



## The Impact of the COVID-19 Restrictions on Copper Fabrication and Recycled Copper Raw Materials in 2020

This Insight starts with an introduction describing the evolution of the COVID-19 containment measures on the end use and fabrication of copper as well as the regional and global impacts. It then discusses the regional outlook of the lockdowns on the demand for copper wire rod based on information from cable makers. A description of the situation of copper fabrication output across different Chinese provinces is also provided with a review of copper end use across different industrial sectors in the first quarter. Key drivers of the recovery in Chinese fabrication of copper and copper alloy products in the second quarter of 2020 and an assessment of fabrication and copper end use for selected countries Europe, North America and North East Asia ex-China are also assessed.

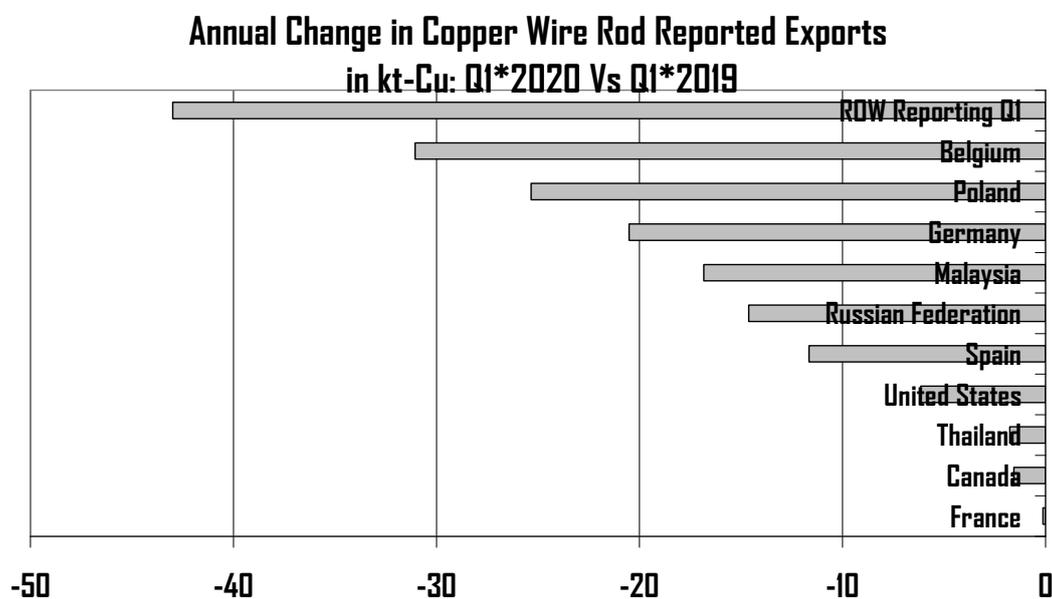
The second part of the paper focuses on the impact of the COVID19 pandemic responses on copper scrap generation, trade and use of recycled copper in the first months of 2020 as well as the factors that drive generation and collection of copper scrap, alloy and low copper waste scrap. Finally, an estimate on how these factors have been impacted by the restrictions of movement and quarantines is presented.

- 1. Introduction.** In early 2020, the downstream copper demand scenario deteriorated abruptly due to the worldwide spread of the COVID-19 pandemic. In response to the health emergency, national governments took containment measures such as restrictions on movement, quarantines and other public emergency initiatives, with severe repercussions on many industry sectors. The first signs of the impact of these initiatives were observed in the use of copper intensive products in the countries first affected by the restrictions. In response to this emergency, major financial institutions reduced economic growth estimates for 2020. Global GDP is now expected to decline by 3.0% in 2020 as opposed to growth of 3.3% forecast in January. The acceptance, intensity and efficacy of the containment measures, the volatility of copper prices and the speed of the copper demand recovery will affect industrial uses of scrap and refined copper in intermediate applications. Production and industrial demand for copper in China, the Korean Republic, Taiwan (China) and ASEAN was severely affected throughout the first quarter of 2020. In March and April of 2020 the impact was felt mainly in Europe and North and South America UNCTAD in coordination with statistics agencies estimate that global manufacturing output will fall by 9% in Q2-2020, and the value of global merchandise trade is falling by around 27% compared to the same period of 2019. However, analysts consulted agree that there will be a moderate recovery in industrial demand for refined copper and scrap in 2021. The global manufacturing of copper and copper alloy products, which was already

decelerating in 2019 due to the trade tensions, is expected to further decline in 2020 due to economic disruptions triggered by COVID19.

