



## COMMENT ON THE EFFECT OF THE COVID-19 PANDEMIC ON THE GLOBAL NICKEL MARKET

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### SUMMARY

The Coronavirus Disease 2019 (COVID-19) was first identified in December 2019 in Wuhan City, Hubei Province, China P. R., and has since spread worldwide. The World Health Organisation (WHO) declared the outbreak a pandemic on 11 March 2020. Countries have been implementing several measures, with different levels of intensity (from simple recommendations to full restriction), to deal with the pandemic. In its April 2020 Outlook, the International Monetary Fund (IMF) projects global growth in 2020 to fall -3% and forecasts a rebound of +5.8% in 2021 – if the pandemic fades and if economic measures taken around the world are effective.

World nickel production is expected to decline as companies have been forced to temporarily close or reduce production. Nickel producers have implemented internal procedures to keep workers safe and have also put in place programs to help local communities. International trade has also been affected by lockdowns – and the nickel market, primary and secondary, is dependent on exports and imports of material from one country to the other. Currently, INSG estimates losses in nickel supply due to COVID-19 at almost 65kt. It is possible that further reductions may be announced in the near future and the Group will continue to closely monitor any developments.

World nickel usage is also expected to decline sharply as demand from downstream industries plummets. The two main current drivers for nickel – the stainless steel sector and batteries for electric vehicles – have been showing different trends. The former has been declining virtually everywhere, and the latter is not growing as fast as previously projected – only in Europe have electric vehicles sales been positive during 2020Q1. Other first-use sectors are generally experiencing a reduction in demand.

INSG acknowledges that the rapidly evolving nature of the current pandemic has created a high level of uncertainty in world markets. As a consequence it is difficult to fully evaluate how strong the forthcoming recession will be and how fast economies will subsequently recover from it.

## 1. CONTEXT

The Coronavirus Disease 2019 (COVID-19) was first identified in December 2019 in Wuhan City, Hubei Province, China P. R., and has since spread worldwide. This virus is highly contagious, may cause death and, at the moment, there is no vaccine or specific treatment. The World Health Organisation (WHO) declared the outbreak a Public Health Emergency of International Concern on 30 January 2020 and a pandemic on 11 March 2020.

Countries have been implementing several measures, with different levels of intensity (from simple recommendations to full restriction), to deal with the pandemic. As a consequence, economic activity has been highly reduced virtually everywhere, with impacts on a wide number of production value chains. Commodities, like non-ferrous metals, where nickel is included, are raw materials and are positioned at the beginning of several value chains, so there is a real potential disruption effect both on production and use of nickel. On the other hand, countries and international bodies have been announcing economic and social counter measures to tackle the negative economic effects.

The International Monetary Fund (IMF) projected, in its October 2019 World Economic Outlook, Real Gross Domestic Product (GDP) growth of +3.0% for 2019 and +3.4% for 2020 (and further +3.6% for 2024) for the World. In January 2020, the Fund wrote that “global growth is projected to rise from an estimated 2.9 percent in 2019 to 3.3 percent in 2020 and 3.4 percent for 2021”. But in its April 2020 Outlook, the IMF projects “global growth in 2020 to fall to -3 percent [...] This makes the Great Lockdown the worst recession since the Great Depression, and far worse than the Global Financial Crisis”. For 2021, “assuming the pandemic fades in the second half of 2020 and that policy actions taken around the world are effective in preventing widespread firm bankruptcies, extended job losses, and system-wide financial strains, we project global growth in 2021 to rebound to 5.8 percent.” The economic recession for this year brings a high degree of uncertainty regarding the effects and cross effects of how the slowdown will take place and how fast the recovery will be.

At its October 2019 meetings the International Nickel Study Group (INSG) forecast deficits for the global nickel market of 79kt in 2019 and 47kt in 2020. Preliminary figures indicate a smaller deficit in 2019<sup>1</sup> due to a weaker than expected fourth quarter, with the market already in surplus during this period. In the next sections we will try to summarize how the pandemic is impacting the nickel market.

