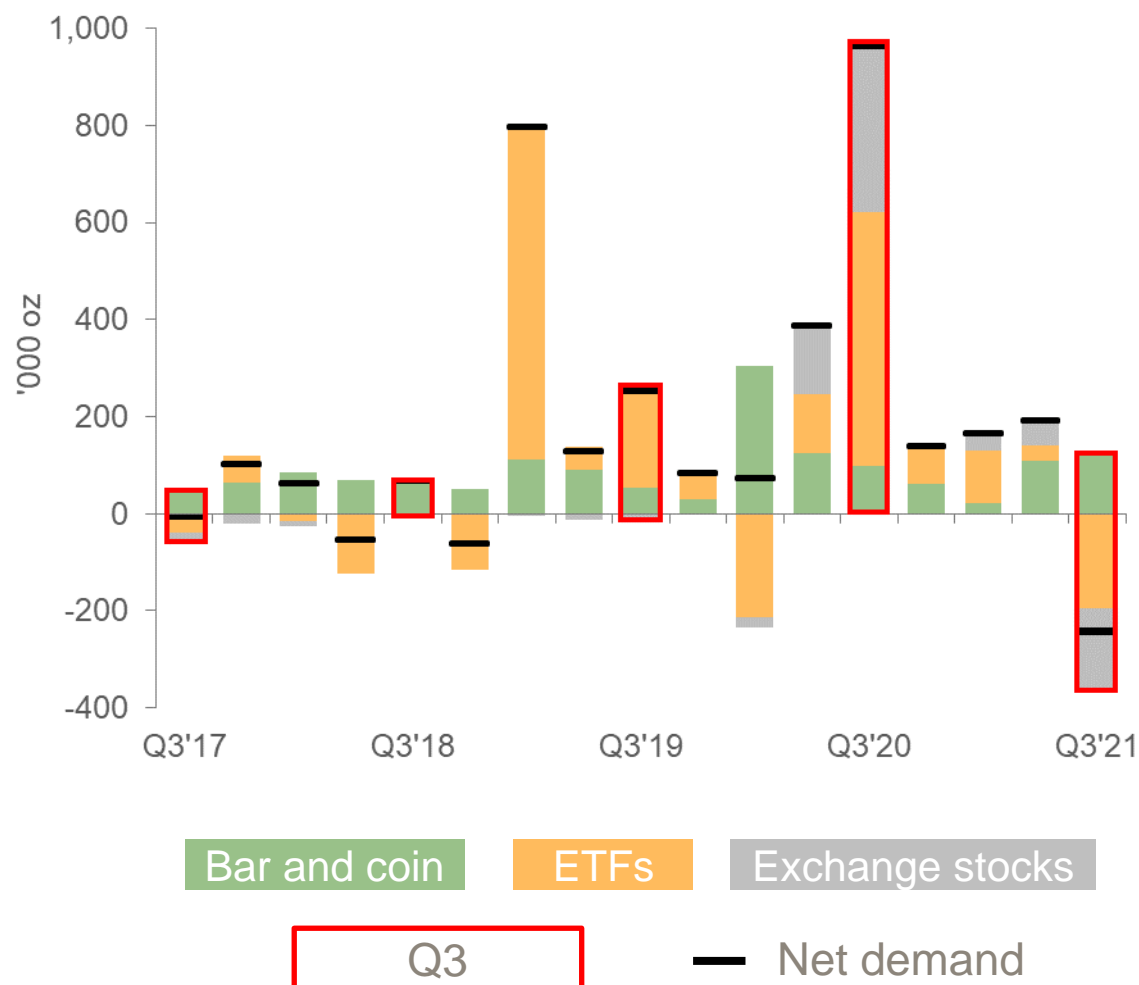


Q3

- Industrial up 20% (+98 koz) YoY
- Petroleum up 112% (+24 koz) on COVID-impacted Q3'20 but flat QoQ
- Chemical up 27% (+33 koz) to 157 koz on China chemical and silicone demand
- Glass up 26% (+33 koz) on continued China fibreglass and LCD tank capacity additions

Q3 2021 INVESTMENT DEMAND: OUTFLOWS FROM ETF AND EXCHANGE STOCKS BUT STRONG BAR AND COIN

Investment demand by category (koz)



- Investment demand down 1,208 koz YoY on unprecedented investment in Q3'20 and significant ETF and exchange stock outflows in Q3'21
- Bar & coin up 25% YoY (+24 koz), mainly on demand doubling in Japan, albeit off a low base
- ETFs down 718 koz YoY on net sales in Japan and rotation to PGM equities in South Africa
- Exchange stocks (mainly NYMEX) down 515 koz on visible NYMEX inventory being moved to non-visible inventory in London and Switzerland

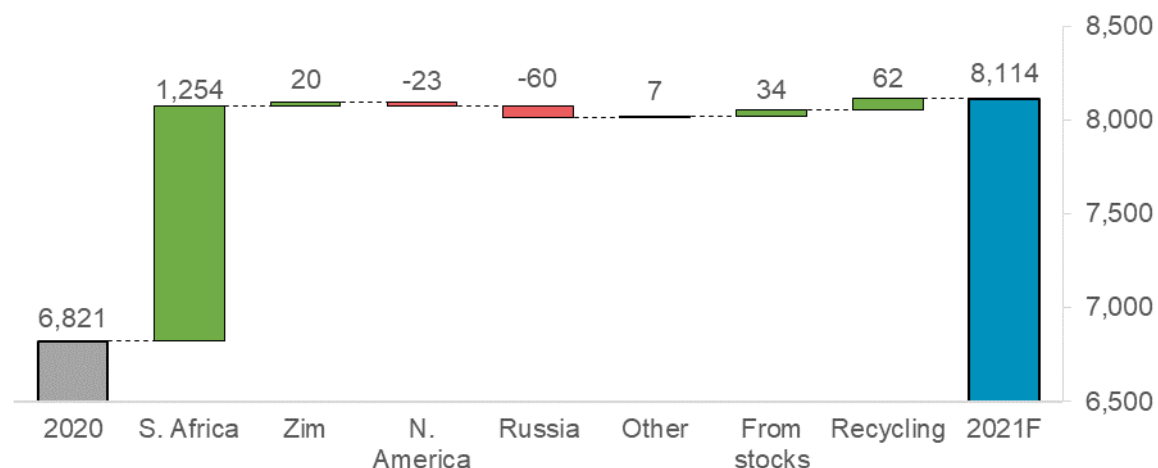
2021 FULL YEAR: LARGE SURPLUS ON STOCK UNWIND, MUTED INVESTMENT & OTHERWISE STRONG DEMAND

SUPPLY	2020	2021f	YoY, oz	YoY, %
Refined Production	4,989	6,187	1,197	24%
South Africa	3,298	4,552	1,254	38%
Zimbabwe	448	467	20	4%
North America	337	314	-23	-7%
Russia	704	644	-60	-8%
Other	202	209	7	3%
Inc (-)/Dec (+) in Producer Inventory	-84	-50	34	N/A
Total Mining Supply	4,906	6,137	1,231	25%
Recycling	1,916	1,977	62	3%
Autocatalyst	1,438	1,495	57	4%
Jewellery	422	424	2	1%
Industrial	56	58	2	3%
Total Supply	6,821	8,114	1,292	19%
DEMAND				
Automotive	2,365	2,704	340	14%
Jewellery	1,820	1,914	94	5%
Industrial	1,987	2,501	514	26%
Investment	1,554	225	-1,329	-86%
Total Demand	7,726	7,345	-381	-5%
Balance	-904	769	-	N/A
Above Ground Stocks	2,650	3,419	769	29%

