

PRECIOUS APPRAISAL



01 MARKET SPOTLIGHT

02 GOLD

03 SILVER

04 PLATINUM

05 PALLADIUM

06 RHODIUM, RUTHENIUM, IRIIDIUM

07 TRENDS AND INVESTMENTS

08 ABOUT HERAEUS

MARKET SPOTLIGHT

Silver solar demand will remain resilient in 2023

The West’s energy transition is helping to drive silver demand growth.

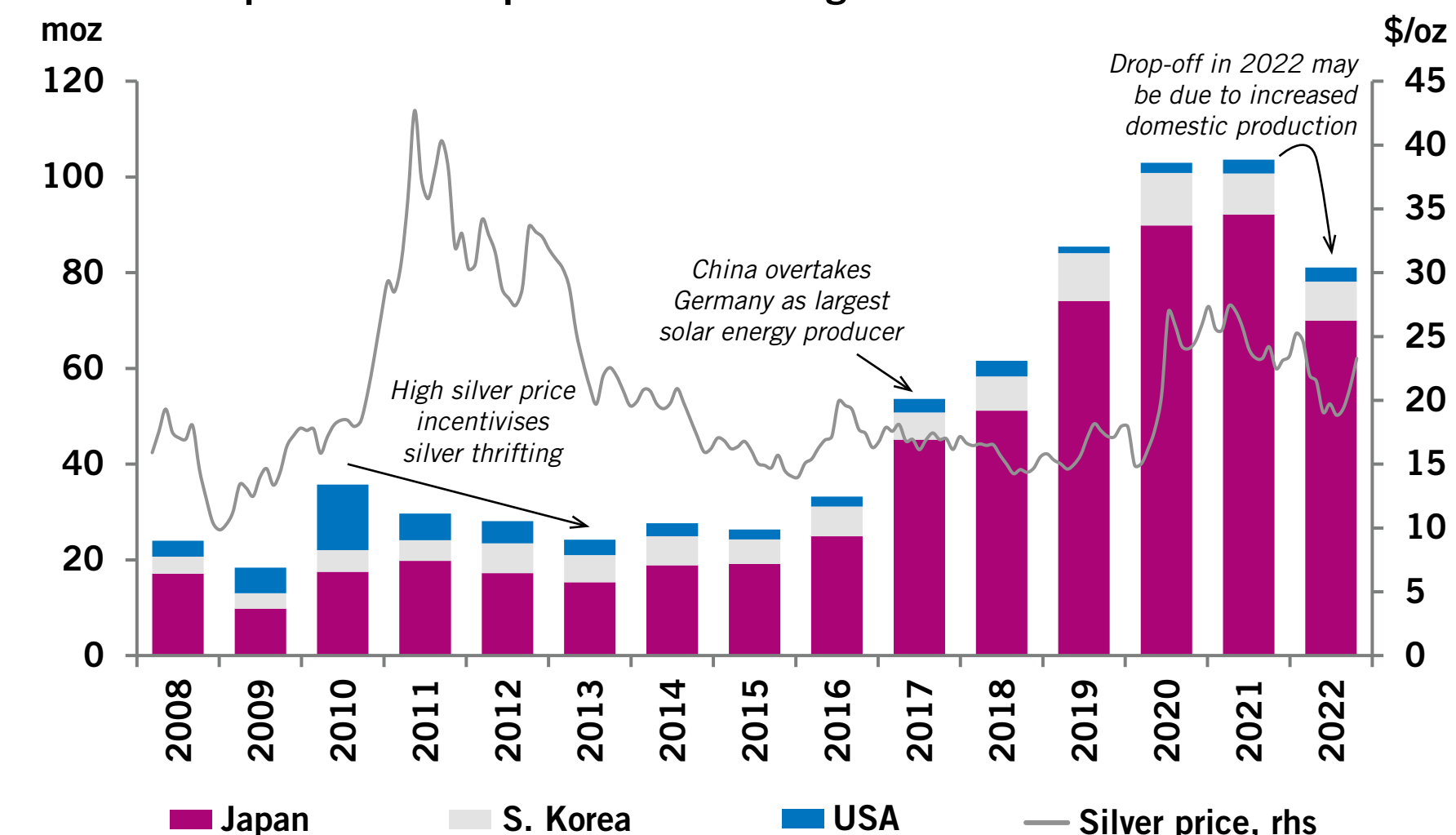
Despite the economic slowdown and possible recessions in the US and Europe, demand for renewable technology and solar photovoltaic (PV) modules is not expected to contract. Fiscal stimulus and government support for the energy transition is forecast to result in another record year for PV installations globally – including Europe and the US. The downside risk to this is that the US and Europe experience a deeper recession than forecast, leading to fiscal austerity and potential delays to PV projects if public funding begins to dry up.