- The Impact on Semis Demand: Copper Wire Rod Use and Trade by Region in Q1-2020.** Copper wire rod is the main copper application worldwide, with a global share of over 56% of the use of all intermediate copper and alloys in 2019. In the first three months of 2020, the Asia Pacific was the region most affected by the pandemic. Copper wire rod based wire and cable products sales in this region contracted by close to 25%. In Europe, the Middle East and Africa sales of copper wire rod based products contracted by around 6 %, mainly because of falls in demand in the South of Europe and in the United Kingdom. Copper wire rod use in energy and infrastructure weakened throughout Europe, the Middle East and Africa. In North America, the use of copper wire rod based products in the first three months of 2020 rose by just under 4% versus the first quarter of 2019 mainly due to increased use for energy cables, particularly for electricity distribution and in industrial applications. In the Central/South American region, demand for copper wire rod based products contracted by around 15% over the first three months of 2020, according to industrial sources consulted.

An important indicator of the ongoing contraction in the global demand for copper fabricated products is the 28% fall observed in reported exports of copper wire rod in the first quarter of 2020. This is expected to deepen further in the second quarter. The most affected wire rod exporters were Belgium, Poland, Germany, Malaysia, the Russian Federation, Spain and the United States although trade restrictions are affecting most of copper wire rod exporters around the world.



- The Impact on Fabrication of Copper and Alloy Products in China.** As the first country affected by the virus Chinese production of basic materials and manufactured products fell by around 8.8% in the first quarter of 2020 in relation to the same period of 2019. The generation of

electricity from thermal sources, usually strongly correlated to industrial activity and copper end uses fell by 8.2 %. Fabrication output reported for the first quarter revealed a contraction of under 6%, well above the preliminary estimates of both Chinese and Western analysts. Chinese regions with large fabrication output such as the provinces of Zhejiang, Anhui and Guangdong reported contractions of -15.6 %,-12.8% and -14.9% respectively in the first quarter. In contrast, there was an 8.1% rise in copper and alloys fabrication output in Jiangxi province where there is a large complex able to produce almost 4 million tonnes of copper semis products per year. In the case of Hubei province, this region whose capital is Wuhan, the city most affected by the restrictions, the fabrication of copper and alloys fell over 52%. It should be noted, however, that the output of Hubei province only accounted for 1.7% of Chinese fabrication output in 2019.

In terms of tonnage, Chinese fabrication in the first quarter of 2020 totalled over 3.7 million tonnes in gross weight, only 216 thousand tonnes lower than during the first quarter of 2019. We can infer that, given this relatively small contraction, the resulting oversupply of intermediate products will be, either utilized by copper end users or exported in the second quarter. To understand the importance of the unsold stocks of semis products, further information is needed about the contraction in demand of copper semis in different industrial sectors over the first quarter of 2020.

4. **The Impact on Copper End Uses in China in Q1-2020.** The copper end use industrial sector most affected by the events of the first quarter of 2020 in China was the electric grid, the main driver of demand for copper wire rod. Demand in this sector contracted by 27.4% versus the first quarter of 2019. Automotive production was the most affected copper end use sector with a reported contraction close to 45%. China produced only 3.5 million vehicles in the first quarter compared to an annual production of 22.5 million in 2019. The production of air conditioners is the main driver of the demand for copper tubes. Output in this sector fell by almost 28% in the first quarter. China produced 219 million air conditioning units in 2019.

