



Canadian Mining Report



Chile: The Heart of Global Copper

October 2021



Chile: The Heart of Global Copper

Chile: The Heart of Global Copper

Chile produces 28.5% of global copper, holds 23.0% of reserves and is a major player in molybdenum and lithium

The country had been highly ranked by Fraser, but has slid in the past two years

Codelco's seven mines combined lead the copper production of Chile and the world

Global majors BHP, Rio Tinto, Freeport-McMoran, Inalum and KGHM operate large copper mines in Chile

Larger TSX/TSXV-listed Chile copper plays include Filo, Amerigo, Marimaca and Los Andes, while Rio2 Limited explores for gold and Aftermath for silver

There could be higher risk to the copper price currently in our view compared to gold

Chile leads the world in copper

Chile is the world leader in copper production, at 28.5% of the total in 2020, and this looks set to continue, with the country having the largest global reserves, at 23.0% of total. It is also the global leader for molybdenum, which is often found along with copper, and is a major lithium player, holding 51.1% of global reserves. While the country had been very highly rated by the Fraser Institute, its ranking has slid in recent years on concerns that political changes in the country could see taxes on the sector rise, especially given the high copper price over the past year.

Codelco, global majors, the big copper producers

Copper production in Chile is led by the state-owned enterprise Codelco, whose seven mines combined have the largest copper output in the world. This includes the eighth and tenth largest global producers, El Tentiente and Chuquicamata, which have the first and third highest copper reserves in the world. Global majors operate the other leading copper mines in Chile, including BHP and Rio Tinto, with the largest producing copper mine in the country and the world in 2020, Escondida, Inalum and Freeport McMoran, with the second largest producing mine in Chile, Grasberg, and KGHM, with Chile's third largest copper mine, Sierra Gorda.

Several TSX/TSXV-listed firms operating in Chile

There are several TSX/TSXV-listed firms focusing on Chile, including copper firms Filo Mining, with its PEA stage copper-gold-silver project, Filo de Sol, Amerigo, producing copper tailings from Codelco's El Tentiente, Marimaca, with its PEA stage Vizcachitas project, and Los Andes, with three projects, two in Chile, with initial resource estimates released in 2020. There are also smaller firms Rio2 Limited, exploring for gold, and Aftermath, exploring for silver. While these companies are showing operational progress, we are concerned that they could see pressure if the copper price continues to decline. We believe that there may be better opportunities in some gold stocks, with the gold price supported by high inflation which we expect will continue, even as growth may be anemic, leading to a potential period of stagflation.

The Canadian Mining Report

Disclaimer: This report is for informational use only and should not be used as an alternative to the financial and legal advice of a qualified professional in business planning and investment. We do not represent that forecasts in this report will lead to a specific outcome or result, and are not liable in the event of any business action taken in whole or in part as a result of the contents of this report.

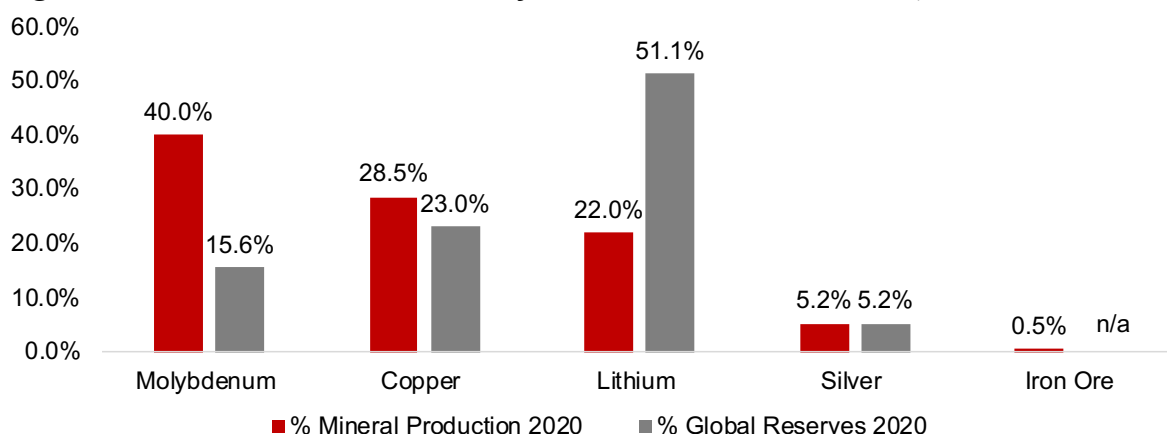
Chile: The Heart of Global Copper

1) Chile Mining Overview

Chile the top global player for copper and molybdenum

Chile is the leading global copper player, producing 5.7 mn tonnes, or 28.5% of the world total in 2020, and holding the highest copper reserves, at 200 mn tonnes, or 23.0% of the total (Figure 1). The next largest player, Peru, has about half of Chile's production at 2.2 mn tonnes, and its reserves, at 2.8 mn tonnes (Figure 2). The high copper production and reserves also naturally makes Chile a major player for molybdenum given that this metal is often found along with copper. While its molybdenum production was just 58,000 tonnes in 2020, behind China's 120,000 tonnes, Chile has by far the largest global molybdenum reserves, at 2.8mn tonnes or 15.6% of global reserves for the metal (Figure 3).

Figure 1: Chile's Share of Major Mineral Production, Reserves



Source: USGS

Chile is also a major player in global lithium, producing 18,000 tonnes in 2020, second to Australia's 40,000, although its reserves, at 9.2 mn tonnes, or 51.1% of the total, are nearly twice Australia's 4.7 mn tonnes, or 26.1% of the total (Figure 4). This combination of high copper and lithium reserves should see the country be a major beneficiary of the growing electronics and electric vehicle industries, with its huge reserves securing its likely position as a world leader for these metals for decades.

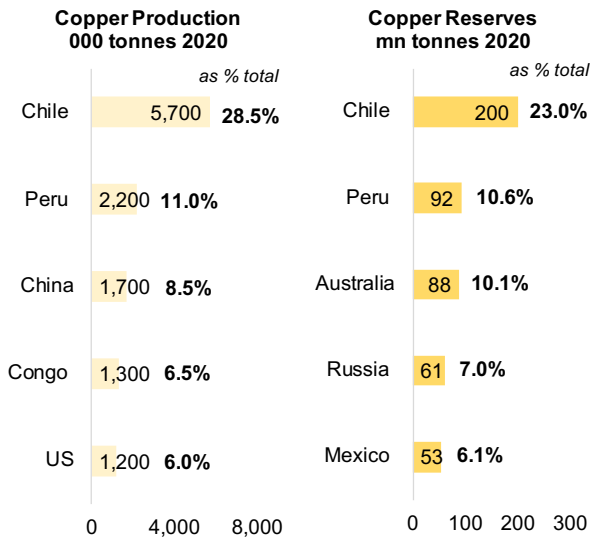
The country also has a reasonably large contribution to global silver production and reserves, at 5.2% for each, but is not a world leader, like Mexico, at 22.4% of production, or Peru, at 13.6% (Figure 5). Interestingly, while Peru is the world leader for silver reserves, at 18.2% of the total, the next three largest countries for silver reserves, Australia, Russia and Poland are not yet top five global producers, although longer-term we can expect their rank in terms of production levels to rise.

Disclaimer: This report is for informational use only and should not be used as an alternative to the financial and legal advice of a qualified professional in business planning and investment. We do not represent that forecasts in this report will lead to a specific outcome or result, and are not liable in the event of any business action taken in whole or in part as a result of the contents of this report.