Europe is the primary export market for Chinese solar products, having been the destination for 46% of China’s 156 GW of total PV module exports last year. The China Photovoltaic Industry Association (CPIA) expects this proportion to grow this year. This is feasible owing to the greater focus on renewable energy in the EU based on the REPowerEU initiatives, including the acceleration of rooftop installations and an estimated €26 bn boost in funding between 2022 and 2027.

China’s manufacturing base should be able to keep up with demand.

Industrial PMIs in China are currently sluggish, remaining below 50 (contraction) in January for the sixth straight month. In contrast, domestic photovoltaic module output in January was 8.6% higher month-on-month at 29.1 GW, and is predicted to reach >30 GW in February. Overall productivity should increase later in the year as the labour force recovers from the pandemic. Production capacity growth in the PV supply chain last year, plus that under construction, should mean that PV module output can meet demand, supporting requirements for silver paste in PV uses. Exports of PV products leaped 56% in 2022, indicating that a significant expansion in manufacturing capacity has already been completed.

Chinese imports of silver powder - three largest sources



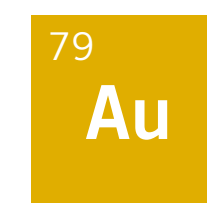
Source: - SFA (Oxford), Ministry of Finance Japan, Korea Customs Service, US Census Bureau. Note: Figures represent reported gross volumes of material shipped.

Despite potential recessions, silver PV demand is expected to reach a record in 2023. Thrifting of silver paste loadings may offset some gains in consumption from booming installations, but the increase in PV production should more than offset this, pushing global demand above last year’s ~150 moz. Silver powder imports by China (primarily used in PV conductive slurry) dropped last year to below 2019 levels of ~80 moz, potentially due to higher domestic production. In 2023, silver powder imports into China are set to bounce higher as manufacturing ramps up. How much this supports the silver price may depend on how the overall economic environment develops over the year.

- 01 MARKET SPOTLIGHT
- 02 GOLD
- 03 SILVER
- 04 PLATINUM
- 05 PALLADIUM
- 06 RHODIUM, RUTHENIUM, IRIDIUM
- 07 TRENDS AND INVESTMENTS
- 08 ABOUT HERAEUS

PRECIOUS METALS REVIEW

Gold



	CLOSE	WEEKLY CHANGE	HIGH	DATE	LOW	DATE
\$/oz	1,812	-1.48%	1,848	20/02/2023	1,809	24/02/2023
€/oz	1,719	-0.24%	1,734	22/02/2023	1,715	21/02/2023

The return of dollar strength weakens gold. The unexpectedly strong jobs data for January in the US and slower price disinflation mean the markets have come to accept that an early Fed pivot is unlikely and that interest rates will remain higher for longer. St Louis Fed Chair and non-voting member of the FOMC in 2023, James Bullard, raised the prospect of returning to 50 bp rate hikes at the March meeting in recent discussions. The latest Fed meeting minutes confirm a larger hike was debated. This is an unlikely prospect, as it would signal that the Fed had mis-judged market conditions and was still trying to make up lost ground against inflation. The more likely scenario is for two or three further 25 bp hikes. This could lend renewed strength to the dollar and keep the gold price under pressure until the summer, while the Federal Funds Rate target could be as high as 5.25-5.50% (currently 4.50-4.75%). The gold price dropped below its 50-day moving average last week, a signal that the near-term trend is to the downside. Gold is unlikely to return to a range around \$1,950/oz until then but may grind higher if economic data continue to deteriorate and safe-haven demand picks up.