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<sup>1</sup> All figures for 2019 in this report are provisional.

## **2. NICKEL MARKET ANALYSIS**

### **2.1. INTRODUCTION**

The nickel market has been in deficit over the last 4 years (-46 kt in 2016, -142 kt in 2017, -144 kt in 2018 and -30 kt in 2019).

Indonesia, the top nickel mining country with one third of the world output in 2019, announced that the country was going to stop exporting unprocessed nickel ore from January 2020. Consequently, China P.R. was going to have less material available to feed its nickel pig iron (NPI) industry and the country was expected to decrease production, after increasing during the previous three years. In 2020, a number of NPI projects in Indonesia were going to be commissioned or to ramp up production, so output was expected to increase. High pressure acid leaching (HPAL) projects were also underway in Indonesia and in other parts of the world.

Bearing this in mind at INSG's October 2019 Meetings members announced that world nickel mine production was expected to grow in 2019 but to decline in 2020, mainly due to the Indonesian ore ban, and world primary nickel production and usage were both projected to increase in 2019 and 2020, with the market balance continuing in deficit in both years, though decreasing in 2020.

The pandemic led Governments around the world to take severe measures that are affecting strongly the world economy and the nickel market. On the production side, lockdowns and travel restrictions forced some companies to stop or to reduce production. On the usage side, downstream industries have also reduced demand for raw materials, for the same reason.

Shipping and port activities are also widely affected, with subsequent implications for the nickel industry, an industry that is very dependent on international trade.

In some countries, mining and smelting activities have been allowed to keep operations running or resume them after a halt, mainly due to being considered essential activities, or as a result of entailing continuous production processes that cannot be stopped in an economical way. These permissions are, however, not enough to avoid lower than normal production and downstream demand levels, as cautionary measures (e.g. staggered work shifts) are being taken in virtually all countries and industries.

On the other hand, Governments are discussing and implementing stimulus packages to support the economy, but it will take time before the effects of these become apparent. The degree of uncertainty is extremely high for analysts and decision makers.

Nickel companies from around world also took action to adapt their internal procedures to protect workers against the virus and to support local communities to cope with medical, economic and social difficulties.

## 2.2. NICKEL PRODUCTION

### China P. R.

COVID-19 started in China P. R., the most important market for nickel, on both metal production and usage sides – with 34% and 55% of world market share in 2019, respectively –, and it was there where the first actions to fight the disease were put in place.

China isolated Wuhan on the 23<sup>rd</sup> of January, by suspending planes and trains leaving the city, and cancelling buses, subways and ferries within it. Hubei province followed after a few days and after that the rest of the country was also in quarantine or subject to other sorts of preventive measures.

On January 13, the first coronavirus case outside of China was reported in Thailand and, seven days later, the WHO also confirmed cases in Japan and South Korea. On the 21<sup>st</sup> of January, the first case was confirmed in the United States. From this point on, the virus spread globally and countries started to implement lockdowns to help tackle the pandemic.

Jinchuan (founded in 1958) is China's main historical producer, with other smaller companies. By the end of 2015, the country started producing NPI to feed the growing nickel requirement for its burgeoning stainless steel industry. The most recent trend is the development of nickel sulphate facilities to produce batteries for electric vehicles (EV). Currently, there are several companies investing in this sector, with production expected to rise as these vehicles gain market share. In 2019, China's total nickel products' output is estimated to have reached more than 800 kt, with around 600 kt of NPI. The ore feed to produce NPI was mainly imported from Indonesia and the Philippines.