Another important use of fabricated copper is household refrigerators. Production of these was 20% lower than during the first quarter of 2019 when 79 million units were produced. A similar trend was seen regarding output of AC electric motors where the use of copper is essential. Chinese output in the first quarter was 17.6% lower than the corresponding period of 2019. An important copper end use that was also affected to a lesser extent was the production of electric equipment which fell by 6.9%. A key driver of the demand for electric cables and household appliances is the development of and the investment in the Chinese commercial and residential construction industry. Commercial construction sales amounted to only 13% of those reported in year 2019, meanwhile the total floor space started was only 12% of 2019 and meanwhile floor space completed in China was only 16% of that in all the year 2019.

Recovery in Copper Fabrication Output in China in Q2-2020. We are being told that demand for copper wire and cable in China has been strong in May, largely for infrastructure projects, especially railways and subways. Construction and housing activity remains slow, but starting is improving. Scrap and concentrate shortages could be an issue in the second quarter and

result in issues regarding the availability of refined copper for fabricators. However should be partially alleviated by the fact that imports of unwrought copper, including anode, refined and semi-finished copper products were up 10.4% year-on-year over the period January-April.

5. **The Impact on Copper Fabrication and Copper End Uses in Europe.** The output of the European fabrication industry was not impacted significantly in the first quarter, as lockdowns did not take effect in most countries until March. According to European wire rod producers, despite the increasing lockdown across Europe in March, first and foremost in Italy, they continued to record relatively good demand for copper wire rod during the first quarter. However, inventories of semi-finished products did accumulate. Unfortunately the position of the flat rolled products industry in Europe is not as solid as in the case of copper wire rod, and European demand in this sector contracted significantly compared to the same period of 2019. European traders of recycled copper scrap reported a contraction in their sales of all grades to copper smelters and fabricators in March and April 2020. This was due to lower refined prices and the fact that the metal recycling industry was not considered essential and therefore many plants had to close operations. The two factors described resulted in sustained demand for refined copper from European fabricators, mainly copper wire rod producers. According to other European fabricators, the use of copper cathodes was not depressed in April in Europe, because of the lack of scrap. Production of copper wire rod that was down -6% in Q2-2019, reported a fall of only -1% in the first quarter of 2020. COVID-19 restrictions to economic activity in March and April of 2020 caused a collapse in the sales of copper intensive final products, in particular those related to the automotive and property sectors. In March 2020 compared with March 2019, industrial production decreased by 12.9% in the Euro area and by 11.8% in the European Union.
6. **Industrial Production, Copper Fabrication and End Use: Selected European Countries.** Italy was the country most affected with a contraction in industrial production of over 29% year-on-year in March 2020. The Italian brass mill industry and large copper semis producers reduced the activity for 2 weeks, producing only for the protected value stream according to the government rules. In May 2020, some of the large fabricators in Italy restarted at high capacity utilization in response to stronger demand; however, it is uncertain that this situation will continue over the next few months. In Germany, copper and alloys fabrication output never stopped, and fabricators reported that copper end use demand was strong with positive expectations for May but with uncertainty for the following months. Germany is the top European exporter of capital goods and durable consumer goods, and saw its industrial production fall 14.2% year-on-year in March 2020. France reported a -16.8 percent decrease in industrial output and Spain reported a fall of -12.6%. In conclusion, since the start of March, the effect of the restrictions have had a greater negative impact on copper end uses than fabrication output. It is expected that the destocking of finished goods might affect the European region in May and June, but the situation for the second half of 2020 remains unpredictable. Some fabricators do not have strong expectations of a sustained recovery in fabrication, due to a likely oversupply of copper intensive final products. However, as the impact of the various financial stimulus start to take effect the downside risks to growth of copper uses in Europe should be diminished. The role of European public infrastructure investment and the

management of the stimulus to promote demand for durable consumer goods and intermediate goods will be important to recovery of the demand for copper. Direct emergency income, employment programs and government policy to liquidate stocks of unsold finished products might further support the recovery.

7. **The Impact on Copper Fabrication and Copper End Use in the United States.** In the case of the United States, 48% of all copper used in fabrication goes to the production of copper wire rod. It is expected that most of the impact of the copper end use slowdown related to the containment of COVID-19 in the US demand for copper fabricated products from end users will appear in the second quarter of 2020. U.S. gross domestic product fell at an annualised rate of 4.8 percent in the first quarter of the year.