Some gold miners barely made production guidance last year but global supply crept up. Of the five largest gold mining companies, three managed to achieve the low-end of production guidance. Barrick, the second-largest miner, missed lower-end guidance of 4,200 koz, producing only attributable gold of 4,141 koz. Overall global gold mine production grew by just over 1% to 116 moz. Various project expansions in the Americas should add incremental gains to global mine output in 2023, meaning global primary supply should grow for a fourth consecutive year. Recycled gold is not expected to increase significantly this year. However, some upside for recycling is possible from distress selling. If economic conditions begin to worsen in the EU and US, consumers may begin to offload gold for cash.

PRECIOUS APPRAISAL

27th February 2023

01 MARKET SPOTLIGHT

02 GOLD

03 SILVER

04 PLATINUM

05 PALLADIUM

06 RHODIUM, RUTHENIUM, IRIDIUM

07 TRENDS AND INVESTMENTS

08 ABOUT HERAEUS

PRECIOUS METALS REVIEW

Silver

47

Ag

	CLOSE	WEEKLY CHANGE	HIGH	DATE	LOW	DATE
\$/oz	20.89	-3.69%	21.98	22/02/2023	20.81	24/02/2023
€/oz	19.81	-2.47%	20.74	20/02/2023	19.66	20/02/2023

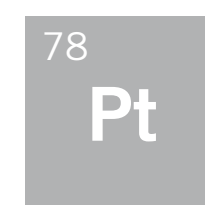
Geopolitical events failed to pick up the silver price. Putin's state of the union address did little to encourage positive action in the precious metals. The Russian president announced the suspension of Russia's participation in the Russia-US nuclear arms deal. The speech comes almost a year since the invasion of Ukraine that elevated the entire precious metals complex in 2022 and caused silver to hit nearly \$27/oz. Minimal safe-haven buying suggests the markets see little risk of escalation in the conflict in Ukraine; however, the precious metal markets did not see the invasion coming either.

The silver price has dropped to below \$21/oz since the previous issue of the Precious Appraisal, and has remained weak, sliding to \$20.81/oz intra-week – the lowest level since November 2021 - as the US Treasury 2 year bond yield rose to 4.81%, back above the Fed's rate's upper bound and the highest since just before the great recession in 2008.

- 01 MARKET SPOTLIGHT
- 02 GOLD
- 03 SILVER
- 04 **PLATINUM**
- 05 PALLADIUM
- 06 RHODIUM, RUTHENIUM, IRIDIUM
- 07 TRENDS AND INVESTMENTS
- 08 ABOUT HERAEUS

PRECIOUS METALS REVIEW

Platinum



	CLOSE	WEEKLY CHANGE	HIGH	DATE	LOW	DATE
\$/oz	918	-0.49%	964	22/02/2023	912	24/02/2023
€/oz	871	0.85%	908	23/02/2023	866	20/02/2023

South African PGM supply shrank by 4% in 2022. Producers are beginning to report 2022 platinum output. Sibanye-Stillwater’s total production was ~1,700 koz 3E PGMs, of which approximately 1,027 koz (59%) was platinum. That falls just below production guidance and represents ~18% of estimated global supply in 2022. Sibanye-Stillwater’s platinum output fell 9% year-on-year in 2022 from the record production seen in 2021, but still recorded the second-highest platinum output since the company took over Lonmin’s PGM assets in 2019. The decline in production was a wider trend across the South African miners in 2022, primarily attributed to disruptions to processing as a result of electricity supply shortages and planned maintenance of several smelters. A lower year-on-year average basket price (-17% – production-weighted PGM price) and higher input costs (+20%) also reduced miners’ margins last year. Rising costs can be accommodated while the basket price is high. Despite the decline last year, the South African basket price was 23% higher than the five-year average.

Global platinum supply is forecast to increase modestly this year, but 2022’s power problems are spilling over into this year. South Africa is currently back under stage 6 load-shedding and the situation is not likely to improve in the short term, potentially slowing the processing of stock built up last year. Last week the outgoing CEO of the state-owned utility

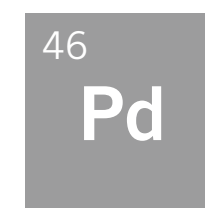
left the post early, was swiftly replaced by the former CFO, and the government announced a R254 bn debt relief arrangement. However, neither of these developments will help end loadshedding in the near-term.

