



S&P Global Platts

Insight

July 2020



S&P GLOBAL PLATTS
GLOBAL METALS AWARDS

Iron ore markets
and investors

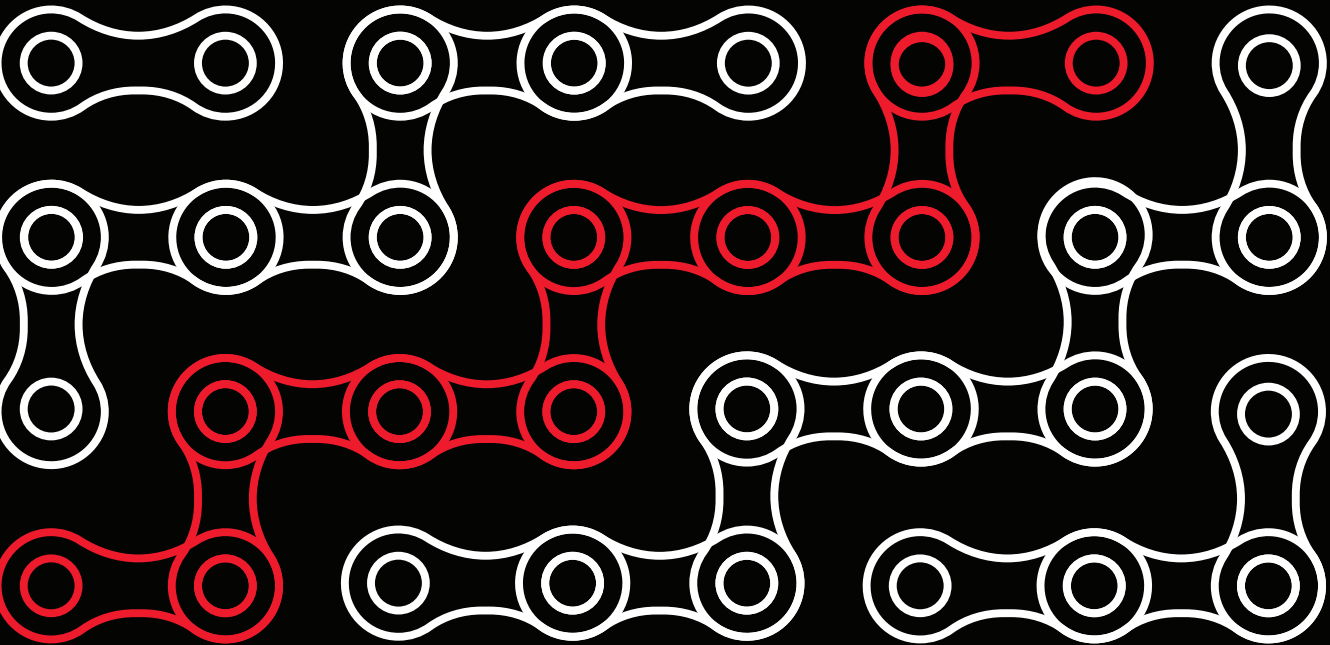
Reimagining Brazil's
gas market

Global oil's
road to recovery

Women in
metals and mining

Global steel looks east

Information alone
isn't informative.
Add insight.



Our unrivaled insight and analysis, alongside our independent price benchmarks and supply chain dynamics, bring clarity and transparency to the energy and commodities markets, enabling you to spot trends and uncover new commercial opportunities.

S&P Global
Platts

#SPGPlattsInsight

Visit spglobal.com/plattsinsight

Insight

ISSN 2153-1536 (online)

Publisher

Murray Fisher, +1 720 264 6644
murray.fisher@spglobal.com

Editor

Emma Slawinski, +44 (0)20 7176 0365
emma.slawinski@spglobal.com

Copy Editors

Alisdair Bowles, Jonathan Dart,
Jonathan Fox, James Leech

Production Manager

David Sullivan, +44 (0)20 7176 0268
david.sullivan@spglobal.com

Production Office

Platts Insight Magazine
1800 Larimer, Suite 2000
Denver, CO 80202

Advertising Sales – Americas

Bob Botelho, +1 720 264 6618
robert.botelho@spglobal.com

Advertising Sales –
Asia-Pacific

Sheryl Tan, +65 6216 1191
sheryl.tan@spglobal.com

Advertising Sales –
EMEA

Irina Bondereva, + 44 20 7176 0253,
irina.bondereva@spglobal.com

Article Reprints & Permissions

The YGS Group,
+1 717 505 9701, ext 105
plattsreprints@theygsgroup.com
Subscribe free at:
spglobal.com/insight

S&P Global Platts

20 Canada Square, 9th Floor
London, E14 5LH, UK

President

Martin Fraenkel

Global Head of Commodities,
Pricing and Market Insights

Dave Ernsberger

Global Head of Analytics

Chris Midgley

S&P Global
Platts

Contributors



Tina Allagh
Senior Managing
Editor,
Metals Pricing



Sarah Baltic
Managing Editor,
Metals Pricing



Paul Bartholomew
Editorial Lead,
Metals News



Fiona Boal
Senior Director,
S&P Dow Jones
Indices



Adriana Carvalho
Managing Editor,
Metals Pricing



Michael Fitzgerald
Managing Editor,
Metals Pricing



Hector Forster
Senior Editor,
Metals Pricing



Meghan Gordon
Senior Writer,
Oil News



Rosemary Griffin
Managing Editor,
Russia



Julien Hall
Regionals Metals
Content Director,
Asia



Jacqueline Holman
Senior Specialist,
Metals Pricing



Ben Kilbey
Managing Editor,
Metals News



Diana Kinch
Head of Metals
News,
EMEA



Sebastian Lewis
Editorial Director,
China



Karen McBeth
Editorial Director,
Metals Pricing



Ryan Ouwerkerk
Manager,
AmericasNatural Gas



J Robinson
Senior Writer,
Generating Fuels
News



Laura Varriale
Managing Editor,
Metals Pricing



Annalisa Villa
Editorial Lead,
Metals News



Filip Warwick
Reporter,
Metals News



Scott Yarham
Regional Associate
Director,
Metals Pricing,
EMEA

Contents July 2020



8 Global steel looks east

Steel demand growth today is centered in Asia, and the coronavirus pandemic looks set to speed the eastward shift in production capacity

14 Iron ore's growing appeal

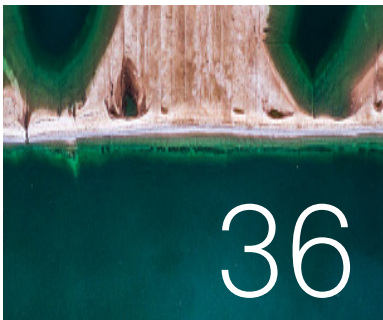
A deep dive into the financialization of iron ore, and what it means for the physical market, featuring insights from S&P Dow Jones Indices

22 After Petrobras: reimagining Brazil's gas market

Brazil's plan for liberalization of its gas markets could open up new opportunities for upstream and midstream energy companies, but more follow-through is needed

30 Insight Conversation: Christopher LaFemina

Jefferies' managing director of global metals and mining equities discusses market trends, from price volatility to company strategy and trade tensions



36 ESG and mining: sustainability after coronavirus

After a year of intense focus on the "environmental" in ESG in 2019, industry participants and investors are calling for a more holistic approach

44 Insight from Brussels

The EU's green recovery package is a multi-billion euro bet on renewables and energy transition technologies

46 Of cars and cans: US aluminum and the pandemic

Aluminum is in the doldrums, but a jump in canned drink sales under lockdown has cheered can makers

52 Special report: Women in metals and mining

Thirteen female senior leaders share their experiences in the metals and mining sectors, views on progress towards equal opportunities, and the path forward



70 Insight from Washington

From incendiary Twitter diplomacy to executive orders, how much of an impact has Donald Trump had on crude prices and US oil output?

74 Road to recovery: oil demand fights back

Oil demand is gradually recovering after taking a big hit from coronavirus. This infographic harnesses key figures and forecasts from S&P Global Platts Analytics

76 European steel at a crossroads

The European steel sector faces tough challenges, including overcapacity and competition from imports

84 Insight from Moscow

Russia is stepping up partnerships with African countries in natural resource extraction, with Lukoil, Rosneft and Rosgeo among the companies leading the push



86 Insight from Shanghai

China wants a fast rollout of hydrogen infrastructure to support heavy industries and its 2022 Winter Olympics

88 2020 S&P Global Platts Global Metals Awards

Celebrating this year's award-winning companies and individuals across 15 categories

Editor’s Note



Emma Slawinski

Editor

The main effects of the coronavirus pandemic for the commodity complex have been sudden demand destruction, upheaval in supply chains and uncertainty about the timespan required for recovery.

Against this background, S&P Global Platts is celebrating effective leadership, excellence in service and innovation in the metals industry with its eighth annual Global Metals Awards, recognizing that it is precisely in such challenging times that these qualities are most needed.

Taken as a single category, the metals sector has been hit like every other. Sales of consumer goods were slashed for months, and major outlets for metal products such as autos and construction also ground to a halt in many parts of the world.

But in contrast to the oil industry, for example, the narrative for metals during the crisis has been much more varied. Steel and aluminum demand has been hit hard by long shutdowns in autos, but as Sarah Baltic writes, a bright spot in the US has been demand for can sheet, as manufacturers have benefited from higher consumption of canned drinks at home (page 46).

In Europe, the pandemic has painted a fairly bleak picture for steelmaking as lockdowns have piled additional pressure on an industry already suffering from overcapacity and struggling to compete with low-priced imports (page 76).

However, iron ore has proved resilient this year in terms of price. Julien Hall and Fiona Boal examine the financialization of iron ore and what this new segment of market participants means for physical trade from page 14.

Turning to oil markets, Meghan Gordon surveys the recent efforts by President Donald Trump’s administration to influence global prices and bolster producers in the US (page 70) in her policy column from Washington. Robert Perkins uses S&P Global Platts Analytics forecasts to visualize the impact of the pandemic on demand across countries and oil product segments (page 74).

From page 22, we survey the progress in Brazil’s gas market liberalization and what it means for midstream competition, offshore gas production and LNG imports.

This issue of Insight incorporates our recent special report, Women in Metals and Mining, featuring interviews with 13 inspirational women who have built successful careers in the sectors. They share personal stories and views on gender diversity, and lift the lid on their most challenging and meaningful experiences in the industry (page 52).

Finally, turn to page 88 for this year’s Global Metals Award winners, where achievements from individual leadership, to innovative service provision and corporate social responsibility are recognized, along with standout performances in specific metals categories.

plattsinsight@spglobal.com

Best of the Rest

Our website spglobal.com/platts contains an extensive selection of free news, videos, podcasts and special reports about energy and commodities. Here’s a small selection of recent highlights



Blog Hydrogen and natural gas grids

Governments and utilities are looking to low- and zero-carbon hydrogen injection into natural gas grids, to displace fossil fuel consumption and reduce emissions. The approach could boost demand and stimulate development of the sector.

spglobal.com/hydrogen-gas



Interactive Platts Carbon Emissions Playbook

The Carbon Emissions Playbook maps out historic and forecast emissions across sectors in seven key countries and regions. This interactive infographic shows the evolution of emissions from different fuel sources from 1990 out to 2040.

spglobal.com/carbon-emissions



Blog LNG contracting needs a revamp

LNG markets have been transformed by fast growth and the emergence of liquid spot markets. S&P Global Platts Analytics’ head of global gas and power, Ira Joseph, argues long-term contracting must change radically, to reflect new realities.

spglobal.com/lng-contracts



Video Market movers

S&P Global Platts’ essential briefing highlights the biggest trends to watch in energy and raw materials. Join our news and pricing experts to kick-start your week in commodities, with editions from the US, Asia and Europe every Monday.

spglobal.com/market-movers



Feature New US oil benchmark targets flaws in WTI

WTI’s dip into negative territory in April showed the pressing need for an evolution in US crude benchmarks. This feature looks at how S&P Global Platts’ new waterborne crude assessment, American GulfCoast Select, can reflect new market realities.

spglobal.com/USGC



Global steel looks east

The coronavirus crisis has slashed global demand for steel and its major products. As the market watches for signs that Asian economies will bolster consumption, steel production and manufacturing are likely to continue shifting eastward. By Paul Bartholomew

Global manufacturing was in the doldrums for much of last year, pulled down by weak demand in key consumer-driven segments amid ongoing trade tensions and slower economic growth.

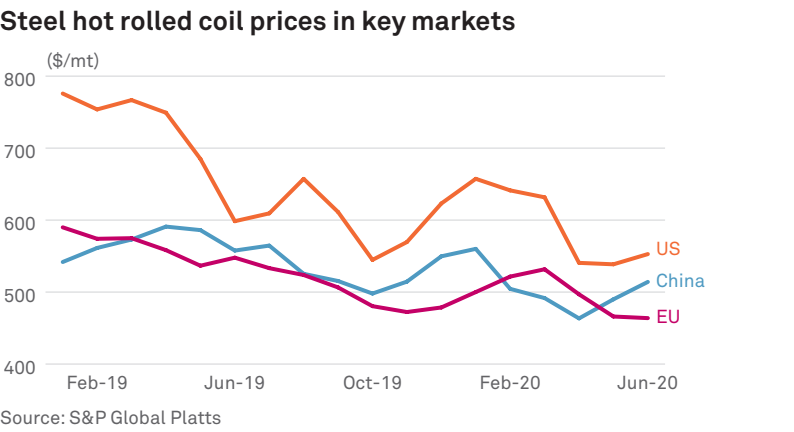
Countries such as Japan, South Korea and Germany that rely on exports found it tougher to sell to overseas customers, while the downturn in auto sales in the United States exemplified what was happening to the sector internationally. When the coronavirus outbreak hit in early 2020, it was akin to kicking manufacturing when it was already down.

While the full weight of COVID-19 hit the manufacturing sector in April, with many countries around the world in lockdown, China was already starting to get back on its feet.

Manufacturing activity in Japan, Europe and the US slumped to depths last seen during the global financial crisis of 2008-2009; Indian manufacturing fell to a

15-year low. In China, the manufacturing purchasing managers' index published by the National Bureau of Statistics softened slightly in April compared with March but indicated the sector was still growing.

Prices of hot-rolled coil, or HRC – the core steel product used in manufacturing – were already drifting down in major markets before COVID-19, due to tepid demand from the sector. S&P Global Platts



assessments show that between the start of 2019 and mid-June this year, US HRC prices fell by 30%, while European HRC prices slumped by 24%. China’s domestic HRC prices rallied in May and are back at a similar level to the start of 2019.

In contrast to metals prices generally, prices of seaborne iron ore have been remarkably resilient, even during the worst months of the coronavirus outbreak, because Chinese crude steel production continued largely unabated. The Platts 62% Fe iron ore benchmark averaged \$88.7/metric ton CFR China over January-May, while Chinese mill margins for domestic HRC sales over this period averaged \$30/mt.

Manufacturing has been particularly vulnerable to the coronavirus outbreak. The sector relies on global supply chains and is therefore susceptible to disruptions. Port and transport links were impacted in many countries by measures to quell the coronavirus outbreak. Some Chinese steel mills were unable to take deliveries of iron ore in February because truck drivers had not returned to work. Factories could no longer deliver finished goods to their customers.

Japanese and South Korean automakers had to stop building cars when they were unable to source vital parts from their operations in southwest China during the lockdown there in February. South Korean automakers with facilities in China had to cut output because they were unable to import steel from their parent companies in South Korea.

New export orders for manufactured goods have virtually dried up due to logistical challenges and because there is simply no demand. With most people across the world sheltering indoors, appetite for new cars, fridges and washing machines has dropped dramatically.

Surveys indicate that consumer confidence will take a long time to return, even after lockdowns are eased. Further, while there will be pent-up demand for manufactured goods, many people have lost their jobs due to the virus and may not be able to afford those new cars and fridges.

Cars may become more popular as people avoid public transport. But the pressure on the manufacturing sector is likely to continue for much of this year. Even

China, India, and emerging Southeast Asian countries such as Vietnam, Indonesia and the Philippines still have tremendous growth profiles that will drive demand for steel

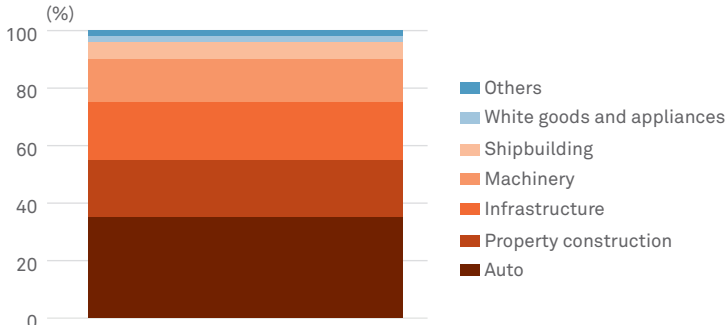
in China, most metals market participants do not envisage a real recovery until Q4.

The breakdown in supply chains and logistics has sparked debates about whether countries and companies should be more self-sufficient by repatriating manufacturing – or conversely whether they should diversify their supply bases to spread out the risk. Whatever is decided will not happen quickly.

The steel and metals sector is adept at dealing with trade actions such as antidumping duties and tariffs, and will have to remain so as countries look to protect their wounded economies. More antidumping measures are inevitable.

Weaker currencies have enabled countries such as Turkey and Russia to compete beyond their traditional export markets at times. Exports act as a release valve when domestic demand cannot absorb enough domestic production. Global steel trading is fluid and

Chinese steel consumption by end-user segment



Source: S&P Global Platts, Worldsteel, analyst reports

flexible, and mills and traders are skillful at finding new markets when others are closed off. But it is getting tougher.

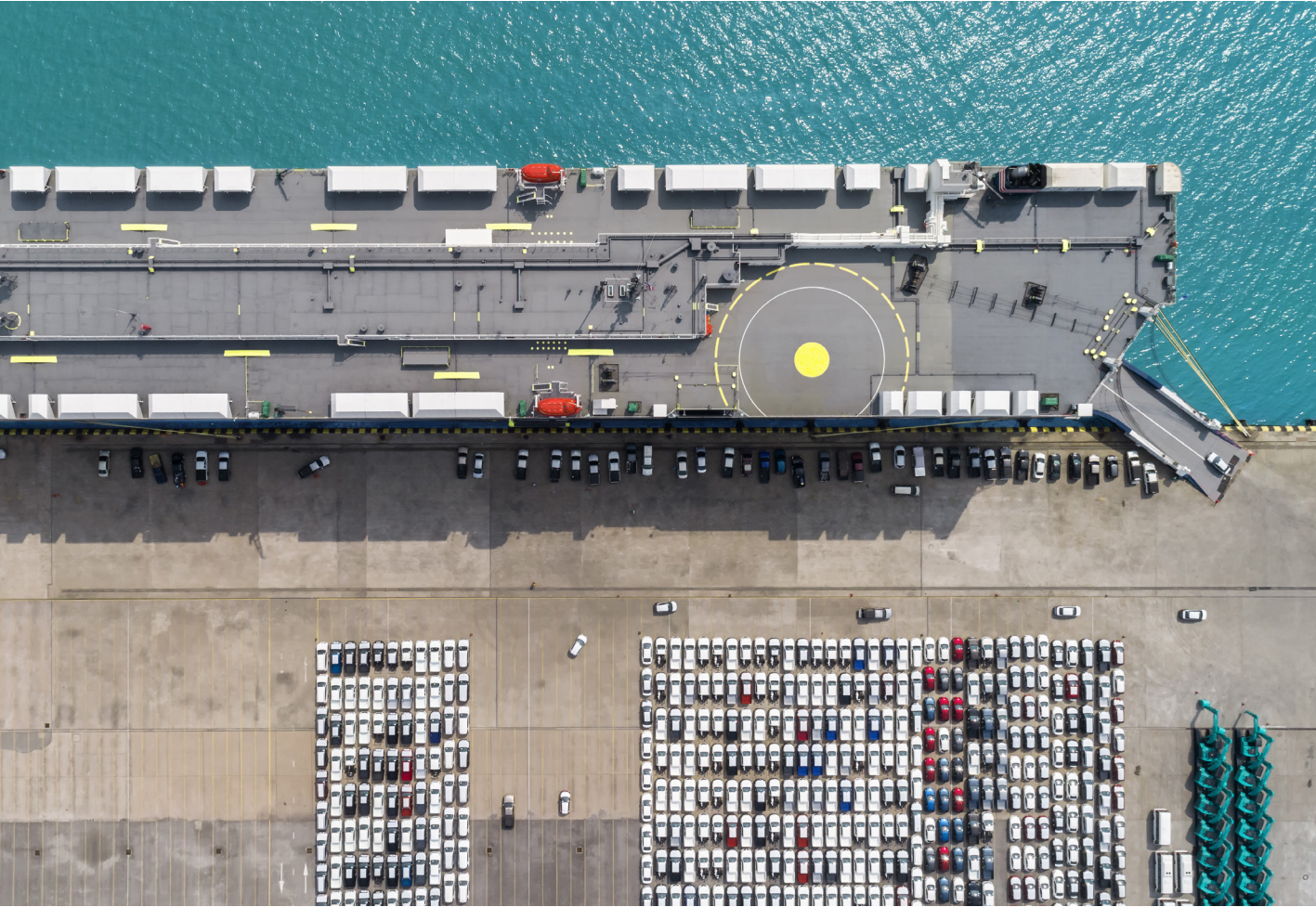
The challenge has been that global demand for steel has dropped off dramatically. Southeast Asia is routinely the “go-to” market when customers elsewhere do not want to buy steel. But lockdowns in the region have dampened demand, regardless of whether Indian, Turkish, Russian, Chinese or Japanese material is the cheapest.

Furthermore, the region is slowly becoming more self-sufficient in steel, and has big project plans on the table, so this market may be largely closed off to opportunist sellers in the future. Southeast Asian manufacturing is likely to receive a boost by companies relocating operations out of higher-cost – and perhaps given recent experiences, less reliable – China.

Due to its comparatively robust market, China found itself in the rare position of being a target for steel exports from countries including India, Japan, Russia and Turkey. Over January-May, China’s finished steel imports grew 12% on year to 5.464 million mt, while its exports were 14% lower at 25 million mt, China Customs data revealed. Most other countries are at least 2-3 months behind China in their management of the coronavirus outbreak and are unlikely to recover as strongly.

Production cuts

The big question is what happens to global steel production if a sizeable chunk of demand – namely manufacturing – permanently disappears? Platts estimates that Japanese car makers will have used up to 15% less steel in the first half of 2020 than



they did in the same period last year. In 2019, Japan exported roughly a third of the 99.3 million mt of steel it produced, Platts estimates based on Japan Iron and Steel Federation data.

Supplying Japanese auto and appliance subsidiaries and manufacturing hubs in Southeast Asia and elsewhere this year has been challenging due to coronavirus-related lockdowns and transport restrictions. In response to falling demand at home and abroad, Nippon Steel and JFE Steel reduced blast furnace output from April, but they may need to cut production further.

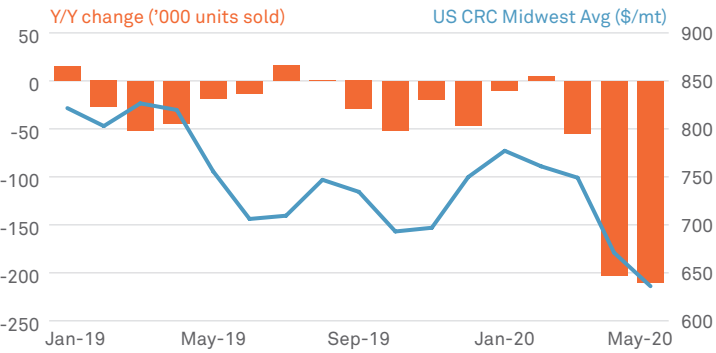
South Korea's car production in May was 37% lower than the year before, while its car exports sank by 58%. The country's car exports to the US in April fell by 28% on year, according to the Ministry of Trade, Industry and Energy. South Korean steelmaker POSCO produced 42.8 million mt in 2018 but is targeting just 4 million mt this year due to reduced demand from the auto sector and some maintenance work at its facilities, the company said in April.

US steel mills slashed production in line with the country's carmakers halting their output, and were operating at around 53% of capacity mid-May, compared with 80% in early March, American Iron and Steel Institute data showed. In Europe, steel production was cut by 50% as a result of new orders falling by as much as 75%, industry association Eurofer told Platts in late April.

Fortunately for them, steelmakers in India and China are less exposed to the auto sector, where it accounts for less than 10% of steel consumption. China's auto demand had already plateaued as most people that want a car already have one.

S&P Global's Indian subsidiary CRISIL had expected steel demand from India's car sector to grow by 6%-7% in coming years but that may be harder to achieve in light of the pandemic. The Indian government wants to grow manufacturing's share of the country's GDP to 25% by 2022 from around 16% currently.

US auto industry posts slight recovery



Source: US Bureau of Economic Analysis, S&P Global Platts

The manufacturing share of GDP in China will drift down from around 40% as the country gradually becomes a consumption-driven economy and less reliant on exports.

China, India, and emerging Southeast Asian countries such as Vietnam, Indonesia and the Philippines still have tremendous growth profiles that will drive demand for steel from infrastructure developments and property construction for a long time to come.

For developed countries the picture is less rosy. With the exception of the US' much-mooted, but still no nearer, \$1 trillion infrastructure makeover, the growth potential from infrastructure and construction is far lower. High quality manufacturing steel will still find customers, but probably fewer of them. Unless markets are protected, it will become increasingly hard to make money from commodity grade products.

The coronavirus outbreak of 2020 has merely sped up a market dynamic that was already occurring. It seems likely that the steel production capacity transfer from developed to emerging economies will gather pace. Notwithstanding the anti-globalization debates raging in light of the coronavirus pandemic, manufacturing will continue to follow suit. ■

LEADING THE INDUSTRY WITH THE HIGHEST SAFETY STANDARDS

TIER 1 MINING & DEVELOPMENT



DISCOVER OUR PLAN
AT
CHAMPIONIRON.COM

CHAMPION IRON

Iron ore's growing appeal

Rising volumes, improved transparency and a strong connection to China have led financial investors to flock to iron ore. Julien Hall and S&P Dow Jones Indices' Fiona Boal unpack a thriving and unique market



A familiar cast of actors consistently graces the commodities page of financial broadsheets: a handful of influential energy benchmarks, Chicago-traded grains, ICE-traded softs, LME base metals and a few other precious metals.

Grains in particular are likely to have been there for well over 100 years now. One may be forgiven for thinking that these tables of prices simply never change. But they do.

Once in a while, perhaps once every couple of decades, a new graduate joins that elite circle of globally-traded, globally-recognized commodities. After a decade of sharp market evolution, iron ore seems close to doing so.

The emergence of iron ore into broader recognition has been a rapid one by commodity market standards. Just 10 years ago, the magnetic red dirt was an opaque market with contract negotiations taking place annually in smoke-filled rooms in Japan and later China. The market now has not one but two liquid futures markets, on the Singapore Exchange (SGX) and Dalian Commodity Exchange (DCE), trading 1.2 times and 20 times seaborne market volumes, respectively.

But there appears to be a second wave of evolution on the horizon, as the commodity is increasingly talked about on the trading floors of global financial centers. So besides increased liquidity, what is driving this interest? What characteristics make iron ore appealing to investors who already have a broad suite of commodities in their portfolio? What is the iron ore physical market like, and what could its rapid financialization mean for existing players?