In 2020, the US fabrication of copper products including wire rod, tubes, is expected to fall below the 1.75 million tonnes in gross weight achieved in 2019, and the same is expected for copper alloys that achieved 380 kt in 2019. Currently around 44% of all semis products in the US are used in the construction industry, around 20% in transport systems and the production of vehicles, 19% in electric and electronic products, 11% in consumer products and 7% for industrial equipment and machinery. Falling consumer spending is expected to have a negative impact on the use of copper during the second quarter of 2020. In the first quarter a sharp decline in consumer spending in transportation (-29.2%), and on durable goods (-1.2%) is confirmed. Annualized declines in household spending on motor vehicles and parts (-33.2%) and household equipment (-6.4%) were particularly steep and are affecting the US demand for fabricated copper and alloys. The largest ever quarterly surge in consumer spending on at-home food and beverages (+25.1%) could result in a limited improvement in the demand for copper semis.

US housing starts are expected to dip by around 9% in 2020, according to the latest forecasts from Fannie Mae, and with employees tele working, a large share of office space will remain empty, so no growth is expected in the US in this segment until and if the employment situation recovers. The use of copper in the US construction industry could fall by around 5% this year if government supports is not forthcoming. In the case of US passenger car production, an annual fall of -57% was reported in April, together with a reduction of 42% for pickup trucks and suburban vehicles, with a total contraction of almost 47% for US vehicle production. According to IHS Markit, overall 2020 global vehicle sales are expected to decline by 22% to 70.3 million and the U.S. is projected to lead the global decline with a -27% fall in domestic vehicle sales.

8. **The Impact on Copper Fabrication and End Use in East Asia ex-China.** Using 2019 as a base for copper use in Japan, it is possible to estimate the impact of the COVID-19 related policies implemented in 2020. The use of copper in fabrication in Japan in 2019 totalled 1.57 million tonnes in copper content, with 697 kt-Cu used to produce copper wire rod, equivalent to 44% of annual copper use. Japan used 335 kt-Cu to produce copper semis and at brass mills representing 21% of the total use, there was only 22 kt-Cu in minor uses of refined copper (1% of all copper use) and an important 33% of all use in 515 kt-Cu in scrap directly melted by Japanese fabricators. In May 2020, the Japanese government published a list of

companies subject to tighter foreign ownership rules. These included users of fabricated copper products such as Toyota Motor Corp and Sony Corp. Japan is expected to use around 200 kt less of refined copper in 2020 and at least 100 kt-Cu less of scrap in fabrication this year.

The Korean Republic's main exports include electronic products, machinery, motor vehicles (particularly automobiles), steel and ships and are considered a leading indicator of the global demand for copper. Exports contracted 46% year-on-year in the first 10 days of May versus the same period in 2019, while imports fell 37%. Overseas sales of semiconductors dropped 18%, while that for mobile communication devices contracted by 36%. The impact on copper demand remains uncertain but if exports are an indicator the country will need a fast demand recovery to return to 2019 copper use volumes in fabrication.

9. **Impacts on Availability, Trade and Generation of Recycled Copper Raw Materials.** In terms of availability of refined copper to sustain the recovery of fabrication in China and the rest of the world in the second and third quarter of 2020, it is useful to consider that the availability of copper concentrates is a central factor due to the ongoing scrap shortage observed in China, Europe and North America. With limited SX-EW mine refined and falling scrap refined output, the only way to avoid a deeper global contraction of refined copper output is melting more copper concentrates. Recent ICSG trade data for copper concentrates revealed a contraction in global exports of close to 8% in the first quarter of 2020 compared to the first quarter of 2019. In the second quarter, it is expected that much lower volumes of copper concentrates will be shipped as some ports in Peru remained closed for the whole of April,

In China, a recovery of economic activity and industrial production of 3.9% year on year in April, vs. -1.1% year on year in March, provides an explanation for an increase in domestic scrap generation and the return of availability of Chinese scrap importers in the US market. As global trade, flows of copper concentrates remain diminished in the second quarter demand from Chinese importers for high grade and brass scrap is being observed. This rise in Chinese demand has resulted in an increase in the spreads for scrap with different copper content in the US in the second quarter. However, the scrap material flow to scrapyards and dismantlers is slowing due to restrictions resulting from the pandemic.