The rand caught up with platinum late last week, undoing gains in previous days. The platinum price closed marginally down on the week after a continuously weakening rand pressured the white metal on Friday. The platinum price has now fallen by 16.7% from its high for the year which was set on 9 January. The rand has been weakening as the dollar regained some strength from the market’s acceptance of an extended rate hiking cycle in the US. Europe and the US (the second- and third-largest platinum end-use markets) are facing possible recessions this year. Emerging market currencies, such as the rand, and PGM prices tend to decline during recessions as risk-off outlooks (rand) and reduced demand (PGMs) start to impact. Therefore, it is reasonable to expect that the platinum price could see further weakness this year, depending on the development of the wider economic situation and the severity of possible recessions.

- 01 MARKET SPOTLIGHT
- 02 GOLD
- 03 SILVER
- 04 PLATINUM
- 05 PALLADIUM**
- 06 RHODIUM, RUTHENIUM, IRIDIUM
- 07 TRENDS AND INVESTMENTS
- 08 ABOUT HERAEUS

PRECIOUS METALS REVIEW

Palladium



	CLOSE	WEEKLY CHANGE	HIGH	DATE	LOW	DATE
\$/oz	1,400	-7.11%	1,543	20/02/2023	1,368	24/02/2023
€/oz	1,328	-6.05%	1,447	21/02/2023	1,297	24/02/2023

Supply-side problems are not fully in the rear view but are much less of a hindrance to light-vehicle sales. US vehicle sales started off the year relatively strongly in January, growing by 6.1% year-on-year to 1.06 million light vehicles. Vehicle inventories are slowly beginning to recover, and are 62% higher than a year ago (source: Cox Automotive). Improving inventory is expected to contribute to higher sales month-on-month and year-on-year in February. Light-vehicle inventory was far lower in early 2022 when vehicle supply was constricted by the chip shortage, which contributed to lower sales throughout last year. As supply-side issues recede, the market’s bigger problem now is loss of demand. Vehicle prices are at near record levels, with the average new car buyer paying \$49,388 in January. Lending standards are tightening which reduces the pool of potential vehicle buyers, dragging down palladium demand. The US is the second-largest autocatalyst market after China, and is forecast to consume 1.5 moz of palladium in 2023, 20% of global autocatalyst demand. An economic contraction in the US this year adds to the downside risk for vehicle sales and palladium demand.

Value-hunting investors are adding to palladium ETF holdings. Metal held in global palladium-backed funds has increased by 37 koz over the last three months, the first period of net holdings growth since March of last year. Most buying came in January as the palladium price dipped below \$1,650/oz, and has continued at a slower rate month-to-date in February. It is possible that investors (primarily in the US) are beginning to view palladium as oversold compared to platinum as both metals have seen similar price decreases year-to-date, yet the palladium market is expected to be tighter.

PRECIOUS APPRAISAL

27th February 2023

01 MARKET SPOTLIGHT

02 GOLD

03 SILVER

04 PLATINUM

05 PALLADIUM

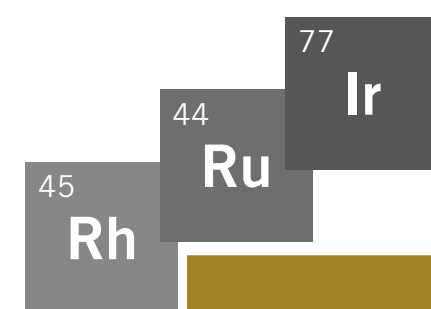
06 **RHODIUM, RUTHENIUM, IRIDIUM**

07 TRENDS AND INVESTMENTS

08 ABOUT HERAEUS

PRECIOUS METALS REVIEW

Rhodium, Ruthenium, Iridium



	RHODIUM	RUTHENIUM	IRIDIUM
Reporting Week	\$13,250/oz	\$515/oz	\$4,750/oz
Previous Week	\$12,250/oz	\$515/oz	\$4,850/oz

Iridium crucible demand restricted by soft sales forecast for mobiles.