- Refined production up 25% (+1,231 koz) on steady COVID-related recovery but boosted by ACP backlog unwind
- Recycling up 3% (+62 koz)
- Automotive demand up 14% (+340 koz)
- Industrial demand up 26% (+514 koz)
- Investment demand down 86% from unprecedented levels during peak uncertainty in 2020
- Market surplus in 2021 of +769 koz

2021 FULL YEAR: TOTAL SUPPLY UP 19% (+1,292 KOZ), TOTAL DEMAND DOWN 5% (-381 KOZ)

Annual total supply and changes 2020 to 2021F (koz)



Annual total demand and changes 2020 to 2021F (koz)



- South African mine supply up 38% (+1,254 koz), with no COVID disruptions and ACP unwind continuing
- Recycling supply up 3% (+62 koz) on higher automotive offsetting lower jewellery recycling rates
- Auto demand up 14% due to higher loadings and 200 koz Pt-Pd substitution offsetting vehicle production constraints
- Jewellery demand up 5% and industrial demand strong at up 26% (514 koz)
- Investment down 86% from record 2020

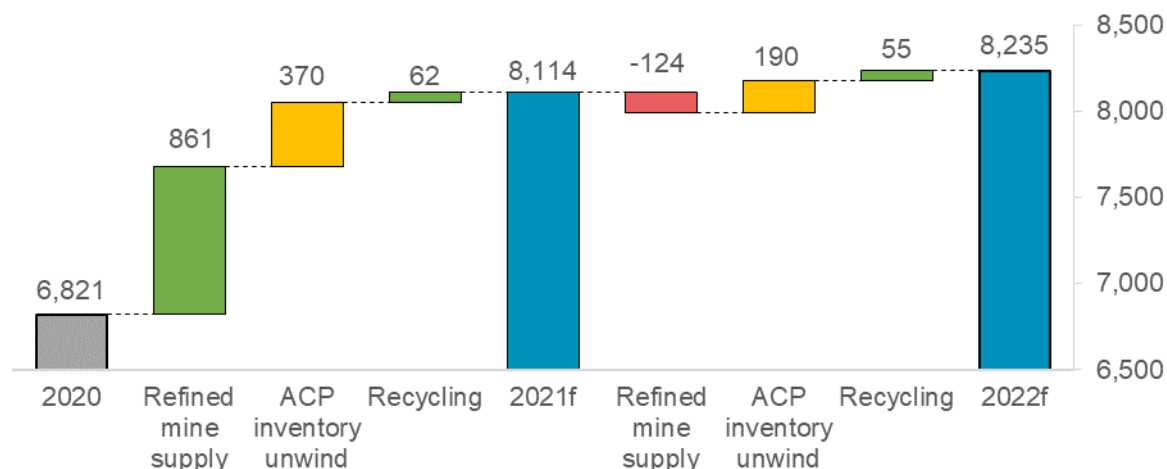
2022 FULL YEAR: SURPLUS ON FINAL STOCK UNWIND AND (HIGHER-UNCERTAINTY) LOWER TOTAL DEMAND

SUPPLY	2021f	2022f	YoY, oz	YoY, %
Refined Production	6,187	6,203	16	0%
South Africa	4,552	4,514	-38	-1%
Zimbabwe	467	465	-2	-1%
North America	314	356	42	13%
Russia	644	666	22	3%
Other	209	202	-7	-3%
Inc (-)/Dec (+) in Producer Inventory	-50	+0	50	N/A
Total Mining Supply	6,137	6,203	66	1%
Recycling	1,977	2,032	55	3%
Autocatalyst	1,495	1,559	64	4%
Jewellery	424	414	-10	-2%
Industrial	58	59	1	1%
Total Supply	8,114	8,235	121	1%
DEMAND				
Automotive	2,704	3,237	533	20%
Jewellery	1,914	1,890	-24	-1%
Industrial	2,501	2,169	-332	-13%
Investment	225	302	77	34%
Total Demand	7,345	7,598	253	3%
Balance	769	637	-	-17%
Above Ground Stocks	3,419	4,056	637	19%

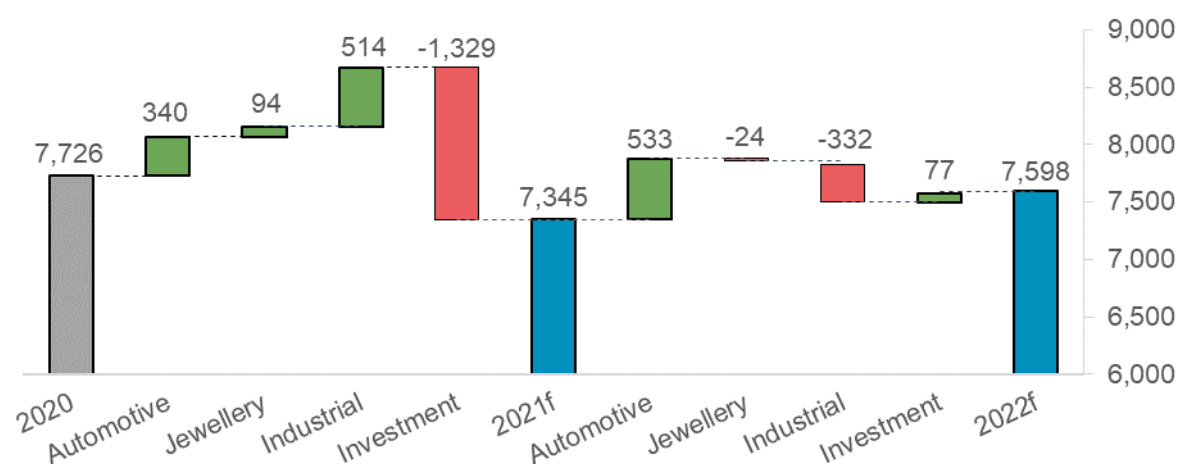
- Refined production flat (+16 koz) despite final tranche of ACP backlog and improved operational efficiency
- Recycling up 3% (+55 koz)
- Automotive demand up 20% (+533 koz)
- Industrial demand down 13% (-332 koz) on glass consolidation at expanded level
- Investment demand up 34% on strong bar and coin
- Market surplus in 2022 of +637 koz but high uncertainty in demand growth

2022 OUTLOOK: KEY TRENDS SIMILAR TO 2021 BUT GREATER UNCERTAINTIES OVER SCALE OF SURPLUS

Annual total supply and changes 2020 to 2022F (koz)



Annual total demand and changes 2020 to 2022F (koz)



- South African refined production down 1% YoY at 4,514 koz including 190 koz of ACP inventory unwind
- Recycling supply up 3% (+55 koz) but may encounter capacity constraints later in the year
- Auto demand up 20% (+533 koz): LV & HD up but chip shortage overhang remains, higher loadings and Pt-Pd substitution doubles
- Industrial demand down 3% on episodic timing of capacity additions
- Investment +34% YoY despite continued negative ETF and NYMEX demand