The nickel industry slowed down but continued producing. Ore imports decreased in January and February, with some cargos on transit still arriving from Indonesia. The gap caused by the Indonesian ban was partially filled by the Philippines (at low levels because of the rainy season in that country), Australia, Guatemala and Zambia (in principle, from the recently restarted Munali mine). Ferronickel imports increased, mainly Indonesian NPI and at a smaller level from countries like Japan and South Korea. Imports of unwrought nickel decreased and exports increased, indicating less robust demand from downstream industries.

Provisional figures for primary nickel production in the first quarter were weaker than during the same period last year. The main reason was the decrease in NPI production, since refined production was marginally higher. NPI producers are facing less ore availability (some have stated that in April they cannot produce) – though there are still ore stocks at ports (about 9.5 Mt on April 17), competition from Indonesia, and weak demand from the stainless steel industry – some analysts have speculated that demand from end-use sectors has decreased at a faster rate than production.

By the beginning of April, some governments had started to reduce the emergency measures against the pandemic. These should result in an improvement in economic performance if the disease doesn't return.

## **Indonesia**

Since March 15, the Indonesian capital Jakarta had measures against COVID-19 and on March 31 President Joko Widodo declared a national public health emergency over the increasing numbers of infections and deaths across the country.

Indonesia has been a nickel producer for many decades. The two most important nickel producers historically are PT Antam and PT Vale Indonesia. PT Antam has its own mines to produce ferronickel (started commercial production in 1976) and to export nickel ore to overseas markets. Vale also mines nickel to produce nickel matte (initiated commercial production in 1978 as PT Inco), an intermediate product. Both finished products are exported to other countries. Indoferro, a local company, was the first NPI producer in the country. In 2019, the country was the largest nickel ore exporter in the world with 33 Mt (and 20 Mt in 2018), in gross weight.

Nickel mine production in Indonesia is expected to decrease in 2020 due to the export ban. This will be partially compensated by an increase of NPI output from the many projects in the country. Recently, there is news about some companies exerting pressure on the authorities to allow exports again, to help overcome the current tough economic situation.

Antam and Vale have not made official statements regarding specific closures or reductions. On April 1, Nickel Mines stated that its operations have been "largely unaffected by Covid-19", but are cautious about future impacts due to the unpredictable nature of the pandemic.

Chinese workers who travelled to China could not return to Indonesia after the former suspended international flights – on the Indonesian side, even if there is a temporary ban on foreigners entering the country, this does not apply to holders of work permits, diplomats or other official visitors. Other workers had the opposite problem – they were not allowed to leave Indonesia.

News about PT Ifishdeco, located in Southeast Sulawesi, mentioned that the company will target NPI production of 29.4 kt, from a previous level of 46.2 kt, due to lack of machine components and to the travel ban.

PT Virtue Dragon Nickel Industry suspended the construction of its smelter in Southeast Sulawesi when Chinese workers could not return from China after the Lunar New Year festivities. In Central Sulawesi, where the Indonesian Morowali Industrial Park (IMIP) and many NPI producers are located, the Government locked down its borders on March 23,

suspending entry and exit of all foreign citizens, foreign workers and Indonesian migrant workers.

With so many restrictions in place, it is likely that some projects will be delayed.

## **Philippines**

Luzon, the country's largest island and where the capital city of Manila is located, has been in quarantine since March 17 and will remain in this situation at least until the end of April. Provincial and town authorities in the rest of the country have also implemented their own lockdowns, putting virtually the entire country under quarantine.

On April 3, in Surigao del Norte a memorandum order allowed mines to resume operations, yet not all activity was restarted.

The Philippines has a well-established nickel industry. The country has several mining companies and two nickel smelters, Taganito and Coral Bay, joint ventures between Japanese Sumitomo (SMM) and Filipino Nickel Asia. Both companies produce a mixed nickel-cobalt sulphide product, using high pressure acid leaching (HPAL) technology, to export to SMM Group's nickel refining facilities at Niihama and Harima in Japan. The country was the second largest nickel ore exporter in the world with 32 Mt in 2019 (25 Mt in 2018), in gross weight.