Weaker consumer demand, Covid restrictions and rising inflation brought smartphone shipments down 11.3% in 2022 to 1.21 billion units – the fewest annual shipments since 2013, the year of the iPhone 5S. The forecast 3% recovery in sales in 2023 is at risk of vanishing as deeper economic troubles could manifest in H1'23. Top-up demand requirements for iridium crucibles used to manufacture key mobile components are reduced as fewer components are needed. Capacity expansion demand is likely to be delayed until smartphone shipments recover.

The rhodium price declined sharply last week, down by some 9.6% since the last Precious Appraisal. Iridium showed the first signs of life since mid-January last Thursday, rising to \$4,850oz, while the ruthenium price remained stable.

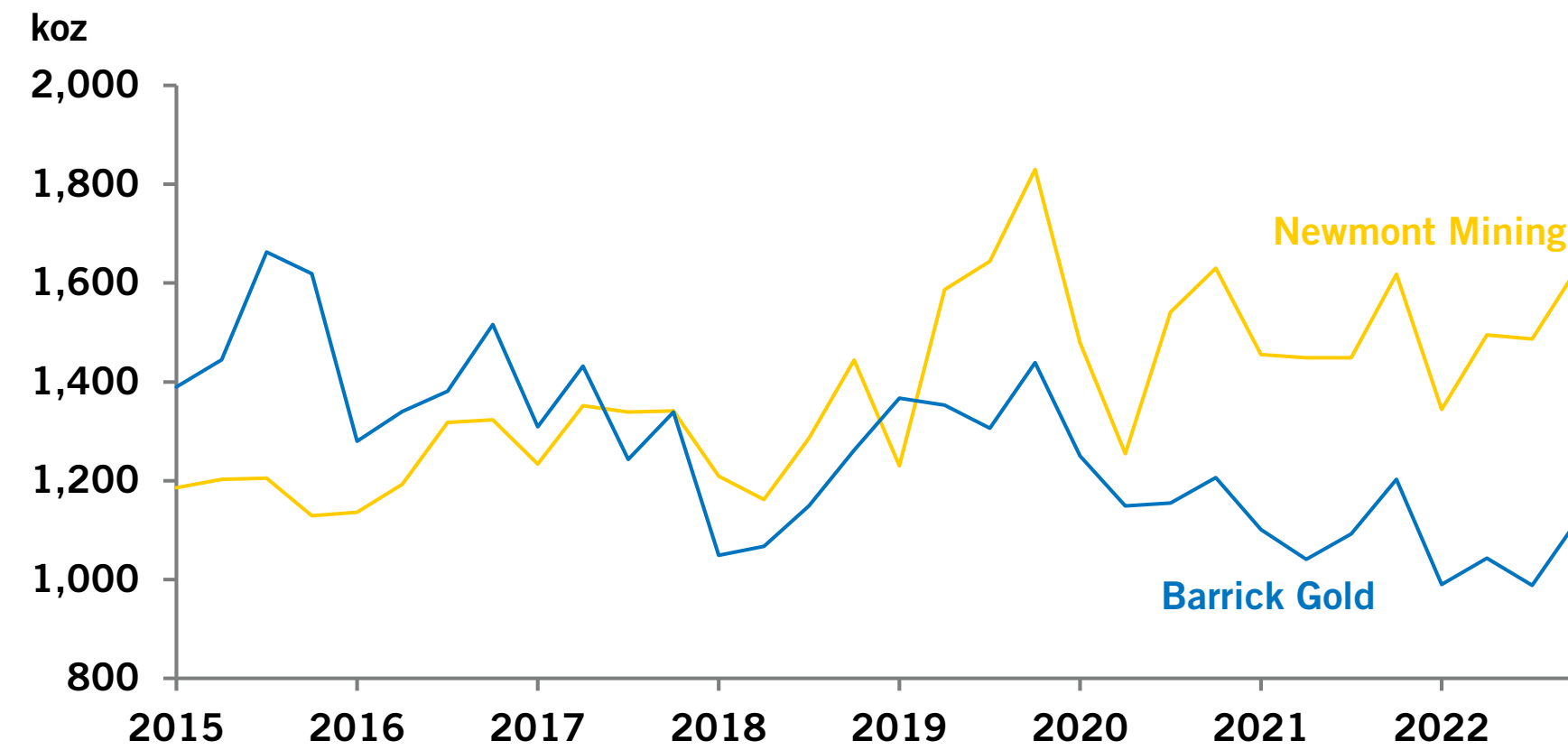
PRECIOUS APPRAISAL

27th February 2023

- 01 MARKET SPOTLIGHT
- 02 GOLD
- 03 SILVER
- 04 PLATINUM
- 05 PALLADIUM
- 06 RHODIUM, RUTHENIUM, IRIIDIUM
- 07 **TRENDS AND INVESTMENTS**
- 08 ABOUT HERAEUS