Investor lens: China proxy

Increasingly, there are opportunities for investors to utilize commodities in their portfolios as building blocks to express specific views of a particular market, event or risk factor. Single commodities, whether iron ore, gold or soybeans, can be useful to investors looking to express investment themes that are dependent on unique geopolitical,

demographic, structural, climate and even health and disease factors.

The iron ore market has several characteristics that make it distinctive as an investable asset; supply is concentrated in a handful of geographic regions and held by a small number of players, and demand is dictated by one major end-user; China.

Both supply and demand are subject to shocks caused by geopolitical events, unforeseen natural disasters and policy decisions, as well as the actions of individual asset owners. With unique characteristics can come unique tactical investment opportunities for investors.

Metals and mining equities are roughly flat while the S&P GSCI Iron Ore Index has more than tripled over the last seven years

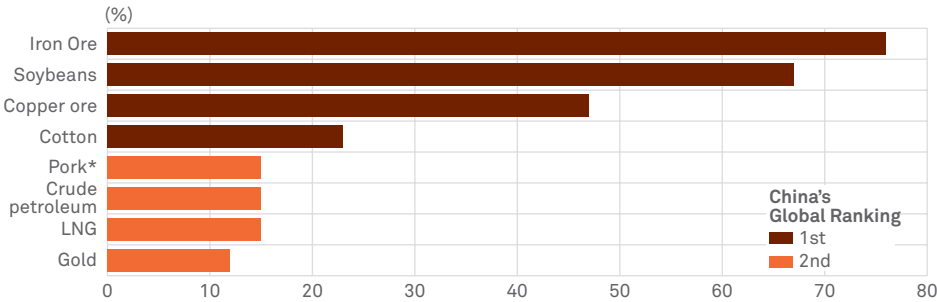
The concept of tactical investing is related to the idea of using individual commodities as building blocks. A tactical asset allocation could be based on commodity fundamentals, macroeconomic data and price trends, and executed in a fundamental or systematic manner. In the case of iron ore, few assets are as dependent on China.

This heady relationship can present opportunities to use iron ore as a liquid and easily accessible proxy for Chinese economic growth or, more specifically, the performance of the Chinese manufacturing and infrastructure sectors.

As with all commodities, it is often the supply side of the ledger that influences spot iron ore prices and the shape of the forward curve most notably over the short term.

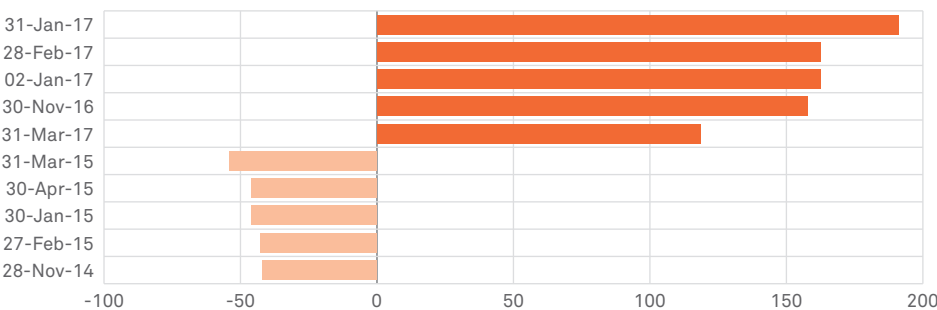
However, over the long run, the supply and demand curves tend to be much smoother as market participants adjust their expectations and production levels.

Few raw materials are as dependent on China as iron ore



Data from 2016-2018 depending on commodity. USD trade value. Table is provided for illustrative purposes and reflects hypothetical historical performance. Source: The Observatory of Economic Complexity * Excludes intra European trade

Biggest 12-month rolling returns in iron ore (%)



Data from May 2013 to Feb 2020. Past performance is no guarantee of future results. Graph is provided for illustrative purposes. Source: S&P Dow Jones Indices LLC

Another important characteristic of iron ore returns is that they exhibit positive asymmetry, which can prove a highly prized feature of investment instruments. Commodity prices have a tendency to rise quickly and in such magnitude that investors do not have sufficient time to “chase the rally.”

Historically, most market participants gained exposure to iron ore through buying the stock of metals and mining companies. There are some difficulties that arise by taking this path. Only a few companies are focused on iron ore due to the high costs associated with producing it. These companies are not pure-play iron ore equities, with the percentage dedicated to iron ranging from 30% to 60% of their businesses.

On top of that, there is equity market beta to consider, the geographic concentration and, increasingly, the fact that mining companies hedge their iron ore price exposure.

These realities add levels of uncertainty to an investment thesis that may be based exclusively on any investor’s view of the underlying ferrous component.

Investing in iron ore directly was restricted to only a few groups prior to the development of a number of iron ore futures contracts, such as the SGX TSI Iron Ore CFR China (62% Fe Fines) Index Futures, and subsequent launch of the S&P GSCI Iron Ore.

The creation of these futures and the S&P GSCI single commodity index has fostered an environment of solid liquidity and improved price transparency. It has also allowed market participants to gain the direct exposure to iron ore they were previously unable to obtain.

Iron ore has also outperformed equity proxies over the last seven years. Metals and mining equities are roughly flat while the S&P GSCI Iron Ore Index has more than tripled over the last seven years. Utilizing

the direct exposure as opposed to buying equities has proved quite lucrative over this time, as can be seen in the chart below.

Interestingly, iron ore has been one of the least volatile commodities of 2020 to date, outperforming industrial metals and energy-related commodities.

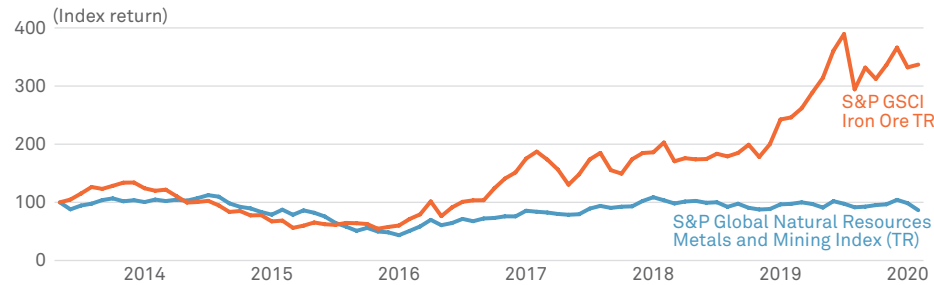
“Widely regarded by many as the second most important commodity behind oil, iron ore’s evolution has mirrored the transformation of China – awaking from its slumber as a sleepy, annually negotiated contract to a lofty prominence as a leading macro barometer of Chinese economic health,” said William Chin, head of commodities at SGX.

“Financial participation in iron ore derivatives has grown strongly over the years, representing close to 40% of the market in 2019. With strong interest from funds and the asset management industry to gain exposure to iron ore as the backbone of global infrastructure, iron ore is firmly entrenched as Asia’s first truly global commodity product.”

Physical lens: macroeconomics and rumors

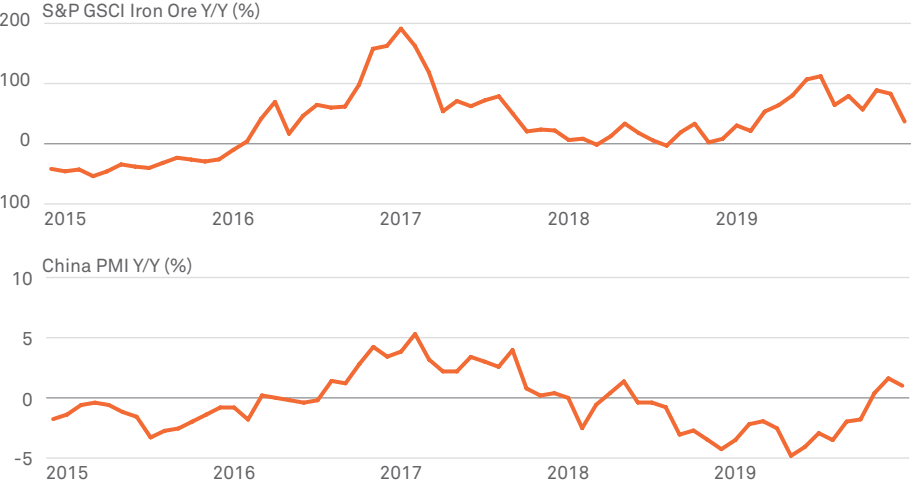
So how would one characterize the physical iron ore market?

Iron ore futures performance vs metals and mining equities



Data from May 2013 to February 2020. Past performance is no guarantee of future results. Chart is provided for illustrative purposes. Source: S&P Dow Jones Indices LLC.

Relationship between iron ore and Chinese manufacturing PMI



Monthly data from December 2014 to December 2019. Past performance is no guarantee of future results. Chart is provided for illustrative purposes. Source: S&P Dow Jones Indices LLC.



Well, it clearly has a personality. Its prices often buck the trend of other global commodities, perhaps reflecting its uniquely strong exposure to China or the widespread consumption of Chinese news among its traders.

This has been especially true in the thick of the COVID-19 pandemic, with iron ore showing a rare resilience in the face of the major impact threatened to global industries.

“Traders tend to look at Chinese macroeconomic indicators, including GDP, FDI, construction activity and housing starts. Obviously, these are important for many commodities, but especially so for iron ore,” said an executive at an iron ore producer on condition of anonymity.

“Iron ore is heavily influenced by Chinese speculative activity, and this means sentiment plays a big role, particularly on the front months. We’ll occasionally see local rumors, including on Chinese policy, initiating price moves,” he said, adding these policies could be trade- or environment-related, for example.

On a day-to-day basis between 9 am and 3 pm Beijing/ Singapore time, these trends tend to play out on DCE’s iron ore futures, while also having an undeniable impact on the sentiment of physical iron ore traders.

Price formation towards the end of the day tends to be driven by the reporting of physical transactions, bids and offers by publishers such as Platts and by trading on the SGX.

Though it still arguably has some way to go, the physical iron ore market has become increasingly transparent over recent years, and a large ecosystem of brokers and information providers has flourished around it. Spot market activity is deep, with transactions accounting for 12%-15% of total market size, according to Platts price reporting data.

This, together with ever higher transparency of information available, has tightened bid-offer spreads in the physical market and facilitated increasingly precise price assessments.

In the first quarter of 2020 for example, the typical bid-offer gap in the physical market for mainstream brands of iron ore was probably around 50 cents at the

Source:



time of assessment. Granted however, it isn't yet at the 1 cent/barrel typically seen at the close of the Platts Market on Close assessment process for Dated Brent or Dubai crude or the 5-10 cents usually seen in many other oil markets.

Physical lens: evolving market

The iron ore market has seen tremendous change in the last decade, but in several ways, it remains a very traditional physical supply chain, both in its inherent setup and attitudes.

The length of trading chains, often seen as a barometer of commoditization and market maturity, is still rather short in iron ore, with most cargoes only changing hands once or twice, compared with up to 15 times in some energy markets.

“It is a supply chain that inherently has less optionality than energy markets,” the iron ore producer said. “It is very much a unidirectional trade flow, with limited reloading and blending infrastructure.”

Evolution towards a more liquid, fungible market may have also been stifled by certain commercial practices, including the fact that producers have been reluctant to openly bid for material. This hesitancy is said to stem from fears of an outcry from steelmakers claiming this

could in some way amount to abuse by the miners. It is worth noting that Chinese steelmakers routinely sell in the open market.

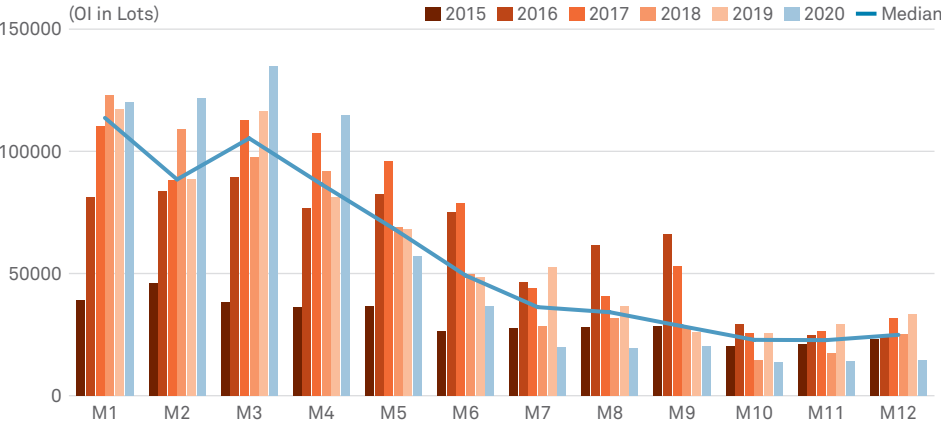
Another odd feature of the iron ore market is that aside from rare occasions, its derivative forward curve is almost always backwardated. The producer source believes this reflects the rapid scalability of potential additional supply.

“Given the speed to market for new supply, traders are assuming that upward price moves would be met with offers rapidly; [unlike other commodities] the cheapest way to store iron ore is in the ground.”

Trading and book optimization are only just emerging in iron ore. Of the miners, Anglo American has been the most experimental, purchasing and blending third-party ores and trading paper to create fixed/floating pricing optionality for its customers.

A key benefit of financialization for physical market participants has been the ability to better manage short- and long-term risks through hedging, a practice that is gradually becoming more prevalent in the ferrous supply chain. While iron ore traders routinely hedge their cargoes, steelmakers and miners have remained more tentative in their forays into derivative markets.

Iron ore futures: open interest by month



Source: SGX

Steelmaking raw materials can move in different directions and by hedging iron ore alone and leaving metallurgical coal, steel or scrap unhedged, market participants have pointed out that steelmakers can in some cases create even more risk for themselves.

Meanwhile large mining companies tend to prefer to keep their iron ore unhedged, giving their equity investors an opportunity to trade their share price as a proxy for the daily market price, a practice first deployed at BHP under former CEO Marius Kloppers.

With the continued growth in iron ore futures volumes, it will be interesting to see whether investors opt for a “cleaner” proxy by trading iron ore directly instead.

It is worth remembering that under Kloppers, BHP was also instrumental in setting the iron ore market on its path of evolution, being one of the initial players providing liquidity to the iron ore derivatives market during its infancy. The goal was helping the market get to a stage where there is enough liquidity such that steel mills can hedge and do not need to default on term contracts as a first resort, as seen during the Lehman crisis.

Credit Suisse and Deutsche Bank had announced the launch of OTC swaps for iron ore in May 2008, less than a year before SGX launched its clearing contract.

Over the last decade, the growth in iron ore derivatives has also made it easier to raise financing for new mining projects.

“Having a hedge in place is one of the criteria for mine financing and you can now get almost any volume of hedge done, though it can take longer for bigger volumes,” the producer said.

In commodity markets the role of financial participants is to provide liquidity and warehouse risk. There is little academic research to support the premise that financial participants in commodity markets adversely impact the price discovery mechanism in major commodity markets.

As investors increasingly look to incorporate commodities in their systematic investment strategies, the iron ore market will undoubtedly attract more attention from financial players. On the whole, this attention should be welcome. ■

Go deeper

This article is an extract from *Magnetic attraction: Investors and physical hedgers flock to iron ore*, a special report by S&P Global Platts and S&P Dow Jones Indices. Read more: spglobal.com/iron-ore-finance

Learn more about S&P Global Platts IODEX: spglobal.com/iodesx



After Petrobras: reimagining Brazil's gas market

If Brazil's long-awaited gas sector reforms are accomplished, they could create a vibrant market with new offshore, midstream and LNG players. What's more, successful liberalization could be significant for both Brazil's economy and the regional energy system, write J Robinson and Ryan Ouwerkerk

Last summer, historic market reforms in Brazil began opening the country’s natural gas trade to competition, but recent challenges have raised doubts about the pace and certainty of liberalization.

Brazil’s “New Gas Market” was inaugurated with decisive regulatory changes aimed at ending state-controlled oil company Petrobras’ monopoly in onshore markets – a move widely expected to increase private investment and lower the county’s historically high gas prices.

Over the past 12 months, Petrobras has announced sweeping divestments in the sector as part of a deal with antitrust regulators, including the sale of two key midstream gas transportation companies – Transportadora Associada de Gas or TAG and Nova Transportadora do Sudeste or NTS.

Most important in principle, was the official opening of Brazil’s midstream market to competition from third-party shippers and distributors. With Petrobras effectively remaining Brazil’s only supplier of gas, though, the official change has had limited market impact – leaving monopoly conditions largely intact.

In August, Brazil’s National Petroleum Agency, or ANP, announced a sweeping plan to change that de facto reality with the launch of an open season on the country’s largest gas import system.

The majority of capacity on the 1.1 Bcf/d Bolivia-Brazil Gas Pipeline, or Gasbol – capable of delivering up to a quarter of the country’s domestic supply – would be made available to private shippers. With the potential to import vast quantities of competitively priced gas from Bolivia, the Gasbol open season promised to be Brazil’s single-most transformative near-term reform to the gas market.

Just two months later, though, the process was abruptly halted when regulator concerns emerged over irregularities to Petrobras’ involvement in the bidding process. In a subsequent ruling, ANP reauthorized the open season under new a regulatory framework, excluding the state-owned company.

Across the north and northeast, large territories and even entire states remain without access to natural gas from pipelines – infrastructure that may never be built in a country as vast as Brazil

In another twist of fate, though, the expedited open season – launched in March – fell victim to the coronavirus pandemic. Citing difficulties faced by potential shippers to participate in the bidding, ANP indefinitely postponed the process, delaying for a second time a foundational change that’s likely to become the cornerstone of Brazil’s gas market reform.

While no revised schedule for restarting the open season has yet been announced, other sectors of Brazil’s gas market have celebrated key milestones this year.

Most notable is Brazil’s private LNG import industry. A handful of smaller and mostly symbolic developments have also been announced in the onshore upstream sector.

Meanwhile, reforms and investments needed to end Petrobras’ monopoly in the offshore market – a potential game changer for competition – have received some attention from Brazil’s federal government this year, but largely remain a distant prospect for now.

LNG gathers momentum

Earlier this year, private LNG developers commissioned Brazil’s only operational third-party import terminal, taking the country’s first-ever competitively sourced gas supply.

Brazil’s gas and LNG infrastucture



Sources: Brazil’s Energy Research Office (EPE); FGV; S&P Global Analytics

Golar Power received the inaugural cargo in February at its Port of Sergipe (Barra dos Coqueiros) in northeast Brazil. While the company’s 1,500 MW combined-cycle power plant co-located there will consume most of the initial regasified cargo volumes, the company has announced big plans for the terminal’s future.

In partnership with Petrobras Distribuidora, Golar Power plans to expand the reach of its LNG supply to

new vehicular, industrial and power generation markets in Brazil – particularly in regions like the Northeast that are currently underserved by gas pipelines.

Until recently, Brazil’s LNG import market has been controlled exclusively by Petrobras, which has funneled imported supply through its own FSRU terminals at Guanabara Bay, Bahia and Pecém.

Although government regulation had not expressly prohibited third-party imports, monopoly control of Brazil's onshore transportation market by Petrobras had previously restricted other importers' and distributors' access to the country's natural gas pipeline network.

Across the north and northeast, though, large territories and even entire states remain without access to natural gas from pipelines – infrastructure that may never be built in a country as vast as Brazil.

Golar Power's plan to tap those latent markets has only become more ambitious too. In March, the company said it would move forward with a second import terminal – a joint venture, gas-to-power project located in the neighboring northeastern state of Pernambuco.

Along with another 1,500 MW combined cycle gas plant, Golar Power's Port of Suape terminal envisions truck-mounted ISO-container fuel deliveries to cities within a 600-mile radius of the port, with transshipment to small-scale LNG carriers allowing for deliveries to other nearby coastal cities.

Over the near term, though, another of Brazil's aspiring LNG import projects could have a more immediate market impact, potentially bringing excess imported supply to the country's most extensive regional pipeline grid connecting states across the south and southeast.

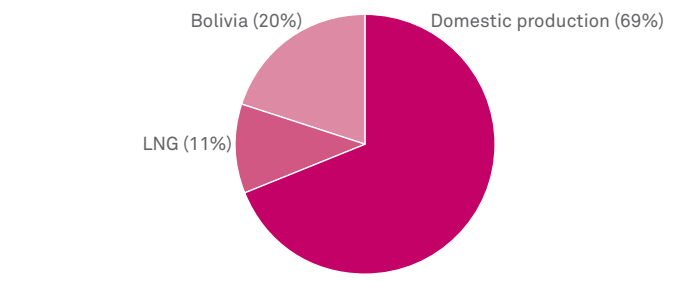
In April, joint-venture developers Prumo Logistica, BP and Siemens closed a deal securing the purchase of an H-class gas turbine to be used in the construction of its 1,300 MW combined cycle power plant at the Port of Açú in Brazilian state of Rio de Janeiro.

On completion of the project's planned first and second phases, the terminal could regasify up to 21 million cu m/d or 740 MMcf/d – potentially making a substantial quantity of surplus gas available for distribution to private shippers and end-users across Brazil's southeast.

Offshore: diversifying transport routes

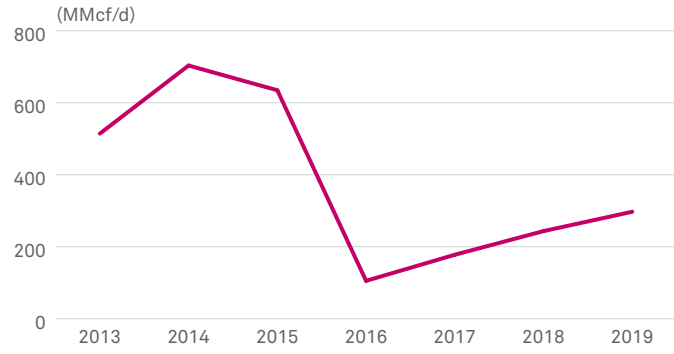
The startup of production in Brazil's vast offshore presalt hydrocarbon fields over the last decade has fueled dramatic growth in the country's gas production.

Brazilian gas supply sources, 2019



Source: ANP

Brazilian LNG imports, 2013-2019



Source: ANP

Through February 2020, before the coronavirus crisis hit and caused output to drop suddenly, gas output in Brazil averaged nearly 134 million cu m/d – more than double the volume produced just nine years ago.

According to the country's Ministry of Mines and Energy, over 80% of domestic output is now sourced from Brazil's offshore, making for a potentially vast resource to supply a competitively priced market.

Under the Brazil New Gas Market reform, though, existing offshore-to-onshore pipeline infrastructure remains largely under the control of Petrobras – severely limiting third-party producers' access to shippers, distributors and end-users in Brazil's emerging onshore markets.

Existing offshore-to-onshore pipeline infrastructure remains largely under the control of Petrobras

for potential listing on Brazil's B3 stock exchange. Assuming the new entity would allow for controlling ownership by other investors, the new arrangement could inject greater competition into the offshore transportation market, giving offshore producers access to third-party buyers.

If the process stalls, or leaves Petrobras' de facto monopoly intact, though, offshore producers do

The offshore Campos and Santos basins, Brazil's largest subsalt fields, are currently served by two major offshore pipeline routes that can export about 26 million cu m/d known as Route 1 and Route 2.

For third-party producers in Brazil's offshore, like Shell, Repsol and Statoil, most of the gas produced there must be either reinjected into existing wells – a process known as enhanced oil recovery – or sold on to Petrobras for transport to the onshore market.

While a planned Route 3 is already under construction, with startup slated for 2021, the pipeline's additional 18 million cu m/d capacity will also remain under the ownership of Petrobras.

In March, Petrobras said that it would combine its stakes in the existing two offshore routes and nearly complete third route, into a single company





have some alternatives – most of which require large investments and long time-horizons.

One option would be the potential construction of privately funded pipelines. In 2014, Cosan – a large Brazilian agriculture and energy company – began the initial planning and permitting process for its proposed Route 4 pipeline. Along with Brazil's energy research planning agency, EPE, other producers have been studying the prospects for Route 5 and Route 6 pipelines.

Another option for third-party producers in Brazil's offshore is the construction of floating LNG liquefaction facilities – a technology already in use at Shell's Prelude facility located nearly 300 miles offshore of Western Australia. Petrobras itself is reportedly studying this option already.

The first year of Brazil's New Gas Market has been stop-start. A solid framework has been established

for the growth of competition, but key reforms have stalled, while others remain hopeful prospects. In the near term, it appears Brazil's private LNG developers will keep the momentum for competition alive as private shippers, distributors and end-users await the relaunch of ANP's Gasbol open season.

In the months ahead, the stakes for Brazil's gas market reform could not be higher. A successful outcome could lower fuel prices for power generators and industry, bring a wave of new foreign investment to the country and provide a decisive boost to its struggling post-COVID-19 economy.

Even for neighboring countries – including Argentina, Bolivia and Chile – a fully liberalized gas market in Brazil could pave the way for similar reforms in the southern cone nations, potentially creating an integrated regional market connected by pipeline and an extensive network of LNG import and export terminals. ■

WE ARE REFINITIV

CONNECTING THE
METALS COMMUNITY TO
WHAT'S NEXT.

We equip a network of over 40,000 global institutions with best-in-class data, technology, and expertise that helps support new, more agile ways of working. From trading to investing, from market regulation to risk, our insight drives the industry forward.

Find out how our insight can inform – and transform – your business.

refinitiv.com/metals

The Financial and
Risk business of
Thomson Reuters
is now Refinitiv.

REFINITIVTM

Insight Conversation: Christopher LaFemina

The managing director of global metals and mining equities research at investment bank Jefferies talks to Diana Kinch and Paul Hickin about market trends as the COVID-19 crisis gradually eases, and how the industry might develop in the longer term

The global coronavirus crisis has placed varying degrees of stress on metals supply chains around the world. Shutdowns among key metals consumers such as auto industries and construction negatively impacted steel and aluminum, while there has been a flight towards gold and other precious metals as safe havens, and other products such as iron ore have shown resilience despite the economic downturn.

As metals markets look to a post-COVID-19 future, LaFemina’s commentary ranged over consolidation and supply reduction, the possibility of another wave of protectionism and trade wars, and “greening” metals production.

Metals prices have been on a rollercoaster since the beginning of the COVID-19 crisis. Can we expect volatility to diminish now that many countries are emerging from lockdowns?

I would say the volatility in metals markets has been driven by two separate, but both critically important factors. First is obviously the demand impact from the coronavirus. We had a collapse in demand in China in January and February. China has begun to recover, but US and European demand has been very, very weak. And the significant weakness in demand globally has driven a lot of the volatility in the markets.

The second factor is the impact on supply due to lockdowns. Mines getting shut down in various regions around the world have made the impact of the pandemic on metals markets not as serious as it would have been otherwise. So markets have shifted into surplus in some cases, but not really to problematic

levels. Inventories, more recently, have begun to decline again because of the supply impact effectively offsetting the demand weakness and some evidence of a recovery in China.

But our view is as long as you have dramatic swings in demand due to lockdowns or lockdowns being lifted, you will see continued volatility in commodity markets. It’s not uncommon for commodity prices to experience a lot of volatility at troughs in the cycle. And it’s hard to argue that the first quarter of 2020 from a demand perspective, at least, was not a trough.