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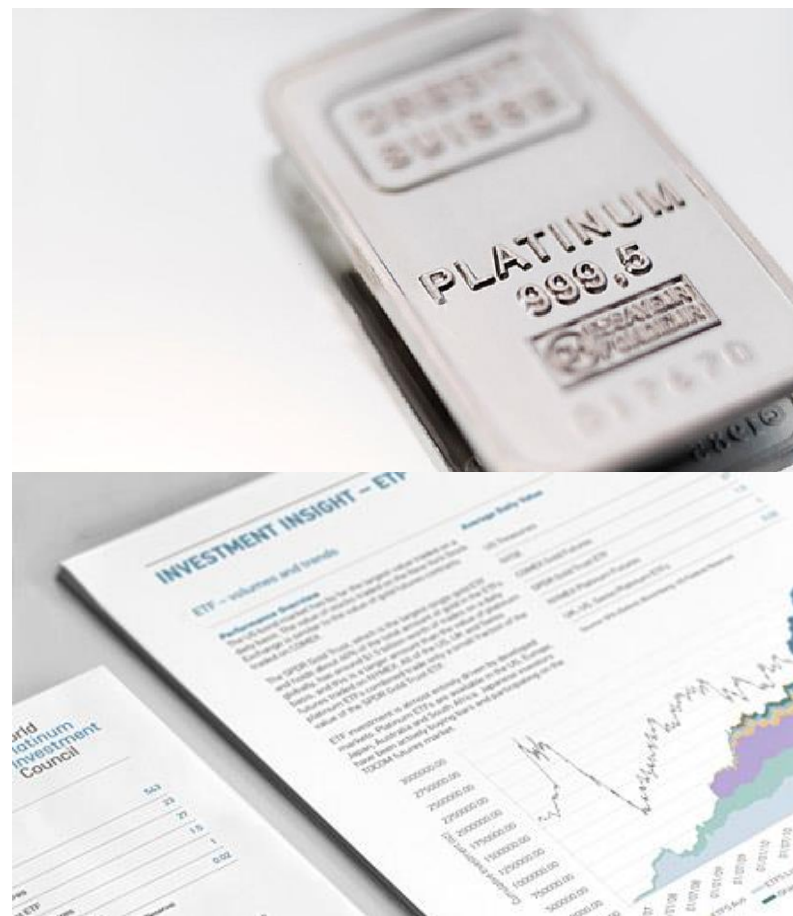
- Market surplus dynamics
- Outlook uncertainty and price
- Demand growth drivers

Trevor Raymond, Director of Research

4. Questions

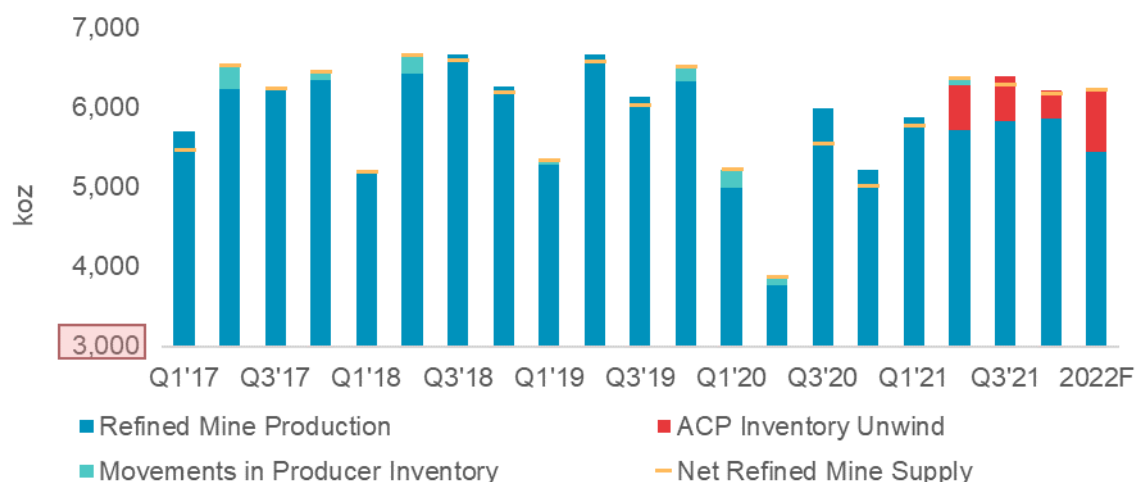
Paul Wilson

Trevor Raymond



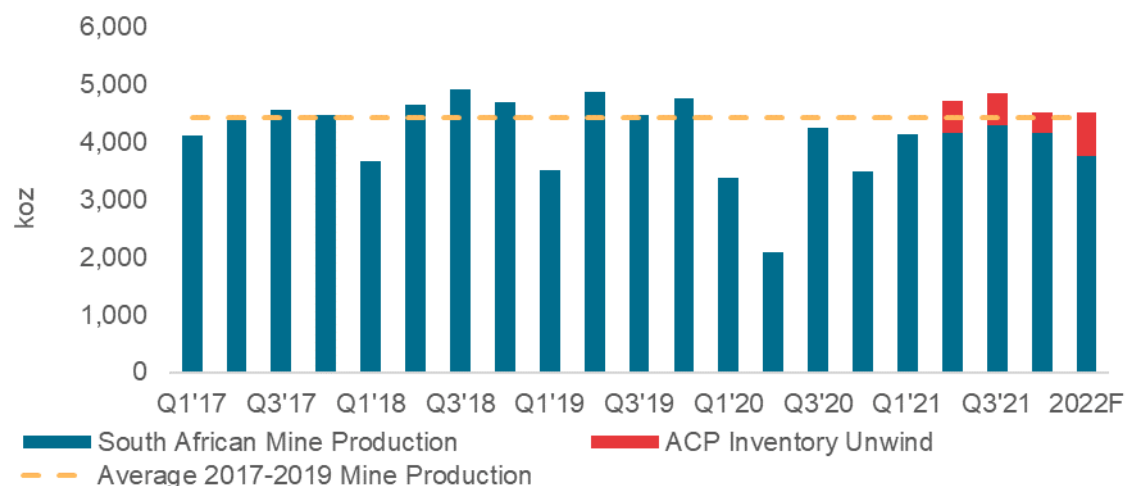
UNRAVELING THE SURPLUS: PRODUCTION BELOW HISTORICAL LEVELS, EXCLUDING ACP INVENTORY

Annualised Refined Platinum Mine Supply



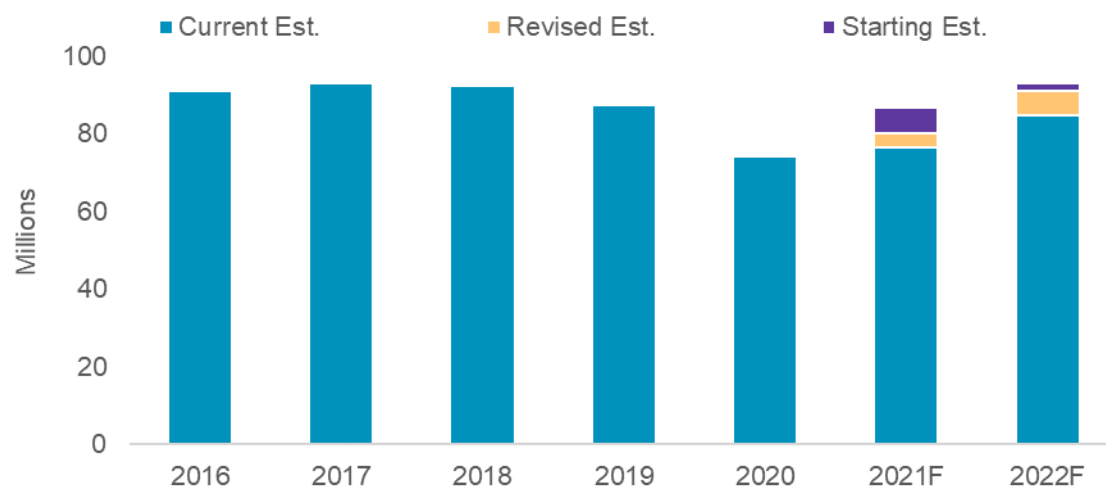
- Global mine production has continued to recover from the COVID disruptions seen in 2020
- But heavily supplemented by the unwind of ACP backlog, which is expected to be concluded in 2022
- Excluding ACP material, mine production remains below pre-pandemic levels
- But high margins have supported proactive maintenance and stope development limiting the risk of production disruptions and downside supply risk