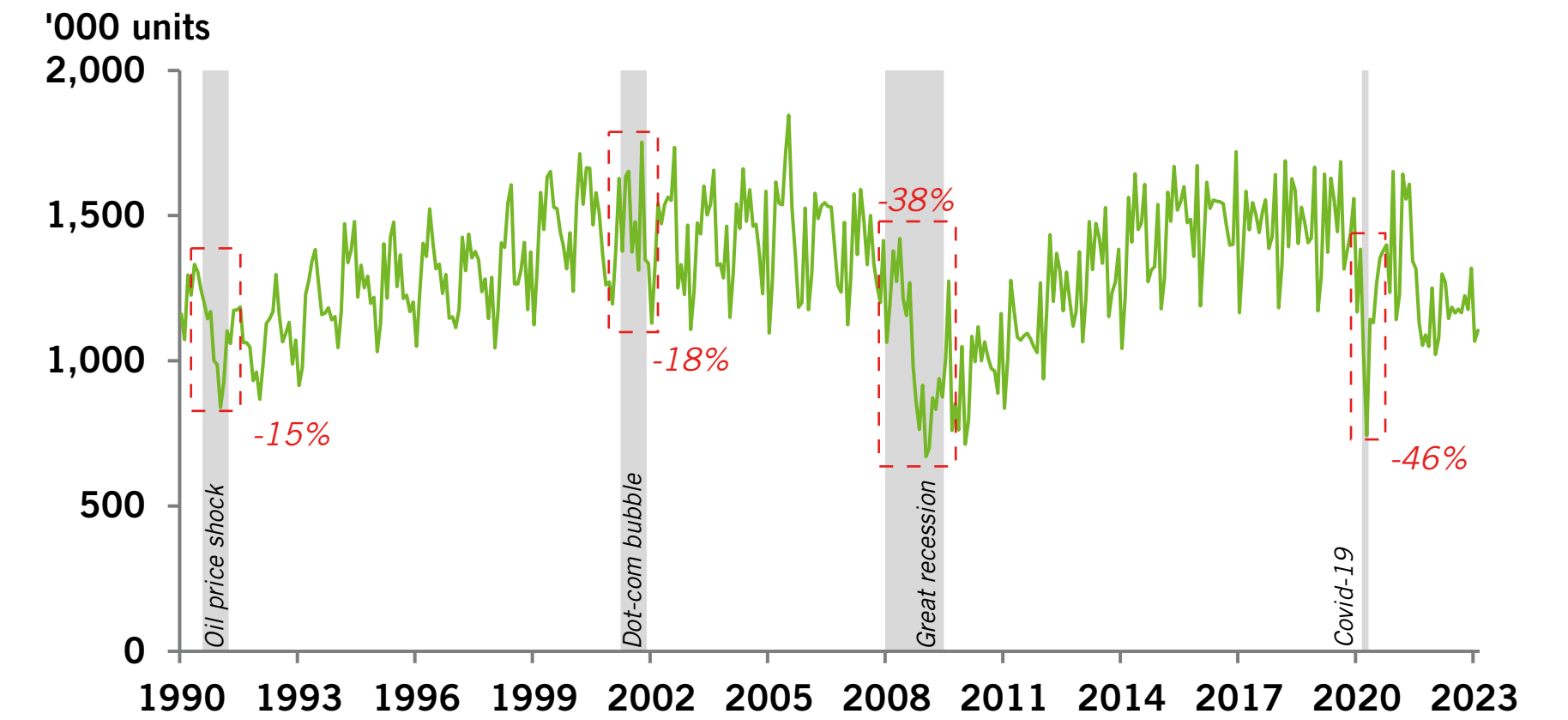
TRENDS AND INVESTMENTS

Quarterly attributable gold production



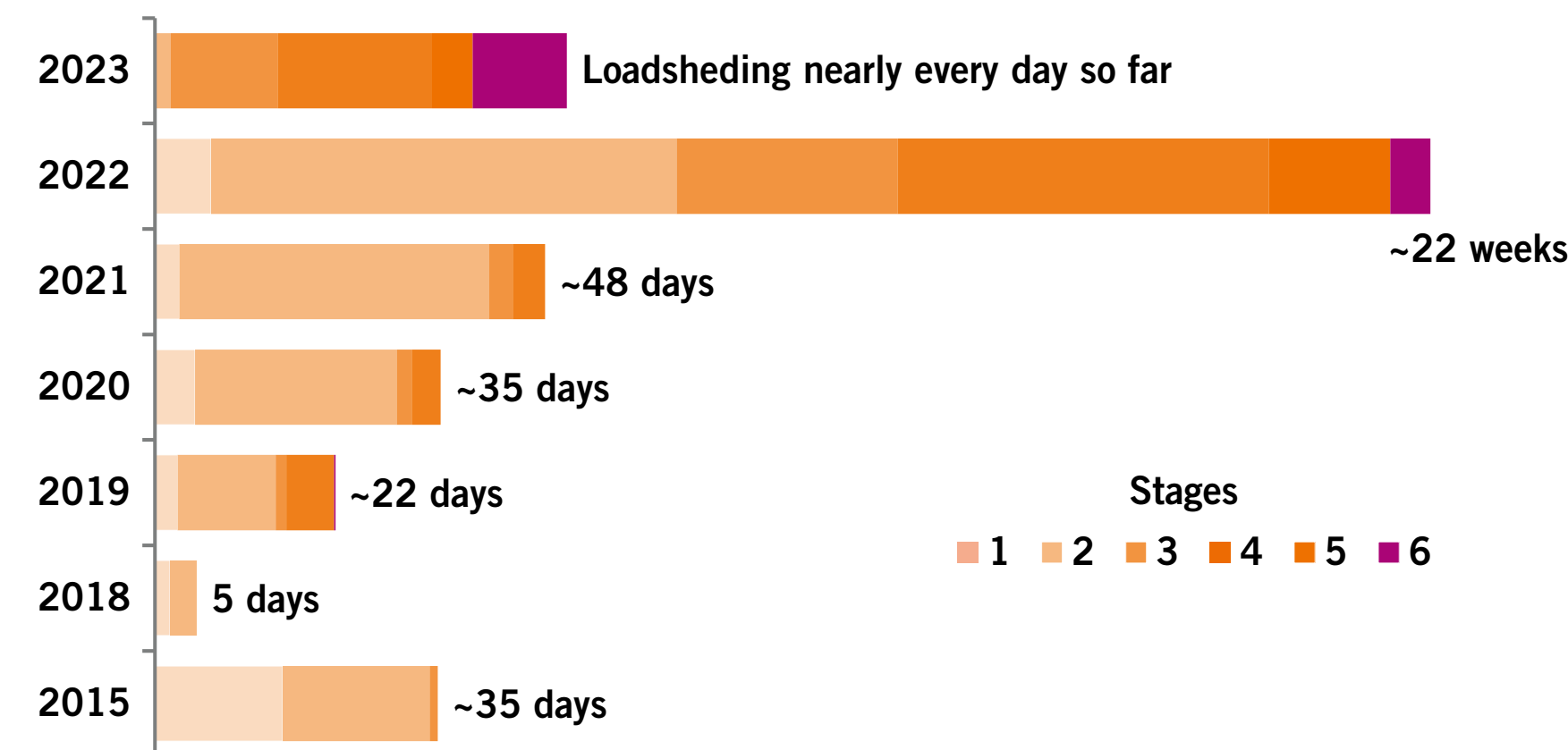
Source: SFA (Oxford), company reports

US light-vehicle sales vs. US recessions