Chile: The Heart of Global Copper

Figure 2: Global Copper



Source: USGS

Figure 3: Global Molybdenum

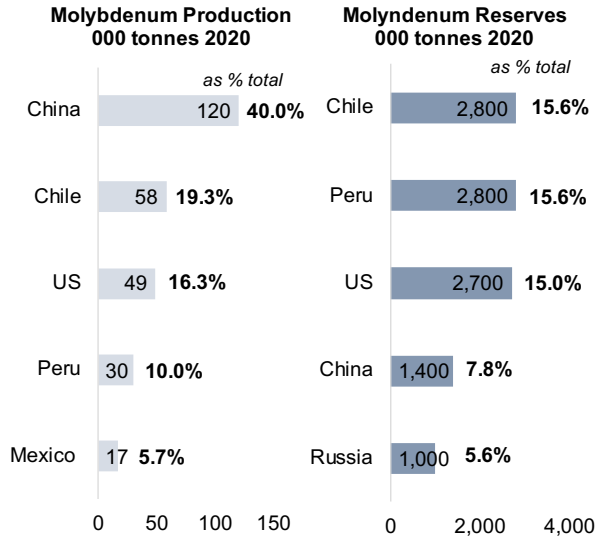
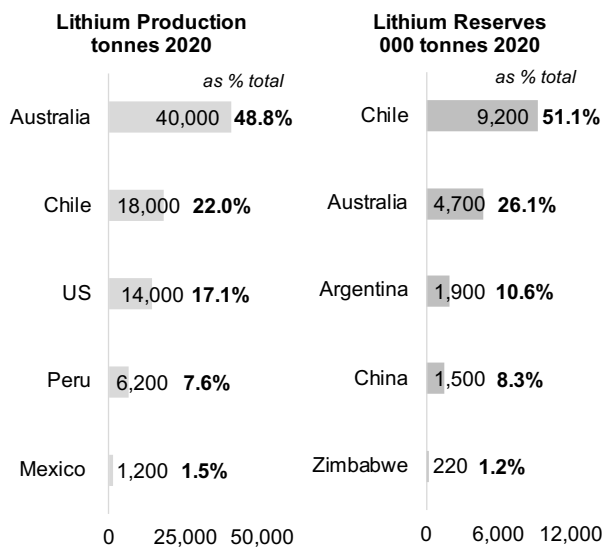
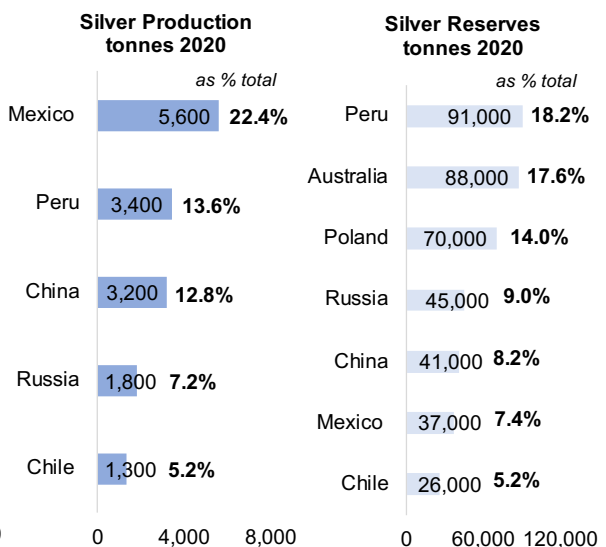


Figure 4: Global Lithium



Source: USGS

Figure 5: Global Silver



Chile a highly ranked district, but political shifts a concern

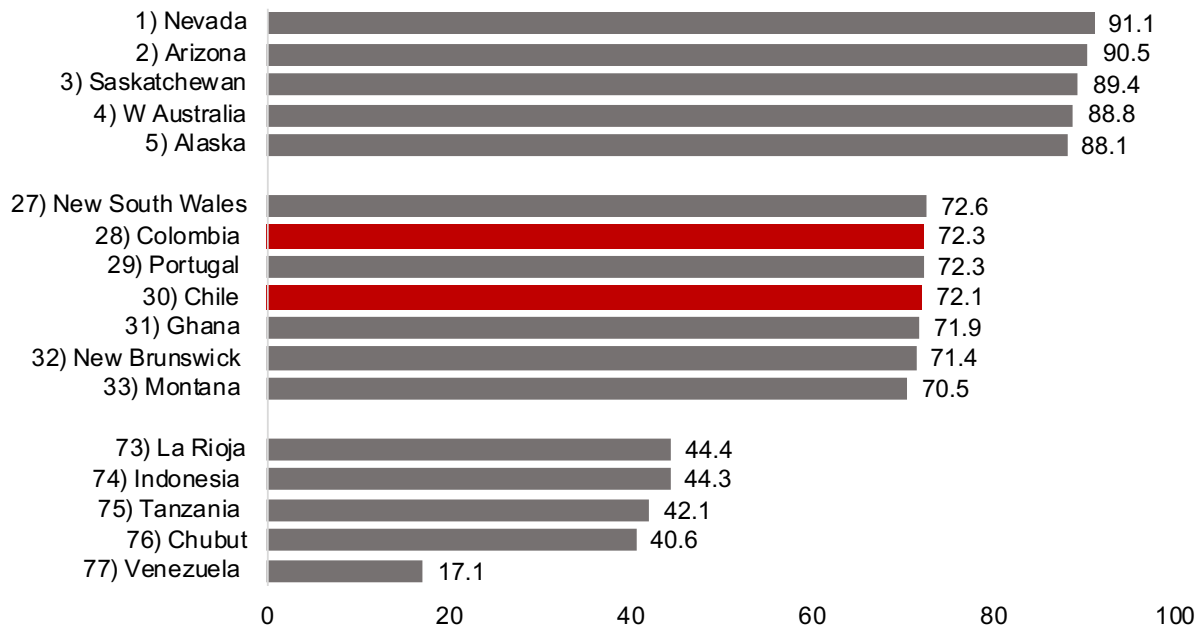
Chile was ranked 30 out of a total 77 global mining districts in the Fraser Institute's Survey of Mining Companies in 2020, putting it just behind Portugal and ahead of Ghana (Figure 6). In terms of South America, it is the second highest ranked district, behind only Columbia. Chile had reached as high as the top ten of global districts in recent years, ranking 8 out of 91 in 2017 and 6 out of 83 in 2018, but falling to 17 out of 76 in 2019 and then further in 2020 (Figure 7).

Disclaimer: This report is for informational use only and should not be used as an alternative to the financial and legal advice of a qualified professional in business planning and investment. We do not represent that forecasts in this report will lead to a specific outcome or result, and are not liable in the event of any business action taken in whole or in part as a result of the contents of this report.



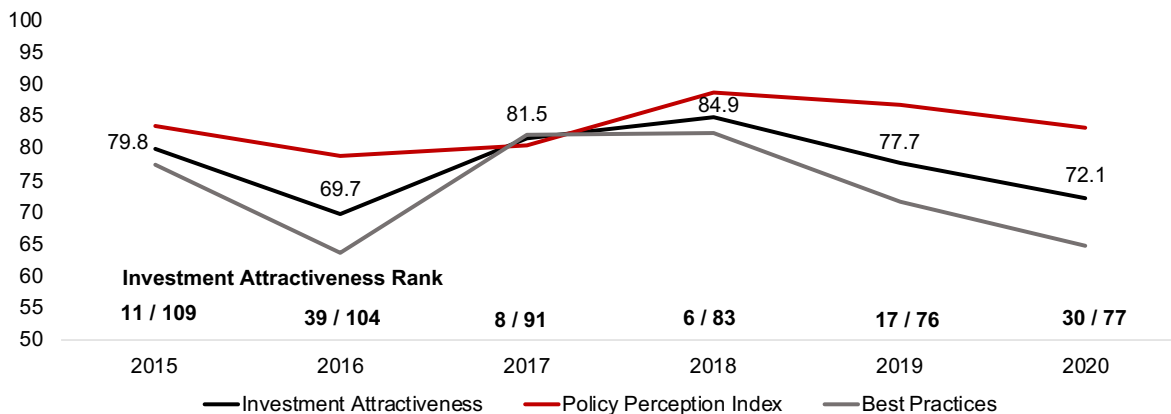
Chile: The Heart of Global Copper

Figure 6: Fraser Institute Ranking 2020



Source: Fraser Institute

Figures 7: Fraser Institute Ranking for Chile



Source: Fraser Institute

There have been some concerns of a potential political shift in the country, with increasing pressure from some groups in recent years to increase taxation on the mining sector. While any moves towards this had been held down by the long bear market in the copper price from 2012 to 2020, the huge rebound in copper over the past year and the resultant surging profits in the sector has brought it more into focus for the state. With the Chilean general election upcoming in November 2021, the outcome could further influence the country’s ranking in the survey depending on whether we see a shift especially towards higher taxation for the sector or not.