Border crossing issues affecting recycled copper were observed in March and April between some countries, including the European Union where waiting time was significant prior to the implantation of “green lanes”. The probability of additional trade barriers outside Europe remains a challenge for recycled copper traders and industry users of copper scrap. According with some nonferrous metal scrapyards and dismantling plants, small scrap traders stopped operating in March and April in order to protect their workers, and the Bureau of International Recycling announced that many yards closed across Europe.

To estimate the impact of the COVID-19 control related policies on domestic copper scrap generation worldwide, it is necessary to assess the scrap traded internationally, the scrap refined and the scrap directly melted by fabricators every year. In 2019, scrap directly melted by fabricators was close to 5.2 million tonnes, and scrap refined worldwide was estimated in

the ICSG 2019 Recyclables Survey at above 3.3 million tonnes in copper content. Scrap traded internationally is better estimated as a percentage of ICSG global exports in gross weight that achieved 5.2 million tonnes in 2019 and is estimated in 4.7 million tonnes in copper content, after considering the composition of copper and copper alloy scrap reported. As a consequence the domestic scrap generated, recovered, dismantled and used in 2019 was equal to 3.3 million tonnes of copper scrap refined, plus 5.2 million tonnes of scrap directly melted, less 4.7 million tonnes copper traded internationally.

Domestic scrap delivered by scrap traders worldwide to refineries and fabricators was close to 3.8 million tonnes in copper content in 2019, because domestic scrap delivered by scrap traders = scrap refined+ scrap direct melt – global scrap trade. In the first quarter of 2020, the availability of scrap for international trade and for refineries and fabricators, contracted significantly as a result of the COVID-9 related lockdowns and restrictions of operations and transport.

- Based on strong historic correlations between refined copper prices, scrap refined and scrap direct melt by fabricators, we estimate that in the period January-March 2020, scrap refined worldwide fell by 79 kt-Cu because of lower prices for refined copper resulting from the COVID19 pandemic .
- The impact on scrap direct melt was an estimated reduction of 66 kt-Cu worldwide.
- In the first quarter of 2020, global exports of copper and copper alloy scrap fell by around 426 kt in gross weight versus global exports during the first quarter of 2019. This was mainly because of the impact of COVID-19 and the resulting regulatory changes in both importing and exporting countries. This volume is equivalent to about 387 kt-Cu in copper content,

The combined impact of the three variables, less scrap traded of -387 kt-Cu, less scrap refined of -79 kt-Cu and less scrap direct melted by fabricators for -66 kt-Cu on lower refined prices, results in a global contraction of about 532 kt-Cu in the availability of copper scrap in the first quarter of 2020. In March and April of 2020, the availability of scrap improved in China, as a consequence of increases in imported scrap and domestic scrap generation. Imports of copper scraps reported by different countries including China are reported in the graphic at the end of this Insight for every month of the first quarter of 2020. Estimating the impacts of the COVID-19 restrictions and regulations on the recycled copper scrap availability for the month of April 2020 and for the rest of this year is more challenging, as the data available is very limited. However, as already suggested in this insight, it is possible to put forward an estimate but a more detailed study might be necessary to calculate the impacts by sector. In the current situation is more important to focus in the expected impacts on the end use of copper and copper alloys induced by the responses to the pandemic.

10. **Perspectives for 2020 on Global Copper Fabrication and Uses.** A period of uncertainty and extreme pessimism about the situation of the global copper market started in February with the collapse of oil and base metal prices and the spread of the virus and lockdowns out of China.

In May 2020 there is increasing consensus and some data about expected developments for global copper flows over the rest of 2020. One consensus is that the global production of refined copper from recycled sources will be significantly lower than in recent years, due to the issues discussed in this Insight. A second consensus is that production of SX-EW mine refined copper will continue falling.