South Africa Annualised Refined Platinum Mine Supply



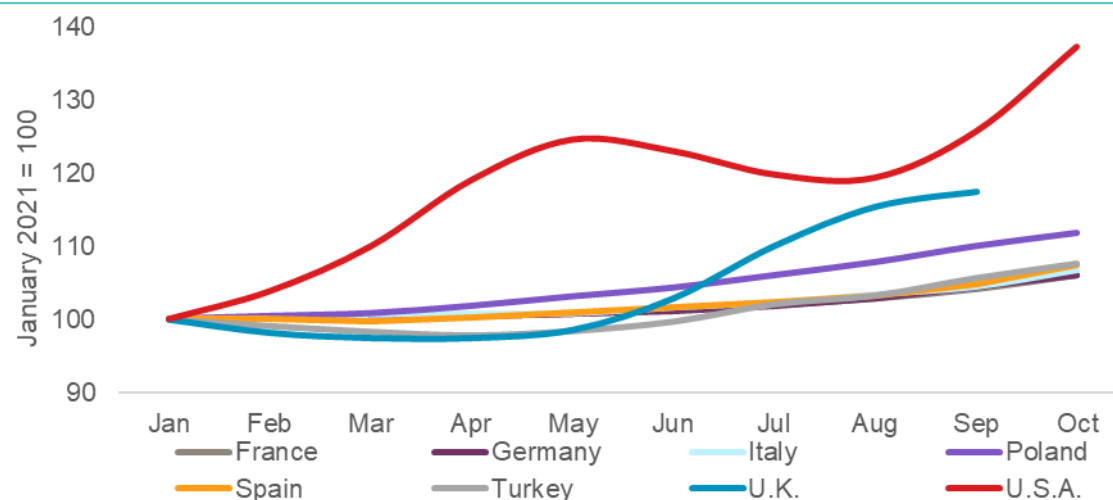
UNRAVELING THE SURPLUS: CHIP SHORTAGE WEAKENS AUTOMOTIVE PRODUCTION AND OUTLOOK

Light vehicle production expectations



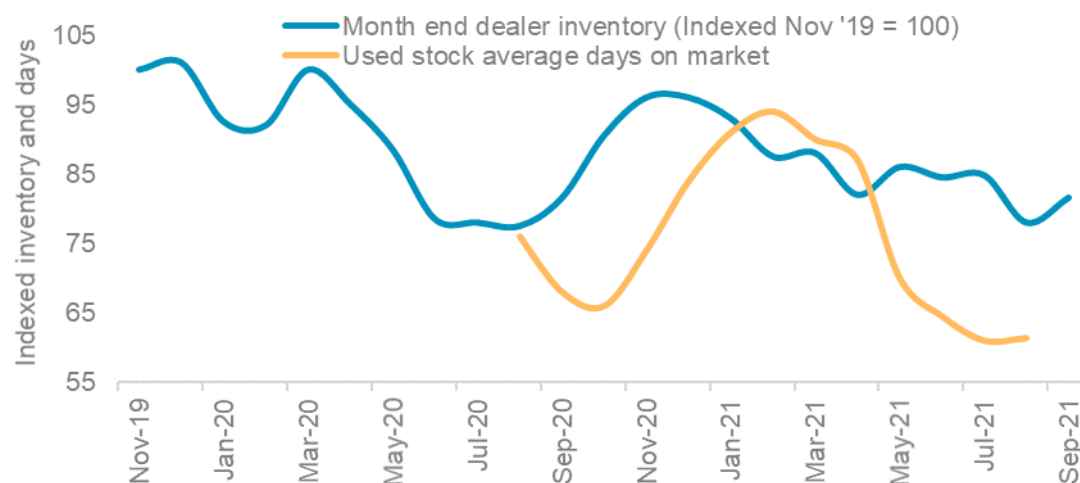
- Continued downgrades to global vehicle production estimates in the face of strong consumer demand has allowed automakers to reduce inventories
- Automakers have prioritised production of higher margin vehicles, typically benefitting platinum over palladium
- A shortage of new vehicles is driving up second-hand prices – pointing to strong underlying consumer demand

Second-hand vehicle price indices continue to gain



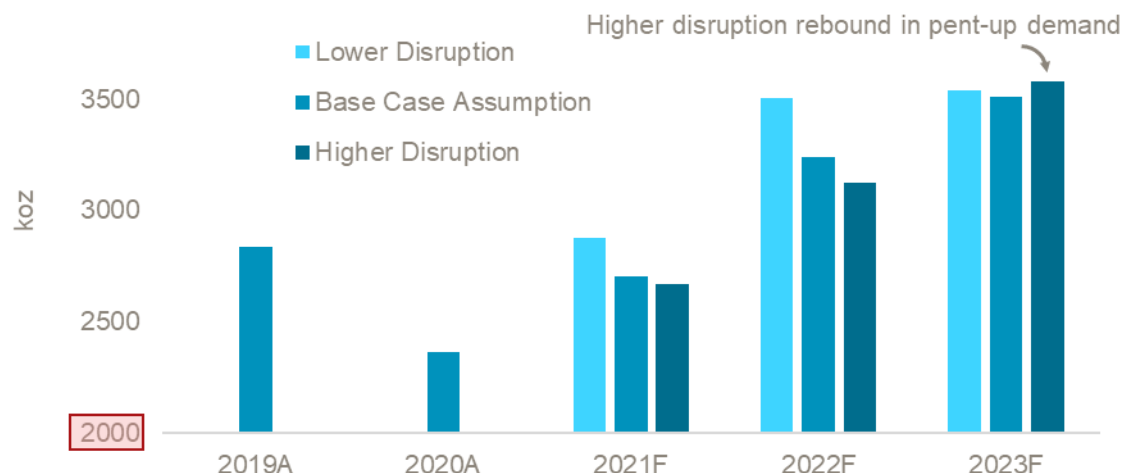
UNRAVELLING THE SURPLUS: CONSUMER AUTOMOTIVE DEMAND REMAINS STRONGER THAN NEW SUPPLY