Nickel Asia, the country's top producer, stopped operations at Taganito mine and Hinatuan mine in the Province of Surigao del Norte on April 1, resumed operations for a short period, and stopped again until April 30. There are reports that feed from the mine's stockpiles will continue to be delivered to the Taganito HPAL Plant. The company is using stocks to feed its HPAL plant in Taganito. Rio Tuba mine in Palawan and Cagdianao mine in Dinagat Island continue to operate.

Global Ferronickel, the country's second producer, stopped production and exports from its Cagdianao mine in Surigao del Norte on April 8, and there is no date yet set for a resumption of operations.

## **Japan**

The Japanese prime minister officially declared a state of emergency on April 7 for Tokyo, Osaka and five other prefectures in the same area, but not a full lockdown, though most people were already following several recommendations issued by the authorities.

Japan's main primary nickel producers are: Sumitomo, Pacific Metals, Nippon Yakin, and Vale Japan. The country doesn't mine nickel and relies on feed from other countries.

Also, the stainless steel industry imports nickel-containing scrap as a raw material for its production.

So far, no Japanese companies have issued statements regarding closures or production cuts.

## **Other Asia**

India went into full lockdown for 21 days on March 24 and this was then extended until May 3. The Republic of Korea followed an approach based on recommendations to the population – initially for specific locations on March 20, then at the national level on March 23. Myanmar has been on localised lockdown since March 24. Turkey suspended flights from China on February 3, and then started implementing other measures, such as closing schools, on March 16. Since April, the country has been on nationwide confinement over the weekends for specific age groups.

Other Asia's main primary nickel producers are: India (Nicomet; on care and maintenance), Korea Rep. (Posco) and Myanmar (Tagaung Taung). Other nickel producers include Turkey (Meta/mining and intermediate; plus other small scale miners).

As of now, there are no official statements from those companies related to closures or production cuts.

## **Africa**

In Madagascar, the capital city of Antananarivo and also Toamasina (where Ambatovy is located) have been on lockdown since March 23; and on April 5 this was extended to the city of Fianarantsoa. The Ivory Coast declared a state of emergency on March 23, the capital Abidjan has been placed under quarantine and there is an enforced nationwide curfew from 21:00 to 05:00. South Africa went into a 21-day lockdown on March 26, including mining operations. Zambia had national recommendations on March 26 and the city of Kafue (50 Km south of the capital Lusaka and 90 Km north of Zimbabwe) has been in lockdown since April 15. Zimbabwe implemented a lockdown on March 30.

Africa's main primary nickel producers are: Madagascar (Ambatovy), South Africa (AngloPlats, Implats) and Zimbabwe (Bindura, RioZim Empress – both on pre-covid-19 care and maintenance). Other nickel products: Botswana (BCL/mining and intermediate, Tati; both on care and maintenance), Ivory Coast (CMB/mining), South Africa (several miners), Zambia (Munali/mining), Zimbabwe (Bindura; Zimplats/mining).

Operations suspended temporarily: Ambatovy on March 26 (announced by Sumitomo; the company's major shareholder with 47.67%); AngloPlats on March 27 (may also affect other suppliers, including producers Sibanye Stillwater and African Rainbow Minerals);

Implats (mine and refinery in South Africa; Zimplats mining in Zimbabwe was allowed to continue to operate) on March 27; Bindura on March 24.

From mid-April, mining operations in South Africa may operate at a capacity of not more than 50% during lockdown and can apply to restart and increase production beyond this level if certain measures are fulfilled.

## **Americas**

After the first case was confirmed on January 21, the United States declared national emergency over the novel coronavirus outbreak on March 13 and on March 17 several states were put into lockdown. On March 24, Canada also implemented lockdowns in some parts of the country.