Another subject of consensus is that the real use of recycled copper in fabrication plants will be lower than has been in recent years, due to lack of scrap availability and due to reduced fabrication output in China in the first quarter and expected lower demand for fabricated products in other industrial centres outside China. This contraction in the demand for fabricated products might eventually affect the global demand for refined copper in 2020, and has already affected demand in China in the first quarter. However, the strong pickup in demand in China in May, if sustained could offset the expected Q2 2020 refined copper demand contraction.

A key subject where no consensus has emerged yet is the size of the contraction in the demand for copper and copper alloy semi-fabricated products. New data is emerging from different countries on the impact of the COVID-19 restrictions in key copper use sectors such as construction activity, consumer demand, electricity demand and from the telecommunications, automotive, railroad and shipping, industrial production and other copper intensive industries. Most of the forecasts are not positive so we can infer that the use of copper and copper alloy products will not be as high in 2020 as the volumes observed in recent years. Based on ICSG estimates for scrap use in direct melt, and the global demand for refined copper assessed for 2019, we calculate that the global availability of new copper produced and traded in 2019 was close to 29.9 million tonnes. If we apply this availability to the estimated use of fabricated copper and alloy products by economic sector for 2019, we have a base to measure the expected changes in the physical use of intermediate copper and alloy products due to the COVID-19 restriction policies implemented in 2020. Two scenarios of stable activity in the construction industry, lower production of consumer products, appliances, industrial products transport and electric grid investments, point to contractions in the total copper end use for 2020 between -1.4 million tonnes and -2,8 million tonnes depending on the speed of reduction of the COVID-2019 related lockdowns if no demand recovery programs are implemented. However, the positive impacts on copper end uses of the implementation of demand recovery programs under discussion are not considered in this analysis and are a subject of a future insight.

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### Global End Use of Intermediate Copper and Alloy Products - Estimate for 2019\*

Copper Content kt-Cu

	Construction Industry	Electric Grid and Telecomm.	Transport: Automotive	Transport: Railroad and Shipping	Industrial Electric and Not Electric	Consumer, Air Conditioning and Electronic Products	Ammunition, Coins and Others	Global Copper Use by Product
Copper Wire Rod	6,025.45	3,920.12	1,648.69	780.17	1,262.12	2,635.03	552.24	16,823.81
Copper and Alloy Tubes	1,458.92	85.35	10.04	36.15	292.19	2,015.50	78.32	3,976.45
Copper and Alloy Rod Bar Sections	715.22	693.61	834.39	84.34	888.61	183.75	187.76	3,587.66
Copper and Alloy Flat Rolled Products	141.57	160.50	598.43	-	313.27	769.12	874.55	2,857.44
Foils, Mechanical Wire, Casting and Powders	206.84	77.57	425.73	296.20	464.89	645.62	515.09	2,631.94
	-	-	-	-	-	-	-	-
<b>Global Copper Use by Economic Sector</b>	<b>8,547.99</b>	<b>4,937.14</b>	<b>3,517.27</b>	<b>1,196.86</b>	<b>3,221.07</b>	<b>6,249.02</b>	<b>2,207.96</b>	<b>29,877.30</b>
*Assumptions:								
World Refined Copper Use 2019 (ICSG)	24,455							
Scrap Direct Melt 2019 (Preliminary ICSG)	5,422							
All intermediata stocks used at the end of the period								

### Annual Global Copper End Use Growth Forecast for 2020

	Construction Industry	Electric Grid and Telecomm.	Transport: Automotive	Transport: Railroad and Shipping	Industrial Electric and Not Electric	Consumer, Air Conditioning and Electronic Products	Ammunition, Coins and Others
<b>Optimistic</b>	0.50%	-3.80%	-22%	-12%	-10%	-24%	3.90%
<b>Pesimistic</b>	0.25%	-1.90%	-11.00%	-6.00%	-5.00%	-12.00%	1.95%