Falling used vehicle inventories and faster turnover



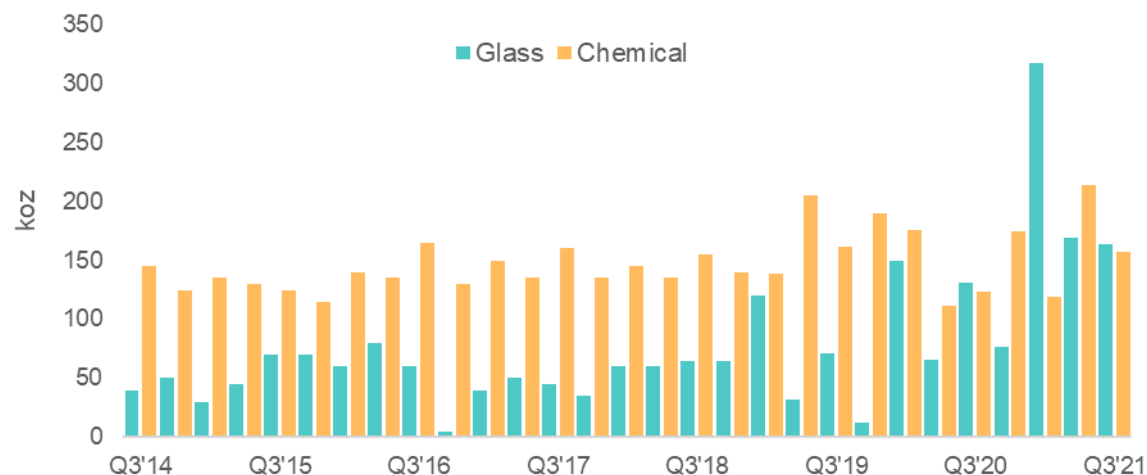
- Falling inventories and rising second-hand car prices reflects consumer demand potential should supply challenges be overcome
- This gives confidence that automotive demand will bounce back when supply constraints are overcome
- Should automotive production exceed expectations it could add gross demand of 35 koz platinum for every million additional vehicles

WPIC Automotive Disruption and Demand Scenarios



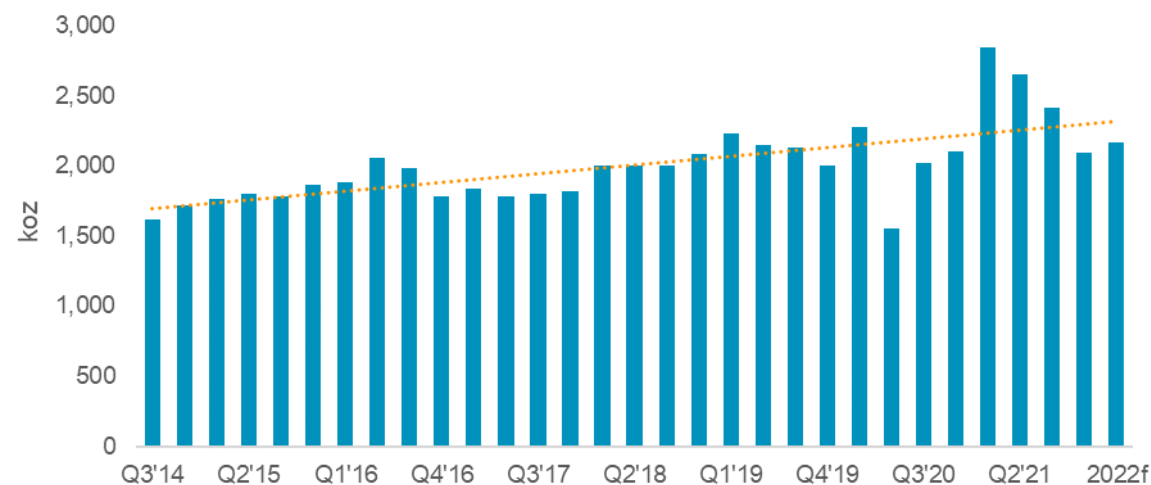
UNRAVELING THE SURPLUS: INDUSTRIAL DEMAND LOWER IN 2022 ON FEWER CAPACITY ADDITIONS

Quarterly glass and chemical demand



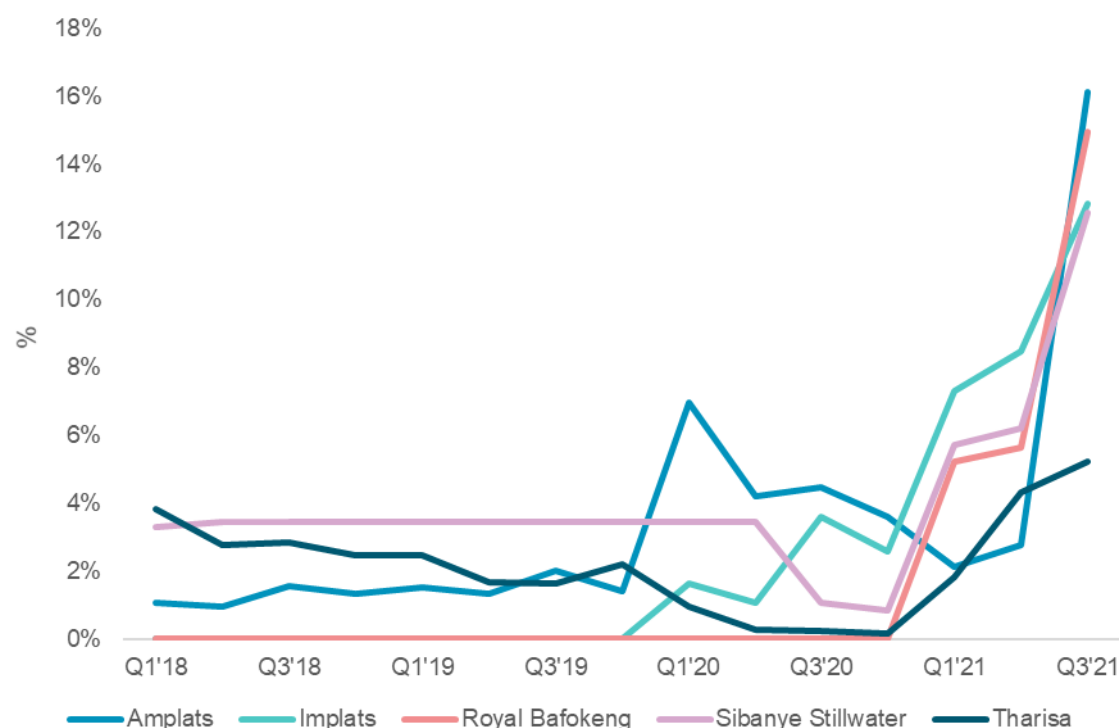
- Industrial platinum demand is closed loop with noticeable incremental new demand when new manufacturing capacity is built
- Demand elevated in 2021 from above average capacity additions in: glass, paraxylene and propane dehydrogenation in China
- No new facilities under construction are expected to be completed in 2022

Annualised total industrial demand and linear trend



UNRAVELING THE SURPLUS: NEGATIVE INVESTMENT DEMAND FLOWS COULD REVERSE IN 2022

PGM miner dividend yields



- Ongoing strength in bar and coin demand offset by negative ETF demand and exchange stock outflows (particularly away from NYMEX)
- This comes after record investment demand in 2019 and 2020
- The trend to rotate out of South African ETFs into the equities may not continue due to lower dividend potential as the companies invest in production stability

PLATINUM'S STRATEGIC ROLE IN HYDROGEN IS DRIVING INVESTMENT DEMAND, BOOSTED AT COP26

- At COP26 the H2Zero companies added to strong policy developments by announcing commitments to accelerate production and use of hydrogen
- The Hydrogen Council estimates that 'clean' hydrogen* could avoid 80 Gt of CO₂ emissions between now and 2050
- Hydrogen demand expected to increase from 90Mtpa today to 140Mtpa in 2030 with bulk of the growth in green hydrogen
- PEM electrolyzers ideally suited to hydrogen generation from renewable power
- **FCEV could require over 3 Moz per annum by 2035**



UNCERTAINTY IN FORECASTS: KNOWN UNKNOWNNS COULD MATERIALLY REDUCE SURPLUSES



- Market idiosyncrasies point to platinum potentially being less readily available than forecast surpluses suggest
- These include: vehicle production, substitution, loadings and investment
- Risks to the projected 2022 surplus are to the downside – small trend changes make material demand differences