On February 26, Latin America reported its first coronavirus case in Brazil – which put parts of the country in lockdown from March 17. The Dominican Republic did the same. Guatemala also had localised lockdowns from March 22. Colombia began a nationwide quarantine on March 24. Cuba has had some parts of the country in lockdown since March 31.

In the Americas, the main primary nickel producers are: Brazil (Vale, Anglo American), Canada (Vale, Glencore), Colombia (South32), Cuba (Cubaníquel), Dominican Republic (Americano Nickel's Falcondo), Guatemala (Solway's ProNiCo), and Venezuela (Loma de Níquel; on care and maintenance since end-of-2015). Other nickel products: Brazil (Atlantic/mining), Canada (Glencore/mining and intermediate; and other small scale miners), Cuba (Moa/mining and intermediate), United States (Lundin/mining). The United States is the main nickel-containing stainless steel producer, followed by Brazil from a distance. The former also uses nickel to produce a number of nickel alloys. A considerable volume of nickel products is exported to other regions.

On March 16, the government of Quebec in Canada ordered all non-essential businesses to close in an attempt to slow the spread of COVID-19. Vale announced that Voisey's Bay in Canada would enter a care and maintenance period of four weeks. On April 8, the company announced that it would extend the shutdown period of mining at Voisey's Bay for up to 3 months. Vale will keep Long Harbour Processing Plant (LHPP) operating using its own ore stocks. In the 2020Q1 report Vale revised its nickel 2020 production guidance ex-VNC to 180-195 kt from 200-210 kt with losses in Q1 (Onça Puma 4kt, Long Harbour 3kt) plus Covid-19 losses (Onça Puma 4kt, Clydach 2kt), Others (3kt) (and production at risk at Dalian, China (5kt)).

Glencore announced that the Raglan operation in Quebec was going to be on care and maintenance for the three weeks. The company said it was analysing options to restart operations before 4 May, when the local government classed mining as an essential activity with effect from 15 April.

The other mine, located close to the Raglan mine, is Nunavik Nickel. The mine, operated by Canadian Royalties (solely owned by China's Jilin Jien Nickel), was also put on care and maintenance.

In Colombia, South32 is still operating its Cerro Matoso operation at a reduced rate with government approval, despite the nationwide lockdown.

In the Dominican Republic, the news is that Falcondo has closed one furnace and is operating at half capacity.

## **Europe**

On February 23, Italy registered a big surge in coronavirus cases and authorities locked down 10 towns in the northern region of Lombardy. On March 8, the whole country was placed in lockdown. Within days, virtually all other European countries were also placed into lockdown

Europe's main producing countries are: Finland (Nornickel, Terrafame, Boliden, Mondo Minerals), France (Eramet), Greece (Larco), North Macedonia (FeNi Industries), Norway (Glencore), Russia (Nornickel), Serbia/Kosovo (NewCo Ferronikeli), Ukraine (Pobuzhskiy), and United Kingdom (Vale). In different countries, there is also a number of small scale producers, nickel as by-product producers, and secondary nickel producers. Europe's nickel industry depends partially from external sources, in the form of ore or intermediate products, from countries like Canada, Colombia, Dominican Republic, Guatemala, Brazil, Madagascar and Indonesia. There is significant internal and external trade of finished nickel products, as well as secondary nickel – mainly in the form of stainless steel.

As of today, there have been no official statements from those companies related to closures or production cuts.

## **Oceania**

Australia closed all non-essential businesses on March 23. The country has also implemented other measures like social distancing. On March 31, New South Wales, the most populous state in the country and the epicentre of Australia's outbreak, was put into a stricter lockdown.

New Caledonia (France) declared a lockdown on March 19. From April 20, the territory is planning to ease emergency measures. Papua New Guinea declared a 14-day state of emergency on March 24 and extended the period for two additional months. A state of emergency has been declared in the Solomon Islands, but there is no official lockdown as yet, since the country doesn't have any infected people.