\*Assumption: no demand recovery actions implemented

### Global End Use of Intermediate Copper and Alloy Products - Optimistic Estimate for 2020

Copper Content kt-Cu

	Construction Industry	Electric Grid and Telecomm.	Transport: Automotive	Transport: Railroad and Shipping	Industrial Electric and Not Electric	Consumer, Air Conditioning and Electronic Products	Ammunition, Coins and Others	Global Copper Use by Intermediate Product
Copper Wire Rod	6,041	3,846	1,467	733	1,199	2,319	552	16,157
Copper and Alloy Tubes	1,463	84	9	34	278	1,774	78	3,719
Copper and Alloy Rod Bar Sections	717	680	743	79	844	162	188	3,413
Copper and Alloy Flat Rolled Products	142	157	533	-	298	677	875	2,681
Foils, Mechanical Wire, Casting and Powders	207	76	379	278	442	568	515	2,466
	-	-	-	-	-	-	-	-
<b>Global Copper Use by Economic Sector</b>	<b>8,569</b>	<b>4,843</b>	<b>3,130</b>	<b>1,125</b>	<b>3,060</b>	<b>5,499</b>	<b>2,208</b>	<b>28,435</b>

### Global End Use of Intermediate Copper and Alloy Products - Pesimistic Estimate for 2020

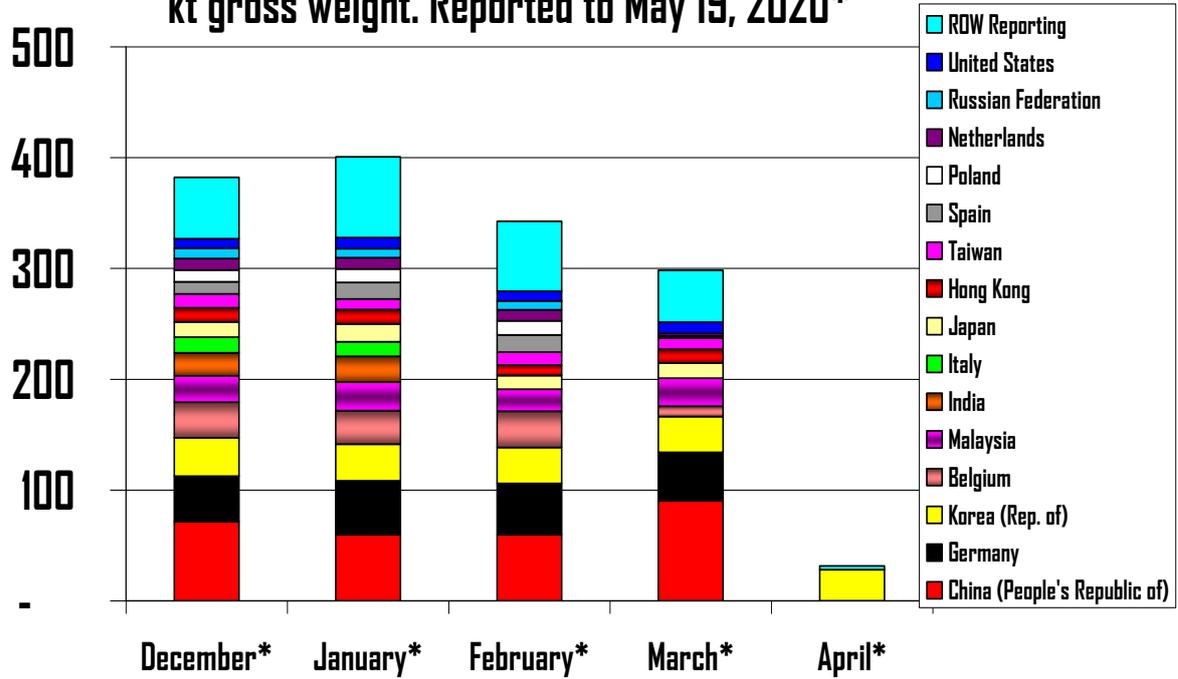
Copper Content kt-Cu