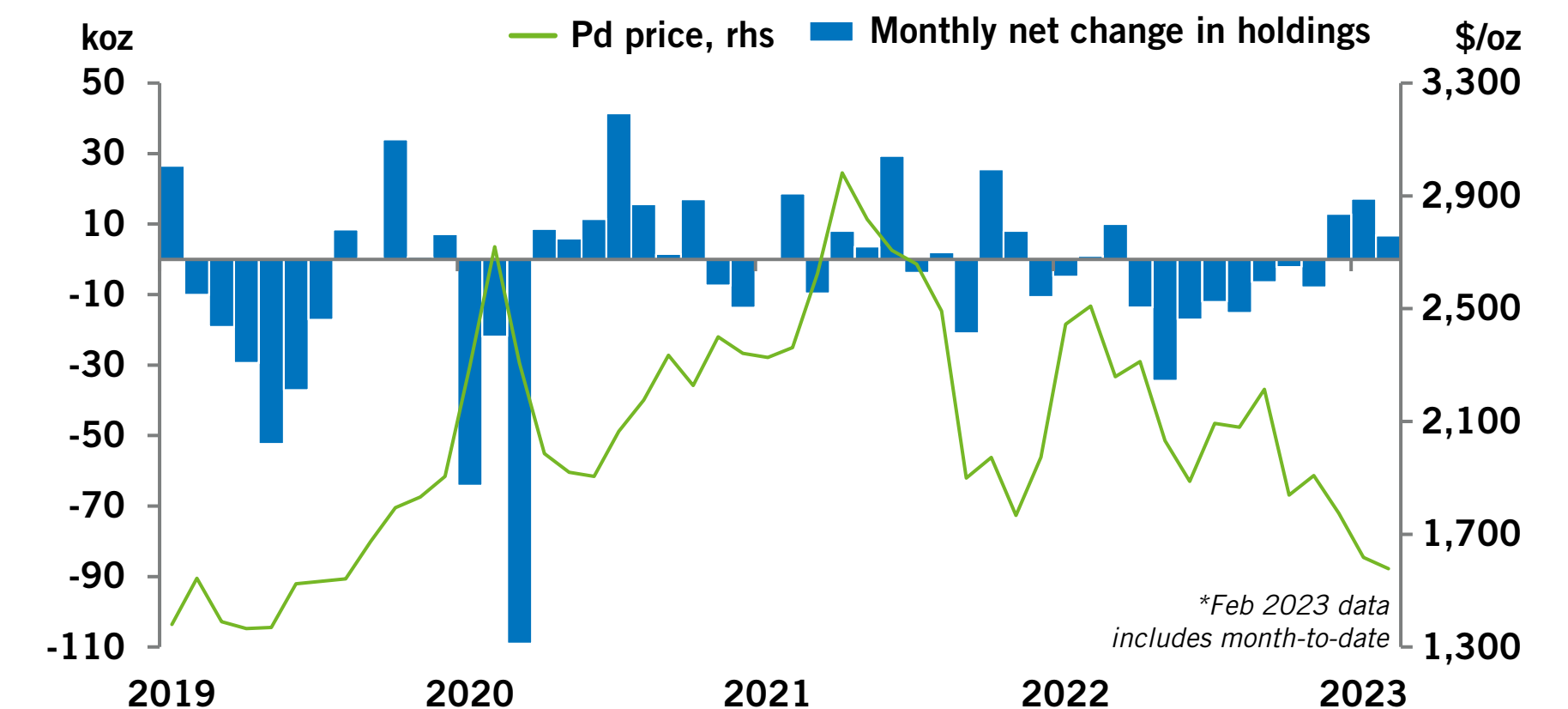
Source: SFA (Oxford), St. Louis Fed

Loadshedding in South Africa



Source: SFA (Oxford), EskomSePush

Changes in palladium ETF holdings



Source: SFA (Oxford), Bloomberg

PRECIOUS APPRAISAL

27th February 2023

- 01 MARKET SPOTLIGHT
- 02 GOLD
- 03 SILVER
- 04 PLATINUM
- 05 PALLADIUM
- 06 RHODIUM, RUTHENIUM, IRIIDIUM
- 07 TRENDS AND INVESTMENTS
- 08 **ABOUT HERAEUS**

ABOUT HERAEUS

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