Launch of World Silver Survey 2022
Philip Newman and Adam Webb, Metals Focus
April 20th 2022
World Silver Survey 2022 has been kindly supported by the following companies

**Major Sponsors**

- Coeur Mining, Inc.
- Fresnillo plc
- Pan American Silver Corp.
- Industrias Peñoles S.A.B. de C.V.
- Wheaton Precious Metals
World Silver Survey 2022 has been kindly supported by the following companies

**Sponsors**

- Beijing G&S Digital Technology Corp.
- Compañía de Minas Buenaventura S.A.A.
- Dillon Gage
- Endeavour Silver Corp.
- Hecla Mining Company
- Heraeus Metals New York LLC
- Hochschild Mining plc
- KGHM Polska Miedź S.A.
- MKS PAMP
- Silvercorp Metals Inc.
- Sprott
- TD Securities

**CONTRIBUTORS**

- Asahi Refining
- CIBC Capital Markets
- Gatos Silver
- International Depository Services Group
- Tanaka Kikinzoku Kogyo K. K.
- Valcambi sa
2021 to-date, silver consolidates in a far higher range

Source: Bloomberg
2021, up 22% y/y; highest annual average since 2012

Source: Bloomberg
The gold:silver ratio has stabilised in the high 70s
And so remains a little above the long-term average ratio.
CFTC positioning reflects some investor uncertainty

Source: CFTC
While ETP holdings remain close to record highs

Source: Bloomberg, ETP issuers, WGC
Global mined silver production rose by 5.3% y/y in 2021

In 2021 global mined silver supply increased by **41.6Moz** to **822.6Moz** primarily driven by the recovery from COVID-19 related disruption in 2020.

Source: Metals Focus
Central & South America had the biggest annual growth, followed by North America.

Mexican output approaching 200Moz and expected to surpass this level in 2022.

Source: Metals Focus
Silver production increased from all sources in 2021.

Output from primary silver mines increased by more than by-product silver production as these mines were disproportionately impacted by COVID-19 restrictions in 2020.

Source: Metals Focus
Falling grades pushing GHG intensity of silver output higher

Diesel accounts for 58% of energy consumed by silver miners.

Emissions per ounce have risen but emissions per tonne of ore have declined.

Averages for Fresnillo, Pan American Silver, Hecla, Hochschild, Coeur, Fortuna Silver Mines, Endeavour Silver
Source: Metals Focus, Company Reports
Costs fall and margins reach their highest since 2012

Total cash costs fell by 18% y/y and all-in sustaining costs dropped by 3% y/y.

Silver miners' margins have more than trebled since 2019.

Costs shown on a by-product accounting basis
Source: Metals Focus Silver Mine Cost Service
Higher by-product credits surpassed cost inflation

By-product prices have been rising, pushing up revenues from these metals.

This pushed by-product credits for silver miners to their highest level on record.

* 1st Jan 2020 = 100, ^ Revenue generated per ounce silver produced

Source: Metals Focus, Bloomberg
Global silver mine reserves drop and M&A remains low

Primary silver reserves declined as mining depletion exceeded additions.

The value of completed M&A in the silver sector reached its lowest point since 2006.

M&A values aggregated in year deals are announced

Source: Metals Focus, Bloomberg
Hedged silver production fell by 23% y/y, dropping to 30.7 Moz by year-end.

Silver production covered by streaming and royalty contracts reached a new high.

Hedge book chart shows delta adjusted position at year-end.

Source: Metals Focus
Mined silver supply expected to continue growing in 2022

Global silver production is forecast to rise by 2.5% y/y to 843.2 Moz, this will largely be driven by higher output from mines in Mexico.
Global supply in 2021, up 5% or 44Moz

Source: Metals Focus
A new high for industrial offtake, +9% to 508Moz in 2021

Source: Metals Focus
PV demand continues to strengthen, +13% to 114Moz

PV over 2013-21:
Installs: +300%
Loadings: -45%
Silver demand: +125%

Source: Metals Focus, GTM, various
Top-Four Silver Fabricators*

*excludes coin & bar demand; Source: Metals Focus

Moz

2019  2020  2021

United States

China

Japan

India

*excludes coin & bar demand; Source: Metals Focus
Top-Four Silver Fabricators*

*includes coin & bar demand; Source: Metals Focus
Gains for jewelry (+21% to 181Moz) & silverware (+32% to 43Moz)

Source: Metals Focus
Bar and coin investment surged by 36% to 279Moz

Source: Metals Focus
Rising US imports, up 42Moz in 2021 vs 2019

Other observations:
2020: 3.5Moz from Russia
2021: 5.5Moz from Russia
Jan-Feb 2022 Total -30% y/y

Source: Metals Focus
Global demand in 2021, up 19% or 169Moz

Source: Metals Focus
Silver posted a sizable deficit in 2021, 52Moz

Source: Metals Focus
Global supply in 2022 forecast to hit 6-year high, +3%

Source: Metals Focus
Global demand in 2022 at record high, +5%

<table>
<thead>
<tr>
<th>Year</th>
<th>Industrial</th>
<th>Jewelry &amp; Silverware</th>
<th>Physical Investment</th>
<th>Photography</th>
<th>Producer De-Hedging</th>
<th>2022F</th>
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<td>-0.2</td>
<td>-9.4</td>
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</tbody>
</table>

Source: Metals Focus
Another sizeable deficit expected in 2022, 72 Moz

Source: Metals Focus
And also for the foreseeable future

Source: Metals Focus
Top-Four Silver Fabricators*

*Includes coin & bar demand; Source: Metals Focus
Inflation: from transitory to more entrenched?

US & Eurozone headline inflation surged to highs last seen in 1980s

Source: Bloomberg
Silver vs global bonds – link breaks down recently

Source: Bloomberg
Silver & the Global Manufacturing PMI

Source: Bloomberg
Gold Price Forecast, 2022 average $1,835, +2%

Source: Metals Focus