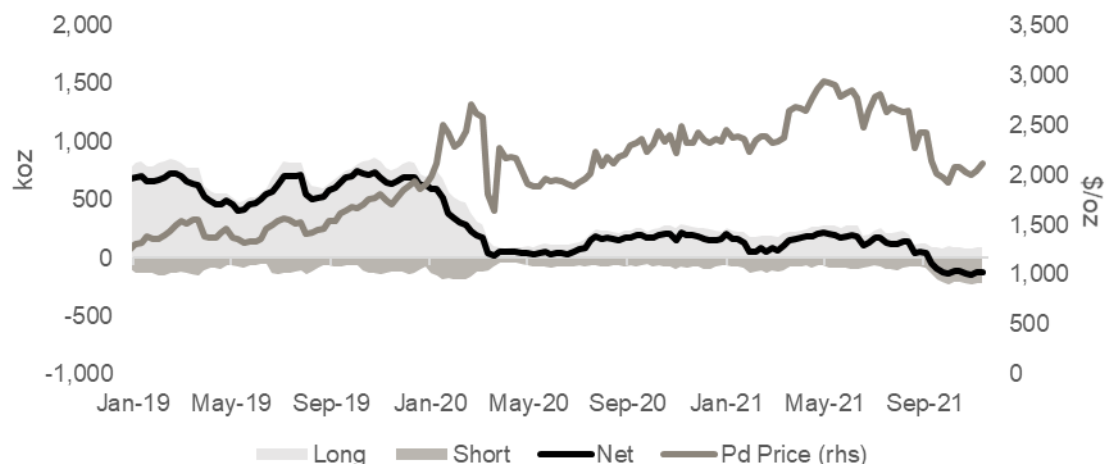
INVESTOR POSITIONING: PLATINUM ON NYMEX MOVED TO NET LONG FROM AUGUST NET SHORT

NYMEX money manager platinum positioning



- NYMEX speculative positioning now net long 718 koz, up from net short -444 koz in mid-August, the deepest short since July 2019

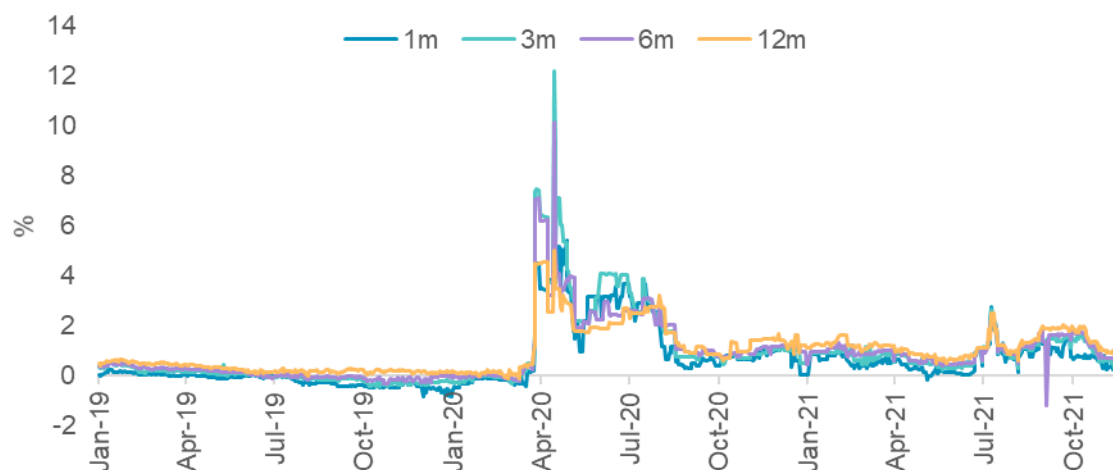
NYMEX money manager palladium positioning



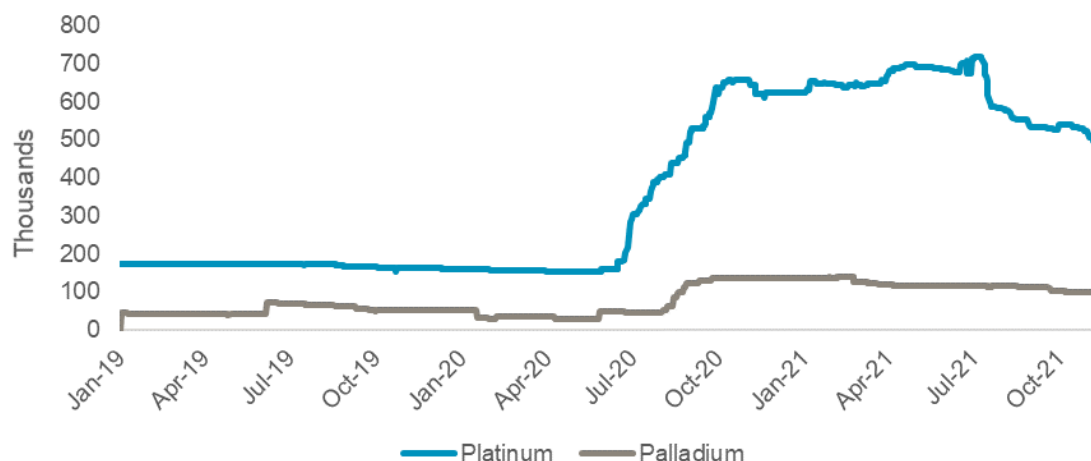
- In contrast, palladium positioning has moved to a net short position of -119 koz, the first net short position since at least 2009

KNOWN UNKNOWN: LEASE RATES AND STOCK MOVEMENTS POINT TO POTENTIAL METAL SHORTAGE

Implied platinum lease rates



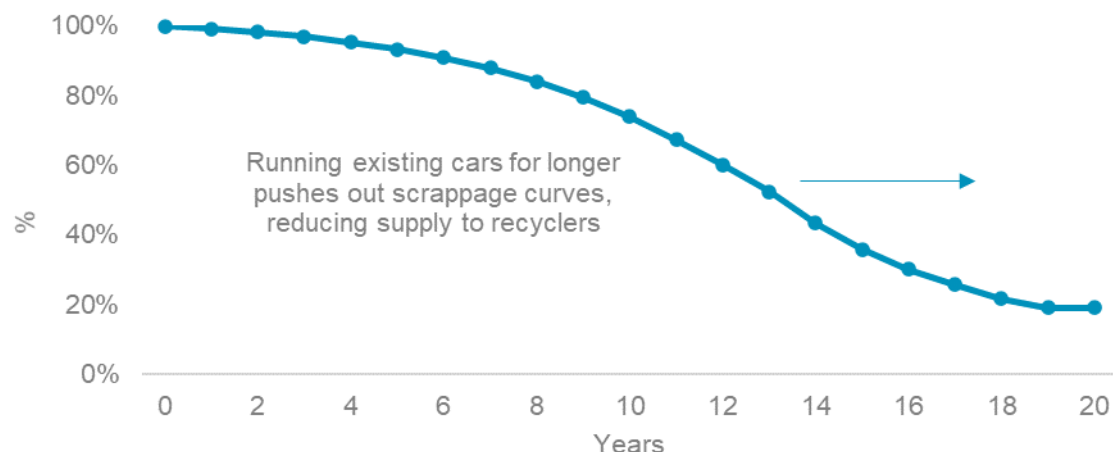
NYMEX inventory has drawn by 200k since early July



- Platinum lease rates have retreated from recent highs but remain well above pre-COVID levels pointing to potential shortages of immediately available metal
- Levels are significantly above pre-COVID 3-year average of 0.1%
- Significant NYMEX inventory builds in 2020 increased in 2021 on market maker risk
- NYMEX stocks unusually used as source of supply in 2021, >200 koz since early July