Do you think the coronavirus pandemic will significantly change companies’ business models?

Even before the pandemic came, the mining sector was in the midst of a really serious fundamental change. And if you look back to the history of the industry, mining companies tended to go into downturns with a lot of debt, and the industry tended to get in trouble in the weak points of the cycle because of over-leveraged balance sheets.

So in 2008, that’s what happened. Companies had made big acquisitions and built very expensive projects at the peak of the cycle and then lo and behold, the downturn happened when we least expected it and companies got in trouble. The same thing happened in 2015.

One of the notable differences even before 2020 is that the balance sheets effectively became sacred. So I think this kind of focus on financial strength and flexibility, and ability to withstand the volatility in markets and withstand deep downturns, is a relatively new phenomenon in mining.

I would think that the pandemic impact will only enhance that kind of philosophy, which is that balance sheet is sacred. We need to be conservative around capital allocation in general.

Are we going to see any more merger and acquisition activity on the mining scene in the near future? In theory, some of the assets are quite cheap, and companies like Rio Tinto and Anglo American have been talking about acquisition and diversification.

This is a very important question. The answer will be different than it has been in prior cycles. Historically speaking, mining companies like Rio Tinto or BHP, for example, had very large organic growth pipelines, and they were growing their production at least in line with global GDP growth. And they had a portfolio of options, projects that were not necessarily economic



at the time, but over time would become economic and would be developed.

This pipeline of organic growth really limited the need to go out and buy growth. Now it doesn't mean that companies didn't make acquisitions anyway, but the point is they had organic growth pipelines. Because of the China supercycle and an expectation that demand might be good for a very long time, a lot of these projects that would have essentially been out-of-the-money options became in the money and were ultimately developed.

So the downturn we saw in commodity markets that began in 2011, I would argue, was more a function of supply growth than demand weakness. You had a lot of investment in new capacity, capital expenditure went to all-time high levels. All this new mine capacity came online, you had a world of new supply that crushed commodity markets and drove the downturn in 2015.

Ultimately, that supply has effectively all been absorbed into the markets today. And now those same companies that delivered that organic growth simply don't have the growth.

So, rather than going out and spending on acquisitions or even on high risk projects, the bias in the industry has been instead to return capital. But when these companies do want to grow again, they won't be able to do so on a large scale organically... the only option really is to go out and acquire growth.

And then the question is, do you go ahead and buy stakes and assets, do you buy individual operating assets? Do you go out and spend a lot more money in exploration? Or do you go out to make large-scale acquisitions?

I do think the industry will transition to a little bit more of a growth mentality as the global economy recovers and that will lead to an increase in M&A activity. Again, probably starting small, but ultimately becoming, as we've seen in prior cycles, large-scale transformational type deals.

In terms of where they will look, it's pretty clear that the major miners, at least, want more exposure to copper and they want more exposure to kind of new-age commodities, battery materials, for example. Things

“There may actually be some additional demand drivers in copper – EVs, renewable energy and potentially antimicrobial applications, which are kind of unique to the copper market”

like lithium, maybe even potash, but again, copper and nickel. I think these are the commodities where the investment will go in the future, not only for organic growth projects over time, but also in terms of M&A.

How do you see the US-China trade dispute playing out, or wider trade wars and protectionism?

If you look at the Chinese economy, what are the drivers? I would say it's consumer spending. It is net exports. It's fixed asset investment and it's industrial activity.

Well, the consumer is weak because of the pandemic. Exports are weak, partially because of trade issues. What does that leave for the Chinese government to stimulate their economy? It's the old economy stuff – fixed asset investment, industrial activity.

We're seeing an increase in industrial activity in China already from the downturn from the first quarter and also fixed asset investment. So at least in the case of China, less exports means more fixed asset investment domestically, less exports means more investment in infrastructure domestically, more steel demand domestically.

Short term, it's not clear to me that [protectionism is] a negative. In fact, it could be a positive because it means more investment in China to support that economy. But longer term, it will be a clear negative because it means slower global GDP growth.



Do you feel that the lows of around \$4,300 per metric ton for copper are now behind us? And what are your views of the Chinese government taking inventory from local merchants – is this helping to boost sentiment?

The recent data we've seen out of China and anecdotal evidence on the ground in China is that things there are indeed improving.

I would expect there to be significant volatility going forward, but I think copper probably has bottomed. Also keep in mind that mining companies have cut capex guidance for 2020 by, I don't know, 20% on average. Some of those cuts and capex guidance are related to copper projects that are being slowed. And that means that the supply growth outlook for copper is actually a little bit more bullish for the price.

You're not going to have as much supply growth coming online as demand recovers heading into 2021 and 2022.

So I think the trajectory, the path of least resistance for copper is likely to be to the upside.

What the Chinese government is doing, I can only guess as to their motivation, but it would, in my opinion, be very wise to build strategic stocks of commodities when prices are low.

As well as having a cyclical component of demand growth in line with global GDP, I think there may actually be some additional demand drivers in copper – EVs, renewable energy and potentially antimicrobial applications, which are kind of unique to the copper market.

Prices for iron ore have held up pretty well this year, and it's being viewed as a safe haven for investors. Do you think it will be a star performer again this year?

Well, it certainly has been so far – the iron ore price is actually up year-to-date. And the market is clearly

tight. Chinese inventories have been falling very steadily. And there’s definitely some supply issues in iron ore as well. I think the strength that we’ve seen is totally justified based on the fundamentals. There’s not anything unusual going on in that market. This is surely fundamentals-driven. I’m not so sure the enterprise has a whole lot of upside from here.

In other words, if we get a restart of the European and US economies, does that have a big impact on iron ore? Probably not to the same extent as it would in some of the base metals like copper. Here’s why. I mean China is roughly 75% of the seaborne iron ore market. And the only end market for iron ore in China is really the Chinese steel industry.

Chinese steel production is up year-to-date, up year-over-year. So that end market has not really been negatively affected by the virus. Demand has grown year-over-year. Europe only accounts for 9% of seaborne iron ore demand. The US accounts for 0%.

So weakness in the US and Europe has not been catastrophic at all to the iron ore market. In fact, weakness in Europe has been offset by supply disruptions elsewhere. The iron ore market has actually been physically tighter despite the impact of the virus. Demand has been okay and supply has been affected.

Which are the metals and minerals you see doing well this year?

If we [see] recoveries in the US and Europe, I think the base metals. So it’s copper, nickel, zinc, aluminum – there are supply constraints and partially because, again, my point earlier about a lack of new projects.

I think you’re going to see a recovery in demand in the US and Europe. If we do get a recovery in those economies, this will not be offset by a corresponding increase in supply, and prices for pretty much everything should recover.

Now many commodities, we’ve been [in a] fairly deep cyclical trough. So it’s not a surprise that the path of least resistance should be higher. But I do think that the supply constraints will be meaningful over the

next 12 or 18 months. So again, it’s copper, nickel, zinc, aluminum, even coal prices going higher from here.

About a quarter of aluminum smelters are said to be loss-making at current prices. Do you believe the aluminum industry will go through capacity cuts and consolidation? And what’s the size of the surplus capacity that may be removed for good?

I think the aluminum industry needs consolidation and capacity cuts. A lot of new capacity in aluminum has been added in China over the last 20 years. You have too much capacity globally and some of that needs to get shut down and price will be the incentive for that to happen. Smelters need to be, I would argue, permanently dismantled.

There’s a few million tons of capacity at least that has to come offline before the market can genuinely get tight. But I think we are in the early stages of that process, and we will see that play out over the next couple of years.

The thing about aluminum is that demand is really not ever a problem, it’s kind of the magic metal. Demand for aluminum actually tends to grow faster than global GDP, whereas other commodities grow more in line with formal GDP. The problem has for the last 20 years [been one] of supply. And I think we have the incentive now for some of that supply to finally get taken off line.

The industry would benefit, clearly, from consolidation. Consolidation in commodity markets is almost always helpful. I don’t really see evidence that has been happening in aluminum because the industry doesn’t appear to want to continue to invest in the commodity.

In other words, aluminum producers are not trying to get bigger. They’re trying to get better by fixing their balance sheet by cutting their costs, and I don’t really see a strong motivation yet for M&A in the space. I think, again, it’s different in copper and the battery materials where companies see that as being – those markets as being kind of structurally positive over a 3, 4, 5, 10 year horizon.



And what about green aluminum? Do you think the LME will introduce a premium for green aluminum or any other standard?

It’s very difficult probably to get to the absolute green aluminum or green metal. Well, there’s work being done on inert anodes and there’s technology that’s being invested in, and this has been the case really since the early 2000s. Companies have tried to make green aluminum. There’s no doubt that the investment is being made, and I think over time, there will be progress.

Even things like switching from coal-fired power to hydropower. You use a lot of power to create aluminum. If you’re using clean power, that reduces the carbon footprint materially. Whether the LME starts changing

pricing, depending on whether it’s green, I don’t have a view on that, but I do think the industry is highly motivated to become cleaner. And part of it is because of what investors want.

ESG compliance is becoming a very important thing in the world of metals and mining in general. And companies want to be investible. And by being greener, they become more investible. So I think there is plenty of incentive and motivation for them to continue to make the investment.

Will it ever be truly green? Debatable. Will it be greener? I think the answer is yes. ■

An aerial photograph of a mining site. A large, vibrant turquoise tailing pond occupies the upper right portion of the frame. To the left and bottom, the landscape is a mix of light-colored, sandy or silty terrain with some darker patches. A complex system of conveyor belts and structural supports extends from the bottom center towards the turquoise pond, likely for transporting tailings. The overall scene depicts a large-scale industrial mining operation.

ESG and mining: sustainability after coronavirus

After environmental issues came to the fore in 2019, the mining industry's approach to ESG could shift in the wake of the coronavirus pandemic, write Ben Kilbey, Hector Forster and Filip Warwick

As the world battles the coronavirus pandemic and resulting economic fallout, industries of all types face the urgent challenge of securing their short-term financial future.

But the debate about environmental, social and governance concerns has been far from drowned out by the global health crisis, even taking on new meaning as companies’ responsibilities toward worker and community health came to the fore.

For the mining sector, ESG was undoubtedly a business buzzword in 2019, but its main thrust was the environmental pillar. The spread of coronavirus and the impact on societies across the world appears to have refocused the interpretation of ESG on all three components, pointing to a more holistic approach than that taken previously.

Wake-up call in 2019

The Vale mining disaster in early 2019 drew international attention, making ESG hard to ignore for the mining industry.

The Corrego do Feijao mine’s No. 1 tailings dam in Brazil suffered a catastrophic failure on January 25, 2019, leaving 259 confirmed dead and 11 others reported as missing, whose bodies have never been recovered. The news sent shockwaves through the mining industry, as iron ore giant Vale admitted liability for failings around the storage of slurry.

Earlier this year Brazil’s National Mining Agency ordered the immediate closure of 47 iron ore tailings dams for which stability was not certified, with more than half of them owned by Vale and its affiliates.

This led to the creation of the Investor Mining & Tailings Safety Initiative, chaired by the Church of England Pensions Board and the Swedish Council of Ethics of AP Funds.

The initiative is an institutional investor-led engagement, including major asset owners and asset managers, with the mining sector on best practices.

Good progress is being made on the development of an international tailings standard, despite the global disruption caused by the coronavirus pandemic, Adam Matthews, a director on the investment team at the Church of England Pensions Board, told S&P Global Platts.

As the mining industry continues at pace to dig up minerals required for the decarbonization of the world’s energy needs, alongside traditional demand, one result will be mountains of waste. Matthews said that the mining industry required a “global” tailings standards to prevent future humanitarian and environmental disasters.

On the subject of the current pandemic and its impact on ESG, Matthews said society “shouldn’t drop the ball” and had to continue to address the most pressing issues to create a sustainable future.

“We are all part of society ... [and] must acknowledge [our] connection to the financial [investments we make],” he stressed, underling that everyone has a responsibility to act.

He noted that discussions on the evolution of the tailings standards continued, and he was hopeful of a more concrete announcement later in 2020.

Meanwhile, Principles for Responsible Investment (PRI), working with the International Council on Mining and Metals and the UN Environment Program share a common commitment to the adoption of global best practices on tailings storage facilities.

Investor pressure mounting

It is impossible to ignore the fact that investors are turning up the heat on how companies operate. The financial press is awash with stories of investor activism, and as those headlines multiply, so the need for companies to react grows ever stronger.

Global diversified natural resources firm Glencore has faced pressure over the reappointment of ex-BP CEO Tony Hayward owing to his handling of the Deepwater Horizon oil rig explosion a decade ago. At the company’s annual general meeting in May, Hayward was re-elected with less than 4% of votes opposing



the resolution, but the attempt to mobilize against him appears to reflect a growing trend.

Environmental campaign group Market Forces said that at Rio Tinto’s AGM in early May, 37% of shareholders voted against the board on a proposal calling on the miner to set greenhouse gas emission targets aligned with the Paris agreement. Although that meant the resolution failed, Market Forces said the vote in favor of the emissions policy represented a 6% increase on a similar proposal presented a year earlier.

On the subject of what the mining sector is doing to comply with increasing ESG mandates from investors, Fiona Reynolds, CEO of ESG body PRI said that market engagement had been “mixed” and the business still had some way to go. She said that from her experience it is investors who are driving natural resource companies to change their practices.

“I think without the shareholder pressure, miners would have come kicking and screaming,” Reynolds added.

While investors have a strategic role to play in ESG matters, so does business, and both need to collaborate for success, she added.

This was echoed by CoE’s Matthews, who said that the “sweet spot” in ESG progression was when investors and business collaborated, creating potentially “powerful partnerships.”

According to consultancy Alvarez & Marsal the wave of investor activism across Continental Europe will continue to increase in 2020 as activists adapt their tactics to different markets and sectors.

Its analysis shows that the UK remains the largest market for activists, “home to 54 of the 158 European companies which are predicted to face imminent risk from public activist campaigns.” The consultancy also

noted the growing importance of ESG metrics as a rationale for investor activism.

Economic pressure vs ESG

As global governments pour unprecedented levels of fiscal stimulus into markets to support people who have had their livelihoods devastated, there is a degree of fear that sustainability could be sidelined as the world adapts to the new normality.

A global recession is unfolding, one that is predicted to be deeper than the Great Depression, albeit far shorter. S&P Global Platts Analytics projects US GDP to contract 4% over the course of 2020, but begin to rebound in the second half and grow by 4.6% in 2021.

Standard Chartered is forecasting 2020 UK GDP dropping 6.0%, from an earlier forecast of 3.0%. However, it increased its 2021 forecast to 4.9%, from 3.0%.

Indigo Ellis, senior analyst and head of Africa research at Verisk Maplecroft, told Platts that the sheer volume of fiscal stimulus raises alarm bells of deeper issues further down the line, as sovereign debt balloons. “Across the world debt issuance is astonishing,” the analyst said.

As the mining industry continues at pace to dig up minerals required for the decarbonization of the world’s energy needs, alongside traditional demand, one result will be mountains of waste

She is worried that in developing nations the attention on ESG will be postponed, as countries look for increased investment and easier ways to facilitate that. Ellis stressed that environmental matters could see “short-term erosion” but that further out the sustained focus on ESG issues wouldn’t change.

The bigger fear was how long environmental issues were sidelined, and the resulting damage. “Short term could become longer term as the pandemic rolls on,” she told Platts.

Still, Ellis, like the others, believes that further out ESG remains critical to investors and the way they deploy cash. “S will be the most pertinent for Africa, and will drive the E and G.”

But Ellis is concerned that as developed countries push ahead with ESG plans post-pandemic, the lag in Africa’s response as it deals with humanitarian issues could muddy supply chains. With the bulk of the world’s cobalt, a key ingredient in electric vehicle batteries, coming from the Democratic Republic of Congo, the risk of child labor slipping into the European supply chain is potentially amplified.

Nevertheless, there are some signs that major actors are taking this type of risk seriously. In late 2019 the London Metal Exchange announced a set of requirements it hopes will set a level playing field for small-scale and large-tier miners.

The LME’s requirements, which will apply to all its listed brands, are based on four core principles: the combination of transparency and standards; non-discrimination between large-scale mining and artisanal/small-scale mining; adherence to well-established work in the sector; and a pragmatic and clear process, it said.

The responsible sourcing requirements were formulated following a formal market-wide consultation on proposals underpinned by the Organisation for Economic Co-operation and Development Due Diligence Guidance.

The LME concluded from its research that artisanal miners should not be cut out of the equation, as this

would simply undermine the importance of well-governed small-scale mining to growing economies, notably in Africa.

2020, the year that wasn’t

Going into 2020, the energy transition seemed to be gaining momentum, with falling renewables costs, EV sales rising rapidly and energy and extractive industries making new and sweeping pledges on emissions reduction.

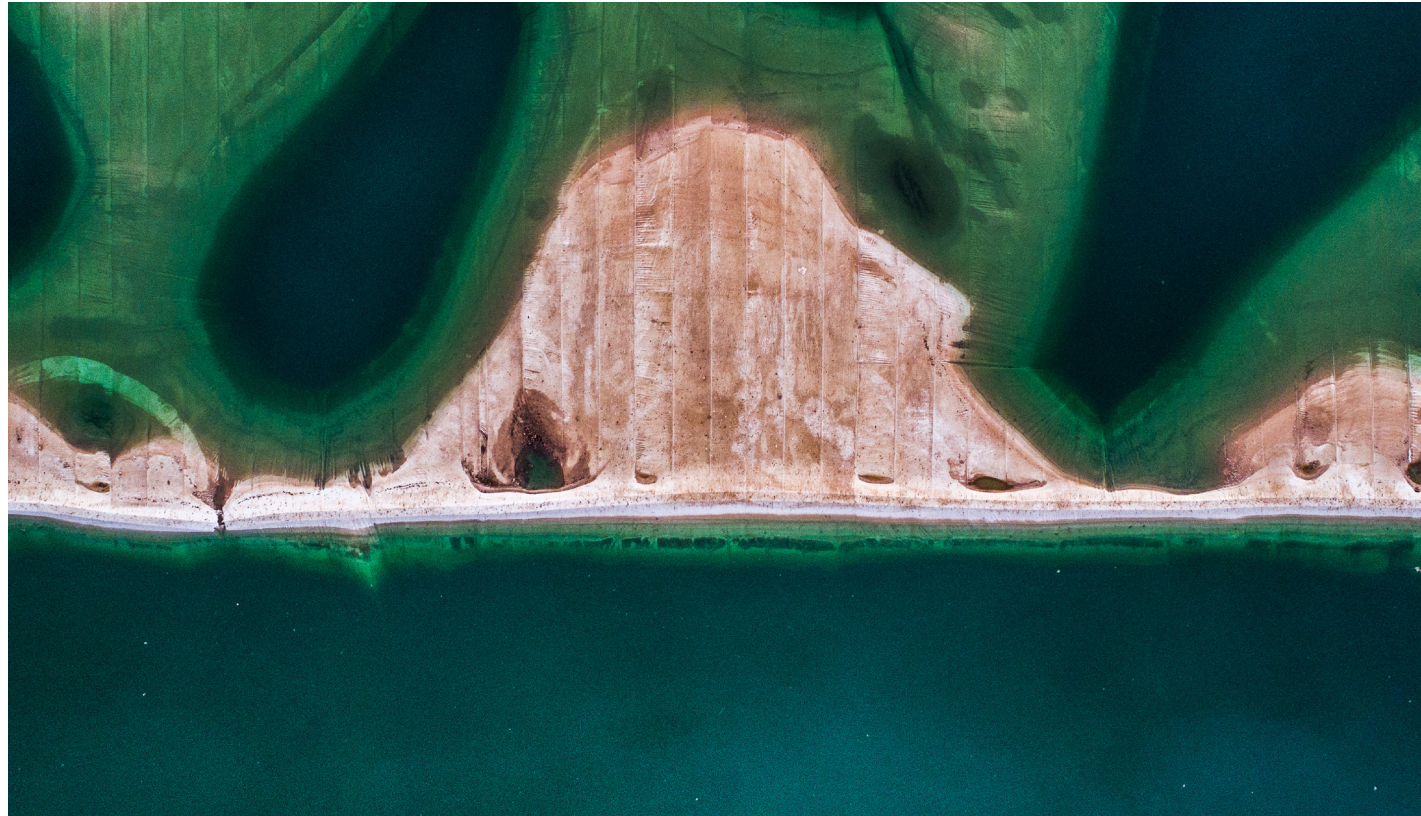
Then, almost overnight, the coronavirus pandemic closed down society and upended normal life for a large proportion of the globe.

The question is whether the interpretation of ESG has now changed, and how society will push it forward for a more sustainable future.

Gold major Barrick CEO Mark Bristow said that for him ESG simply means sustainability.

“ESG is, and always has been, a core part of our business. Recognizing our broader stakeholder base, not just shareholders, but employees, business partners, host governments and local communities as well, has always been at the heart of all our activities,” he said.





Bristow has been a longstanding advocate of what is now termed ESG, but feels that environmental concerns are sometimes overemphasized.

“Sustainability is equally, if not more, important. You can’t fight climate change if you don’t address the problem of poverty and the need for business to support economic development in its host countries and communities,” Bristow added.

The impact of the pandemic on the social aspect of ESG has been underscored in recent months.

He stressed the importance of “social” pillar in ESG: “It’s important that people are not left behind in society. Poverty is as bad for the environment as anything else. We need to wake up to a global vision.”

This is echoed by former CEO of Vedanta Zinc International, Deshnee Naidoo, who said that the crisis does not change that path that the industry is on.

“Without the S [for “social”], we won’t actually have a business that will be sustainable enough to worry about compliance with the other two [elements, environment and governance].”

Still, without good governance, and ultimately leadership, the social and the environmental

components could fail to be correctly communicated and therefore implemented.

Beth Burks, associate director of sustainable finance at S&P Global Ratings said that governance is just as important a pillar of ESG, even though the focus is often on the other two elements.

Burks and the Ratings team use governance as one of the main gauges for their analysis of ESG.

“In our view, strong ESG performers with stakeholder-focused and adaptive-governance structures are likely to remain resilient amid the rapidly changing dynamics caused by the outbreak.”

Burks highlighted that the pandemic would likely act as a catalyst for companies to dig deeper into the requirements of ESG, and associated compliance, rather than shying away.

However, the analyst did say that near-term capital requirements, due to the recession brought on by the global shutdown, could act as a distraction.

The current crisis presents an ideal opportunity to take stock and re-evaluate current practices. Whether it spurs an acceleration of ESG milestones, or generates more talk than action, remains to be seen. ■

The fastest growing mining company in the world

Saudi Arabia is underexplored compared to other world-class mining countries. Ma’aden’s goal is to change that.



We own and operate aluminium, gold, copper and phosphate mines across the Kingdom of Saudi Arabia and beyond. We are the only fully integrated mine-to-market aluminium company in the Middle East.

But with big potential comes immense responsibility.

We are committed to showing the world that the natural resources we all rely on can be extracted, produced, refined, and distributed without compromising the well-being of our people and planet.

A sustainable mining champion
with a global presence

maaden.com.sa



Insight from Brussels



Siobhan Hall

Clean hydrogen, renewables, batteries, and carbon capture and storage are among the energy transition technologies set to benefit from billions of euros of public funding as the EU seeks to become climate neutral by 2050.

Much of this is to come from the European Commission’s proposed Eur750 billion (\$852 billion) “green” recovery plan, which needs unanimous approval from the EU’s 27 national governments to go ahead.

The proposal includes EU budget guarantees of Eur20 billion for sustainable infrastructure, Eur10 billion for research, innovation and digitization, and Eur31 billion for strategic European investment under the InvestEU program. The idea is that the guarantees help mobilize much higher levels of private and other public investment by lowering potential projects’ financial risk.

Energy transition projects eligible for these guarantees include renewables, energy storage including batteries, sustainable transport technologies, clean hydrogen and fuel cell applications, decarbonization technologies for industry, and carbon capture and storage or use (CCSU), as well as related critical infrastructure such as power interconnectors.

Such projects will have to compete for the money with projects from other critical sectors, including healthcare, digital, strategic raw materials and cybersecurity.

Fossil fuel projects are mostly not eligible, unless there is no viable alternative technology, or they are combined with CCSU technologies to cut their emissions significantly. All nuclear power projects are excluded.

The EC would distribute the money based on requests from governments set out in national recovery plans, so it is not clear yet how much would go to support specific national energy transition policies.

The general push to decarbonize remains a key driver, however, with the EU as a whole already committed to cutting its greenhouse gas emissions by at least 40% from 1990 levels by 2030.

The EC is assessing raising this ambition to a 50-55% cut, and will make formal proposals on this in September. This is part of its European Green Deal strategy to help the EU achieve its 2050 climate neutrality goal.

2020 funding options

The EC hopes to get the recovery fund and an updated 2021-2027 EU budget proposal approved by the end of the year, so the disbursement process would start next year.



40%
Cut in GHG emissions,
current EU 2030 target

50-55%
New 2030 target cuts
under evaluation

Meanwhile there are still EU funding opportunities for energy transition projects this year under current programs.

That includes the EC’s planned Eur1 billion funding call expected this summer for large-scale renewables, clean hydrogen, energy storage, and CCSU projects.

The money comes from the EU’s Innovation Fund, which is funded until 2030 by selling 450 million EU Emissions Trading System allowances. It has a budget of around Eur10 billion over 10 years at current EU carbon prices.

The EC wants to use this money to kick-start the EU’s hydrogen economy, and to become the first in the world to have CCSU for hard-to-abate industrial sectors, such as cement, steel and chemicals.

It also wants to use it to support innovative renewables, such as offshore wind, ocean energy, geothermal, biofuels and green hydrogen.

Successful innovative projects can receive up to 60% of their additional capital and operating costs compared with current technology for up to 10 years.

The aim is to close some of the investment gap given that innovative projects’ carbon abatement costs start at around Eur80-90/mt CO2 and current EU carbon prices are around Eur20-25/mt CO2.

Only yet-to-be-built projects with a planned total capital expenditure above Eur7.5 million and based in an EU country, Iceland or Norway – countries directly part of the EU ETS – are eligible to respond to the first call.

This excludes Switzerland, which is only linked to the EU ETS, and the UK, which will leave the EU

ETS when its Brexit transition period expires at the end of this year.

The EC plans to award grants to successful projects in the second half of 2021, and hopes to organize similar annual Eur1 billion Innovation Fund calls until 2030.

The EC also plans to open an estimated Eur1 billion European Green Deal call under its Horizon 2020 research program after the summer, with energy transition one of the target areas.

The call is likely to include requests for projects demonstrating large-scale offshore energy technologies, including possible hydrogen applications, and also for projects to develop a 100 MW electrolyzer. Both are part of EU efforts to scale up green hydrogen, made by using renewable power to electrolyze water.

Regulatory support

Potential investors may be encouraged by the public financial support on offer, but they also seek regulatory certainty.

The EC is therefore working on EU strategies for energy system integration and hydrogen, both due before the summer, and one for offshore energy, due after the summer.

These will feed into the EC’s proposals next year to update the EU’s climate and energy legislation to support a higher 2030 CO2 target. ■





Of cars and cans: US aluminum and the pandemic

US aluminum demand and prices have been knocked by a slump in auto manufacturing. But new consumption habits brought on by stay-at-home orders have given an unexpected lift to the canmaking and recycled aluminum segments, writes Sarah Baltic

The coronavirus pandemic has obliterated global metals demand as one of the main end uses, automotive applications, has seen major disruptions to the supply chain.