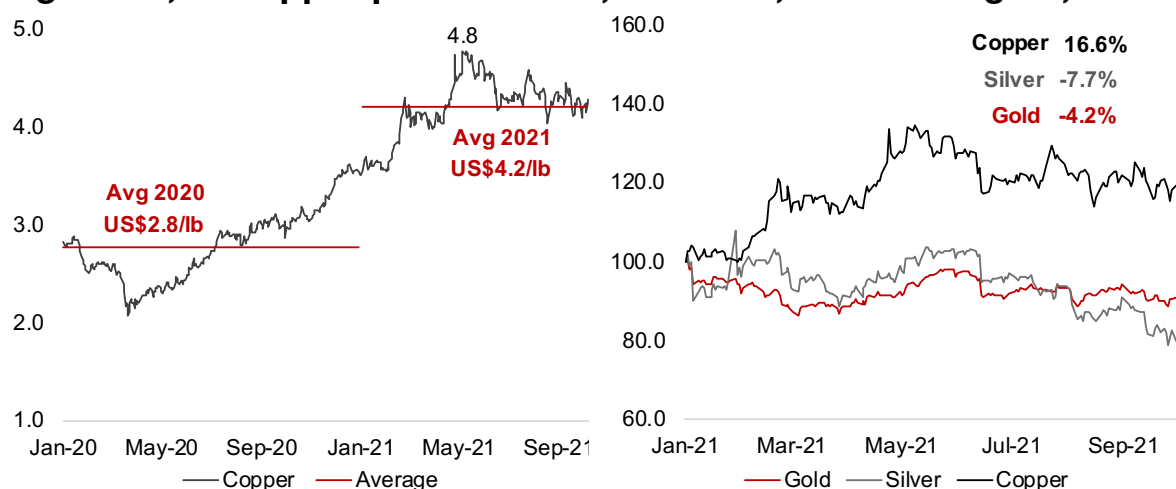
Disclaimer: This report is for informational use only and should not be used as an alternative to the financial and legal advice of a qualified professional in business planning and investment. We do not represent that forecasts in this report will lead to a specific outcome or result, and are not liable in the event of any business action taken in whole or in part as a result of the contents of this report.

Chile: The Heart of Global Copper

Copper could continue to ease off its peak

The copper price picked up substantially starting in 2021 as the economy started to recover from the global health crisis, and has averaged US\$4.20/lb in 2021, up 56% yoy from US\$2.77/lb in 2020, and well above the US\$2.78/lb average during the long market from 2012-2019 (Figure 8). However, the price peaked at US\$4.78/lb in May 2021, and had declined -10.4% to US\$4.28/lb as of October 8, 2021. In contrast to the gold price, which tends to be driven mainly by monetary factors like expansion of the money supply, the copper price tends to be procyclical with economic growth, and a leading indicator, given its wide industrial uses. Therefore, the recent decline in the copper price may be indicating that the major rebound in economic growth over the past year may be easing. This is because a wave of pent-up demand caused by the global health crisis may have crested and supply constraints are easing. With this 'boom off a low base' over, the market is starting to question whether there will be a move to slower sustainable growth, or a more anemic expansion.

Figures 8, 9: Copper performance, absolute, relative to gold, silver



Source: Yahoo Finance

We are seeing some cracks forming in the monetary-stimulus-driven global growth edifice, as recently shown in a rattling of global markets by debt issues at a huge China real estate company. If these continue, and global growth falters, this could affect the copper price substantially to the downside, and the recent slide could be extended. We expect that the answer to any such decline, however, will be further monetary stimulus, although it is questionable whether this might just lead to more inflation without an accompanying pickup in growth, or stagflation. We believe that inflation, which is already at multi-year highs in many major markets, will continue to be high, and that because of this, monetary-driven metals, especially gold, but also to some degree silver, could outperform copper over the short to medium-term.

Disclaimer: This report is for informational use only and should not be used as an alternative to the financial and legal advice of a qualified professional in business planning and investment. We do not represent that forecasts in this report will lead to a specific outcome or result, and are not liable in the event of any business action taken in whole or in part as a result of the contents of this report.



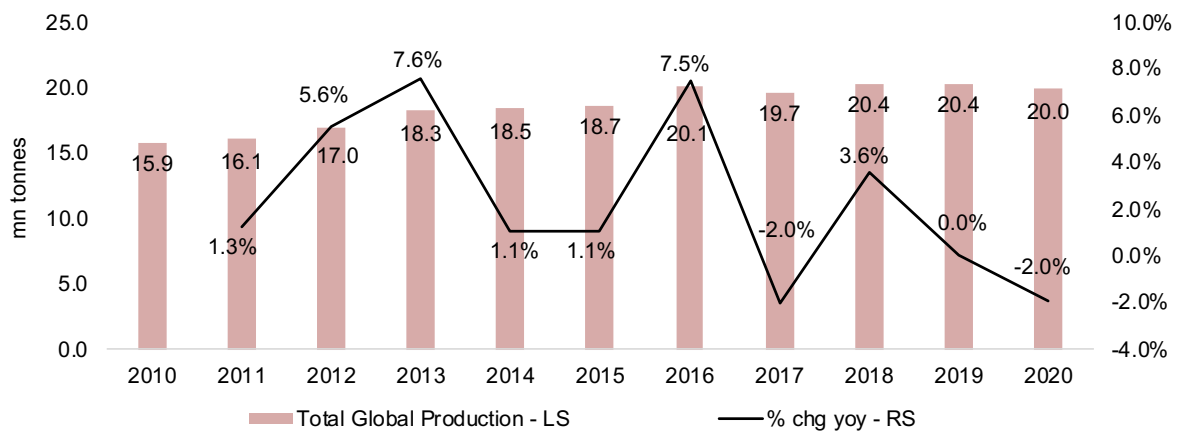
Chile: The Heart of Global Copper

2) Chile Copper Producers and TSX, TSXV Explorers

Chile's share of global copper edges down over last ten years

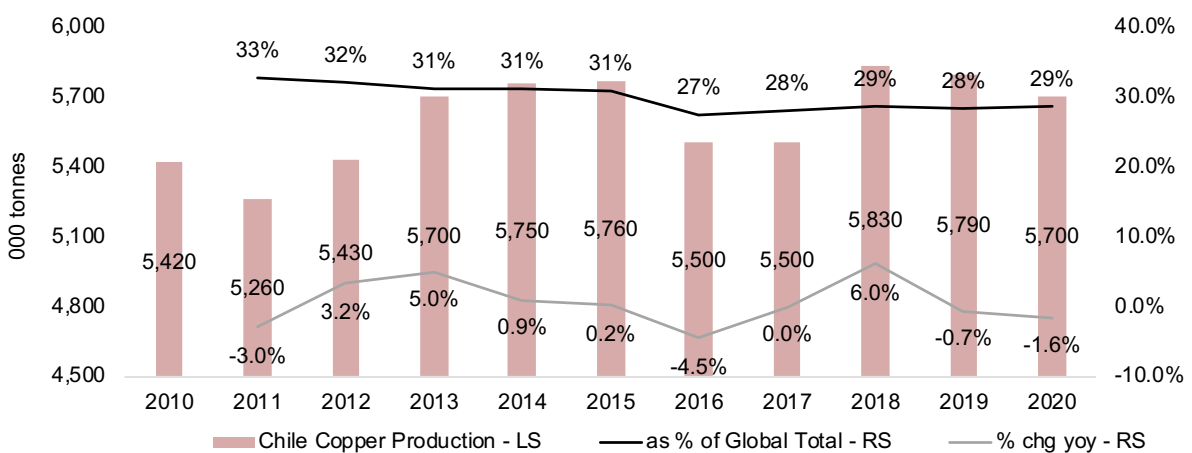
The global market for copper production has expanded an average 2.4% from 2011-2020, with peaks at 7.6% in 2013 and 7.5% in 2016, but growth has been relatively weak since 2017, coming in flat in 2019 and declining in 2020 by -2.0%, partially driven by the disruptions from the global health crisis (Figure 10). Chile has seen a gradual decline in its share of global production from 33% in 2011 to 29% in 2020, with growth averaging just 0.6%, about two percentage points below the world market (Figure 11).