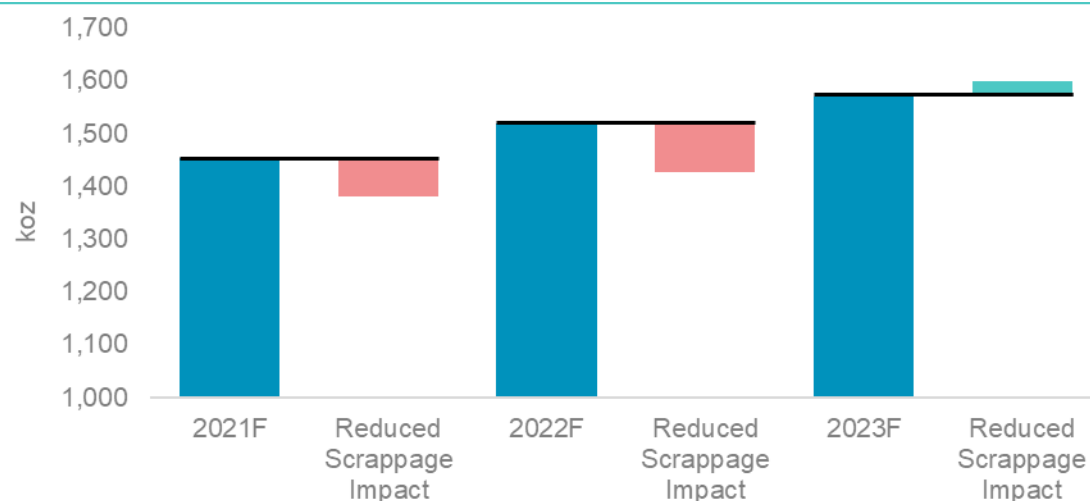
KNOWN UNKNOWN: REDUCED SCRAPPAGE COULD REDUCE AUTOMOTIVE RECYCLING SUPPLY

Percentage of original vehicles on the road



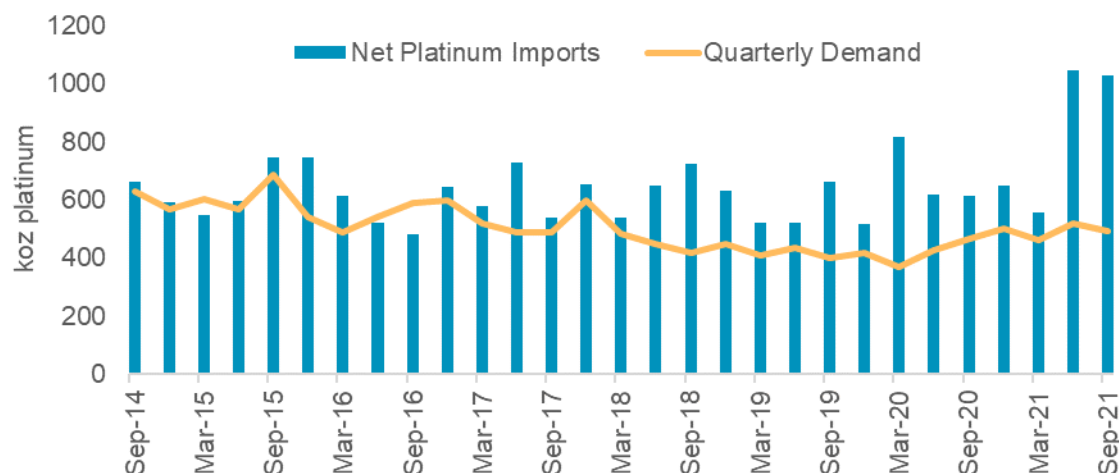
- Base case forecasts assume automotive recycling supply grows at 4% in both of 2021 and 2022
- However, extending vehicle lives could potentially reduce supply of catalytic converters to the recyclers
- We estimate that every 1 million vehicles not recycled reduces automotive recycling supply by 21 koz

Automotive recycling downside risk



KNOWN UNKNOWN: CHINA PLATINUM IMPORTS CONTINUE TO RUN AT MORE THAN 2X DEMAND

China net platinum imports vs. demand



- China net platinum imports have continued to diverge from national consumption, and have stepped up significantly through the middle of 2021

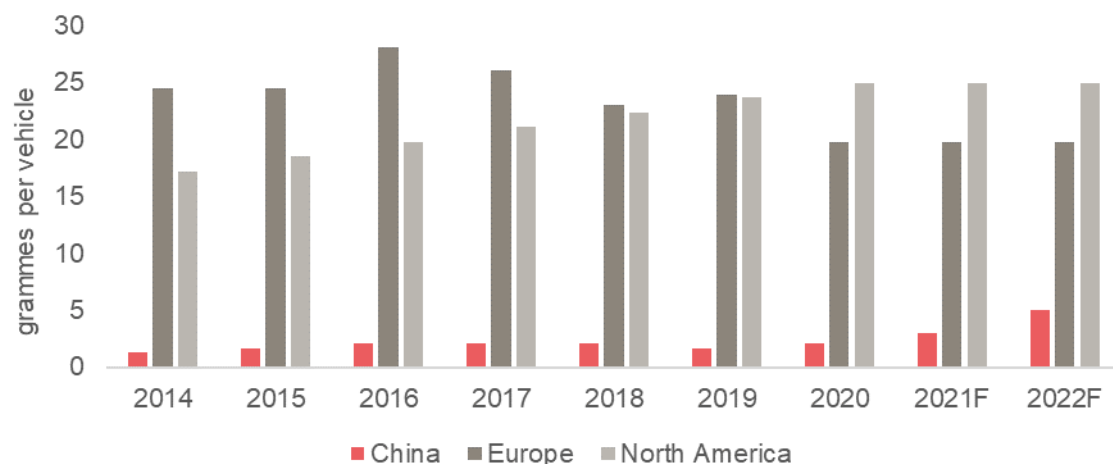
China net palladium imports



- Palladium imports were at elevated levels through 2020 but have since declined markedly

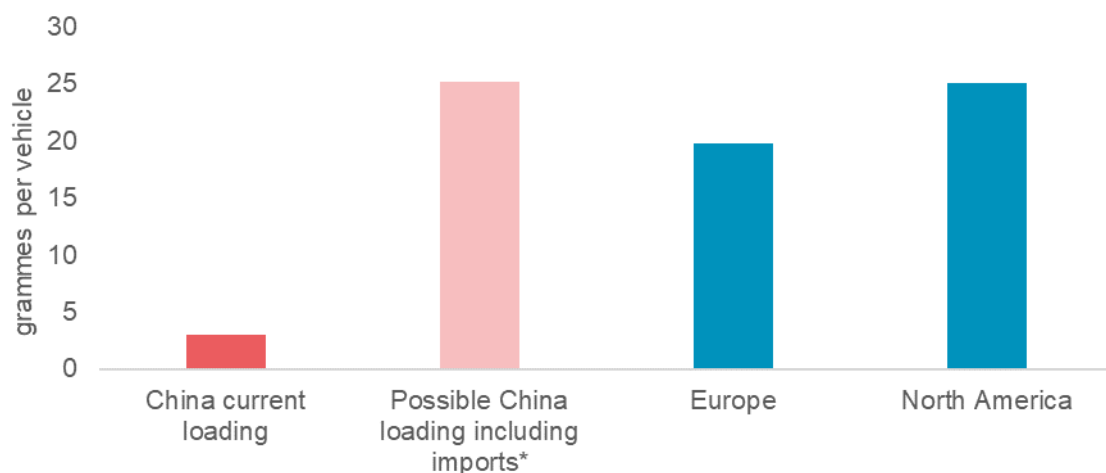
KNOWN UNKNOWN: CHINA PER VEHICLE LOADINGS LAG LOADINGS WITH COMPARABLE EMISSIONS