The US metals market, in particular, saw the removal of an estimated 33,000 vehicles per day from production as all major auto producers across the country halted operations in response to government mandates and concerns over the welfare of workers.

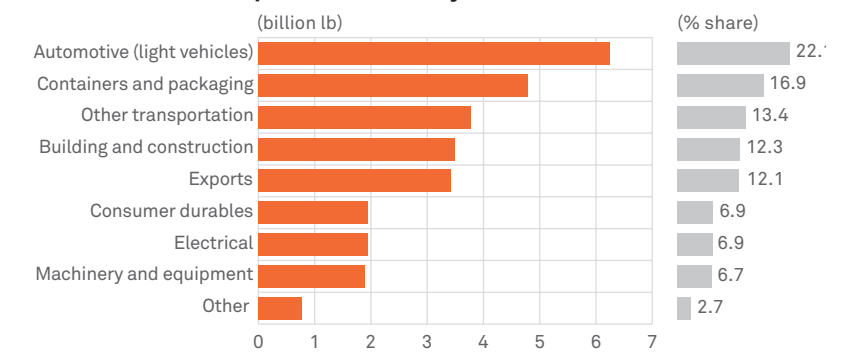
Because the transportation sector is the largest end user of aluminum, accounting for around 35% of aluminum consumption, it is easy to see why so many market participants expressed concern over the lingering effects coronavirus would have on the health of the industry.

Domestic aluminum producers, including rolling mills and billet remelters, saw a notable drop in demand, and in response halted production intermittently, or were running at reduced capacity, in some cases as little as 30%-40%, or a combination of both.

The index of net new orders for aluminum mill products published by the Aluminum Association showed total demand in May down 27.6% year on year. Foil orders were off 30.3% from May last year while extruded products were down 38.7%.

The end of May brought auto restarts, but only at reduced capacities as companies strived to make their facilities safe and ramp up production. Market sources speculated that July may be the first month to see any real recovery.

Aluminum consumption in the US by market



Source: The Aluminum Association

Because of the lack of demand, only around 16% of US imports of primary aluminum came from dutiable countries since June 2019, down from 75% in the first half of 2019.

This lack of demand, coupled with a lack of dutiable metal in the US, caused the S&P Global Platts Midwest Transaction Premium to hit a two-year low of 8 cents/lb on May 1. The market saw trader interest rise in May, which pulled the premium for primary aluminum P1020 t-bars/sows up 50 points to 8.50 cents/lb, where it has remained since June 8, but these are still historically low levels.

Despite the negative effects seen in the US metals markets, one sector in particular has actually benefited from quarantine and stay-at-home orders – the US beverage can industry. Canned beverage demand was up 8.3% in the first quarter, with canned beer rising 6.7% and soft drinks up 9.3%, according to the Can Manufacturers Institute.

In the US, 25% of sales are on premise, meaning in a bar or restaurant, while the bulk of cans are consumed off premise, according to one beer maker. “When the pandemic started, that on-premise [number] dropped 98% and off-premise went up almost the same,” he said.

“In the US, our bottler forecasts are not saying it will let up,” said one large can maker. “We are struggling to get cans.”

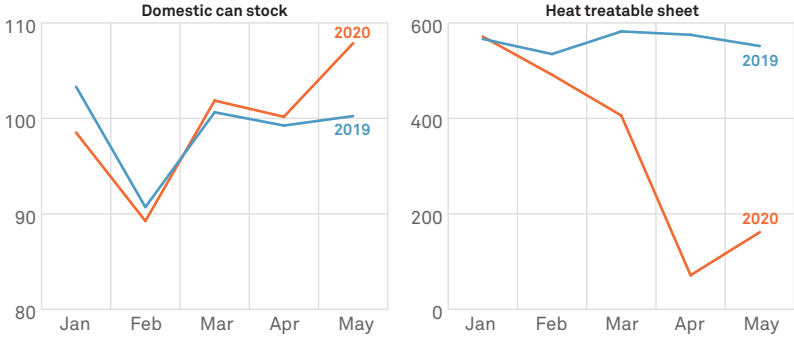
Latin America plugs the gap

Aluminum cans have 73% recycled content, most of which comes straight from used beverage cans (UBC). Although typically the US consumes its own UBC scrap, can makers say they are having to import cans to keep up with demand.

“Here in the US it’s very strong,” the can maker said. “It was already growing. All I know is we’re making every can we can make.”

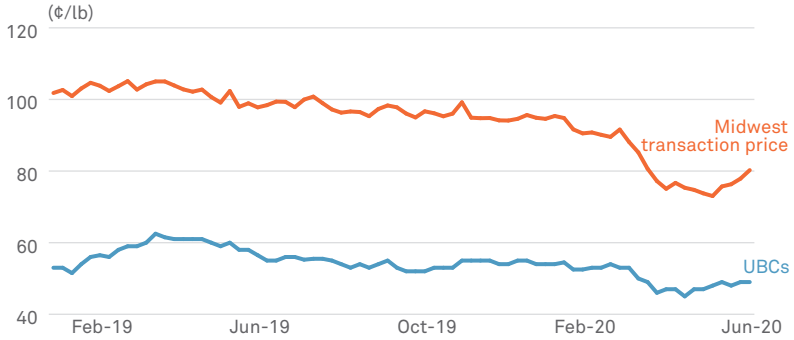
“The rest of the world isn’t the same way,” the beer producer said. “People in the US are staying home drinking more cans, but [staying home] hurts demand elsewhere [where they are consumed more in restaurants].”

North American new orders of aluminum mill products 2019-20
Index (Avg Mo 2013=100)



Source: The Aluminum Association

UBC scrap tight, spreads compress



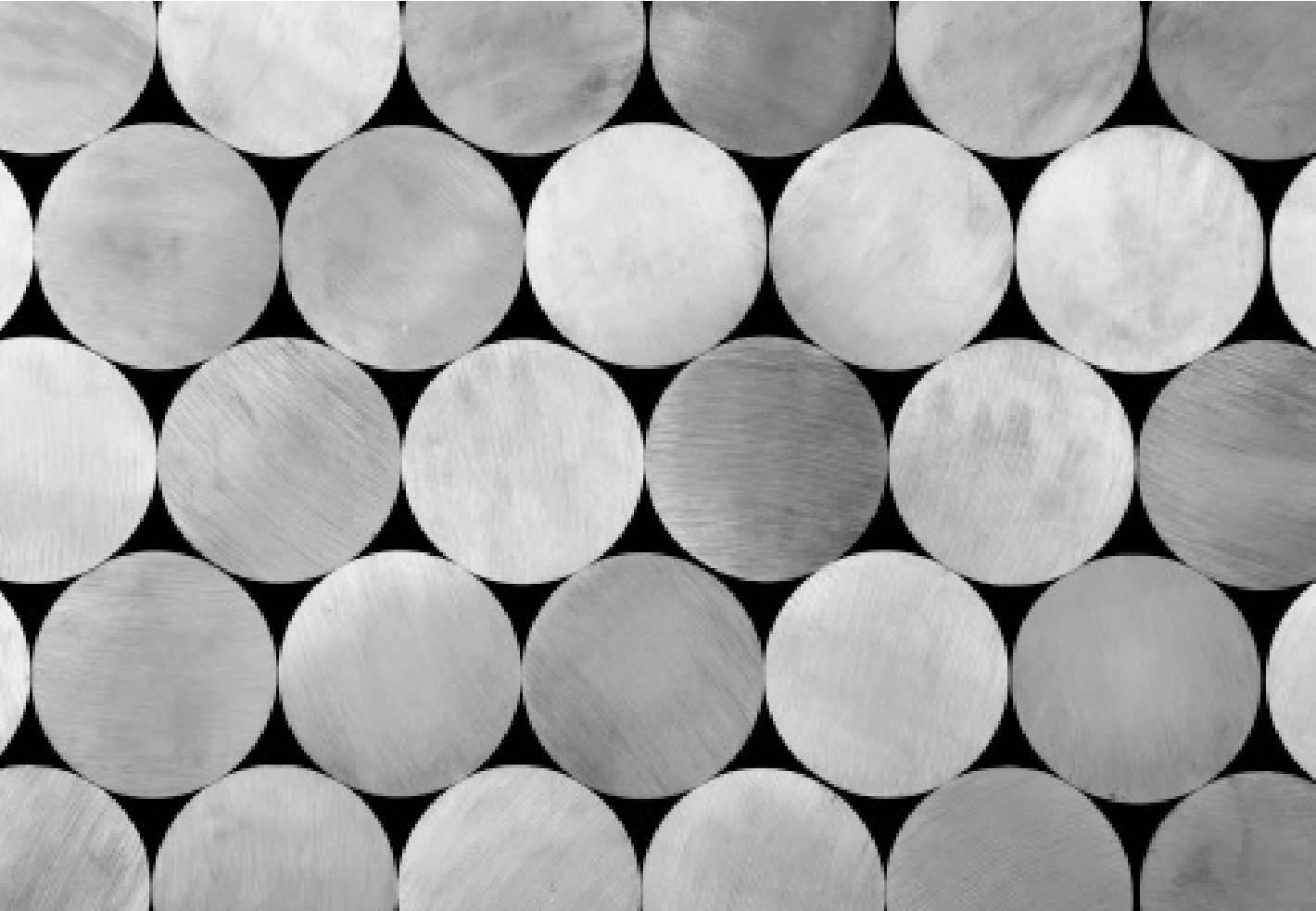
Source: S&P Global Platts

Given the shortage, consumer packaged goods companies have been actively looking at options from Mexico and as far away as Brazil because in both of those markets demand has dropped.

“Cans in Brazil are upscale and almost exclusively in bars and restaurants,” said the can maker. “Here it’s a stockist business – you almost buy them more when you are stuck at home.”

He said that it made little financial sense to import can scrap, “but we are out of options from local suppliers.”

The can maker also said can demand in the US had declined 1% annually for decades, but that in 2019 can demand was up almost 5%. “That was the first kind of shock wave and at the end of 2019 for 2020 it just jumped again,” he said.



In addition to more demand for can sheet, US generation of scrap has declined due to the ongoing pandemic, creating this void in the market. The scrap market is seeing substantial tightness, as both consumer and industrial flows have dropped substantially.

With deposit states – those with container deposit laws designed to reduce litter and boost recycling – shut down for several months, less UBC scrap has been coming back into the supply chain. Some market participants say a can shortage could last into the fourth quarter, so anyone running can sheet may need more P1020 to fill the void.

Certain states reopened their redemption centers in June as stay-at-home orders were lifted, allowing scrap dealers to return to work, a sign of life for the recycled content market.

“As you know, when we entered the COVID period, UBCs were plentiful and cruising along until the closure of

Canned beverage demand was up 8.3% in the first quarter, with canned beer rising 6.7% and soft drinks up 9.3%, according to the Can Manufacturers Institute

deposit states and recyclers when the market became tight,” said one scrap buyer.

He pointed to the reduction of UBCs causing spreads to contract, moving UBC spreads to 65% of the Platts Midwest Transaction price, whereas earlier this year – as is typical for the scrap grade – spreads were around 58%. In contrast, UBCs dipped to 52% of Transaction in 2019 when they were overflowing at scrap yards.



“Now that COVID is easing with restarts of recycling and some deposit states opening, the stress is easing,” the mill buyer said. July pricing was coming in around 60% of the Transaction price, or around 48-50 cents/lb, and buyers said they anticipated spreads widening even further.

But some say the effects will linger for a few more months, and there is still the worry of a resurgence in the virus, which would put the market back on pause.

“Even with the reopenings, there still won’t be any scrap yet,” said a trader source, adding that a 90-day lag should be factored in on top of a best-case opening date, such as June 30.

On that basis, “August 30 is when we’d see normal scrap, and you need good collection,” he said. “A lot of it comes off the scale—but how many people are out collecting?”

“UBCs are running out,” said one rolling mill source. “Now Canadian [producers] are being asked to produce 3104 or 2004 [can sheet grades] for can body and that helps, since all their other businesses dried up.”

This is an about face from last year, when UBCs piled up in scrap yards because rolling mills were converting fewer of them into new can sheet in favor of higher margin, flat-rolled aluminum sheet for the automotive industry.

This year has turned the world on its head, and the aluminum industry has not been immune. If 2020 has taught us nothing more, it’s to prepare for anything and expect the unexpected. ■

Go deeper

With the goal of bringing transparency to aluminum markets, S&P Global Platts offers a comprehensive suite of global price assessments, news coverage and analysis.

Learn more about our US aluminum assessments and methodology here: spglobal.com/us-aluminum

Horst Wiesinger Consulting

Your Partner for the Development of Feasibility Studies



Horst Wiesinger
President



Andreas Koller
Managing Partner

FEASIBILITY STUDIES made by HWC

- Steel Market Analysis
- Geological and Metallurgical Material Analysis – Pilot Testing
- Technological Process Selection
- Technical Design of Plant Complexes
- Financial Feasibility and Modeling



Tebinbulak Complex (UZB), 2020

Advisory Services along the entire process route
from Mining to Finished Steel Products

Women in metals and mining

Historically, the metals and mining sectors were inhospitable environments for women to develop careers. Long overdue change is now happening in the industry, but there is still much work to be done, 13 exceptional female leaders told S&P Global Platts



Metals and mining have historically been difficult industries for women to break into, and female pioneers in the industry have had to surmount prejudice as well as legal and cultural barriers to advance their careers.

Even today, 60 economies have at least one restriction on women working in mining, according to a 2020 World Bank report.

Data from the SAM Corporate Sustainability Assessment (CSA) provides a snapshot of an industry that is gradually improving, but still has far to go to achieve gender parity at the levels of senior management and board.

The SAM CSA, managed by S&P Global, is an annual evaluation of companies' sustainability practices and focuses on criteria that are financially material, applying 61 industry-specific approaches and asking companies on average 100 detailed questions. It includes questions on workforce diversity and gender pay gap.

In 2019, out of 66 companies belonging to the steel or metals and mining sectors that provided information on their workforce gender split, total female participation ranged from 3% to 29%.

Representation of women on the board of directors or supervisory board across the group went from 14% in 2016 to 17% in 2019 on average.

While relatively few of the companies surveyed volunteered private information on their executive remuneration ratios, based on the 20 that did respond, on average male executives across the two sectors earned 21% more than females.

Based on both actively participating companies and publically available information, in 2019 only 40 out of 88 companies in the sector had a board diversity policy that included gender factors.*

The interviews in this special report present 13 women who have demonstrated great leadership in metals and mining, with careers spanning many geographies, subsectors and roles. Many of the women described the discrimination they faced in entering particular jobs or progressing their careers, with several mentioning superstitions that even recently prevented women from working underground.

“When I visited China back in 2003. I was told that the canary could go underground, but I wasn’t allowed to because that was bad luck,” said Melinda Moore, finance director and head of global outreach at Women in Mining, a voluntary organization that works to advance women’s representation in the sector.

It is also important to highlight the additional layer of discrimination faced by many women because of their ethnicity, a challenge mentioned by some of our interviewees.

“Given South Africa’s transition to liberation during the early part of my career, I also had to deal with racial discrimination – being designated as a previously disadvantaged person in regulation was disadvantageous at times as there was the perception that my opportunities were ‘given’ and not ‘earned’,” said former Vedanta executive Deshnee Naidoo.

Interviewees highlighted the need for diversity policies to be comprehensive, covering not only gender but also ethnicity and national diversity, LGBTQ+ representation and issues of social mobility, disability and mental health.

Most of the leaders interviewed expressed optimism for the metals and mining industries, however, pointing to concrete changes that are taking place to encourage greater diversity in general. While quotas seem to have limited appeal, a number of the interviewees talked about the importance of measurable targets and comprehensive training, including in unconscious bias awareness.

“I can understand why quotas and metrics are put in place, but more is needed to drive the right change

in behavior for the long-term,” said World Coal Association CEO Michelle Manook, adding that more is needed in terms of alignment across corporate strategy, culture and leadership.

Milestones and targets

Recent positive moves to achieve equal opportunities in the sector are also plentiful. As well as the many highlights discussed in the interviews, a number of the world’s biggest metals and mining companies have publically set themselves hard targets to improve their gender balance. Fortescue Metals Group in 2019 signed the ParityPledge – a commitment to interview at least one qualified woman for every executive position. The company already has over 50% female representation on its board of directors.

BHP in 2016 set a goal to achieve 50% female participation across its workforce by 2025. In the last four years, it has managed to raise the overall proportion from 17.6% to 24.5%. India’s Tata Steel aims to have 25% women in its workforce by 2025, compared with 17% currently, according to its latest annual report.

An issue mentioned by more than one of the interviewees was that of safety and practical measures that would help women to feel welcome and secure in the workplace. Newmont’s chair of the board of directors, Noreen Doyle, noted the importance of providing well-fitting protective clothing so that women feel part of the team, while Moore praised initiatives in Papua New Guinea to regularly assess risks and hazards to women in mines, and conduct annual audits to make sure women are safe.

While the raw figures show there is still a way to go to achieve gender parity in metals and mining companies, momentum appears to be building, and the growing

importance of ESG to investors is also likely to help speed up progress.

Above all, the experiences and viewpoints shared in the following interviews represent a range of exceptional achievements – both personal and collective – that should be celebrated. They also stand as examples of what is possible in sometimes extremely challenging circumstances, suggesting even greater possibilities if the current barriers to working in the industry continue to be steadily demolished.

By Emma Slawinski, with analysis by Rosanna Brady, SAM, a part of S&P Global

*Data taken from the SAM Corporate Sustainability Assessment (CSA) 2016-2019, considering companies that actively completed the assessment as well as those assessed based on public information only unless otherwise stated.



S&P Global believes an investment in women is an investment in us all. Find our research, podcast, and more to learn how #ChangePays for everyone at spglobal.com/changepays





Vicky Binns
Non-executive director, Evolution Mining and Cooper Energy

Vicky Binns previously worked at BHP for a decade and led the team that moved metallurgical coal pricing away from annual benchmarks to index pricing. She is also co-founder and ex-president of Women in Mining and Resources Singapore.

What made you join the mining industry and why have you stayed?

I was always strong at maths and science at school, but I had no idea what I wanted to do at university. So a family friend recommended me to do mining engineering. I worked in underground and open pit coal mining as a petroleum and reservoir engineer for Esso before I moved into the commercial side of trading and I spent 15 years in the finance industry at Macquarie and Merrill Lynch covering mining companies in commodities globally. I always had something new and different. It was always a challenge and then in 2009 I moved to Singapore working with BHP and marketing in a variety of roles, culminating in running all the minerals marketing. So, it was the challenge, the people, the opportunity and it was always stimulating.

You are a co-founder of Women in Mining and Resources Singapore, what led you to help found this organisation?

It was formed in 2013 by three of us ladies who felt very strongly about the importance of giving women in our industry in Singapore a forum to share experiences, gain training and mentoring and keep up with industry trends, as well as build networks. It was also pretty important for us to attract like minded males. I was very gratified that it’s now an organisation of around 700 members, of which more than a third are men in Singapore. This is a great industry and anyone should have the opportunity to pursue their dreams and that wasn’t always the case.

How do you feel about diversity progress in the industry?

I think there has been some real progress over the last three to five years, but it’s more about a continuing evolution because you’ve really got to build pipelines from the bottom up within a company at every level. One example is what Evolution Mining has been doing in terms of promoting female participation. More than 50% of the graduates that they took in were female, so that’s really addressing it at the grassroots level. Nearly 40% of vacation students they had from university were female – keeping in mind, a much smaller percentage of females are at university studying the things that we are recruiting for, so that’s really positive. They’ve also doubled the number of female mentee opportunities through the Women in Mining network in areas where we operate. I’d emphasize that sustainable change in diversity is not possible without the buy-in of the line leaders. All people managers have to understand the importance of their own role in driving diversity and encouraging everyone to speak up and be heard.

Interview by Jacqueline Holman

“All people managers have to understand the importance of their own role in driving diversity and encouraging everyone to speak up and be heard”



Young-Jin (Jin) Chang
Managing director and global head of metals products, CME Group

Jin Chang has spearheaded growth in CME Group's metals business since joining in 2011. Her results-driven career led her from early days as a ferrous alloys trader, through roles of increasing responsibility at CME Group to her current position. Chang also serves on CME Group’s diversity and inclusion council, which is responsible for driving the company’s D&I strategy.

What made you join the metals and mining industry? Why do you stay?

I moved from Korea to the United States at age 16, and I think that had a large influence on developing my passion for international business. I joined the metals industry right out of college through on-campus recruiting, but I quickly realized how dynamic the metals and mining industry was and how it’s all tied to global market dynamics. If someone asked me today what keeps me excited and passionate about my job, I would say it’s the people I’ve met along the way and the relationships and friendships I’ve built over the years. Every day is different, and I’m constantly being challenged.

As a woman in a historically male-dominated industry, who or what has inspired you?

I’ve had many great mentors and bosses who have shaped me into who I am today. I tend to look for and admire people who can convert challenges and adversity into opportunities. In any career it’s important to surround yourself with people who inspire you and make you want to do better, and I think that includes formal and informal mentors and allies who can help you succeed and challenge you to grow. I’ve been very fortunate to have very strong female leaders at the top of my organization, who I respect and admire.

But equally important, I can’t emphasize enough that you need to also cultivate a broad network – not just female but also male, who support you from within the organization and throughout the industry as well.

Why is diversity important for the industry?

Just like everyone, I have my own strengths and weaknesses. And if you only have people who think like you, have the same perspectives, backgrounds, strengths, weaknesses, you are essentially building an organization with the same blind spots. As someone who manages a global business, that’s leaving a huge vulnerability. My goal is to always make sure that we are building the most well-rounded team with the least amount of blind spots, which I think is directly tied to a better business result.

What advice would you give to a woman just starting out on a similar career path?

The most important thing is that results matter, and are key to success regardless of gender. There is no better way to achieve great results consistently than hard work. It’s important to say “yes” to opportunities and don’t overanalyze it or doubt whether you are ready. Always remember the opportunity came to you because you have what it takes to succeed.

Interview by Karen McBeth

Read the full interviews at spglobal.com/wmm



Noreen Doyle
Chair of the board of directors, Newmont Corporation

Noreen Doyle has served on Newmont’s board of directors for 15 years and has led the company’s drive to increase diversity. She was chair of the board throughout the company’s merger with Goldcorp in 2019 and before her time at Newmont, she was the first vice president of the European Bank for Reconstruction and Development from 2001 to 2005.

What primary actions has Newmont taken to tackle gender diversity?

I think the first action Newmont probably took to increase gender diversity was 15 or so years ago when they appointed Veronica Hagen and me to the board. We were the first two women on the board and then I think we took a big step forward when Gary Goldberg took over as CEO, because he appointed the first couple of women on the executive leadership team. In terms of gender and nationality diversity, for the past seven or eight years, they have been part of the strategic objectives of the CEO and the executive leadership team and are reviewed regularly by the leadership, development and compensation committee.

What is Newmont doing to cultivate talented women and help them advance their careers?

We have encouraged business resource groups, which includes a women’s group within Newmont, and also Newmont women belonging to the global Women in Mining organization. We are very keen on ensuring that high potential talent, particularly high potential women, have senior level sponsors, not only mentors. So that someone is working with them to promote their career development, not just to mentor them in skills that are necessary for

advancement. We have a number of development programmes through our women and allies business resource group, including lunch with leadership.

How do you feel about diversity in the mining industry as a whole?

I don’t think it’s getting worse. I think it was beginning to get better and I hope it will continue to get better. We are in an industry that has a talent shortage and more and more of our jobs require brains and not brawn. We have several CEOs in the industry, not only at Newmont, but at other companies, who have spoken out on the need to have more women in the industry. We’ve focused on also identifying symbols of exclusion. You want women joining the company to feel like they’re welcome and when there are workplace signs that say ‘men working’ and when the women are given quilted jackets that are a men’s small, so the sleeves hang over their hands, that doesn’t seem terribly welcoming. It is a message you send... Really being attentive to these small signs makes a world of difference.

What can be done to improve gender diversity in mining?

I am a big fan of targets. I spent a lot of my life in the banking industry and it wasn’t until a couple of years ago that industry set targets, at least in the UK, for gender diversification. I’m not a fan of quotas, I’m a fan of targets, because you can set targets at realistic numbers, set different targets for different regions, parts of your business. If you set short-term and long-term targets, people do what they’re measured on.

Interview by Jacqueline Holman



Gay Huey Evans
Chairman, London Metal Exchange

Gay Huey Evans is the first woman to be appointed chairman of the LME, taking on the role in 2019. She holds a number of non-executive director positions including Standard Chartered and ConocoPhilips. Gay has over 30 years’ experience working within the financial services industry, capital markets and financial regulation.

Could you say a little about your own career?

I graduated with an Economics degree from Bucknell University and my first job after university was with PaineWebber. After being transferred to London by Bankers Trust in 1991, I went on to hold numerous roles within banks and financial services. In 1998, the newly formed FSA (now the FCA) approached me and asked me to join them as a regulator. One aspect of my role at the FSA, which I enjoyed very much, was the oversight of London exchanges, and that included the LME. I was and continue to be fascinated by what it means to have and maintain a fit and proper market. We all want a market that is accessible and transparent and not open to manipulation – one that we can trust.

What do you consider your greatest achievements and ambitions?

I am, of course, hugely proud to be chairman of the LME, although my daughter would tell me my job can’t possibly be one of my greatest achievements! My ambitions include supporting [the LME’s] major technology infrastructure rebuild that we’re currently undertaking, which involves the launch of a new electronic trading platform. Being at the forefront of technological innovation is more important than ever – not only for the purposes of market protection but for market development.

“I am passionate about bringing not only more women into commodities but more diversity”

Sustainability is another area where the LME has really thrown down the gauntlet with its responsible sourcing work and I am hugely ambitious about what we can achieve to push the agenda further.

How do you view gender diversity and inclusion in the metals industry, and at the LME?

It’s clear that across the industry, there is a gender imbalance, but also an overall lack of diversity. I am passionate about bringing not only more women into commodities but more diversity. The LME has been doing a lot of work internally on its diversity and inclusion strategy. We now have a diversity and inclusion forum and networks run by employees that focus on building and championing a diverse workforce – including race and ethnicity, LGBTQ+, social mobility, disability and mental health. We became Stonewall Champions last year – which means we actively participate in driving accountability for the delivery of the LGBTQ+ agenda.

Our gender pay gap in 2019 was 19.4% at the LME – lower than the average in financial services, but certainly still higher than where we want it to be. The LME has three key areas of focus when it comes to rebalancing gender within the business – attract, retain and promote. We have succeeded in attracting more women to the business over the past few years, particularly in the last year, where 48% of new hires were female (up 6% on the previous year). We’ve implemented new interview practices to ensure fair gender representation on all interview panels, and all senior management have had unconscious bias training, which we’re now rolling out to all managers company-wide.

Interview by Diana Kinch



Tamara L. Lundgren
Chairman, president and CEO, Schnitzer Steel Industries

Tamara Lundgren is chairman, president and CEO of Schnitzer and also serves as a member of the board of directors of Schnitzer. Prior to joining SSI, she was an investment banker, lawyer, and professional board member with 25 years of experience in the US and Europe.

What made you join the metals industry?