Figure 10: Global Copper Production



Source: USGS

Figure 11: Chile copper production



Source: USGS

Disclaimer: This report is for informational use only and should not be used as an alternative to the financial and legal advice of a qualified professional in business planning and investment. We do not represent that forecasts in this report will lead to a specific outcome or result, and are not liable in the event of any business action taken in whole or in part as a result of the contents of this report.

Chile: The Heart of Global Copper

Codelco is largest global copper producer with seven mines

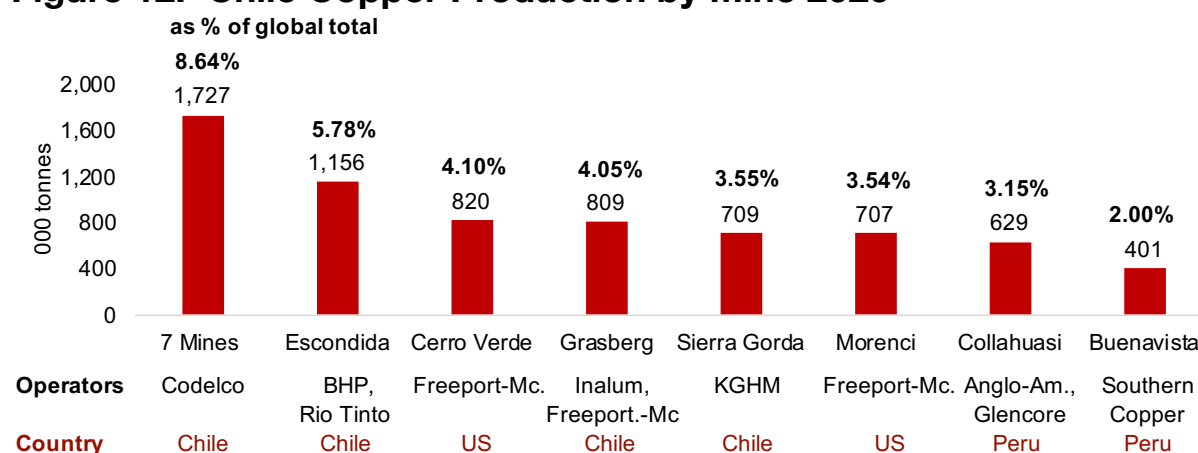
The largest single copper producer globally is Codelco, Chile's state-owned copper mining company, with its seven mines combined producing 1,618k tonnes in 2020 (Figure 12). Its two largest producing mines are El Tentiente, at 443k tonnes in 2020, with reserves of 34,900k tonnes, the highest globally, and Chuquicamata, with 401k tonnes of production in 2019 and total reserves of 13,300k tonnes (Figure 13). Codelco also operates Radomiro Tomic (with 261k tonnes of production), Andina (184k), Mina Ministro Hales (171k tonnes), Gabriela Mistral (102k), Salvador (56k) Anglo American Sur and El Abra.

Global majors operate the other largest copper mines

The largest individual global copper mine in terms of production, ahead of the major Codelco mines, is Chile's Escondida, operated by BHP and Rio Tinto, with 1,156k tonnes of production in 2020 and the fourth highest copper reserves in the world at 7,138k tonnes. The second largest global copper mine is in the US, Cerro Verde, with 820k tonnes in production and the sixth largest reserves, at 4,002k tonnes, operated by Freeport-McMoran. The third and fourth largest producing copper mines are also in Chile, Grasberg, with production of 809k tonnes, operated by Inalum and Freeport-McMoran, and Sierra Gorda, with production of 709k tonnes, operated by KGHM.

The next largest mine in terms of production is Morenci, in the US, operated by Freeport-McMoran, with 707 tonnes in 2020, and it has the seventh largest reserves, at 1,042k tonnes. Collahuasi in Peru is the seventh largest producer, operated by Anglo-American and Glencore, at 629 tonnes, with the fifth largest reserves at 4,176k tonnes. The eighth largest producer is Buenavista in Peru, operated by Southern Copper, with 401k tonnes of production in 2020, with the second largest reserves of the global copper mines, at 22,076k tonnes.

Figure 12: Chile Copper Production by Mine 2020

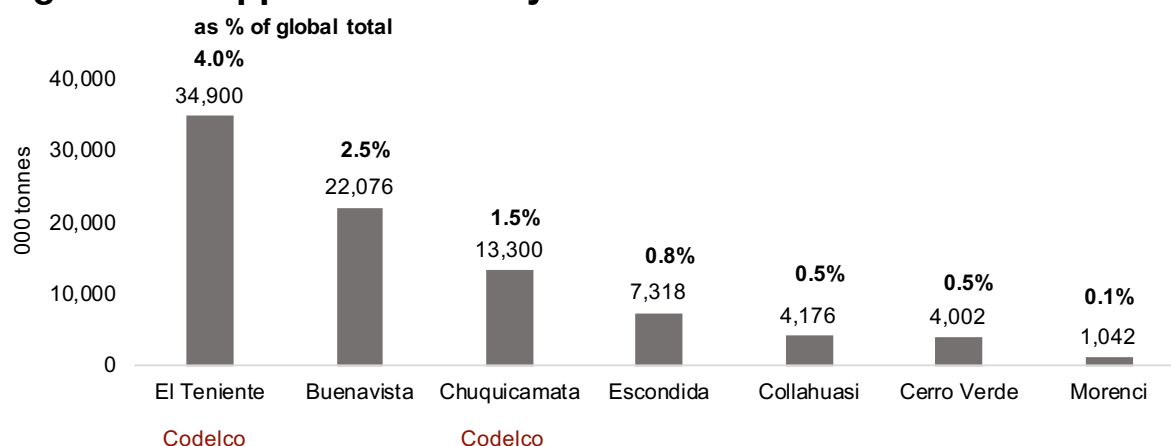


Source: Companies, USGS

Disclaimer: This report is for informational use only and should not be used as an alternative to the financial and legal advice of a qualified professional in business planning and investment. We do not represent that forecasts in this report will lead to a specific outcome or result, and are not liable in the event of any business action taken in whole or in part as a result of the contents of this report.