In Oceania, the main primary nickel producers are: Australia (BHP Billiton, Glencore) and New Caledonia (France) (SLN, Glencore, Vale). Other nickel products: New Caledonia (France) (mining), Papua New Guinea (Ramu/mining and intermediate) and Solomon Islands (Axiom/mining; production ceased in October 2019). The majority of the production is exported to other countries, especially to Asia.

Glencore has not issued any official statements regarding closures or production cuts.

On April 21, BHP Billiton reported unaffected operations in 2020Q1, yet it revised its nickel production guidance for FY 2020 to 80-83 kt from a previous figure of 87 kt, attributing this to the “extended shutdown”.

On April 1, producer Western Areas reported no disruption in production levels, yet it stopped flows of fly-in fly-out workers (a small part of the workforce). Forrester operations were considered an essential service. The production guidance for FY2020 was maintained (21–22 kt Ni in concentrate), but the company acknowledges that its operations may be impacted in the future.

On April 15, Panoramic Resources temporarily suspended the operations at the Savannah nickel mine in Western Australia. The reason for this decision was “the combination of [...] significant operational uncertainty, including the restraints beyond Panoramic’s control that it imposes and its disruption and cost, plus managing the ramp up of Savannah North [deposit]”.

Local news stated that Koniambo Nickel, operated by Glencore, was preparing to have both furnaces idled (or at minimal operation to restart at any time; line 1 was not operating due to maintenance) with the lockdown, but the stoppage only lasted one week and line 2 restarted operating before the end of March.

Eramet’s SLN continued to operate, but following protection measures implemented by the Government. The company’s mining centre of Tiébaghi was operating at 60% for some time, but the Doniambo smelter was not affected.

It has been reported that Vale New Caledonia was operating at 50% at its Goro facility after the official lockdown.

There is no official news regarding closures or production cuts at Ramu, but it has been stated that material cannot be shipped to China, causing feed problems to nickel sulphate and battery producers there.

The following table summarizes current announced COVID-19-related cutbacks. The nickel production losses (excluding market-related losses) have been estimated based on these. Data as at 21 April 2020.

in 1000 tonnes

Country	Company	Facility	Type	Production in 2019	Estimated loss in 2020	Obs.
Australia	Panoramic	Savannah	Mine	5.2	0.7	Previous plan to increase production in 2020.
Brazil	Vale	Onça Puma	Mine and Smelter	11.6	4.0	Production in 2019 was lower than planned.
Canada	Vale	Voisey's Bay	Mine	35.4	2.6	4-week period may be extended to 3 months.
Canada	Glencore	Raglan	Mine	38.0	2.3	3-week period may be extended a few weeks more.
Canada	Canadian Royalties	Nunavik	Mine	12.0	0.7	4-week stoppage.
Colombia	South32	Cerro Matoso	Mine and Smelter	40.6	2.5	Operation at a reduced rate.
Indonesia	Several	Several	Mines and Smelters	376.0	20.0	Production is expected to increase in 2020.
Madagascar	Sumitomo	Ambatovy	Mine and Refinery	33.7	7.5	Previously planned to increase production in 2020.
New Caledonia (France)	SLN	Tiébaghi	Mine	50.0	4.0	Operating at 60%.
Philippines	Nickel Asia	Taganito, Hinatuan	2 Mines	96.5	10.5	4-week stoppage.
Philippines	Global Ferronickel	Cagdianao	Mine	42.5	4.0	4-week stoppage.
United Kingdom	Vale	Clydach	Refinery	35.0	2.0	2020Q1 Report.
South Africa	AngloPlats	Rustenburg	Mine and Refinery	23.0	2.0	4-week stoppage.
South Africa	Implats	Springs	Mine and Refinery	16.1	1.3	4-week stoppage.
Zimbabwe	Bindura	Trojan	Mine	6.2	0.5	4-week stoppage.
<b>Total</b>					<b>64.6</b>	

Note: some figures for 2019 are provisional or estimated. Estimated losses may change if stoppage periods change.