An opportunity to work with a group of very talented individuals in a global industry sector with significant growth potential and sustainability drivers, due to increasing emphasis on recycling, continuing growth in global electric arc furnace (EAF) steel-making capacity, and the increased metal intensity of lower carbon-based industries and activities.

What advice would you give a woman entering the industry today?

The same advice as I would give anyone focused on advancing in their career: be open to opportunities that may not be in your pre-defined career plan, take risks with stretch opportunities and don't fear failure. Growth opportunities are the ones that make you feel uncomfortable, but they are the ones where you will learn the most. And never be afraid to recruit people brighter than you or different than you – you are only as good as the team you build.

What are your diversity and inclusion priorities?

At Schnitzer, we know that diversity and inclusion are the keys to our success. Fundamental to our success is a commitment to fostering an environment that attracts a diverse workforce and promotes a culture

of inclusiveness. This environment can only exist if we are a place where characteristics such as race, gender, religion and sexual orientation do not define talent. We are proud to be an organization distinguished by its diversity in all demographics and at all levels. Diversity is vital to any company culture, but also plays an important role in promoting positive business results. At Schnitzer, we know that diversity drives our success, motivates employees, and fosters innovation. Differences in gender, race, age, and educational background support better decision-making through conversations that come out of varied experiences.

How do see the steel market evolving in the eventual post-COVID era? What do you see for the future of auto-recycling sustainability?

Despite the current volatility, the long-term drivers of scrap demand remain intact, due to the greater emphasis on recycling, the continued growth in global EAF steel-making capacity, and the increased metal intensity of lower carbon-based industries and activities. A low-carbon economy is widely acknowledged as more metal intensive. With the rising use of wind, solar and batteries for power generation, demand for dozens of metals are expected to increase across a wide spectrum of industries. In addition to steel, aluminum, copper, and nickel are among the metals expected to be in highest demand. The use of recycled scrap metal is continuing to increase. Using recycled materials in metal production can dramatically reduce carbon intensity – a trend recognized by steelmakers in the US and increasingly around the globe.

Interview by Tina Allagh



Thabile Makgala
Executive, Eastern Limb, Implats

Thabile Makgala is an executive at platinum miner Implats with nearly 20 years of experience in the sector. She oversees two operations on the Eastern Limb of the Bushveld Igneous Complex in South Africa, with about 7,000 staff. She is also the chairperson of Women in Mining South Africa.

When you started your career, what attracted you to mining?

I was very interested in engineering in general, but when I delved into the discipline of mining engineering, I realized that only a small number of women were employed in the mining industry, especially in deep-level mines. Essentially, a germ of curiosity led me to this path. I was sponsored by gold producer Gold Fields at the time, and they required a year's worth of on-the-ground training before going to university. So, when they offered that to me, I went and worked underground for a year, which is where my passion for mining was ignited and an awakening of the progress still required to advance the industry. Since the day I set foot underground, mining is something that I've become passionate about, especially because I've been the first female in most of these operations and in most of the roles I was responsible for. As a result of the struggles I went through – and still continue to experience as a woman in mining – it was incumbent upon me to ensure we highlight these challenges and contribute to progress in the mining industry.

Of the struggles you face, which are most notable?

I encountered numerous obstacles while navigating my mining career path. As the first female mining engineering graduate at Gold Fields' Kloof and Driefontein mines (now Sibanye Gold), I soon

“The industry was not ready. The response to women’s needs was slow and very little was in place to address women’s issues”

realised the industry had not adequately prepared itself to accept women in mining. The industry was not ready. The response to women's needs – infrastructure, personal protective clothing and policies – was slow and very little was in place to address women's issues. In addition, regardless of impeccable qualifications, a solid work ethic and the achievement of production and financial targets, my abilities continued to be questioned and tested.

We haven’t touched on race. What is that like, having an additional level of noise to work through?

Equal opportunities should be offered to all South Africans, regardless of race and gender. The additional level of noise, initially, was an irritation. Over the years I have learnt that we cannot control how people behave, however we do have control over how we respond. I have deliberately decided to not give it too much attention, although I work through this noise in this industry, make no mistake! And every time you get that next appointment, you're always second-guessed: is she there because of her abilities, or is she there because of her race? What has assisted me is that I am guided by the career vision I have crafted for myself. In this industry you need to have an internal GPS, be focused and have clarity about what you are working towards, so that even in the midst of all this noise – which will happen – you are directed and deliberate about what you want to achieve and are not easily deterred.

Interview by Mark Pengelly



Michelle Manook
CEO, World Coal Association

Michelle Manook has been chief executive at WCA, which represents coal miners and users, since July 2019, and previously worked in strategy, government and corporate affairs in senior roles over 25 years in the energy and mining industry.

How is the World Coal Association’s industry leadership role changing and why did you take it on?

The WCA role is changing the emphasis around the coal narrative, to highlight the transition to clean energy with the advancement of coal technology and ensure government and investment policies are realistic, and inclusive of all forms of energy. I had a key interest to continue to work in emerging markets and in what we could do to impact lives. This whole conversation around coal was not really developing in a constructive and useful way. A way in which would support the emerging markets’ right to develop. Not just to develop coal, but all energy solutions they wanted to, just having that right to choice.

Where do you see corporate culture and frameworks promoting women’s participation in energy and commodities industries?

I believe the most important, impactful influencer on corporate culture is an understanding of unconscious bias, not just in promoting women’s participation, but rather in promoting diversity. When I first participated in unconscious bias training, I thought being an ethnic, younger, female somehow meant I could be exempted. The training proved to be a powerful experience in recognising the depth and extent of unconscious bias.

“I believe the most important, impactful influencer on corporate culture is an understanding of unconscious bias”

Can more be done around benchmarking, accountability, and metrics to ensure women and minorities feel they have an equal chance to be recognised and promoted?

I’m sure that I, like anyone who identifies as being in a minority, want achievements to be regarded as merit-based and not a result of “positive discrimination”. I can understand why quotas and metrics are put in place, but more is needed to drive the right change in behaviour for the long-term. We can see across the mining industry that more action is needed, and I believe it needs to be aligned and reflected in corporate strategy, culture, and leadership – which in my mind are intrinsically linked.

How does a career in policy, investor relations, and government communications fit in with corporate finance, sales and operations-based backgrounds dominant at senior levels in metals and mining?

Not having an operations-based background has actually been an advantage, it meant I learned the business from a range of perspectives with no pre-determined view. While there are some biases which exist about the backgrounds needed for senior executive and board roles – there appears to be growing interest in leadership skills, stakeholder management and diversity. I see that as recognition that leadership is not just defined by your education or your experience.

Interview by Hector Forster



Melinda Moore
Finance director and head of global outreach, Women in Mining UK

As well as her roles at WIM UK, Melinda Moore is chief commercial officer of Norwegian iron ore miner Sydvaranger, listed equity research analyst for Empire Energy in Australia, and has other consulting works on the go as part of her company, CleanUp Commodities. She previously held strategic marketing roles at ICBC Standard Bank and BHP. Melinda gained an important career break in China in the early 2000s just as the country began experiencing its massive economic surge, becoming known as China’s “woman of steel” for her work in that industry. She was the first to predict China would become the world’s largest steel exporter and the first woman to trade iron ore financial instruments.

Is there an achievement in your career that you’re especially proud of?

I was working for BHP, in Shanghai and then later in Singapore, just ahead of the global financial crisis (GFC) in 2008. We were looking at raw materials in the steel sector, and as the GFC struck, we were able to advise company management that despite the fact that there was going to be a significant hit to demand, they didn’t need to turn off production or furlough workers. BHP was the only major not to turn off. In one of our competitors’ cases, they sacked 5,000 workers. They stopped production. It took them 18 months to get back to full production. It cost them millions and millions of dollars in that process, whereas BHP kept going. It kept paying its staff, supplying its customers, earning revenues and paying tax dollars to the Australian population. A huge strategic win for the company and a fabulous gift to see the personal contributions and the impact that you can make and really move the dial in mining.

Since you started at WIM UK in 2018, what would you say has been the organization’s greatest achievement?

As head of global outreach, I project managed the 2018 edition of the Global Inspirational WIM 100. It’s a massive project, but a hugely wonderful volunteer role. And by the way, a shout out to all the WIM volunteers from around the world for all their time and sacrifices to help with the WIM 100 project. That was our most successful publication to date, we had over 640 nominations from all over the world... we had women flying in from all over the world to meet each other. Super soulful and so powerful to witness the beginnings of potentially lifelong industry connections being made. The stories being exchanged, careers being celebrated... seeing that these women had just stretched themselves above and beyond to really help the industry move the dial at large. And pride that the industry wanted to celebrate the women as well.

Thinking about how mining has evolved in terms of gender diversity, how would you grade the industry on its performance?

I’m going to be relatively generous and say a B plus. I think the industry actually is seeing enormous improvements. What I really admire about mining – and we don’t celebrate it enough – is its ability to adapt and to change. It is aiming to be a much more modern and inclusive sector. We’re seeing recruitment policies and practices changing. We’re seeing better planning around succession policies and much better mentoring in place for everybody.

Interview by Emma Slawinski



Deshnee Naidoo
Former senior Vedanta executive and CEO of Vedanta Zinc International

Deshnee Naidoo started her mining career at Anglo American Platinum in 1998 where she built her career, holding a range of positions. She was appointed CFO of Anglo American Thermal Coal in 2011, where her work spanned three geographies – South Africa, South America and Australia. Naidoo was appointed CEO of Vedanta Zinc International in 2014, with responsibility for operations in Africa, Europe and copper mines in Australia. In May 2018, Naidoo was appointed to the board of the Minerals Council South Africa – at that point the only woman in South African mining to fill this position. She left Vedanta in May 2020.

What hurdles did you have to overcome in order to reach to the top? Did you have any role models that kept you going in tough times?

The hurdles were multi-fold and across both work and society/community. At various stages during my career path I was overlooked for promotions and training, and experienced pay-gap discrepancies and inadequate maternity benefits. Generally having to work harder to maintain my seat at the table and be counted. Given South Africa’s transition to liberation during the early part of my career, I also had to deal with racial discrimination – being designated as a previously disadvantaged person in regulation was disadvantageous at times as there was the perception that my opportunities were “given” and not “earned”. This created a dichotomy with the traditional hurdles. In the community, I was judged for not apportioning sufficient time to my children, their school extra-curricular activities etc, and I once was asked why I had a “daddy’s job”! During tough times, it was my network of support that got me through – my husband was my biggest supporter, followed by our parents and colleagues in and outside of work. Cynthia Carroll at Anglo American was a big

“Leadership commitment must be clear and we need to hold leaders to account – more transparency in reporting is required”

inspiration – I worked closely with her and learnt a lot on how she integrated her work and family life.

Globally, is the industry doing enough to cultivate talented women and help them advance their careers?

No. Whilst I recognise the efforts, more needs to be done. We must look across the spectrum – from schools, universities, entry-level positions through to the boardroom, and develop more comprehensive strategies for the education/awareness of the industry, attraction, retention and advancement of women. We must make mining more adaptable for women – make it safer (sexual harassment continues to be a significant threat), more adaptable tools and machinery for female physiology. Leadership commitment must be clear and we need to hold leaders to account – more transparency in reporting is required. We must have comprehensive policies (recruitment, development, compensation and benefits, sexual harassment, adaptable working arrangements) and ensure consistent application.

What advice would you give a woman entering the industry today?

Don’t box your expectations – think big and be open to career risk-taking. Don’t be constrained by the past roles that women occupied. Create both your business and personal support networks early on. On a personal note, I opted to study chemical engineering because of my passion for mathematics and science. I stayed in mining because I believe in the impact of responsible mining and found purpose in the difference I could drive.

Interview by Filip Warwick



Gina Rinehart
Executive chairman, Hancock Prospecting

Gina Rinehart rebuilt an iron ore business from a precarious situation witnessing and contributing to the development of the Pilbara region in the process. Rinehart steered the company towards the successful financing and startup of Roy Hill, a \$10 billion project and Australia’s largest single iron ore mine, which began shipping the raw material in 2015.

Could you say a little about your career and what attracted you to mining?

I was very fortunate to be brought up on two stations in Australia’s northwest, Mulga Downs and then Hamersley. So my first career as a child was helping on the stations. I loved station life and the north. This area, once the government’s export embargo was lifted, and then West Australia’s pegging ban was lifted, that is its ability to get exploration title, changed as iron ore mine after iron ore mine opened and much benefit was brought to the previously remote and somewhat inhospitable region. Post offices, police stations, fire brigade stations, doctors, shops, entertainment, better roads and airports, things people in cities expect came to the Pilbara region, which is now well-known as Australia’s premier iron ore producer and exporter. So I saw it firsthand, the benefits mining brought to the northwest and indeed to West Australia. Pre the Pilbara iron ore industry West Australia had been a mendicant or handout state, unable to support itself. So with my father as a very successful prospector, my love for the area and appreciating the benefits mining brings, my career in the mining industry was sealed. I became executive chair of Hancock Prospecting in 1992, when our company was

unfortunately in a desperate and difficult position. After decades of considerable stress, dedication and very hard work, and three major mines and one mega mine established while I was chair and CEO, our company is now the leading private mining company in Australia, the most successful in Australia’s history.

What challenges does being a female CEO of a major miner present?

Frankly I’ve been too busy working and dedicated to the challenges in our company group, to really focus on gender issues. It was said about me I worked like 20 men. A female I greatly admire, one of Britain’s prime ministers, Baroness Thatcher certainly had these traits, as well as being exceptionally brave and strong. I’m not saying I’m like this outstanding lady, but I too do think sometimes women have a beneficial trait, we’re often not as guided or misguided by ego. In my case, it’s been a benefit I believe. I’ve just focused on what’s best for our company group. If I’m not... because I’m not a man, frankly, so what. When such man has rescued and built a now major company into one of the most successful private companies in Australia, and now an international concern, maybe they’d have something I should listen to.

Interview by Diana Kinch

Read the full interviews at spglobal.com/wmm



Marsha Serlin
Founder and CEO, United Scrap

Marsha Serlin founded United Scrap Metal in 1978 in Cicero, Illinois, just outside Chicago. She started with just \$200 and a rental truck from Sears, but over the past 40 years built her company to more than 550 employees in six locations.

How do you feel about diversity in the industry? Is it progressing, staying the same, getting worse?

Women in this industry were nonexistent. It used to be all men. You never saw a woman. The first time I'd walk in people would just say "you have to come in my office." The guys would all call their controller, their CFO and president and say "look what's here." We have lots of women in our management and all over. Our safety director, HR, but the hardest part is [sourcing female] labor.

All the steel companies have women working for them. There have been organizations formed also that help women. The Association of Women in the Metals Industry – we've been a part of that for 30 years probably. We respect and try to promote women.

As a woman in a historically male-dominated industry, who or what has inspired you?

It was being underestimated in a man's world that really was the key to my success. The more people would say to me "she will be gone in three months or six months" – those are fighting words for me. In a year or whatever I was still there. Now it is 42 years and they're gone and I'm here.

The integrated [mills] were the big boys in town and they wouldn't even let me in the mill because I was a woman – until they started to destroy it. [That's]

“It was being underestimated in a man’s world that really was the key to my success”

when I worked for the demolition companies, and I had to go. Then they let me in but I couldn't get in otherwise. They had no respect. The steel mills never had respect for women. It was definitely the big boys.

What advice would you give a woman entering the industry today?

Be blind. Just learn your business. If you know it, people will respect you. If you don't know this business, ask questions and be a good listener. I think women are really good in the metals business and they understand it. Women in the business, if they get excited about it I think they can do anything. I never thought there was any restriction for me. I tell women, you don't have to be a metallurgist you just have to work hard. If they have a spark in their eye and really want to learn. Everybody wants a future. The future in metals, I think, will never go away.

Looking to the future, what is this industry’s biggest challenge? How can the industry meet it?

It is labor. How do we train the best labor? We have 150 vehicles of big heavy 18 wheelers right now. Try to find 150 [drivers] – and they are good paying jobs. We always try to promote from within. We have a lot of supervisors and managers that we send to different parts of the country. They love it because they can end up running it and being the general manager of an operation. This industry is not going away and it is going to be more sophisticated.

Interview by Michael Fitzgerald



Ana Sanches
CFO, iron ore Brazil, Anglo American

Ana Sanches is CFO for the Brazilian iron ore business of Anglo American, a multinational mining company with a diverse metals portfolio. Sanches overcame the challenge of an unexpected nine-month halt in production at the Minas-Rio mine in 2018, and has since witnessed and contributed to the ramp-up of the Brazilian operation, which produced about 23 million mt of high grade iron ore in 2019.

What made you join the mining industry? Why do you stay?

I joined the mining sector by chance. But I must comment why I do stay, and why I'm glad to be here. I believe in the role of the mining industry and I see it as an extremely important sector for the economy and with many career opportunities. Every day we need to be aware of the impact of our activities on people, on the community and on the environment, which prompts us to do even better, with a vision of sustainability. I created a passion for working in this sector in light of these different fronts and opportunities. Moreover, it is definitely a sector with an opportunity for increasing diversity. The low representation of women evokes two feelings in me: A feeling of why this remains, where are the answers and potential solutions, so we need to act on it. And a feeling of "we need to do more", because it is not only about representing women, but about expanding representation of different groups.

What has been your most challenging or most meaningful moment in mining?

This moment was on March 12, 2018, when our 500km slurry pipe – used to carry ore from the Minas-Rio mine to the port – suffered leakages and forced the company to suspend production for nine months. It was something completely unexpected, and we had to find immediate responses for various stakeholders,

the community and the government. It was very challenging, as we had no source of revenue, but several cash outflow demands. It was a year that we accumulated a huge loss. At the same time, it was a great learning experience, because the actions adopted by Anglo American throughout this period was very consistent with its values. Moreover, this situation tested our leadership, how each leader acted in the face of this serious and complex problem. And we came out of it very strong and united.

Was it difficult to be a woman, in your position, at this difficult time for the company?

No, I do not think it was difficult, because I was already well established in this position. I feel that in this tough moment it was clear that we needed more people bringing different visions and approaches to the table. Therefore, I saw the appreciation of different thinking that diversity fostered.

What is your company doing to cultivate talented women and help them advance their careers?

Anglo American is conducting an intentional search for women in our recruiting process, which means we must interview women for all levels of positions and divisions. It is a joint effort among women's initiatives and the company, acting to reduce the gender gap and to offset a historic period of disadvantage to women in the workplace.

Interview by Adriana Carvalho



Gladys Smith
Managing director, Sanav

Gladys Smith is managing director of trading company Sanav, which specializes in minor metals, rare earths and concentrates. Smith began her career with a mining company in London, dealing minor metals. She was on the Minor Metals Trade Association committee for eight years, and more recently, working with International Women in Mining (IWIM) she has opened committees for the organization all over Latin America.

What made you join the metals and mining industry, and more importantly, why did you stay?

I didn't mean to join the mining industry. I was chosen in my company to be trained as a minor metals trader, the only woman chosen to do that job, which I really enjoyed from the beginning. Later on I decided to do it myself because it helped me to balance my life – to have my family and my own business. Because of this job, I have travelled around the world, and I have visited fantastic places. The industry has given me a lot of pleasure in my life.

You went independent and opened your own trading firm. What was that experience like, in a male-dominated industry?

I was lucky that I was working for a producer at the beginning. Because I was working for a producer, everybody used to knock on my door. However, they found this young foreign woman, and it was still very difficult. Later when I decided to go solo and open my company, it was even more difficult because men just didn't take me seriously. I had to struggle quite a lot

“When I decided to go solo and open my company, it was even more difficult because men just didn't take me seriously”

working with traders, as traders think that they are God and they own everything! But I managed to survive for a long time. I think with time, they started respecting me.

Knowing what you know now, and the experiences that you have, what advice would you give to women who want to enter the metals and mining industry?

Just go for it. Work hard and make sure that your work is good, as most of the time, men are noticed more than women. We have to work harder to be noticed. Luckily, the world is changing and the male mentality is changing too. Going to South America all the time and opening the WIM groups, I was so surprised how, even in Latin America, mentalities have changed. Men are quite happy to open the doors of business to women now. You have to be resilient and you have to enjoy it. When I was young, I wasn't allowed to go into the mines because if you were a woman, they said that you will bring bad luck to the mine. Now they allow you to go, which is good, it has changed. Now there are many women working in mines, even working with big trucks, cranes and all that, which is really good. There is still a lot to do, but we are on the right path

Interview by Scott Yarham

WOMEN IN MINING



#WIMADVOCATE #WIMINSPIRE

Women in Mining UK (WIM) is a non-profit volunteer organisation dedicated to **promoting the employment, retention and advancement of women** in the mining industry. WIM offers a strong international network to progress professional goals and career aspirations.

We promote the role of women in the mining industry and externally raise awareness of mining as a career choice for women.

JOIN US

Attend our popular events. Tap into our network of industry professionals. Membership is free to both women and male allies across the industry.

www.womeninmining.org.uk/register

FOLLOW

@WIM_UK @WomenInMiningUK Women in Mining (UK)

#WIM100



2020 Edition of “100 Global Inspirational Women in Mining”



30 JUNE

Nominations Close (Midnight GMT)



19 NOVEMBER

2020 Publication Launched and
Successful Nominees Announced

Women in Mining UK's biennial “**100 Global Inspirational Women in Mining**” publication celebrates the “above & beyond” contributions of women to the global mining industry, across all roles, seniority & jurisdictions.

Nominations are open for women involved in the full array of natural roles: from mine to office; geologists to capital raisers; explorers to C-Suite/NED; finance to compliance and ESG to government/non-government agencies; from every level of seniority and from every corner of the mining globe.

VISIT www.womeninmining.org.uk/wim100

2020 Edition proudly sponsored by



HEIDRICK
&
STRUGGLES

Insight from Washington



By Meghan Gordon

A day after US light crude futures took an unprecedented dive into negative territory, President Donald Trump promised to deliver federal relief to domestic oil and gas producers just like the US Congress had approved for airlines and a host of other industries, as the coronavirus pandemic wreaked havoc on the US economy.

“We will never let the great US Oil & Gas Industry down,” Trump said April 21 on Twitter. “I have instructed the Secretary of Energy and Secretary of the Treasury to formulate a plan which will make funds available so that these very important companies and jobs will be secured long into the future!”

No direct aid has materialized yet, and analysts expect Democrats in Congress to block any further attempts, as they did when the Department of Energy (DOE) sought \$3 billion to buy US crude to fill the Strategic Petroleum Reserve (SPR).

But that doesn’t mean the White House isn’t finding ways to sweeten the outlook for the industry, whose workforce he wants to vote for him in November.

Perhaps the biggest aid to the sector was Trump’s involvement in the March talks between Saudi Arabia and Russia to end their oil supply brinkmanship that was hammering oil prices already beset by freefalling demand. The OPEC+ leaders eventually agreed to cut oil supply by nearly 10 million b/d through at least June.

“We saved the energy industry,” Trump boasted at a June 5 White House briefing, referring to the

OPEC+ talks. “That would have been catastrophic to lose it, and now [oil prices are] up to almost \$40/b. People would have said that’s impossible, but we got Saudi Arabia, Russia and others to cut back very substantially.”

Shortly after Trump promised to help the oil sector, the Federal Reserve expanded its “Main Street” lending program to allow small to mid-size oil and gas drillers to apply for government-backed loans, even if they are already heavily indebted.

DOE also opened up the SPR to oil companies to store 23 million barrels of their own supply in the government-owned caverns while domestic storage options are limited. Energy secretary Dan Brouillette said DOE may seek to negotiate additional rental contracts with oil producers.

SPR stocks increased by 16.8 million barrels from April to 651.7 million barrels as of June 12, according to US Energy Information Administration data. With current authorized capacity of 714 million barrels, the stockpile has room for another 62.3 million barrels.

Trump has also sought to use emergency executive powers to waive long-standing environmental regulations in order to speed up federal approval of energy pipelines, mines, highways and other infrastructure.

Presidents have often used emergency powers to respond to natural disasters, but rolling back regulations to respond to an economic emergency could tread new legal ground.

The June 4 order directs the Environmental Protection Agency, Interior Department, Army Corps of Engineers

The latest executive order is sure to draw lawsuits if projects get greenlighted as a result

and other agencies to report within 30 days projects that can be expedited through waivers and exemptions of regulations. It takes aim at National Environmental Policy Act (NEPA), Endangered Species Act, Clean Water Act and other bedrock US environmental rules.

Trump said the order builds on his administration’s efforts to roll back regulations on industry.

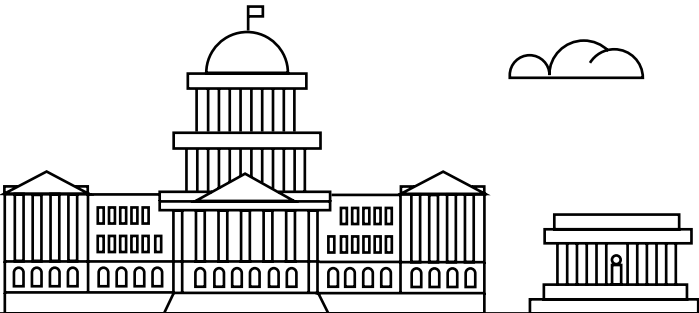
“The need for continued progress in this streamlining effort is all the more acute now, due to the ongoing economic crisis,” Trump said.

“Unnecessary regulatory delays will deny our citizens opportunities for jobs and economic security, keeping millions of Americans out of work and hindering our economic recovery from the national emergency.”

Trump has signed several executive orders in the past aimed at speeding up pipeline approvals, but major projects like TC Energy’s Keystone XL heavy crude pipeline remain mired in court challenges.

The latest executive order is sure to draw lawsuits if projects get greenlighted as a result of it.

“It is far from clear that the president has the legal authority to do this,” said Joel Mintz, a former EPA enforcement attorney and law professor at Nova Southeastern University College of Law.



NEPA “is a clear directive from Congress to federal agencies that the president cannot ignore or change unilaterally,” Mintz added.

“This is also very bad public policy. Pipelines and other infrastructure can do great environmental harm. Their impact should be carefully examined, as NEPA requires, before they are allowed to go forward.”

These efforts by the Trump administration to support US energy producers underscore how the November presidential election is looming over all policy discussions.

Rapidan Energy Group projected that US onshore oil production would drop by 1 million b/d by 2023 if Democratic presidential candidate Joe Biden beats Trump in November’s election, but the gap would shrink considerably under a weaker price/demand recovery scenario.

“Shale returns faster under Trump than Biden, but even Trump can’t help shale in a weak macro environment,” Rapidan said.

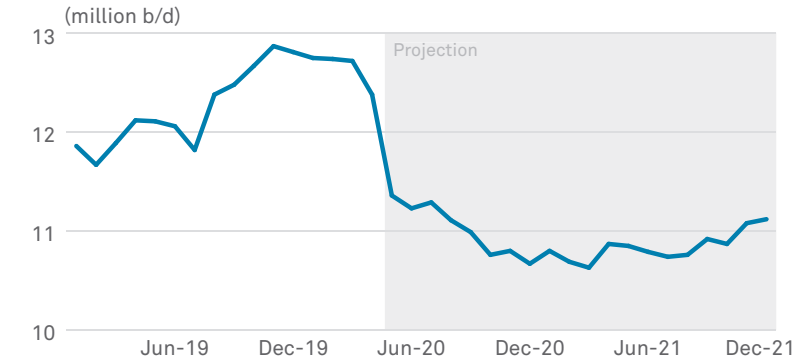
The Trump administration has rolled back regulations on the fossil fuel sector and taken credit for a surge in US oil production that stopped in February as the world locked down to prevent the spread of the coronavirus pandemic. Still, the Obama-era policy of ending restrictions on US crude exports is seen as the greatest driver of the US oil boom.