Chile: The Heart of Global Copper

Figure 13: Copper Reserves by Mine

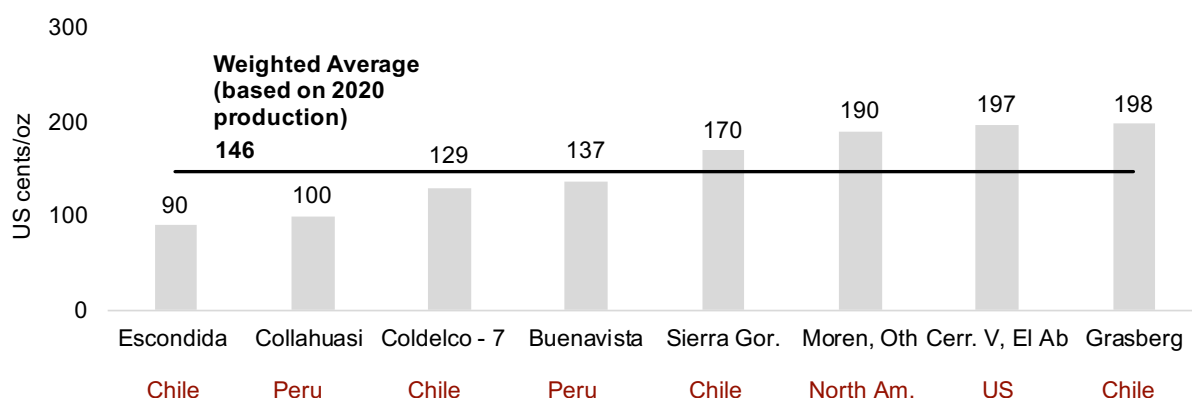


Source: Companies

Chile's major mines' costs distributed across the global curve

Chile's main mines have a range of costs that put them reasonably evenly distributed along a global copper AISC cost curve running from about 60 US cents/lb to around 330 US cents/lb. The average cost for the top eight, weighted by 2020 production, is 146 US cents/lb, which puts Escondida in Chile, the largest global producer, well below the average at just 90 cents/lb, and Codelco's seven mines, with a cost of 129 US cents, moderately below the average. Apart from Chile, the two major mines in Peru, Collahuasa, at 100 US cents/lb and Buenavista at 137 US cents/lb, also have a below average cost. The higher cost major Chilean copper mines are Sierra Gorda, at 170 US cents/lb, moderately above the average, with Grasberg having the highest costs, at 198 US cents/lb, twice the level of Escondida. The other high-cost mines are Morenci, which makes up most of the 190 US cents/lb North American mine aggregate reported by Freeport-McMoran, and Cerro Verde, also comprising a major part of an aggregate reported with El Abra at 197 US cents/lb by Freeport McMoran.

Figure 14: AISC of Major Global Copper Mines 2020



Source: Companies, CMR

Disclaimer: This report is for informational use only and should not be used as an alternative to the financial and legal advice of a qualified professional in business planning and investment. We do not represent that forecasts in this report will lead to a specific outcome or result, and are not liable in the event of any business action taken in whole or in part as a result of the contents of this report.

Chile: The Heart of Global Copper

TSX, TSXV listed Chile operators focus mainly on copper

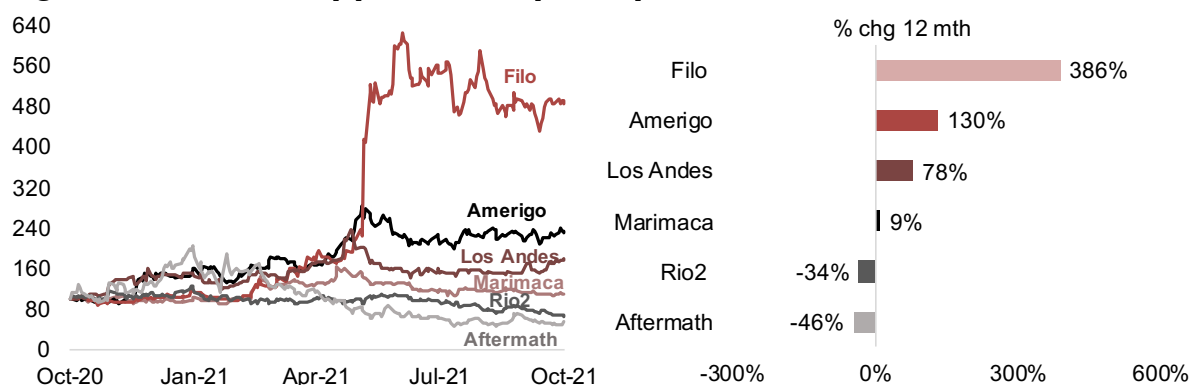
There are six TSX/TSXV reasonably sized junior companies focused on exploration in Chile. Filo Mining is the largest by far, with its Filo de Sol copper-silver gold project at the PEA stage and the best performer, up 386.5% over the past year (Figures 15, 16). Marimaca Copper has also reached a PEA stage for its flagship and stands out for its low expected cost, but is up just 9.3%. Amerigo, not a 'typical' junior, given its contract through to 2037 with Codelco to process copper tailings, is up 130.4% on the rising copper price. Los Andes operates the Vizcachitas copper project, released a PEA in 2019, and with a PFS targeted by Q1/22, is up 77.8%. Rio2 Limited operates Fenix, a gold project with a PFS from 2019, and a major financing round in July 2021, and of Aftermath Silver's three projects, two are silver-focused in Chile, with resource estimates from H2/20, although both stocks down on weak gold and silver prices.

Figure 15: Larger TSX-TSXV copper explorers operating in Chile

	Mkt Cap	Price performance		Stage	Quantitative
	CAD\$ mn	3 mth	12 mth		
Filo Mining	1,024.2	-10.6%	386.5%	PEA	NPV \$705mn (2017)
<i>Operates Filo del Sol, a copper-silver-gold project, crossing the border of Argentina and Chile, with a PEA released in 2017, where the company has continued to drill throughout 2021, with three rigs operating and four to be added by end-2021</i>					
Marimaca Copper	331.5	-7.1%	9.3%	PEA	NPV \$524mn (2019)
<i>Operates the Marimaca oxide copper project in Chile's coastal copper belt, with a PEA released in 2019, and stands out for its low costs in terms of capex and C1 operating costs near the low end of global cost curves</i>					
Amerigo Resources	234.6	10.3%	130.4%	Production	56 mn lbs Cu (2020)
<i>Processes copper tailings and molybdenum from Codelco's largest copper mine El Teniente with a contract through to 2037, with production down -19.5% to 56mn lbs Cu in 2020, and revenue up 5.5% to US\$126.4mn</i>					
Los Andes Copper	226.6	19.1%	77.8%	PEA	NPV US\$1,797 mn (2019)
<i>Operates the Vizcachitas copper project, with a low elevation and good access to infrastructure, with a PEA released in 2019, and the company advancing this year towards a PFS, which is targeted by Q1/22</i>					
Rio2 Limited	134.7	-28.4%	-33.8%	PFS	NPV US\$121mn (2019)
<i>Operates the Fenix gold oxide project in the Maricunga region, with a PFS released in August 2019, an EIS filed in April 2020, and a construction permit expected by Q3/22, with a major financing package for the mine announced in July 2021</i>					
Aftermath Silver	58.3	-11.3%	-46.3%	Resource Estimate	192mn oz Ag, 97k oz Au
<i>Operates three projects, one in Peru, Berenguela, with a historic resource, and two in Chile, Cachinal, with a resource estimate released in September 2020, and Challacollo, with a resource estimate released in December 2020</i>					

Source: Companies

Figure 16: Chile copper share price performance



Source: Companies

Disclaimer: This report is for informational use only and should not be used as an alternative to the financial and legal advice of a qualified professional in business planning and investment. We do not represent that forecasts in this report will lead to a specific outcome or result, and are not liable in the event of any business action taken in whole or in part as a result of the contents of this report.

Chile: The Heart of Global Copper

Filo Mining

Drilling at PEA stage Filo del Sol in Argentina/Chile

Cross border project at PEA stage with ongoing drill program Filo Mining operates the Filo del Sol copper-gold-silver project, crossing the border of Argentina and Chile. The project has mineral Reserves of 2,226 mn lbs Cu and Resources of 4,161 mn lbs Cu, as well as considerable gold and silver. The company released a PEA for the project in November 2017, with production of 50k tonnes/year Cu, 115 k oz Au and 5,130k oz Ag over a 13 LoM, with a post-tax NPV of US\$705mn.

Major drill program continues The company has drilled at Filo throughout 2021, and is now operating three rigs, with four to be added by end-2021, with seven rigs to be drilling all of next year. Drill results highlights this year include include; 0.67% CuEq over 942 m in March, 1.80% CuEq over 858m in May, 0.88% CuEq over 1,081m, including 1.16% over 352m in June, 0.71% over 1,378m including 0.92% over 676m in July and 1.55% CuEq including 5,045 g/t Ag over 425 m in August.