Estimated heavy duty vehicle loadings



- Estimated platinum loadings per heavy duty vehicle in China remain well below estimated loadings in regions with comparable emissions standards

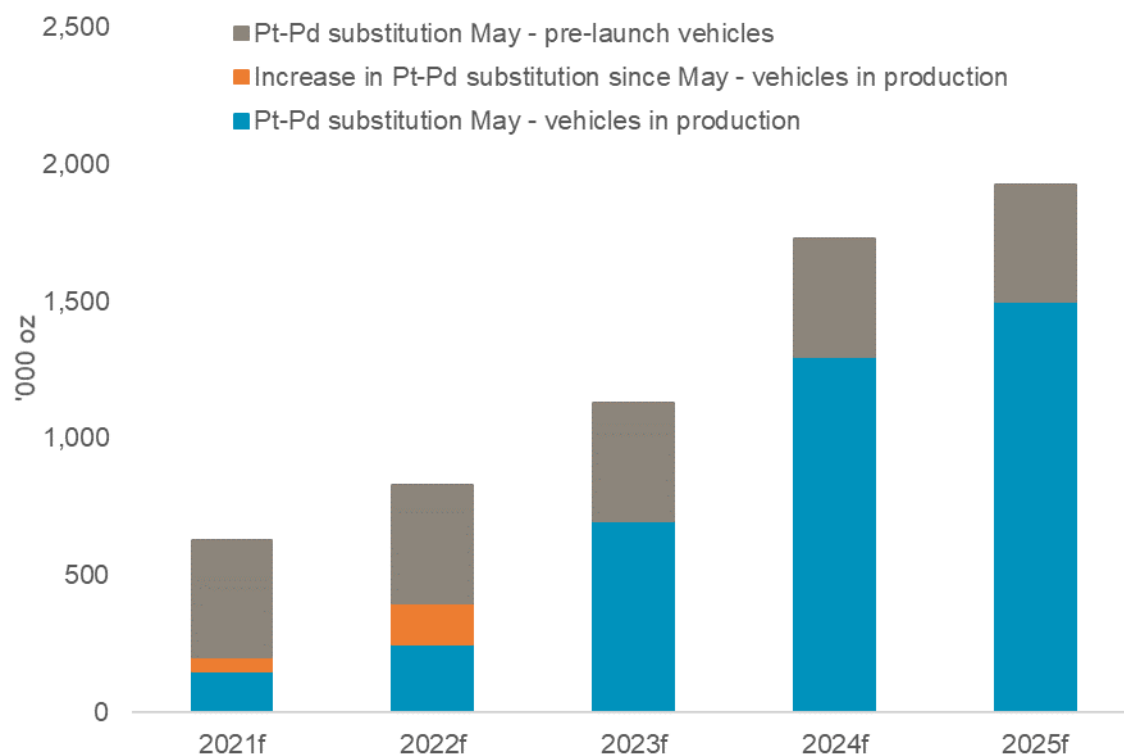
Possible loadings including imports



- Illustratively, adding imports to automotive demand brings loadings up to levels comparable to other regions, although it is more likely that the real picture is somewhere in between

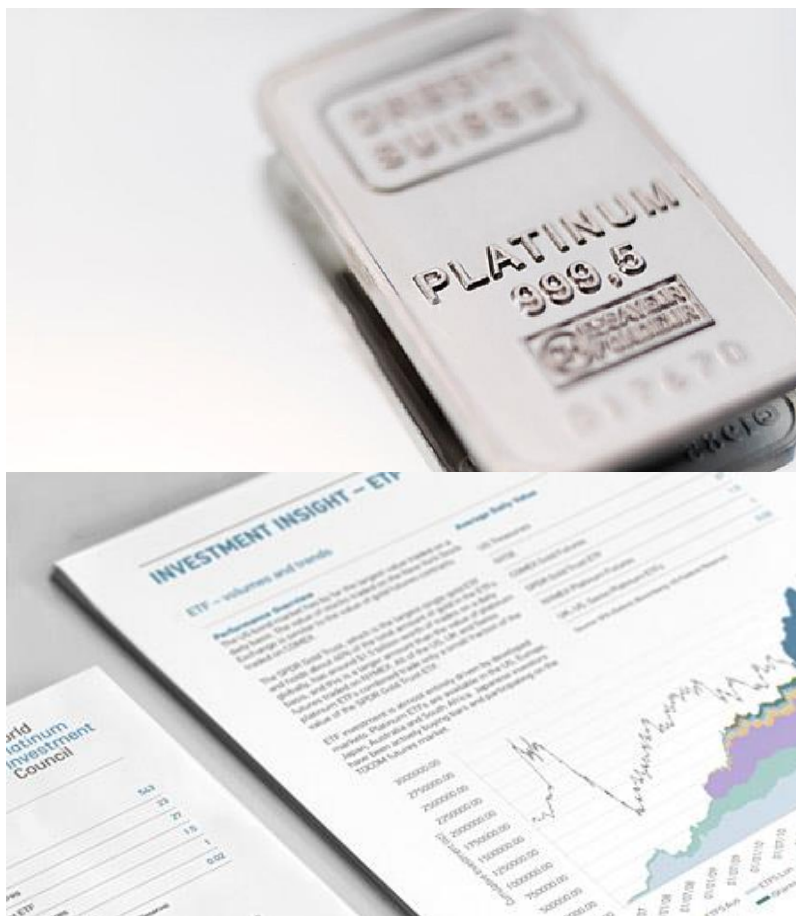
WPIC SCENARIO: PT FOR PD SUBSTITUTION – COULD BE > 1.9 MOZ ADDITIONAL ANNUAL DEMAND BY 2025

c.1.9 moz/year more auto pt demand by 2025



- Some market estimates point to:
 - c.200 koz of Pt for Pd substitution in vehicles currently on sale in 2021 up from c.150 koz previously
 - More than doubling in 2022
 - Growing to 1.5 moz in 2025
- Current substitution projections do not include changes in metal mix in vehicles pre-launch
- Substitution in new China 6a/Euro 6d compliant LVs could be already boosting annual Pt substitution impact by 400 koz now and lift 2025 total over 1.9 moz

WHY INVEST IN PLATINUM? TRANSIENT SUPPLY BOOST, LOADINGS, SUBSTITUTION & INVESTMENT UPSIDE RISK



- Refined supply boost from 560 koz of backlog material ends in 2022 – constrained mine supply similar to 2019 levels
- Strong China imports suggest higher HD loadings and more substitution – supported by firm platinum price and elevated lease rate
- High uncertainty in ETF investor behaviour and exchange stock levels.
- Growing certainty regarding hydrogen in decarbonisation and platinum's strategic role is attracting more investors to platinum.

AGENDA: PLATINUM QUARTERLY: Q3 2021, UPDATED 2021 FORECAST AND INITIAL 2022 FORECAST

1. Introduction

Paul Wilson

2. Platinum Quarterly, fundamentals review

Trevor Raymond

3. Focus on fundamental drivers

Trevor Raymond

4. Questions

Paul Wilson, CEO

Trevor Raymond, Director of Research