Biden has promised to ban new oil and natural gas permits on federal lands and waters, tighten methane emissions limits, use fuel economy targets to aim for 100% electrification in light-duty vehicles and move the US to net-zero carbon emissions no later than 2050. He has also promised to cancel TC Energy’s permit to build the Keystone XL pipeline from Canada.

Energy issues are expected to play a key role in the November election in states like Pennsylvania and Colorado.

“The metaphor is not really a pendulum swing ... but more of a catapult launch towards a very different direction if the Biden campaign wins,” Kevin Book,

Falling US crude production



Source: US Energy Information Administration

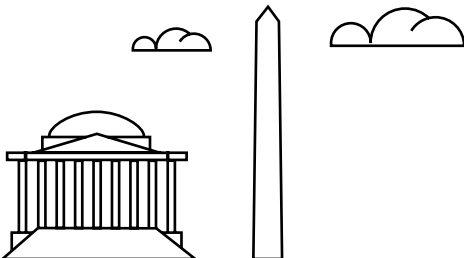
managing director of ClearView Energy, said on a recent Platts Capitol Crude podcast.

More than 2.2 million b/d of US oil production was shut in response to low prices and weak demand amid the pandemic, US Secretary of Energy Dan Brouillette said May 21.

S&P Global Platts Analytics expects US crude and condensate production to average 11.75 million b/d in 2020, then drop to 10.26 million b/d in 2021 and rebound slightly to 10.41 million b/d in 2022. ■

Go deeper

S&P Global Platts has launched a new crude oil benchmark for the US, American GulfCoast Select (AGS), to reflect the value of waterborne light, sweet crude loading FOB US Gulf Coast. Learn more: spglobal.com/plattsAGS



Global Metals Outlook Series



A series of thought leadership interviews focusing on key issues affecting the global metals industry.

gma.platts.com/videogallery



Growth—shaping the new metals reality
Colin Hamilton, Managing Director at BMO Capital Markets



Investment- sustainable financing, ESG and non-financial metrics
Beth Burks, Associate Director at S&P Global Ratings



People—creating an inclusive metal economy
Gina Rinehart, CEO of Hancock Prospecting



Innovation—new risks, new opportunities
Manish Chawla, Global Managing Director, Energy & Natural Resources at IBM



Growth— progressing with carbon neutral pledges
Sanjeev Gupta, Executive Chairman & CEO of GFG Alliance



Trade—the changing face of metals and mining
Matthew Chamberlain, CEO of the LME

S&P Global
Platts

Road to recovery: oil demand fights back

Oil markets are recovering from a record 20 million b/d global collapse in oil demand due to the coronavirus pandemic, but the potential downside risks and pace of the rebound are still in play.

Currently, demand is returning by some 4 million b/d each month from April lows as lockdowns ease and economies reopen. But uncertainty over when global oil demand will fully recover – if it ever will – is being fueled by fears of a widespread second wave of infections and doubts over long-term consumption patterns.

Not all fuels have suffered equally from sweeping lockdowns to combat the spread of coronavirus. Road and air transport fuels are on the front line of the demand impact, suffering massive year-on-year contractions due to the curbs on travel and social interactions.

Estimates from S&P Global Platts Analytics show US gasoline is by far the biggest casualty, accounting for almost half of the 2.6 million b/d global demand impact for the key driving fuel. It is the grounding of thousands of flights globally, however, that will see jet fuel take the largest hit by market share with almost a quarter of jet demand disappearing this year.

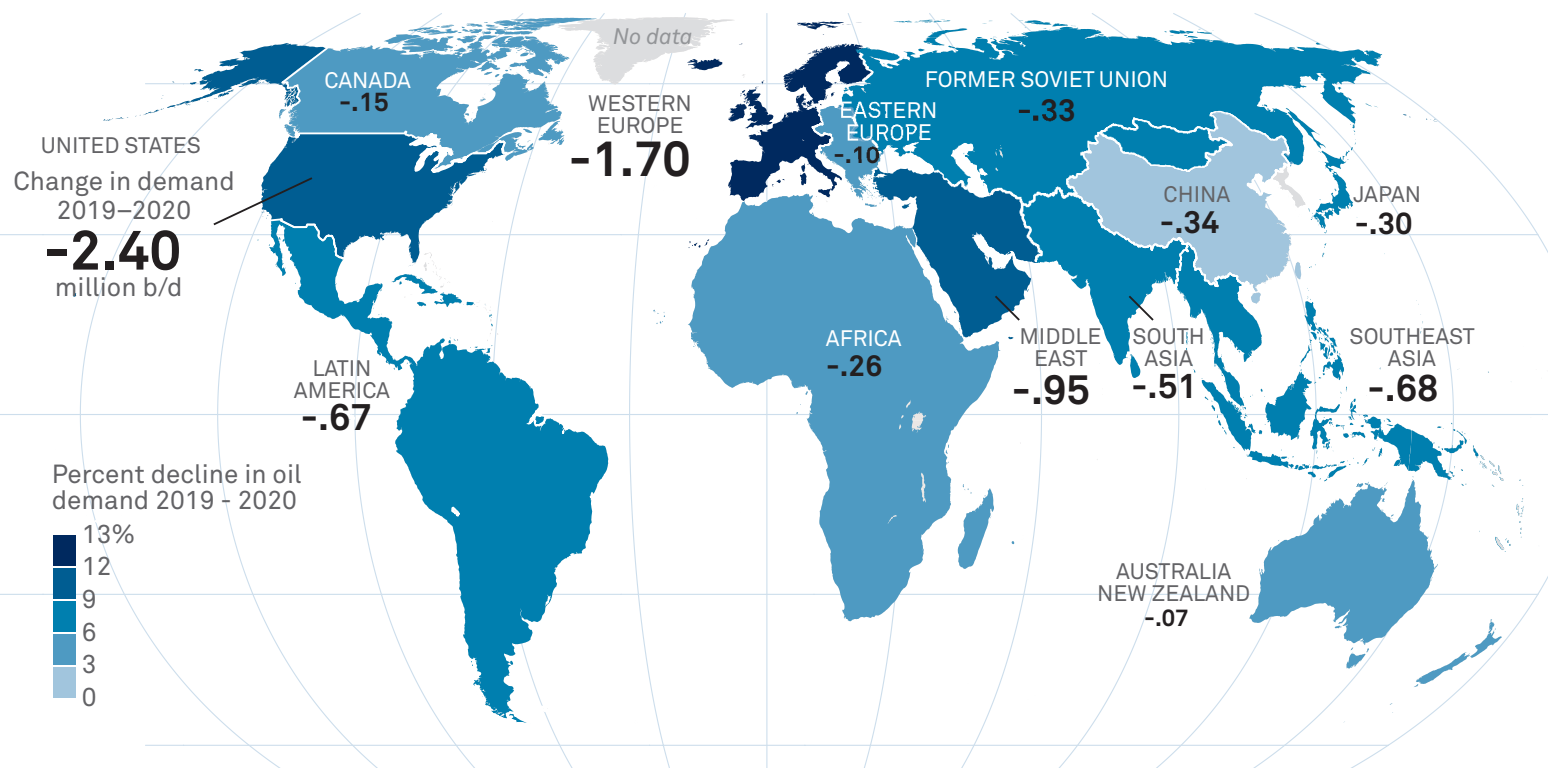
Most market watchers now believe oil demand will not recover to 2019 levels before the end of 2021 at the earliest. Some see lasting demand implications further out.

More home-based work, an acceleration in online shopping, less personal air travel, and the potential for faster fuel switching away from oil to renewables are just a few of the drivers expected to shape the longer-term demand outlook. ■

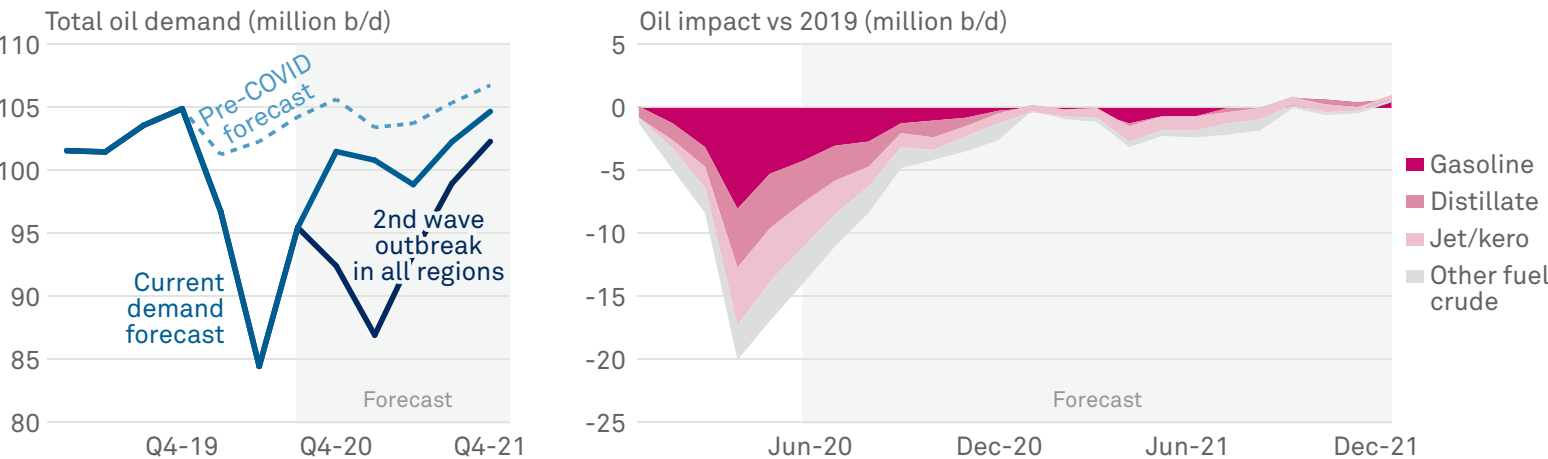
Words and infographic research by Robert Perkins; infographic design by Martina Klancisar



Expected toll on oil demand from lockdowns in 2020

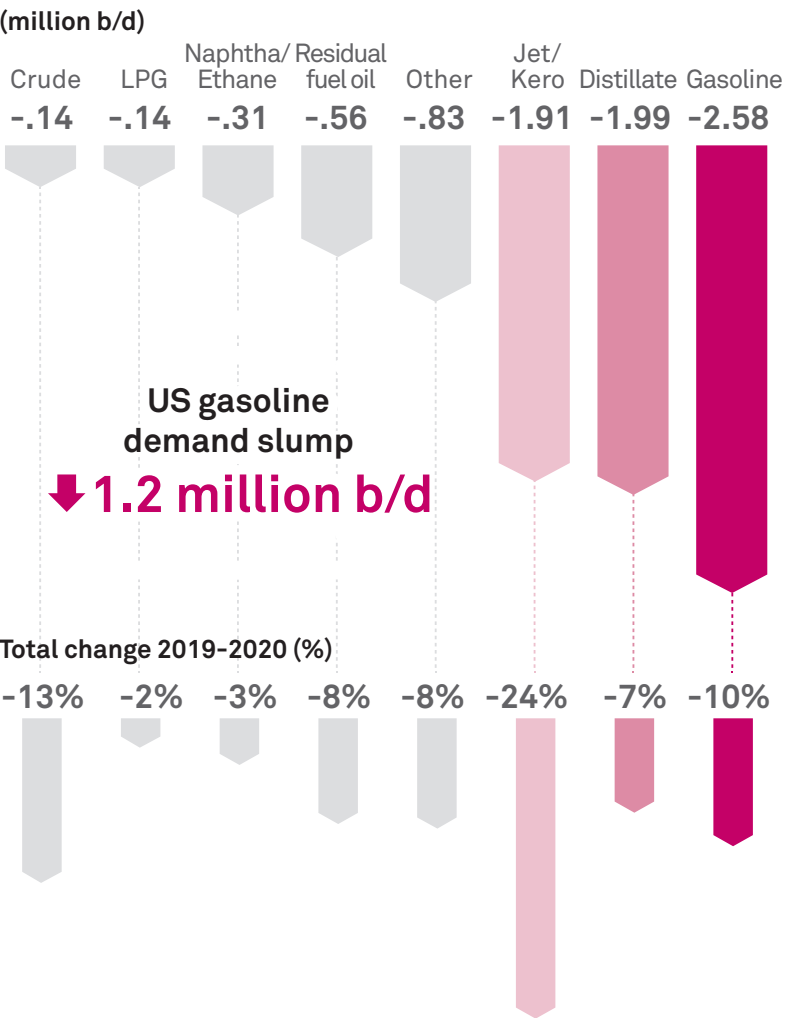


V-shaped or 'second-wave' recovery? Demand rebound held up by jet

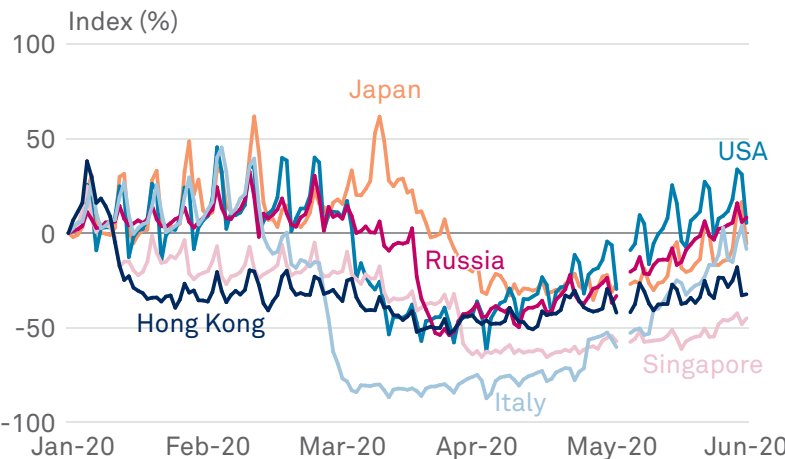


Source: S&P Global Platts Analytics, S&P Global Platts, Apple Mobility Trends

2020 demand impact by product type



Global driving activity in multi-speed restart





European steel at a crossroads

Early this year, mass shutdowns spread across European steel mills and their largest customers, the auto and construction sectors. The recovery from the effects of the coronavirus pandemic is likely to be slow and far from straightforward. By Annalisa Villa and Laura Varriale

The coronavirus has dealt the European steel sector a heavy blow. Coming on the heels of Brexit and global trade tensions, the crisis has also highlighted the region’s overcapacity problem, raising the possibility of previous merger and divestment plans being revived.

As much as 18.9 million mt of steelmaking capacity was taken offline in Europe during the market slump caused by the pandemic – more than in any other region. This comes on top of 2019’s marginal contraction in production.

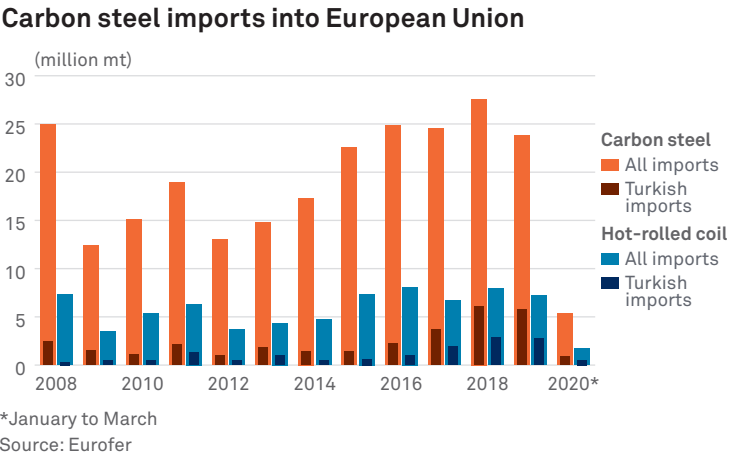
By mid-May, steelmakers across Europe had restarted production, but the industry faced an unprecedented situation as the sector organization Eurofer was unable to offer a production outlook, while mills still had very little clarity about their order bookings.

The collapse in demand brought about by widespread lockdowns is not the only worry for steelmakers. The current global health crisis may have pushed Brexit to one side, but the issue is resurfacing as the end of the transition period looms. Competition from imports continues to pressure the domestic industry, spurring yet another EU antidumping investigation on top of a raft of measures over the last few years.

The prospects for the EU construction and automotive sectors, the steel industry’s main buyers, have both taken a massive hit, with lockdowns resulting in closures of construction sites, particularly for civil engineering projects.

In March, the automotive sector shut down almost completely all over Europe, with very few exceptions. In light of the major economic crisis facing the auto industry, the European Automobile Manufacturers’ Association radically revised its 2020 forecast for passenger car registrations to a drop of 25% year on year, on 23 June. That means the body expects car sales in the European Union to tumble by more than 3 million units to some 9.6 million units this year.

Following the first shockwaves of the crisis between mid-March and May, the EU market has contracted by 41.5% so far this year. This situation is expected



to ease to a certain extent in the coming months as lockdown and containment measures are lifted throughout the region.

However, some EU countries have explicitly planned to restart public construction projects as quickly as possible to use it as a countercyclical tool during the unprecedented economic downturn. Meanwhile, steelmakers, as well as other industries, have sought government funds to keep afloat.

A slow restart

In Germany, the EU’s biggest producer of steel, restarts are proceeding even more slowly. Steelmaker Thyssenkrupp said it expected a production cut of 20%-30% of its capacity to last into the summer, and Salzgitter plans to continue with reduced production amid a gloomy outlook for the rest of the year.

With 39.7 million mt of crude steel produced in 2019, Germany saw crude steel output fall 10% on year in the first quarter, with year-on-year falls also likely over the summer.

Italy, the EU’s second largest steelmaker with 23 million mt crude steel production last year, was the first to officially restart steel production from late April. Italian crude steel production in May went down by 43.6% to 1.25 million mt, according to official data released by worldsteel on 22 June, and industry sources said that mills were continuing to run at low capacity.


-6.4%
decline in global steel demand, 2020, worldsteel forecast

In their first-quarter earnings calls, steel mills forecast very low production and profit for Q2, while for the first time they were not able to give a full Q3 and Q4 outlook. The overriding message was that balance sheets would continue to worsen as the recovery in demand is expected to be slow, and a return to pre-pandemic levels is not expected until the end of this year.

“We saw a slow restart of the mills but I am not confident production will bounce back any time soon and I think that we will also soon see some re-closures due to low order intake. I would not be surprised if we saw earlier and longer summer stoppages this year”, a senior industry source told S&P Global Platts.

The World Steel Association (worldsteel) said June 4 it expects global demand to fall by 6.4% to 1.65 billion mt of steel in 2020. While a recovery is underway in China, and steel demand is forecast to grow 1% this year, worldsteel expected steel markets in Europe, North America, India and other Asian economies to take longer to rebound.

For the EU 28 countries, worldsteel forecast a 15.8% drop in steel demand in 2020, followed by a 10.4% increase in 2021.



In their first-quarter earnings calls, steel mills forecast very low production and profit for Q2, while for the first time they were not able to give a full Q3 and Q4 outlook

The outlook was echoed by European steel industry association Eurofer, which said in its latest report that it did not expect market conditions to improve before Q4 or early 2021, although much would depend on the length of the lockdown in downstream sectors.

Significantly, due to the unprecedented nature of the disruption caused by the pandemic, Eurofer said it would temporarily not publish quantitative forecasts for 2020 and 2021. “Uncertainty and volatility surrounding possible developments in the coming months means no forecast could be considered reliable,” the association said.

The consequences of the coronavirus-related shutdown for industrial activity stretch far beyond Europe, Eurofer stressed.

“They have reached a global scale, in terms of huge disruption to supply chains and supplies of input and raw materials. This will probably have unprecedented repercussions on output in Q2 and Q3 of 2020. Against this background, a substantial rebound is not in sight before Q1 2021.”

The early demand and output data for this year shows the dramatic impact of coronavirus, but in in 2019 there were already signs the steel market was struggling. Business conditions deteriorated, with the trend accelerating in the second half, particularly in the automotive industry, although the construction sector continued to outperform other major steel-consuming sectors.

Total output in steel-using sectors fell by 1.6% in Q4 2019, after 0.4% growth in Q3. For the whole of 2019, total output eased back 0.2% year on year compared with growth of 2.9% in 2018, Eurofer said.

According to European steel producers, even after the end of the pandemic, external risks will continue to cast a shadow over steel-consuming industrial sectors into 2021, and will likely hamper investment. The possibility of a no-deal Brexit – as the final agreement with the EU must be reached before the end of 2020 – continues to generate uncertainty, while a new escalation in protectionist trade measures would contribute to a sustained bearish outlook.

Resurgent trade tensions

The EU has been tightening import restrictions over the past few years as protectionism in global trade has increased. Safeguard quotas on steel imports were imposed in addition to existing anti-dumping duties in 2018 in response to the US government’s protectionist measures and the fear of redirected imports into the EU.

With domestic demand for steel still weak, European mills have been seeking extra support from the EU this year. After years of pushing for even tighter import restrictions, their calls appear to have hit home, as

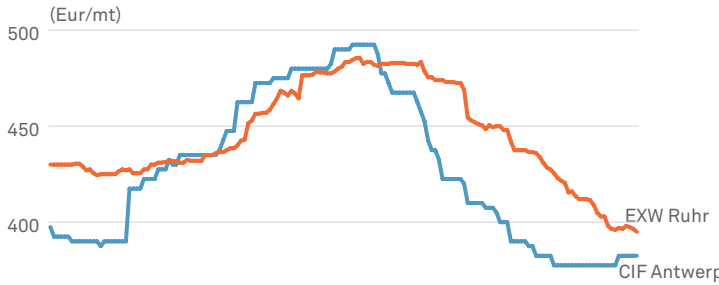
Thyssenkrupp, Germany’s largest steel producer, said in May that the new environment the steel market is finding itself in would increase the need for consolidation

the European Commission accelerated trade defense measures by launching an anti-dumping investigation into imports of hot-rolled flat products originating from Turkey in May.

The Commission additionally notified the WTO the same month that it would move the global safeguard import quota for hot-rolled coil to a country-by-country quota from July 1.

This means that each country has a different contingent that can be imported and if the import volumes exceed the quota, a 25% tariff-rate duty applies. While country specific quotas have been in place for other steel products, HRC had received a global quota.

European steelmakers face competition from lower-priced imports



Source: S&P Global Platts

The new anti-dumping investigation into Turkish HRC is in response to an increase in imports from Turkey and Turkish suppliers’ comparatively low import prices.

The anti-dumping duty would apply until the quota was filled. Once it is filled, further duty levels would be applied depending on the initial duty rate. This means Turkish imports would face tighter restrictions, although latest data from Eurofer showed substantial year-on-year decreases in Turkish imports in the first three months of this year.

In March, EU imports of HRC dropped 16% on the month, and 40% on the year to 452,502 mt. Turkish volumes were 56% lower than March 2019’s 319,289 mt.

According to the EU’s notification to the WTO, seen by S&P Global Platts, Turkey can export 344,890 mt of

HRC to the EU in the quarter starting July 1, with similar quarterly limits in the subsequent periods up to and including Q2 2021.

Price moves during pandemic

European finished steel prices have taken a dive due to the slump in demand since the pandemic unfolded in March, despite ramp-up efforts by key consumer markets since late April.

The price of HRC,ex-works Ruhr – a benchmark for flat steel, which has been severely affected by the auto-plant shutdowns – has fallen around 18% since the beginning of March according to the daily Platts TSI Northwest European HRC index. Northwestern



European mills tried to hold offer prices up but eventually had to make concessions.

The trend was similar in Southern European flat steel prices, with HRC ex-works Southern Europe falling 13.5%. However, lockdown restrictions had been more severe on the supply chain there with the result that the overwhelming majority of buyers and sellers had to stop production.

Increasingly, more competitive import offers ex-Russia and Turkey for flat steel are putting additional pressure on domestic European prices.

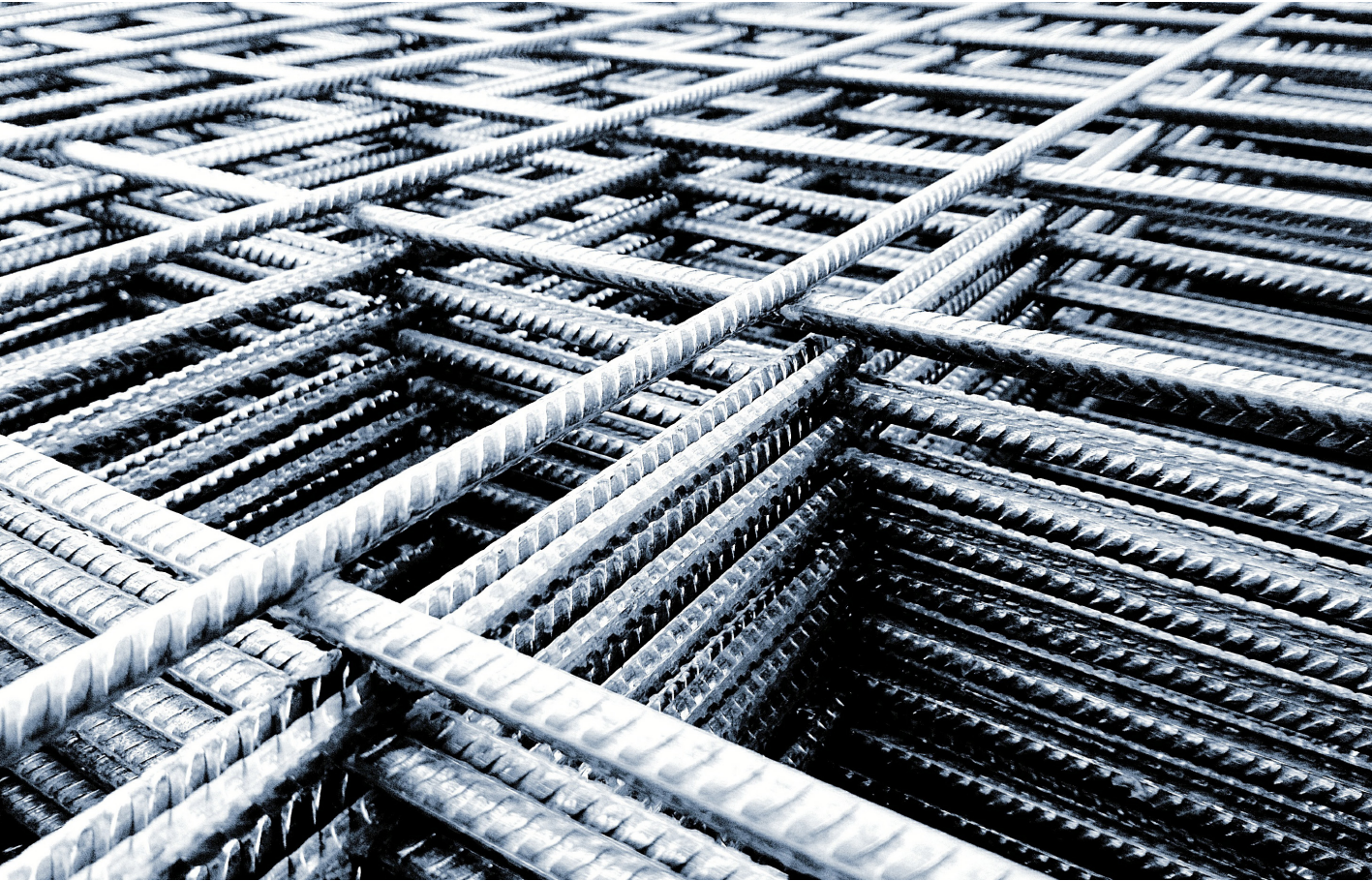
Although rebar import quotas for some countries such as Turkey have been exhausted, and European buyers are having to look more into sourcing material domestically, construction steel prices have also moved lower on weak demand.