Share price up nearly 400% over past year The company remains well funded, with its most recent financing of C\$41.7mn in July 2020 and cash at C\$26.5mn as of Q2/21. The share price is up 386.5% over the past year, with most of the gains after the strong drill result in May 2021, but has eased in recent months on copper's slide.

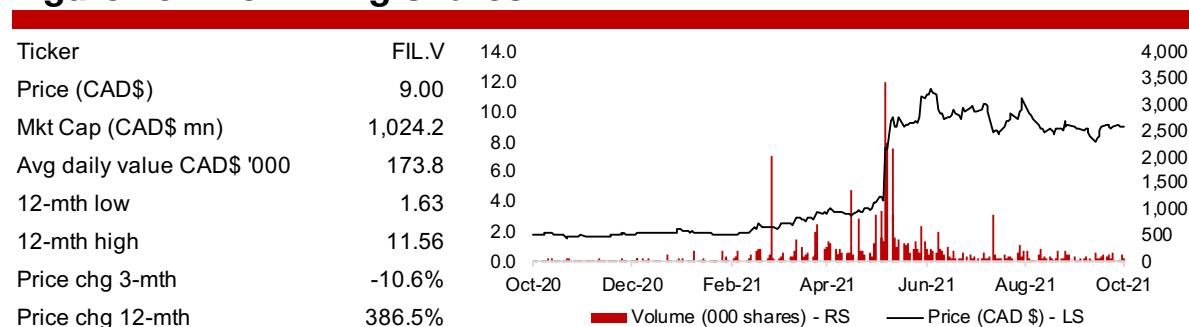
Figures 17: Filo Mining Resources, PEA

	Tonnes	Cu	Au	Ag	
	mn	mn lbs	k oz	mn oz	
Reserves					
Proven, Probable	259	2,226	2,764	126	
Resources					
Indicated	425	3,107	4,436	147	
Total Inferred	330	1,054	1,834	35	
Indicated, Inferred	755	4,161	6,270	182	

Filo del Sol PEA - Nov 2017 (at \$3.00/lb Cu)			
Production/Year tonnes Cu	50,000	Sustaining Capital US\$ mn	122
Production/Year k oz Au	115	C1 Op Cost US\$/lb Cu	1.42
Production/Year k oz Ag	5,130	Pre-tax NPV US\$ mn	1,163
Mine Life	13	Post-tax NPV US\$ mn	705
Initial Capital US\$ mn	792	Post-tax IRR	23.3%

Source: Company

Figure 18: Filo Mining Shares



Source: Company, Yahoo Finance

Disclaimer: This report is for informational use only and should not be used as an alternative to the financial and legal advice of a qualified professional in business planning and investment. We do not represent that forecasts in this report will lead to a specific outcome or result, and are not liable in the event of any business action taken in whole or in part as a result of the contents of this report.

Chile: The Heart of Global Copper

Marimaca Copper

Low expected cost copper project

Oxide copper project with access to infrastructure Marimaca Copper's flagship oxide copper project has been at the PEA stage since August 2020 and is located in Chile's coastal copper belt. The project has good access to infrastructure, being 25 km away from the Port of Mejillones and 40km away from Antofagasta, with its process plant 7km away from an existing 110kv powerline and seawater pipeline.

Project stands out for low cost The project has estimated resources of 645k tonnes CuT and 407k tonnes CuS, with the PEA outlining a production of 42,000 tonnes on average over 12 years. It stands out for its particularly low cost, with an initial capex of \$285mn, sustaining capital of \$66mn, and a C1 operating costs of US\$1.22/lb and AISC of \$1.29/lb, which would put it into the lower half of the global cost curve.

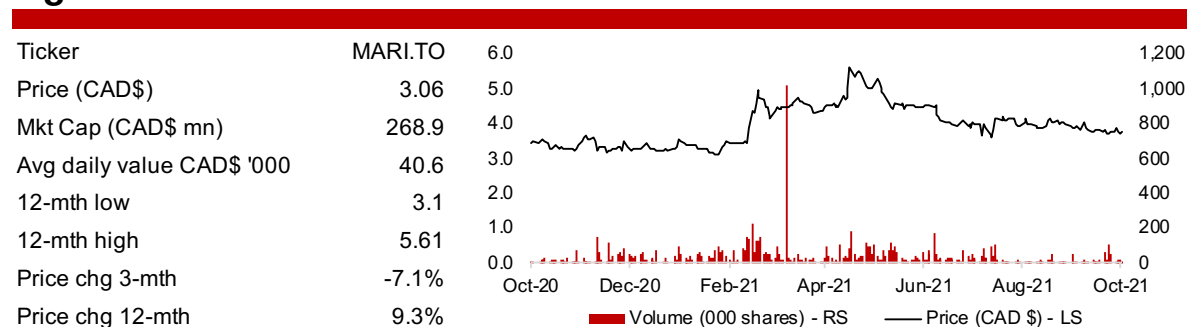
Share price has just edged up Marimaca's share price rose after its PEA in August 2020, stagnated from November 2020 to March 2021, picked up to April 2021 on the rise in the copper price, and pulled back on the metal's subsequent decline, for a gain of 9.3% over the past year. The company most recently completed an equity financing of C\$29.0mn in December 2020 and held cash of US\$41.1mn as of H1/21.

Figure 19: Marimaca Resources, PEA

Resources	Mt CuT	% CuS	kt CuT	kt CuS	Marimaca PEA - June 2019 (at \$3.15/lb Cu)				
Measured	21	0.66	0.44	136	92	Production/Year tonnes Cu	42,000	C1 Op Cost US\$/lb Cu	1.22
Indicated	50	0.57	0.37	284	184	Mine Life	12	AISC US\$/lb Cu	1.29
M&I	70	0.60	0.39	420	276	Preproduction Capital US\$ mn	285	Pre-tax NPV US\$ mn	757
Inferred	43	0.52	0.31	225	132	Sustaining Capital LoM US\$ mn	66	Post-tax NPV US\$ mn	524
Total	113	n/a	n/a	645	407	Avg Annual EBITDA/Year US\$	169	Post-tax IRR	33.5%

Source: Yahoo Finance

Figure 20: Marimaca Resources Shares



Source: Company, Yahoo Finance

Disclaimer: This report is for informational use only and should not be used as an alternative to the financial and legal advice of a qualified professional in business planning and investment. We do not represent that forecasts in this report will lead to a specific outcome or result, and are not liable in the event of any business action taken in whole or in part as a result of the contents of this report.

Chile: The Heart of Global Copper

Amerigo Resources

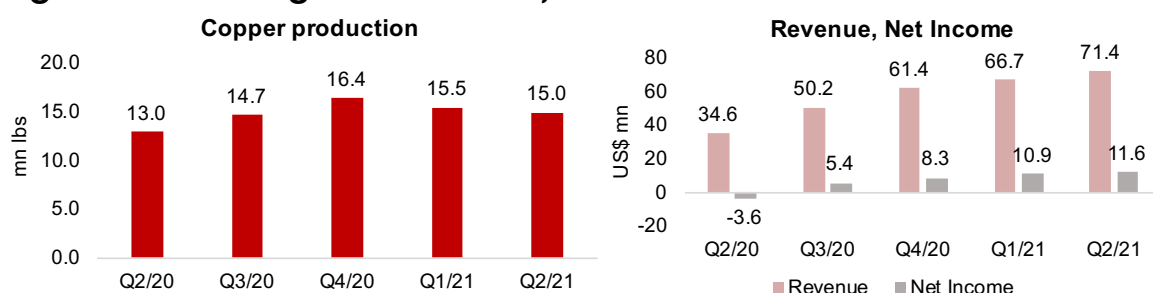
Processing tailings from Codelco's El Teniente

Long-term deal with Codelco to process El Teniente tailings Amerigo owns 100% of Minera Valle Central (MVC), which processes copper tailings and molybdenum from Codelco's largest copper mine, El Teniente, under a tolling agreement, with a contract lasting until 2037. The company earns the gross value of copper produced after treatment and refining charges, Codelco copper royalties and transport costs.