## 2.3. NICKEL USAGE

In 2019, the stainless steel sector used around 72% of global primary nickel usage – this is by far the most important first use sector for nickel. The alloys sector was responsible for almost 13%, plating 6%, batteries 5%, and foundry and other 4%. Compared to 2018, stainless steel and batteries gained market share at the expense of the other uses. These two sectors will now be examined more closely

### Stainless Steel

As of March 25, the International Stainless Steel Forum (ISSF) stated that “stainless steel melt shop production increased by 2.9% year-on-year to 52.2 million metric tons” for the calendar year of 2019.

in 1000 metric tonnes

Region	Quarter				Total	+/- %
	1/2019	2/2019	3/2019	4/2019	2019	y-o-y
Europe	1,899	1,842	1,492	1,572	6,805	-7.9%
USA	704	647	669	574	2,593	-7.6%
China	6,684	7,670	8,135	6,910	29,400	10.1%
Asia w/o China and S. Korea	1,961	1,938	1,973	2,023	7,894	-3.7%
Others	1,464	1,306	1,416	1,339	5,525	-2.0%
<b>Total</b>	<b>12,711</b>	<b>13,404</b>	<b>13,684</b>	<b>12,418</b>	<b>52,218</b>	<b>2.9%</b>

Source: ISSF

In China, preliminary figures for 2020Q1 show a similar production level as the same quarter in 2019, but less 300-series and more 200 and 400 series, meaning less nickel usage. Because downstream demand in the country was weak and exports went down, stocks increased and it will take time to run them down, so production cuts are possible along the year. Prices have decreased and even integrated producers are close to incurring losses. The sector's performance during the rest of the year will depend on how strong the economic will pick up after the implementation of the measures to fight the pandemic. The IMF forecasts a 1.2% growth in GDP.

In Europe, January was positive but February was marginally negative. With lockdowns across the region from March onwards, affecting producers like AST and Cogne in Italy, Acerinox in Spain and Aperam in Belgium, for some periods of time, and expected recession in the region (-7.5% GDP growth in the Euro region), stainless steel output is likely to have negative growth in 2020 – some analysts expect strong production cuts in Q2. Outokumpu in Finland, Sweden and United Kingdom have not officially halted production.

The EU imposed provisional anti-dumping duties on imports of stainless steel hot-rolled coil from China, Taiwan (China) and Indonesia. These were announced on April 7. The proposed duties include 17% from Tsingshan Indonesia, 14.5% to 18.9% for selected Chinese companies and 6.2% to 7.5% from Taiwan (China). The tariffs will likely reduce imports from these countries and have a positive effect on European producers.

The USA started the year with lower production levels compared to 2019 – but the figures are still preliminary. The pandemic arrived later in the country than in China, so the lockdown effect on the economy is expected to be felt later. The stainless steel industry was considered an essential industry, therefore continued operating. As of March, mills order books were at reasonable levels, but in April demand plummeted. The auto industry temporarily halted production at their US plants, which will lead to less production and demand from upstream industries. Kitchen equipment with restaurants closed and home appliances with sales down will result in decreased use of stainless steel. As in the case of Europe, production cuts are expected at some point along the year, but the recession is forecast to be less acute (-5.9% GDP growth).

The prospects for other Asian countries are also not positive for 2020. The year started weakly and many are also facing recession in 2020 – GDP growth of -5.2%, -1.2% and -4.0%, for Japan, Korea, and Taiwan (China), respectively; India is projected to grow +1.9%. At the beginning of April, Japanese mills were buying less raw materials, most likely anticipating production decreases; in South Korea the market was still weak; low demand in Taiwan (China) had not yet improved; and India was having problems to negotiate prices due to the lockdown.