Rebar prices have fallen further after intermittent rises in late March as scrap supply tightened due to

restrictions on collection. While European scrap prices recovered after a brief drop in late March, though they remain volatile overall, rebar did not follow suit and has fallen by 8.5% since early April, according the weekly Platts TSI Northwest rebar assessment.

Although mills are continuing to restrict production, it is still outpacing demand across Europe. Particularly in countries such as Germany, where the government did not impose a shutdown, production continued throughout. As a result, mills had to search for buyers outside of Europe to sell volumes as demand was still failing to keep up with production.

Steelmakers have been warning of recessions in key markets and German mills are making extensive use of the government’s short-time working scheme. Order intake was low in March and April, which means that production rates in May and well into the summer will be affected as the entire steel supply chain is disrupted.



Squeezed into consolidation?

With the European steel industry in the doldrums and margins squeezed as showed by the low prices, some merger and acquisition activity could re-emerge to help mills to cut costs.

Thyssenkrupp, Germany’s largest steel producer, said in May that the new environment the steel market is finding itself in would increase the need for consolidation, as Europe simply has too much capacity. The steelmaker revived its merger talks with undisclosed partners and is – following the collapse of the merger with Tata Steel in 2019 – now actively looking again to consolidate its steel operations to save costs. There is talk in the market that Swedish steelmaker SSAB and Chinese steel company Baosteel would also be part of the talks.

There are also persistent reports that ArcelorMittal, the world’s largest steel producer, which has its core business in Europe, could withdraw from its Italian asset, the former Ilva works at Taranto, due to an option to withdraw from the troubled works in November.

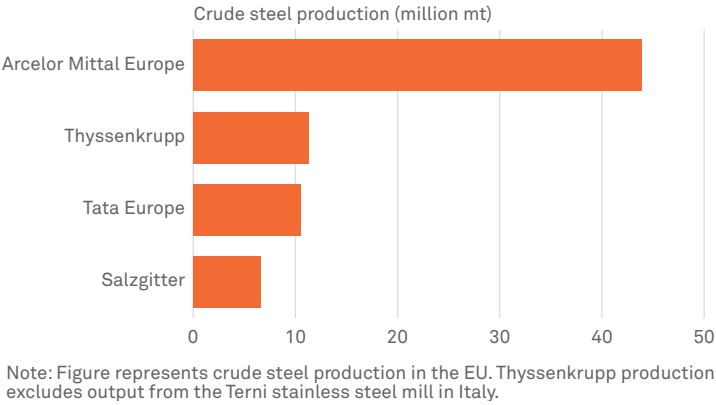
Adding fuel to speculation about the company’s strategy, in a plan for the 2020-2025 period presented to the Italian government, ArcelorMittal Italia reduced an existing target to ramp up crude steel production to 6 million mt/year by 2025, from 8 million mt/year previously, with a loss of 3,300 jobs in the process.

Industry sources have suggested that ArcelorMittal’s requests for government loans to help finance the Ilva acquisition could now be problematic, given the planned lower output and redundancies. Sources close to the Italian government said the government is divided between some who want ArcelorMittal to stay and others who want a future for the former Ilva facility without ArcelorMittal.

New direction needed

The current crisis has again brought into focus the issue of overcapacity in the European steel sector. Steelmakers in the region have been focusing on the automotive industry for years by reopening previously idled production lines or building entirely new ones.

Europe’s largest steel producers, 2019



The demand from the car industry was going from strength to strength until the emission testing scheme changes put a halt on it in 2018. A slowdown was long feared by market participants but mills pushed on with their race towards the automotive industry. Those whose biggest customers are the car industry are now hurting the most.

“Mills have been focused on the auto industry for years and that is breaking away. Auto has turned out not to be the right path,” a German distributor told Platts.

European steelmakers particularly have been reluctant to take out capacity in the market, despite constant calls for streamlining of production by the producers themselves. They said they would be shifting from making commodity to higher grades which have a higher selling price.

According to Eurofer, in 2021, provided that the steel industry has been able to restore its production at normal conditions, the launch of new car models – many of them electric vehicles – could be a supportive factor along with rises in real wages and labor market dynamics on the demand side.

However, subdued car demand in major markets such as the US, China and Turkey would remain a challenge for EU car exporters, the association said.

It remains to be seen whether the pandemic will be the final push that finally forces mills to tackle their excess capacity. ■

Insight from Moscow



By Rosemary Griffin

In recent years Russia has moved to expand its role in African commodities industries, aiming to build on a legacy of Soviet influence to gain greater access to the continent’s natural resources.

Traditionally, Russian companies have operated in both sub-Saharan and North Africa, working in gold, gem, manganese and bauxite mining, as well as on oil, gas and nuclear projects.

The Soviet Union built influence in Africa by supporting independence movements, education programs for African students, and military and economic cooperation. The collapse of the Soviet Union and Russia’s subsequent economic decline saw these links diminish in the 1990s.

Russia is now seeking to revive its relationships on the continent, hoping to capitalize on disillusionment with existing Western and Chinese partners. Russian officials have committed to provide turnkey commodities projects, and offered cooperation in other sectors, including arms and medical supplies to African countries.

It also looking for ways to leverage earlier drives to boost cooperation with Western majors and Middle Eastern partners to minimize risks and amplify the impact of its involvement in new projects.

Russian President Vladimir Putin signaled Africa was becoming more important for Russia’s global ambitions during the tenth BRICS Summit in Johannesburg in July 2018. Addressing the summit he said that Russia was planning to increase its role in African energy projects, particularly promising new oil, gas and nuclear projects.

This was followed by the Russia-Africa Summit last October, when 45 African heads of state traveled to the resort city of Sochi in Southern Russia to discuss cooperation. Delegates were able to inspect military hardware at first hand, and signed 92 agreements worth over Rb1 trillion (\$14.5 billion), according to organizers Roscongress.

Russian state-owned explorer Rosgeo signed exploration agreements with Nigeria, Equatorial Guinea, Rwanda and South Sudan, and called for a fund to be set up to finance geological exploration in Africa. Russian state development bank VEB agreed to consider financing a refinery in Morocco and an oil products pipeline in the Republic of Congo. Meanwhile Lukoil agreed a preliminary refining sector deal with Nigeria.

A declaration signed at the end of the event included commitments to increase political, security, trade, legal, scientific and environmental cooperation between Russia and African countries. It also outlined plans to host a similar summit every three years and hold annual political consultations between Russian and African foreign ministries and the African Union.

The momentum has continued beyond the event. In November Lukoil won a bid for block EG-27, a gas-rich block offshore Equatorial Guinea that contains the stalled Fortuna LNG project. Earlier this year Rosgeo signed its first contracts for hydrocarbons exploration work in Equatorial Guinea.

Rosgeo is a key element in Russia’s drive to increase its presence in Africa, and has said that its priorities in the region are Algeria, Egypt, Tanzania, Mauritania, Sudan, Angola, Namibia, Guinea and South Africa.

Tracing its history back to its nineteenth century predecessor, the Russian Geological Committee, Rosgeo has previously explored for diamonds and bauxite in Guinea; gold, rare metals and gas condensate in Ethiopia; cobalt in Morocco; gold in Mali; mercury in Algeria; and rare metals, coal, precious stones and gas in Mozambique.

Dr Nataliya Zaiser, an international public policy expert and chair of the board of the Africa Business Initiative Union, said Russia is looking to export its technical expertise to Africa.

“Russia, being one of the great energy powers, has significant long-term experience in modern energy solutions, in building energy infrastructure, in power system development. So, we have a lot to suggest to our Africa partners,” Zaiser said.

Russian companies face significant challenges however, including red tape and political instability.

“The main barriers to doing business are extremely common for the sector: changes to mining law or the need to improve it, tax issues, a lack of qualified local

personnel, high risks and turbulence of a number of African jurisdictions, including terrorist threats, internal conflicts and deadly diseases,” she said.

Leveraging existing cooperation

Zaiser added that Russia is open to joint projects in the region with partners from Europe, Asia and the Middle East. In this way Russia could spread its risk and leverage previous attempts to increase energy cooperation with Western and Middle Eastern partners to boost its impact in Africa.

A good example of this is Russian crude producer Rosneft’s involvement in the Zohr project in Egypt. Rosneft joined European partners Eni and BP in the gas field in 2017. Rosneft also won three licenses offshore Mozambique in partnership with ExxonMobil in 2015. These deals came after the introduction of Western sanctions against Russia in 2014 complicated Western companies’ plans to increase cooperation with Russian oil and gas producers in Russia.

Last October, Lukoil CEO Vagit Alekperov said the company was studying opportunities to work with Saudi Aramco in Africa. Putin also said during a meeting with his Egyptian counterpart, Abdel Fattah el-Sisi, that the UAE is interested in joining Russian projects in Egypt. Regular meetings within the OPEC+ group and the Gas Exporting Countries Forum are likely to further facilitate multiparty cooperation. ■



Insight from Shanghai



By Sebastian Lewis

China might lead the world in battery vehicles, but until recently it was a relative laggard in hydrogen. Now, it’s catching up.

According to the China Hydrogen Alliance, a government-supported industry group that promotes the use of hydrogen, China built 38 new hydrogen refueling stations in 2019, meaning that by the end of the year China had a total of 66 hydrogen refueling facilities, 46 of which were operational. The government is targeting 300 HRS across the country by 2025.

A range of different companies are involved in the construction of hydrogen refueling infrastructure, from oil and gas majors such as Sinopec, to fuel cell makers such as Shandong’s Weichai, and even steel companies.

In 2019 Sinopec built four combined oil-hydrogen refueling stations. The stations – converted from existing retail sites – combine hydrogen refueling infrastructure with conventional diesel and gasoline filling facilities.

With its existing network of retail stations and experience in producing hydrogen for its refining and chemical plants, Sinopec is well placed to take a leading role in the supply of hydrogen, with the

company planning a further 20 combined oil-hydrogen fueling stations in Guangzhou city alone according to the company’s news website.

The company is also one of China’s largest producers of hydrogen, making over 3 million mt last year. But virtually all of this is made from fossil fuels or produced as a by-product of its refining and chemical operations.

According to the China Hydrogen Alliance, 67% of the more than 20 million mt of hydrogen that China produces every year is made from fossil fuels, with a further 30% produced as a by-product of industrial processes such as coking, steelmaking and chemical production. Only 3% is made from renewable resources.

Last year the China Hydrogen Alliance published a white paper containing policy recommendations for the development of China’s hydrogen and fuel-cell industry. In the long term it envisages China’s hydrogen being produced from renewables and fossil fuels with carbon capture and storage. But over the next few years, it argues the focus should be on increasing the use of by-product hydrogen and developing demonstration electrolysis projects using renewables.

Sinopec’s Shanghai hydrogen refueling stations are supplied by purified by-product hydrogen from the Gaoqiao Petrochemical facility, also based in the

city. The company is also constructing a by-product hydrogen purification plant at its Beijing Yanshan Petrochemical facility, which will have a purification capacity of 2,000 cubic meters an hour (around 3,500 kg/ day).

Olympic fuel

The unit will supply hydrogen to fuel cell vehicles in Beijing and Zhangjiakou, a city in neighboring Hebei province. The vehicles will support the sustainability agenda of the Winter Olympics, which the two cities will be hosting jointly in 2022.

But Sinopec will not be the only hydrogen supplier in the region. A document released at the end of March by the Hebei Development and Reform Commission, an economic planning body, detailed seven major hydrogen production projects and 15 hydrogen filling station projects underway in Hebei, a northern province best known for its heavily polluting steel industry. Two of the projects involve utilizing hydrogen produced as a by-product of steelmaking.

Hebei Iron and Steel will purify 3,000 kg/day of hydrogen from their coke plants in Handan city and Xuyang, a major coke producer, will process 1,000 kg/day from their coke ovens in Dingzhou.

But Hebei is more than just heavy industry. The city of Zhangjiakou is a renewable energy demonstration zone with significant wind and solar capacity. It has government-backed ambitions to turn itself into a center for the development and utilization of hydrogen energy. Four of the projects utilize the city’s excess renewable generation capacity to produce hydrogen via electrolysis.

By the time of the Olympics in 2022 there are expected to be more than 2000 fuel cell vehicles in the Zhangjiakou Olympic zone according to Xinhua, China’s state-run news agency.

This will require a significant increase in refueling infrastructure. According the latest hydrogen energy implementation plan for Zhangjiakou, a total of 16

By the time of the Olympics in 2022 there are expected to be more than 2,000 fuel cell vehicles in the Zhangjiakou Olympic zone

HRS will be constructed in the city by 2021. Three are being built by Sinopec and Hebei Jiantou, a local energy company.

Other cities in the province will also be building out refueling infrastructure. Hebei Iron and Steel’s by-product hydrogen plant will supply two HRS based in the cities of Tangshan and Handan, with the first phase supplying the company’s own fuel cell trucks and logistics vehicles.

Xuyang is planning to build a combined oil, natural gas, hydrogen and battery recharging station in Dingzhou, with Sinopec planning to open an HRS in Hengshui, another city in Hebei, by 2021.

Increasing hydrogen production and developing refueling infrastructure will support government efforts to increase the number of fuel cell vehicles on China’s roads. But hydrogen still requires extensive subsidies to be competitive with gasoline and diesel.

Breakthroughs in production, transport and storage as well as fuel cell technology will be needed for China to not only catch up, but become a leader, in the global hydrogen economy. ■



2020 S&P Global Platts Global Metals Awards

Harnessing opportunities during challenging times

By Anthony Poole

The 2020 S&P Global Platts Global Metals Awards celebrates its eighth anniversary in unusual circumstances this year, with the launch of the first ever Virtual Global Metals Awards as governments, businesses and industries around the world adjust to a new normality brought on by the need to contain the spread of COVID-19.

But being virtual does not alter the significance of the awards, developed to recognize those individuals and companies in the metals and mining sector who inspire others to transcend the limitations of technology, tradition, political and trade obstacles, and demonstrate excellence in leadership, real innovation, safety, integrity and overall performance.

Even without COVID-19, 2019 was a challenging year in the metals and mining space. Base metals prices and steel and iron ore prices in the second half of the year were under pressure, and in some areas prices had yet to recover to levels sufficient to attract investment in new capacity, which could mean supply shortages in a few years' time. This was particularly true in nickel, which is now an important battery material in electric-vehicle battery chemistries.

Last year was also the first full calendar year with US import tariffs in place on aluminum and steel, resulting in changes in international trade flows, while the long-standing North American Free Trade Agreement (NAFTA) was replaced by the United States-Mexico-Canada Agreement on July 1 2019.

This presented challenges and opportunities in metals and mining, reflected among this year's finalists and the new crop of winners.

This year's GMAs saw 96 finalists from 23 countries in 15 different categories. The four countries that provided the most finalists were the USA with 19, followed by India (11), United Kingdom (10) and the Russian Federation (9).

Thoughtful evaluation was conducted by a panel of independent judges, who recused themselves from scoring any entry which presented any potential conflict of interest. The judges were: Alberto Hassan, former President and CEO of Orinoco Iron; David King, Former CEO and Director of the London Metal Exchange; Jim Lennon, former Chairman of Commodities at Macquarie; Rana Som, former Chairman of NMDC and Hindustan Copper; Michael Setterdahl, Member of the GFG Alliance Global Advisory Board and former CEO of Liberty Steel Holding USA; and Dr. Joanne Warner, an Independent Director of First Quantum Minerals & GEO40 Limited.

Judging Panel

2029 S&P Global Platts Global Metals Awards



Alberto Hassan
Former President and CEO, Orinoco Iron



Michael Setterdahl
Member of the GFG Alliance Global Advisory Board and former CEO of Liberty Steel Holding USA



David E. King
Former CEO and Director, LME



Rana Som
Former Chairman, NMDC and Hindustan Copper



Jim Lennon
Former Chairman of Commodities, Macquarie



Dr. Joanne Warner
Independent Director, First Quantum Minerals & Geo40 Limited



METALS COMPANY OF THE YEAR

HYDRO
Norway



There are no nominations for Metals Company of the Year. Instead, the judges select the Metals Company of the Year from the entire list of Global Metals Awards finalists. The award is given to one company that stands out for excelling in industry leadership and real innovation.

This year's winner, Hydro, also won the Aluminum Industry Leadership Award. The judges were particularly impressed with the company's sustainability strategy and track record, as well as a strong and swift rebound from a significant cyber attack suffered in the first quarter of 2019. The company managed to maintain production and minimize losses, and did so without compromising the safety of any of its employees. Hydro did not pay the ransom demanded by the cyber attackers. Instead, it rebuilt its systems from backups. It was transparent about its response to the attack at a time when many other corporate victims of ransomware have taken the opposite approach.

Hydro is a fully integrated aluminum company, based in Norway, with 35,000 employees in 40 countries around the world, serving more than 30,000 global customers.

The company, which has more than 100 years of experience in renewable energy, is setting a new standard in sustainability with its CIRCAL brand of primary aluminum quality products. These use 75% recycled post-consumer scrap as feedstock, achieving a record-low certified carbon footprint of below 2.3 kg carbon dioxide per kilogram of aluminum produced and advancing the development of a circular economy. CIRCAL's carbon footprint has been certified by Norwegian classification society DNV GL.



CHIEF EXECUTIVE OF THE YEAR



Barbara R. Smith
Commercial Metals
Company
United States of America



Since becoming CEO in 2017, Barbara Smith has led a 100-year-old company into a new decade of growth, both organically and through acquisitions. She has focused the company on a development strategy that places CMC as a market leader in the concrete reinforcing and merchant bar market.

Under her leadership, CMC has divested low-margin, higher-risk assets and embraced micro-mill steelmaking technology—where its source of scrap and its customers are all local to the mill—with the ramp-up to capacity of its second micro mill. The company also closed a transformative acquisition of Gerdau’s North American rebar assets late in 2018, making CMC the largest rebar producer and fabricator in the US.

Under Smith’s tenure, CMC has improved its internal transparency and communications, raising morale and fostering a sense of pride among its workforce.

Smith’s move to realign CMC’s assets, with a big shift to the steelmaking value chain while exiting global trading, was a bold move at what many describe as a challenging time for steelmakers. Much of it came before the introduction of the Section 232 tariffs. But it is a strategy that has improved return on investment and increased shareholder value.

Under Smith’s leadership, CMC has also invested in copper and aluminum scrap processing assets capable of producing furnace-ready feedstocks, which meant the company was prepared for industry changes caused by China’s shift in scrap import regulations.



LIFETIME ACHIEVEMENT AWARD



Rannveig Rist
Rio Tinto Iceland (ISAL).
Iceland



Rannveig Rist’s 23-year tenure as general manager at ISAL has seen the company undergo several changes of ownership but she has always had the trust of the owners to lead the company.

ISAL was established in 1969 and marked a significant milestone in the development of Iceland’s economy, allowing the company to harvest renewable power sources and export that energy in the form of aluminum.

Rist was the first woman to manage a large corporation in Iceland and, in her time at ISAL, has led through both booms and busts in the local and global economies. The length of her career is an achievement in itself.

Under her tenure, ISAL opened a third potline in 1997, taking its nameplate capacity to 160,000 mt/year. Since then the capacity has increased to 212,000 mt/year, through both technological advances and increases in labor productivity.

One of the cornerstones of ISAL’s success has been employee loyalty and engagement, resulting in low staff turnover and a proud and dedicated workforce.

Rist has paid strong attention to gender equality. While the aluminum industry in Iceland and globally is male dominated, she has shown that working in the aluminum industry is equally attractive to women as it is to men. In 2012, ISAL implemented the IST:85 2012 equal pay standard and it has also received the PwC Golden Award for Equal Pay.

The concept of corporate social responsibility in Iceland was relatively unknown, but under Rist’s leadership ISAL became one of the founding members of Festa – the Icelandic Society for CSR – in 2011. ISAL was one of the first Icelandic corporations to publish a sustainability report and green accounts.



CORPORATE SOCIAL RESPONSIBILITY AWARD

JSW Steel
India



JSW Foundation is the dedicated corporate social responsibility implementation arm of the JSW Group, with CSR initiatives reaching out to close to 1 million people in some of the remotest parts of India.

These CSR initiatives have succeeded in improving education, providing secondary and tertiary healthcare and strengthening the public health system. They have helped communities access basic sanitation and have contributed towards water and environmental conservation and promoting sustainable agribusiness.

JSW has worked to increase its businesses’ positive impacts and mitigate the negative ones. Initiatives have included reusing waste iron slag as raw material to manufacture cement, recycling grey water to cut water consumption and conserving rain water. It also included generating captive power to become a net-zero establishment and promoted mangrove plantation to counter land erosion in coastal areas.

JSW provides some 150,000 nutritional meals a day to under-privileged children and monitors the nutritional and growth levels of 82,000 children.

In education the foundation has assisted more than 45,000 under-privileged children in rural India and has established seven schools for overall personality development for an additional 13,000 students.

JSW works with over 6,000 farmers, covering 17,400 hectares of land, on watershed management activities and has planted 2 million trees.

JSW’s women-centric livelihood initiatives have benefited more than 3,500 women directly over the last six years. The company’s micro-saving initiative has benefited over 10,000 rural women in rural areas.



DEAL OF THE YEAR

ArcelorMittal & Nippon Steel.
Joint Venture
United Kingdom



Last year, ArcelorMittal and Nippon Steel, through a joint venture known as ArcelorMittal Nippon Steel India (AMNSI), completed the \$6 billion acquisition of Essar Steel India Limited, a fully integrated steel producer in India that entered insolvency in 2017. It was the largest private-sector transaction to close in India during 2019, and the second largest steel transaction globally during the year.

AMNSI faced intense competition from other interested parties in Essar, as well as a multiplicity of legal challenges in India, even at the Supreme Court.

Confident of the strong strategic rationale for the transaction and the potential for the partners to turn around Essar Steel, AMNSI remained committed and resolute throughout the 865-day long process, emerging as the winner of an auction with all legal obstacles resolved.

The acquisition provides both ArcelorMittal and Nippon Steel a sizeable entry into the high-growth Indian steel market, where steel consumption is expected to grow on average around 6% annually over the next 10-15 years, according to AMNSI. Neither JV partner had any production capability in India before the acquisition.

The acquisition target includes an integrated steel facility in India’s fast growing western market, upstream facilities including pellet plants with a capacity of 14 million mt/year in the resource rich eastern states, and further downstream facilities and service centers across the country. The main steel plant acquired has a nameplate crude steel capacity of 9.6 million mt/year. Main steel products include hot-rolled, cold-rolled, galvanized, coated steel sheets, steel plates and steel pipes. The deal primarily includes assets located in India but also facilities in Indonesia, the Middle East and the Americas.



FINANCIAL METALS SERVICE
PROVIDER OF THE YEAR’

BMO Harris Bank N.A.
United States of America



BMO is the eighth largest bank in North America with a market capitalization of over \$60 billion, but is also the only North American bank to have established a pure metals asset based lending group, and was praised by the judges for doing so. Centralization of an ABL allows a level of consistent product expertise and deep industry knowledge to be offered to customers.

In 2019 BMO provided daily metals research and economic news to clients and saw an expansion of speaking engagements and sponsorship at metals conferences. The bank also hosts its own annual Metals Outlook event for metals and mining companies from all over the world, which is one of the largest such events in the industry.

Last year the bank expanded by hiring more metals-focused bankers, increasing its customer base to 75 from 65, and raising its commitments to \$4.2 billion from \$3.6 billion.

BMO Harris has expanded its metals lending group and continues to provide capital in the form of revolving facilities, term loans, letters of credit, treasury, trade finance, hedging, foreign exchange and metals leasing (providing off balance sheet-financing) to its customers.

During 2019 BMO Harris financed some major expansion projects, including US Steel, Big River Steel phase 2, Optimus Steel, CMC, Steel Dynamics, JSW Steel, Ta Chen and Liberty Steel.

Innovation has come through establishing separate lending groups focused on metals companies, one focused on assets, the other on cash flows, which is unique for a US-based bank. Unlike foreign banks that finance trading commodities only, BMO has taken the concept to another level by offering finance to all metals companies including producers/mills across steel, aluminum and other base metals, scrap recyclers, metal trading companies, importers/exporters, fabricators and service centers.



PHYSICAL METALS SERVICE
PROVIDER OF THE YEAR

Leeco Steel
United States of America



Leeco Steel stocks and sells steel plate, maintaining one of the largest inventories of carbon, high-strength low-alloy and alloy steel plate coming from premier mills worldwide. With a long history going back to 1882, the company has 11 locations in North America and is the continent’s largest supplier of steel plate.

Leeco is purely a supplier of steel plate, with all of its stocking space dedicated to plate. Apart from storing plate, Leeco works to help customers navigate through strong and weak buying markets. Its quality management systems have enjoyed being certified to meet ISO 9001 quality standards for two decades. Leeco achieved an error rate of 0.84% in non-conformance and operational errors in 2019, well below its goal of 2%. Sales and billing errors had a rate of 0.74%, well below the 3% goal.

All of Leeco’s facilities were accident-free in 2019 and have had several years of incident-free operations, underscoring the company’s commitment to safety.

Leeco’s approach to customer service means that each customer is given only one sales contact, making communication more straightforward and easing the process of placing orders and checking the status of existing orders. Leeco’s team also uses its knowledge of market dynamics that affect steel prices, passing on these insights to customers and enabling them to make informed purchasing decisions.

The financial performance of the company has also been impressive, with significant growth seen over the last two years, enabling it to gain market share. As a result, Leeco now has 15% market share of the North American plate market.

Despite facing one of the toughest years in steel, Leeco managed to ship a record tonnage of steel during 2019 and opened new distribution facilities, including one in Atlanta, Georgia, in March and another in Hamilton, Ontario, in December.



INDUSTRY LEADERSHIP AWARD:
ALUMINUM

Hydro
Norway



Hydro has made great strides in the field of sustainability and the development of a circular economy with the introduction of two new greener products – CIRCA and REDUXA. These products have set new standards for low-carbon and recycled aluminum making it easier for customers to promote more sustainable aluminum products.

Last year Hydro was the victim of the biggest cyber attack the aluminum industry has ever seen, affecting its operations globally and all 35,000 employees. But the company recovered quickly, without paying any ransom.

In Brazil, where Hydro is the majority owner and operator of the world’s largest alumina refinery– Alunorte–and the neighboring Albras smelter, the judges noted the company executed many significant corporate and social responsibility initiatives. Some 11 of these programs benefit around 15,000 people in the state of Pará.