Production decline offset by rise in copper price Amerigo's production was up 15.4% to 15.0mn lbs in Q2/21, but trended down for the past two quarters from a peak at 16.4mn lbs in Q4/20. However, this has been offset by the rise in the copper price, with revenue and net income picking up consistently over the past four quarters.

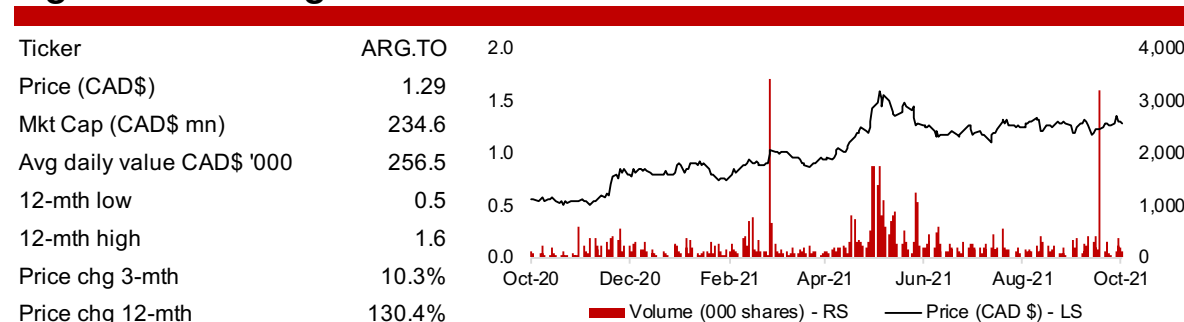
Share price driven by copper price The share price is up 130.4% over the past year on four consecutive quarters of income gains to Q2/21, but has declined from an April 2021 peak on the decline in copper. Given its long-term deal with Codelco and steady production, changes in the copper price should continue to be the key driver.

Figure 21: Amerigo Production, Financial Performance



Source: Yahoo Finance

Figure 22: Amerigo Resources Shares



Source: Company, Yahoo Finance

Disclaimer: This report is for informational use only and should not be used as an alternative to the financial and legal advice of a qualified professional in business planning and investment. We do not represent that forecasts in this report will lead to a specific outcome or result, and are not liable in the event of any business action taken in whole or in part as a result of the contents of this report.

Chile: The Heart of Global Copper

Los Andes Copper

PFS targeted for Vizcachitas in early 2022

Vizcachitas at PEA stage, good infrastructure access The company owns 100% of the Vizcachitas copper project, with a PEA released in June 2019, a PFS expected to be complete by Q1/22, and submission of an EIS by Q4/22. The project has a low elevation, mild climate, and access to infrastructure, as it is within 60 km of a railway to port city Ventanas and a 220kv substation.

News flow related to advancing PFS Vizcachitas has 19,490 mn lbs CuEq in Resources, and the PEA outlines a 45-year LoM, initial US\$1,874mn capex and post-tax NPV of US\$1,797mn. News flow this year relates to advancing the PFS, with metallurgical test work completed, environmental approval for drilling achieved and a molybdenum assessment and concentrate specifications released.

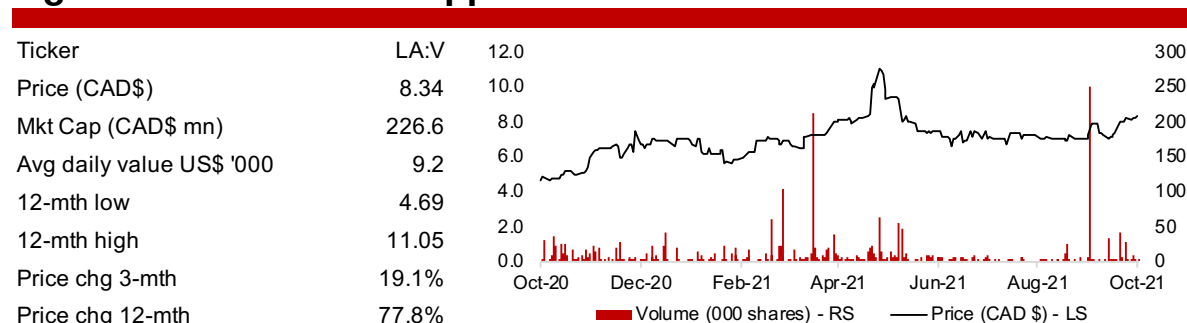
Funded for PFS, shares up nearly 80% The company had \$2.74mn in cash as of end-2020 and it issued a five year \$5.0mn convertible debenture to Queen's Road Capital in May 2021, which should fund upcoming PFS-related costs. The shares are up 77.8% over the past twelve months, but are down from their May 2021 peak which had been driven by the rise in the copper price.

Figure 23: Vicachitas Project Resources, PEA

Resources	Mt	Cu	Mo	Ag	CuEq	Vizcachitas PEA - August 2020 (at \$3.00/lb Cu)	
	mn lb	mn lb	mn lb	mn oz	mn lb		
Measured	254	2,462	67	10.3	2,743	Mine Life	45
Indicated	1,030	8,740	333	33.1	10,034	Initial Capex US\$ mn	1,874
M&I	1,284	11,202	400	43.4	12,777	C1 Op Cost US\$/lb Cu	1.58
Inferred	789	5,861	221	22.3	6,713	Post-tax NPV US\$ mn	1,797
Total	2,073	17,063	621	65.7	19,490	Post-tax IRR	20.8%

Source: Yahoo Finance

Figure 24: Los Andes Copper share detail



Source: Company, Yahoo Finance

Disclaimer: This report is for informational use only and should not be used as an alternative to the financial and legal advice of a qualified professional in business planning and investment. We do not represent that forecasts in this report will lead to a specific outcome or result, and are not liable in the event of any business action taken in whole or in part as a result of the contents of this report.

Chile: The Heart of Global Copper

Rio2 Limited

Developing the Fenix Gold project

Fenix oxide gold project in advanced development Rio2 Limited owns the 100% Fenix oxide gold project (with no transitional or sulfide mineralization) in the Maricunga region. The project is at an advanced development stage, with its PFS released in August 2019, its EIS filed in April 2020, and a construction permit expected to be issued by Q3/22. The project is 16,050 h.a., with over 115k m drilled over the past ten years, is close to infrastructure, and a water agreement is in place.

Fenix is moderately-sized project The Fenix Gold project is moderately sized, with 4,985k oz Au in M&I Resources (of which 1.8mn oz Au are P&P) and 1,388k oz Au in Inferred Resources (Figure 23). The PFS highlights 1,371k oz Au in recoverable gold, 85k oz Au in production/year over a 16-year LoM, an initial capex of \$111mn, an AISC of US\$997/oz, an NPV of US\$121mn, and a post-tax IRR of 27.4%.

Mine financing progress but share price down on lower gold The company announced a US\$125mn-US\$135mn financing package for Fenix in July 2021, including a US\$50mn gold purchase agreement and US\$5mn private placement with Wheaton, US\$50-US\$60mn in project debt, and a public offering of C\$25mn. The share price is down -33.8% over the past year on the decline in the gold price.