Tsingshan started producing stainless steel in Indonesia in the second half of 2017 and Delong commissioned a new facility last February, so the country has available capacity to ramp up production. But the problem is where to sell the product. Anti-dumping tariffs have been imposed from the main markets around the world. Indonesia's GDP is expected to grow +0.5% in 2020.

On the other stainless steel raw materials side, there are concerns regarding the availability of chrome. South Africa was the largest producer of chromium in the world in 2019, with preliminary estimated production amounting to 17 Mt, while total global mine production was 44 Mt. Therefore, there is a large dependency on South Africa regarding the supply of this metal. If the lockdown impacts production or shipping of the material, then it may cause disruptions on stainless steel production in countries like China. In 2019, South Africa exported 12.5 Mt of chrome ore to China equivalent to 80% of all Chinese imports of this material.

## **Batteries and Electric Vehicles**

With the increasing efforts by governments to replace internal combustion engine (ICE) cars by EVs, the battery sector looks promising for the nickel market. More nickel producers are investing in this area and the number and capacity of battery factories has been rising.

Global sales of electric vehicles (EV) global sales have increased (+9.5% in 2019) to a total volume of 2.21 million units, after increasing by 65% in 2018. At the same time, the average nickel content in the batteries for these cars has increased. China P.R. represented 53% of the market, while Europe and the United States accounted for 26% and 15%, respectively. Sales increased in China P.R. by +6.8% and Europe by +46%, but decreased in the US by -6%. For reference, the global auto industry dipped -4% in volume in 2019, after decreasing by around -1% in 2018.

In 2020, global EV sales decreased in January (-2%) but went up in February (+4.2%), compared with the same months in 2019. Combining both months, there was a modest growth of +0.6%, mainly driven by Europe with an increase of 118%, while China decreased by almost -56%. As the pandemic started to pick up in Europe during March and China began lifting in April, we might see an inversion of the driving force from Europe to China. Preliminary figures still show a -53% decline y-o-y in China in March and growth in several European countries.

Aiming to stimulate sales, in late March China extended new energy vehicle (NEV) subsidies to the end of 2022 (two additional years). Also, the country will soon release a development plan for NEVs for 2021-2035 to stabilize and expand EVs and hybrid cars sales.

Many EV factories in China came back online by mid-March, with Tesla's Shanghai factory restarting even before that. Last week, automakers in Europe said they were planning to restart production. The Hyundai plant in the Czech Republic (where the Kona EV is produced) resumed partial operations after a three-week stop. Audi is also restarting the plants in Nošovice, Hungary (where the electric motors for the e-tron are made); Brussels, Belgium (where the e-tron SUV is assembled); and Ingolstadt, Germany (where the Audi A3 Sportback e-tron is produced). Daimler was scheduled to restart work on April 20, in Bremen, Germany (where the Mercedes-Benz EQC is produced).

As of December 2019, Benchmark Minerals tracked 115 battery plants worldwide, an incredible surge from December 2018, when there were only 63 plants. Europe's planned capacity expanded in 2019 to 348GWh, but China added 564GWh, reaching 1,491GWh of capacity. In February 2020, the consultancy company registered 123 battery plants that will result in total global capacity of 2,272.5 GWh by 2029.

Car manufacturing, ICE or EV, is not considered an essential business in times of national emergencies, so carmakers around the world have either temporarily closed or reduced production (some have converted their production lines to produce medical respirators for covid-19 patients). EV sales revealed some resilience in Q1 but how Q2 and H2 will be is uncertain, due to the expected recession worldwide. In a statement made on April 10, Benchmark Minerals said that "the lithium ion battery industry is braced for a demand decline of 15-25% in 2020 following the evaporation of electric vehicle (EV) demand in the last month due to the coronavirus / COVID-19 pandemic". Nevertheless, there is a general consensus that the "EV revolution" will be delayed as opposed to stopped completely.

Member countries are encouraged to contact the INSG secretariat with questions or suggestions for further work on this topic.

**Comments or questions**

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22 April 2020