Hydro brought into operation a new \$160 million water treatment facility at the Alunorte refinery and resolved a long-running environmental dispute with local authorities. From a socioeconomic point of view, the investment also resulted in job opportunities: 1,600 workers were hired at the peak of the project, 95% of them from the Barcarena region where the refinery is located, and 32 employees were hired to operate the new facility. Last year also saw the company sign a new \$1.6 billion sustainability-linked revolving credit facility. The deal has been highlighted externally as a forward-thinking approach to future financing needs by being able to adjust Hydro’s margins based on the company’s progress towards reducing greenhouse gas emissions by 10% by the end of 2025.

Hydro now has 31 aluminum extrusion and fabrication facilities certified according to the Aluminium Stewardship Initiative’s (ASI) Performance Standard. Hydro produces more than 70% of its aluminum using renewable energy sources.



INDUSTRY LEADERSHIP AWARD:
PRECIOUS METALS

Digix Global
Singapore



Having launched in 2014, Digix has become the pioneer behind the world’s gold-backed digital asset class. Digix is at the forefront of Singapore’s emerging technology ecosystem and transforming the precious metals industry by making it more accessible and affordable.

Digix believes that benefiting from the security of gold should not be a privilege for the elite, but enjoyed by all.

Digix’s native token, DGX, assigns ownership in the form of a digital token representing gold bullion, removing the onus of custodianship, insurance, and safeguarding gold holdings from investors. In this decentralized economy, investors who hold these tokens can park their wealth in gold and earn a yield for their gold assets by using borrowing/ lending platforms.

The judges were impressed with the growth of Digix since startup. Since the launch of the DGX token in March 2018 Digix has sold 105,138 DGXs, equivalent to 105 kg of 99.99% investment-grade gold, between then until December 2019. In the 2018 financial year, Digix generated a total of S\$3,436,634 worth of revenue, with 63,867 DGX sold. This resulted in a net profit of S\$142,905 for that same year.

The company has been shortlisted as a nominee for the Microsoft Singapore Partner Award and was a finalist at the Monetary Authority of Singapore’s Fintech Awards. Digix is digitizing gold by using blockchain to account for the authentication and provenance of 99.99% investment-grade gold bullion stored in vaults across Singapore and Canada.

It raised \$1.25 million in seed funding led by Global Brain Corporation, a Tokyo-based venture capitalist specializing in supporting startups, and blockchain-focused VC fund Fenbushi Capital.



INDUSTRY LEADERSHIP AWARD:
RAW MATERIALS AND MINING

Roy Hill
Australia



Roy Hill is one of the biggest things to have happened in mining in Western Australia in many years. Roy Hill is an integrated iron ore mine, with its own railway infrastructure and port facilities at Cape Hedland, capable of loading Capesize ships. It produces 55 million tonnes of iron ore annually and is in the process of increasing to 60 million tonnes.

Roy Hill’s accomplishments are all the more remarkable, having been achieved in less than five years. The company made its first shipment in December 2015 and in 2019, hit an important milestone of making its 800th shipment. During that time the company has shipped more than 160 million tonnes of iron ore to customers in key markets, largely in Japan, South Korea, China and Taiwan.

From start, Roy Hill achieved a fast rampup to 55 million tonnes/year by late 2017. This is the fastest ramp-up ever seen in the Pilbara for an iron ore project and achieved in 22.5 months from the date of the first shipment.

Our judges were impressed, not just by the speed of Roy Hill’s ramp-up, but also the commercial success it has been, with the company achieving record growth across all metrics in the 2019 financial year. Profit after tax for the year was up 147% year on year at \$1.38 billion, while sales revenue grew by 34% to \$5.16 billion, and the company reduced net borrowings by \$1.7 billion.



INDUSTRY LEADERSHIP AWARD:
SCRAP & RECYCLING

ICD Alloys & Metals
United States of America



ICD Metals & Alloys operates in something of a niche area in metals recycling, specializing in the recovery and recycling of minor metals, superalloys, titanium, ferroalloys, rare earth elements, intermediates and oxides.

With a lack of new nickel and cobalt mines coming on stream over the next few years, recycling of nickel-based superalloys and cobalt alloys will have an increasing significance for the future of the industries that produce and use them.

Privately owned ICD was only founded in 2013 and serves an international customer base comprising specialty steel mills, superalloy ingot makers and casting foundries from a variety of industrial sectors including aerospace, medical, oil and gas, and electronics.

The judges noted the rapid growth of ICD, which recorded an impressive 27.2% sales growth in the most recent one-year period. It also saw a 35% increase in the volume of materials handled during this time. The company generates 55% of sales from scrap revert, making it an industry leader in recycling.

ICD Alloys & Metals is a fully CFC-approved company, which certifies a mine-to-market conflict-free supply chain.

ICD has strong ambitions to reach its next goal of being a \$500 million/year business. To achieve this, the company plans on diversifying its services and products in the short to mid-term, by also becoming an in-house manufacturer of minor metals. It plans to continue mining investments in various parts of the world, enabling it to bring supplies closer to customers.



INDUSTRY LEADERSHIP AWARD:
STEEL

POSCO
South Korea



POSCO is the world’s fifth-largest steel producer based on annual crude steel production, with operations in 54 countries. It operates the world’s two largest integrated steelworks – Gwangyang (annual capacity of 21.7 million mt) and Pohang (18 million mt/year). Despite its leading position, the judges noted POSCO remains nimble enough to change and innovate.

All steel companies experienced a difficult year in 2019 and POSCO was no exception. But compared with many of its peers, POSCO’s reduction in profitability was relatively small, largely because of its diverse range of value-added products. The judges noted that another factor helping POSCO through 2019 was a reduction in costs in key areas, including raw materials, facilities, processing and budgeting.

It is estimated that POSCO’s “100 Strategic Reformation Project”, launched on Jeong-Woo Choi’s 100th day as CEO of POSCO, generated a financial value of \$1.1 billion.

Despite a faltering global economy, a decline in steel demand, protectionist trade policies of business partners and a rise in raw materials prices, POSCO still achieved a sales volume in 2019 of 36 million mt, up 40,000 mt from 2018. Sales in 2019 were worth \$26 billion, with an operating profit of \$2.4 billion.

POSCO has also developed high-resolution 3D printed steel sheets that are environmentally friendly compared with traditional production methods, using an inkjet printing technology known as PosART. PosART uses ultraviolet curable inks with zero volatile organic compounds, whereas conventional printed steel sheets use thermosetting solvent-based inks with 50%-60% volatile organic compounds, resulting in heavy carbon dioxide emissions.

PosART won the World Steel Association’s Steelie Award in the category of innovation in 2019.



RISING STAR COMPANY AWARD

Open Mineral
Switzerland



Open Mineral has succeeded in launching and operating the only B2B digital platform for the transparent and efficient trade of raw commodities.

The trade of base metal raw materials such as concentrates and scrap has long remained an opaque, relatively inefficient process. Direct market players often lack a complete picture of provenance and consumption, fair market valuation and standards in the raw materials supply chain.

Just as Ebay and Amazon revolutionized retail purchasing by bringing buyers and sellers together directly, Open Mineral is aiming to do the same for physical commodity producers. Its goal is to give more information to miners and smelters to enable them to make better decisions.

Open Mineral’s platform offers the ability to gather product quality data, market terms, and insights, which supports real-time product valuation and transparency. The judges noted that making a platform work in something as hard to trade as raw materials was a significant achievement.

Open Mineral was founded in 2017 and in 2018 it achieved \$11 million in revenue, rising to \$67 million in 2019. In 2018, the global network of registered companies on the Open Mineral Platform reached 180. In 2019, the company more than doubled its number of customers to over 400 in 39 different countries. Open Mineral is aiming to achieved \$1 billion in trades over the course of the next five years.

When Open Mineral started in 2017, it had six employees. That figure has grown to 26 across offices in Peru, Chile, the US, the UK, China and Russia.



RISING STAR INDIVIDUAL AWARD



Jay Hambro
GFG Alliance
United Kingdom



AS GFG Alliance's Chief Investment Officer, Jay Hambro has led the formation and delivery of the company's global growth strategy since he joined in 2016.

At the heart of this was Hambro's vision for a sustainable industrial future that motivated him to swim against the prevailing tide of pessimism and disinvestment.

In the US, the group brought the Georgetown steel works back online, acquired the idled Bayou Steel operation and has invested in a recycling operation in Florida. It has signed an agreement to acquire Keystone Consolidated Industries in the US, which will position Liberty Steel – GFG Alliance's global steel producing arm – as one of the foremost producers of wire rod in the US.

In Europe, under Hambro's direction, GFG Alliance completed its biggest acquisition to date in 2019 when it acquired seven major steelworks and five service centers across seven European countries from ArcelorMittal on July 1, 2019. It also completed the acquisition of Europe's largest aluminum smelter, Aluminium Dunkerque, from Rio Tinto, and has agreed to buy Aleris's Duffel facility in Belgium.

Under Hambro's leadership, GFG Alliance has invested more than \$3 billion and is quickly becoming a dominant force in the global industrial space.

Hambro has spearheaded a transformational four years for the GFG Alliance and laid the groundwork for a rejuvenated industrial sector throughout developed economies, including in the UK, Australia, France and the US. Last year was characterized by major growth for the business and a considerable acquisition and turnaround program. Since 2016, the GFG Alliance has completed a wide and varied set of acquisitions across the industrial space globally. The GFG Alliance family of businesses now have combined revenues of \$20 billion, with 270 global locations across 30 countries.



BREAKTHROUGH SOLUTION OF THE YEAR

Hydro
Norway



This year's award recognizes a solution to improving sustainability and reducing the carbon footprint of an industry.

The judges recognized that Hydro's introduction of its CIRCAL brand achieved those aims. It is a product with primary metal qualities, produced using aluminum scrap as 75% of the feedstock.

Hydro is the first aluminum producer supplying prime quality end-of-life recycled aluminum with a certified content of more than 75% recycled post-consumer scrap. The production process is fully traceable, and the product is certified by an independent third party, DNV GL.

The remaining 25% is made with a mix of remelted process scrap and primary aluminum with a low carbon dioxide footprint. CIRCAL is certified as producing less than 2.3 kg of carbon dioxide emissions per kilogram of aluminum produced.

CIRCAL has made great headway into the construction sector, with 60 construction projects around the world signed up to use it in its first year. CIRCAL is now being offered to other industries.

Hydro believes that producing durable and recyclable materials with a low-carbon footprint will contribute to reducing global emissions and create products for a more circular economy.

This year, Hydro will ramp up production of CIRCAL by increasing annual capacity to 25,000 mt from 10,000 mt with an upgrade and expansion of the Azuqueca recycling plant in Spain. Production is expected to increase to 40,000 mt in 2021.

.

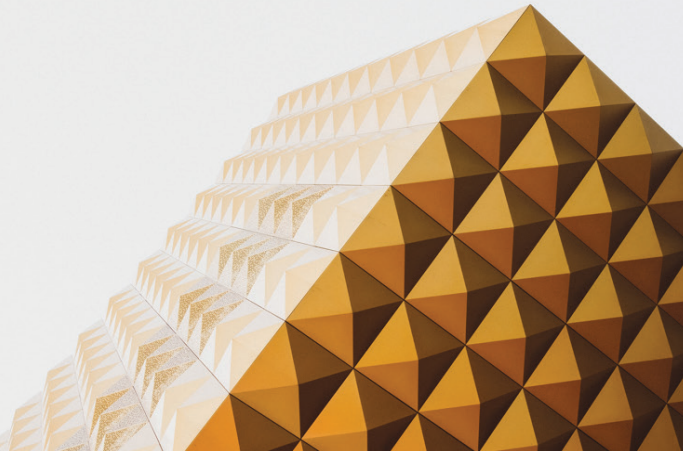


What is DGX?

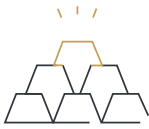
DGX is a secure digital token that represents physical gold.

Built with secure and auditable blockchain technology, each DGX token represents 1 gram of fine gold approved by London Bullion Market Association.

The physical gold is stored in state of the art vault facilities and can be fully redeemed in person.



What we do?



BUY

DGX tokens represent physical gold from London Bullion Market Association approved refineries and are supplied by established Canadian and Singapore dealers.



AUDIT

Digix engages Inspectorate Bureau Veritas, the industry leader on certification of precious assets, on a quarterly basis to verify the authenticity of the bullion in the vaults.



STORE

All physical gold bars are currently stored in Singapore and Canada based custodial vaults - The Safe House and Brinks.

1

2



TOKENISE

DGX gold-backed tokens are minted via the Proof of Provenance protocol, designed for independent verification by each party involved in the chain of custody. A combination of real world documentation and blockchain technology ensures that 1 DGX token is always backed by 1 gram of authentic gold.



TRADE

DGX gold-backed tokens can be traded in 7 digital currencies across 12 exchanges. The 99.99% fine gold bars in our custodian vaults are made divisible and transferable digitally. It is the ideal token for trading, borrowing and payment.



RECAST

The Digix Marketplace enables you to recast DGX into physical gold bars at a fee of 1%. Digix staff will facilitate the physical redemption process with the custodial vault.

3

4

5



GLE SCRAP METAL

A Full Service Scrap Metal Recycling Company



www.glescrap.com
855-SCRAP-88

CHAMPION IRON FIRST GRADE MINING DEVELOPMENT

Michael O’Keefe
Founder, Executive Chairman
Champion Iron Limited



Champion Iron Limited - Tier 1 Mining & Development

The Company, through its subsidiary Québec Iron Ore Inc., owns and operates the Bloom Lake Mining Complex, located on the south end of the Labrador Trough, approximately 13 km north of Fermont, Québec, adjacent to established iron ore producers. Bloom Lake is an open-pit truck and shovel operation, with a concentrator, and it ships iron concentrate from the site by rail, initially on the Bloom Lake Railway, to a ship loading port in Sept-Îles, Québec.

The Company acquired the Bloom Lake assets from bankruptcy protection in April 2016 and following the release of a feasibility study on February 16, 2017, the Company recommissioned Bloom Lake in February 2018, and completed its first shipment of iron ore on April 1, 2018. In June 2019, the Company released the findings of a feasibility study for the Phase II expansion which envisions doubling Bloom Lake’s overall capacity from 7.4 Mtpa to 15 Mtpa. On August 16, 2019, the Company acquired Ressources Québec’s 36.8% equity interest in Québec Iron Ore Inc. and now owns 100% of Québec Iron Ore Inc., which owns and operates Bloom Lake.

Statistics:

US\$4 billion already invested at site
7.4 Mtpa of 66.2% Fe nameplate capacity
Near term opportunity to double capacity to 15 Mtpa with a 20 years mine life
Premium price of 13% over traditional P62 iron ore benchmark*
Total cash cost FOB: US\$39.6/tonne
Cash operating margin: US\$30.9/tonne
Revenue of C\$785M and adjusted net income of C\$172.7M*
65% of energy consumption originates from renewable energy
*FY2020



Kai C. Chng
Chief Executive Officer
Digix



The future of owning gold is digital

Digix issues gold backed tokens, DGX, on the Ethereum blockchain.

Every DGX tokens represents 1 gram of gold, fully redeemable for gold bars from LBMA refineries such as Valcambi, Produits Artistiques Metaux Precieux (PAMP) and Metalor

With DGX, 99.99% fine gold bars are finally divisible, transferable and redeemable. It sits on the convergence of the digital and physical worlds, bridging the gap between the physical gold and the digital realm, enabling mass access to a traditional store of wealth.

Digix’s proprietary blockchain technology, the Proof of Provenance (PoP), is a revolutionary protocol for the digitisation of assets. PoP is a full supply chain tracking and management system that ensures gold-backed tokens are created 1:1 to the underlying physical asset.


This is done through proper documentation management on the blockchain at each step in the chain of events. By PoP’s design, there will never be more DGX tokens created than the total weight of physical gold bullion backing them.

DGX gold tokens are created after the physical gold bars have been delivered by Digix to the independent custodial vault and finalized on the blockchain through the PoP protocol. Our gold suppliers and custodians are accredited members of international bullion market associations, such as Brinks SG, Brinks Calgary and The Safe House SG. These physical gold bars are subject to regular audits by an independent precious metals auditor, Bureau Veritas, that is engaged by Digix.


Digix was founded by Kai C. Chng, the CEO of Digix. He worked on Wall Street as an FX trader in a global investment bank prior to building Digix. He is currently a regional partner of Kenetic Capital, a blockchain investment group.

As the leader in asset tokenisation, Digix is looking to create a tradeable marketplace of tokenised commodities which include other types of precious metal such as silver and palladium in the years to come.


Statistics:
Gold Holdings: 120.6 kg
Total supply: 120,600 DGX
Total Circulating Supply: 117,167 DGX
Market Cap: ~USD 6.8MM
Token Holders: More than 1990
2019 - First batch of Tribe Accelerator program, a government-backed blockchain accelerator.
2016 - Singapore MAS Fintech Awards Finalist



Andreas Koller
Managing Partner
Horst Wiesinger
Consulting



Horst Wiesinger
CEO, Founder
Horst Wiesinger
Consulting



Horst Wiesinger Consulting – Iron- and Steel Industry in Transition

Horst Wiesinger Consulting (HWC) is an international reputed consulting company consisting of a group of senior experts from the iron and steel industry. HWC is well known to support its clients by combining the existing know how in metallurgical plant engineering with the experience in plant operation and project management. All the experts are having a proven track record in plant engineering as well as in operating experience with comprehensive knowledge of state-of-the-art technologies in all key areas along the process route from iron ore processing to finished steel product.

Furthermore, HWC has formed a large international network of reputable partners and universities in order to supplement the team of HWC in bringing to the table the world leaders in technology to develop the most appropriate solutions for the clients of HWC.

HWC as Advisor
Throughout the recent years, HWC has performed more than 140 consulting projects in the iron and steel industry being present in more than 40 countries.

In general, HWC is supporting clients in two main business areas – operational improvement and new investments. Therefore, typical services are ranging from technical assessments and feasibility studies, through engineering reviews and design studies, to direct “hands-on” operational assistances on site. Also, services in the tender process and support in the subsequent implementation phase for large investment project are typical activities, where clients are relying on the expertise of HWC. Traditionally, those business areas are typical fields in the iron- and steel industry where producers are relying on external consulting services.

Steel Industry in Transition
However, the steel sector is presently in a transitioning environment. Major development driving forces like productivity/ capacity and even quality are slowly loosing their importance in the steel industry. Environmental sustainability is gradually becoming the main driving force (along with maintaining a solid quality level) for new developments in the industry. The environmental aspects along with the target of a closed steel-scrap circuit are going to dominate the upcoming decades and

all steel producers are facing such transition to “environmental neutral” production.

In such a transitioning industry also the demands and requirements to technological advisors, as HWC, are shifting drastically and multifaceted teams of steel producers supported by external experts are necessary to properly address the upcoming wide-ranging challenges.

HWC sets the path for future
Therefore, Mr. Horst Wiesinger, founder of HWC, is highly excited to have motivated Andreas Koller to become managing partner at HWC, to address these challenges and setting the path to a consistent future of the company. Andreas Koller is targeting to establish the bridge between the experience available at HWC and the present challenges in a transitioning industry.

Specifically, HWC wants to highlight two areas, where modern steel producers have been growing their attention to in recent years:

• Carbon Neutral Steel Production
The global importance to reduce carbon emissions has been growing over the recent years drastically and therefore also the iron and steel industry must also implement technological solutions to address those aspects. HWC is already playing a leading role in supporting clients with the development of appropriate transition plans to drastically reduce carbon emissions within individual production processes.

•Logistic Optimization
Plant logistics has long been showed less importance and usually no economic potential had been seen in optimizing logistics. However, due to the technological developments, the steel production process has gradually transitioned from a batch process to an almost continuous process chain. Lead times have significantly been decreased and therefore logistic optimization is creating large economic potentials within the operating practices. Nowadays, modern producers are optimizing their plant logistics and HWC is able to serve with supplemental services in order to develop customized solutions for existing plants or expansion projects.



Daniel Zack
Chief Executive Officer
GLE Scrap Metal



GLE Scrap Metal - A New Generation of Growth

GLE Scrap Metal, with its sister company, Great Lakes Electronics, operates eight facilities divided between Florida and Michigan. Established in 2000, the company has grown to include ferrous and nonferrous recycling facilities, an insulated wire processing operation, and a brokerage and trading division.

Nathan Zack started Great Lakes Electronics when he was twenty years old in his parents' garage in Farmington Hills, MI, in 2000. His cousin, Danny Zack, joined him in 2005, and they founded GLE Scrap Metal after acquiring a scrap yard in Holly Hill, FL.

The company expanded in Florida with a nonferrous facility in Casselberry, outside Orlando, and a yard in Opa Locka, near Miami, that serves only dealer and industrial suppliers. Michigan locations include a nonferrous facility in Warren with 100,000 square feet of warehouse space, and a 20-acre ferrous processing facility with rail access in Melvindale. Great Lakes Electronics operates out of a 40,000 square foot warehouse in Sterling Heights, MI and is a Responsible Recycling (R2) certified electronics recycling facility.

In 2018, a wire processing operation was established on a new 30-acre site. Focusing on insulated copper and aluminum wire chopping, the operation processes several million pounds of copper and aluminum per month, growing each month since its launch. Material is being sourced from all regions of the United States, as far away as the Northeast, Midwest, and Southwest, to the facility outside Orlando, Florida.

GLE also operates a diversified trading and brokerage firm to support the physical operations and expand on its global consumer relationships. The brokerage division now purchases several hundred containers per month of copper, brass, and aluminum scrap commodities. In December 2019, a new corporate office in Longwood, Florida added much-needed space to accommodate the growth in administrative and purchasing staff.

GLE Scrap Metal's dramatic growth over two decades is an evolution of several business units each reinforcing and strengthening the others. By focusing on transparency, communication, financial strength and diversification, the company is well positioned to build on its successes.



Mosaed Al Ohali
Chief Executive Officer
Ma'aden



Discovering the unknown

Ma'aden is a driving force in the growth and diversification of Saudi Arabia's economy under Vision 2030. Our corporate strategy aims at maximizing our shareholders' value and helps us deliver the national vision of developing a world class mining industry in Saudi Arabia.

Building the future

Ma'aden is the largest multi-commodity mining and metals company in the Middle East and among the fastest growing mining companies in the world. Through our five strategic business units and ongoing infrastructure investments, we strive to be a global mining giant, contribute to the delivery of Saudi Arabia's Vision 2030 and supply essential products to global markets.

Saudi Arabia is underexplored compared to other countries. To unlock this potential, we are applying modern exploration techniques to develop the vast potential of the Central Arabian Shield to extract minerals that will develop Saudi Arabian industries, bolster the expansion of the Saudi Arabia's economy and contribute to global food security. Recent exploration activities have successfully identified new mineral deposits and increased our confidence in the tonnage and grade of previously discovered targets.

Community impact

One of the most important aspects of the Ma'aden story is the remarkable impact we have on the communities around our mines and processing facilities. Ma'aden works to create a wider variety of education and professional development opportunities for Saudi people in the areas. Wa'ad Al Shamal and Ras Al Khair are two industrial cities developed in two of the most remote regions of the Saudi Arabia. Not only have these cities contributed to infrastructure development and economic growth, they have created jobs for over 12,000 people.

Growing with determination

Since our IPO in 2008, Ma'aden products have developed a presence in over 20 key global markets across all continents and diversified the company from being a small gold producer to having:

- The largest integrated aluminium value chain in the Middle East and one of the largest in the world, with investment of over USD 11 billion.
- One of the top three largest global phosphate fertilizer production supply chains, with an advanced mining city in Wa'ad Al Shamal and a current production of approx. 6 million tonnes per year, set to rise to 9 million tonnes when our Phosphate 3 expansion in Wa'ad Al Shamal is complete.
- A downstream minerals super hub in Ras Al Khair that is connected to the main mines in the country via a 1,400km railway and has a major port facilitating export operations.

We are targeting growth in our copper business to support the electrification of the Saudi economy, while we also look actively at greenfield and brownfield opportunities outside the Saudi Arabia to expand and add value to our operations.

Statistics:

Established: 1997
CEO: Eng. Mosaed Al Ohali
Assets: USD 26 billion
GDP Contribution in 2019: USD 8 billion
Employees: 6,000+
Operations: Eight new mines and 17 processing and manufacturing plants built since 2008



Boris Eykher
Chief Executive Officer
Open Mineral



Open Mineral: trade solutions enabled by market intelligence platform

The trade of base metal raw materials such as concentrates, and scrap have long remained an opaque process where the bulk of market intel is held within the hands of a few. While metal concentrates are supplied via a miner (or trader) direct to a smelter, the process currently lacks transparency and indeed liquidity for certain products. In a world where, base and precious metal concentrate grades and qualities span a far more complex range than other raw materials markets, a knowledge vacuum exists. Even direct players - miners, smelters, metal consumers, and also indirect players such as investors, banks, fund managers, governments etc. a lack of a complete picture of provenance and consumption, penalty tolerance, and fair market valuation involved for a particular product transaction.

We saw how data and technology can deliver tangible benefits to the mining and smelting industry. Just as Ebay and Amazon revolutionized retail purchasing by bringing buyers and sellers together directly, we aim to do the same for the physical commodity producers. Our goal is to give more information and control to miners and smelters so they can make better decisions and ultimately become more profitable.

Open Mineral is the first and only B2B digital platform that, powered by technology and market intelligence, enables a transparent and efficient trade of raw commodities. The company has been widely recognized through prestigious awards such as 2018 #DisruptMining and 2019 WEF Technology Pioneer for its potential to transform the trade of minerals and improve society for years to come.

Founded in 2017 by a team of commodity trade industry professionals in Baar, Switzerland – The Open Mineral platform has now onboarded more than 700 metal & mining companies from 40 different countries.

The core idea of the platform is to create a marketplace for base and precious metal concentrates and secondary materials. By building the largest product and contact databases in the industry, digitizing data, developing advanced data analytics, and generating market insights, the company is delivering information with unmatched efficiency and transparency to different market participants.

Our spot exchange and platform tools are unique in their ability to gather product quality data, market terms, and insights, which supports real-time product valuation and transparency. These solutions/services provide a clear reference point for customers to value their product and match it to a buyer via clear digital paper trail. Through our competitive tender process, we enable customers to streamline contract execution and reduce information asymmetry by matching supply and demand globally. Collectively, these solutions inject transparency to customers while offering essential services such as trade financing, and logistics to meet the requirements of a physical commodities world.

This sector has remained opaque for most, and transparent for a select few for good reason - it is complex. Open Mineral is committed to unpacking this complexity through a pioneering digital platform for the benefit of miners/smelters and the broader industry. Our movement will lead to value-creation through efficiency and more informed, data driven, and trusted decision making.

With industry experts from areas of commodity trade and research as well as finance and software development, the Open Mineral team joined forces to build a transformative company that is improving the way commodity raw materials are traded around the world. The company has 26 employees and takes a global view with the HQs based in Switzerland and field offices in Peru, USA, Chile, China, UK, and Russia. .

Statistics:

\$ 72 mIn 2019 Revenue
+700 metal & mining companies from 40 countries.
7943 offers sent through the platform
1,122,521 tons of raw materials offered
1,311,451,895 USD value of raw materials offered



Bringing the US market a Brent of its own.



It takes a leader to build a resilient Gulf Coast benchmark. Ask your sales representative about Platts American GulfCoast Select, the new pricing benchmark that directly reflects US light sweet crude's value in the global market.

#PlattsAGS

Visit: spglobal.com/plattsAGS

S&P Global
Platts