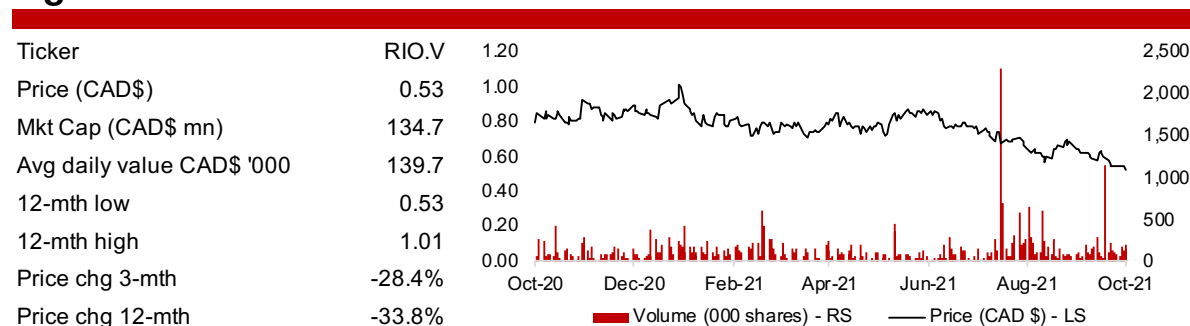
Figure 25: Fenix Project Resources, PFS

Reserves		Resources*		Fenix Gold PFS - August 2019 (at US\$1,225/oz Au)			
k oz Au		k oz Au					
Proven	866	Measured	1,630	Recoverable Gold oz Au	1,371,000	Cash Cost US\$/oz Au	927
Probable	962	Indicated	3,355	Production/Year oz Au	85,000	AISC US\$/oz Au	997
Total P&P	1,828	Total M&I	4,985	Mine Life	16	Pre-tax NPV US\$ mn	168
		Inferred	1,388	Initial Capital US\$ mn	111	Post-tax NPV US\$ mn	121
		Total	6,373	Sustaining Capital LoM US\$ mn	95	Post-tax IRR	27.4%

* Includes Mineral Reserves

Source: Yahoo Finance

Figure 26: Rio2 Limited share detail



Source: Company, Yahoo Finance

Disclaimer: This report is for informational use only and should not be used as an alternative to the financial and legal advice of a qualified professional in business planning and investment. We do not represent that forecasts in this report will lead to a specific outcome or result, and are not liable in the event of any business action taken in whole or in part as a result of the contents of this report.

Chile: The Heart of Global Copper

Aftermath Silver

Three silver projects in South America

One silver project in Peru, two in Chile The company operates three silver development projects, one in Peru, Berenguela, with a historic resource of 126.9mn oz in Ag and 771.7mn lbs Cu, and two in Chile, Challacollo, with 46.3k oz Ag and 73k oz Au in estimated Resources, and Cachinal, with 18.8mn oz Ag and 24k oz Au.

Progress on all three projects over past year The company has progressed on all of its projects over the past year. A resource estimate was released for Cachinal in September 2020, Berenguela was acquired in October 2020, and a resource estimate was released for Challacollo in December 2020. Field work at Challacollo started in February 2021, with intersections outside the initial resource announced in May 2021, and the remaining 20% of Cachinal not already held was acquired in the same month.

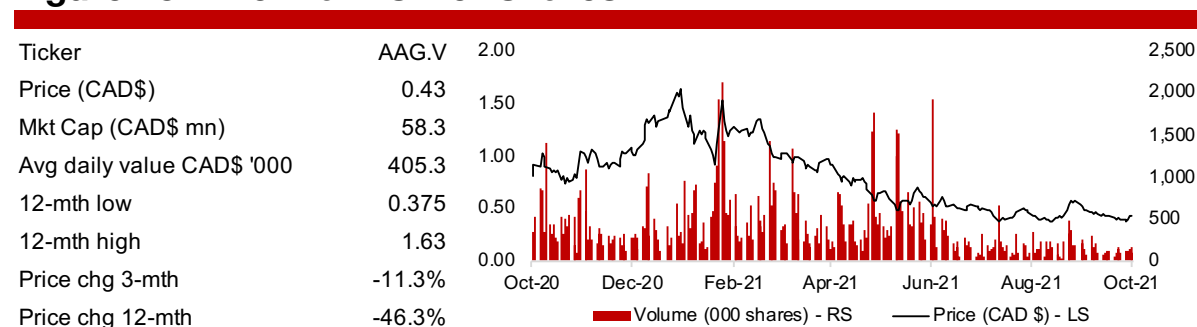
Shares down on silver decline The company's most recent financing rounds were last year, with a \$1.5mn private placement closed in May 2020 and a \$17.1mn private placement closed in September 2020, and it had C\$14.6mn in cash as of its February 2021 fiscal Q3/21 results. The share price is down -46.3% over the past twelve months, pressured by the decline in the silver price this year.

Figure 27: Resource Estimates for Aftermath's Projects

	Berenguela (2018)		Challacollo (2020)		Cachinal (2020)	
	Silver	Copper	Silver	Gold	Silver	Gold
	k oz Ag	k lb Cu	k oz Ag	k oz Au	k oz Ag	k oz Au
Measured	25,717	168,040	n/a	n/a	n/a	n/a
Indicated	73,009	456,465	35,150	58	16,320	22
Total M&I	98,726	624,505	35,150	58	16,320	22
Inferred	28,183	147,242	11,144	15	2,480	3
Total	126,909	771,747	46,294	73	18,800	24

Source: Yahoo Finance

Figure 28: Aftermath Silver Shares



Source: Company, Yahoo Finance

Disclaimer: This report is for informational use only and should not be used as an alternative to the financial and legal advice of a qualified professional in business planning and investment. We do not represent that forecasts in this report will lead to a specific outcome or result, and are not liable in the event of any business action taken in whole or in part as a result of the contents of this report.



Chile: The Heart of Global Copper

Time for caution on copper plays?

Many global majors and junior mining stocks focusing on Chile copper

Some risks of a shift in political support in Chile for higher taxes on mining

Copper price average for 2021 at multi-year highs, but it has trended down from May 2021 peak

Copper price could decline further if economic growth slows after post-crisis boom

Some risks to the copper price right now in contrast to our expectation for resilient gold

Longer-term value in the operational progress of copper juniors, but this could be offset by weakening copper price short term

Chile will remain the biggest play in global copper

Chile looks set to remain the biggest play in global copper given its leading production and reserves. Exposure to the copper story can be gained through the many major global operators that produce there, and through most of the TSX and TSXV-listed junior miners that we have covered here. While the district had been highly ranked in the Fraser Institute survey, reaching the top ten in 2017-2018, it has slid substantially in the past two years. This is because of concerns of potential political changes that could bring higher taxes on mining, although we expect that any regime is likely to remain supportive of the sector in general given its large contribution to fiscal revenue.

Copper price could decline if economic growth slows

The copper price is still at multi-year highs at an average US\$4.22/lbs so far in 2021, but it has declined off its peak of US\$4.78/lb in May 2021 to US\$4.28/lb in October. Some point to an easing of the pent-up demand and supply chain constraints that had been caused by the global health crisis as driving the recent decline. There are also concerns that a further slowdown could be driven by a pullback in stimulus by the Fed, which has indicated that it could start to begin a taper as early as November 2021, citing currently high inflation. Some forecasters are concerned that a scenario of stagflation, where inflation remains high, but growth is anemic, could result. Regardless, the copper price will continue to be a key driver of most of the junior miners we have outlined here, whether it rises or declines.

Copper not necessarily the best metals play right now

We are not convinced that copper is best metals play right now, given our concerns about risks to global growth, which could drive a decline in its price. While the junior copper miners we have outlined in this report have mainly had strong operational progress over the past year, and the industry's fundamentals should be supportive of the copper price longer-term, we see considerable cyclical risks currently. This could mean that these copper juniors could get hit regardless of continued strong company specific drivers. In contrast, we believe that the outlook for the gold, driven by high inflation, which we believe is likely to continue, is comparably strong short to medium-term, or at least less risky than a pro-cyclical growth bet on copper.

Disclaimer: This report is for informational use only and should not be used as an alternative to the financial and legal advice of a qualified professional in business planning and investment. We do not represent that forecasts in this report will lead to a specific outcome or result, and are not liable in the event of any business action taken in whole or in part as a result of the contents of this report.