	Construction Industry	Electric Grid and Telecomm.	Transport: Automotive	Transport: Railroad and Shipping	Industrial Electric and Not Electric	Consumer, Air Conditioning and Electronic Products	Ammunition, Coins and Others	Global Copper Use by Product
Copper Wire Rod	6,056	3,771	1,286	687	1,136	2,003	574	15,512
Copper and Alloy Tubes	1,466	82	8	32	263	1,532	81	3,464
Copper and Alloy Rod Bar Sections	719	667	651	74	800	140	195	3,246
Copper and Alloy Flat Rolled Products	142	154	467	-	282	585	909	2,539
Foils, Mechanical Wire, Casting and Powders	208	75	332	261	418	491	535	2,319
	-	-	-	-	-	-	-	-
<b>Global Copper Use by Economic Sector</b>	<b>8,591</b>	<b>4,750</b>	<b>2,743</b>	<b>1,053</b>	<b>2,899</b>	<b>4,749</b>	<b>2,294</b>	<b>27,079</b>

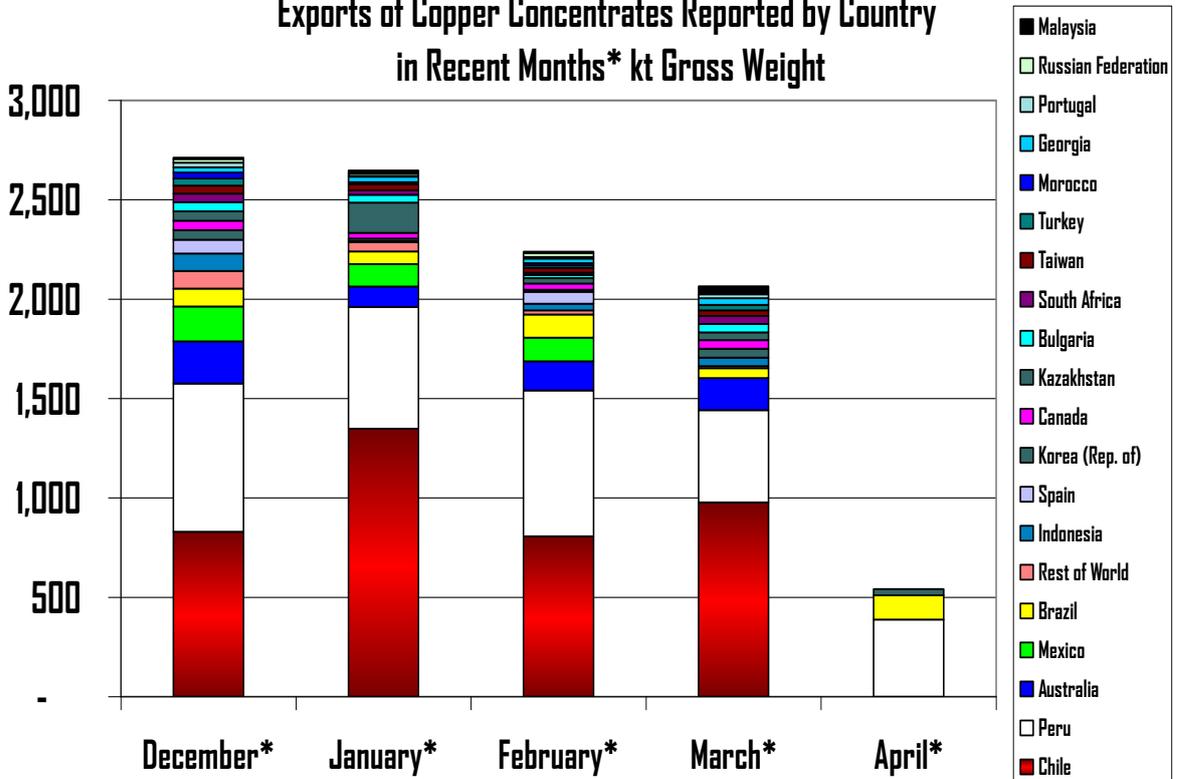
### Global End Use Growth of by Economic Sector 2020 Vs 2019

	Pesimistic	Optimistic
Consumer, Air Conditioning and Electronic Products	- 1,500	- 750
Transport: Automotive	- 774	- 387
Industrial Electric and Not Electric	- 322	- 161
Electric Grid and Telecomm.	- 188	- 94
Transport: Railroad and Shipping	- 144	- 72
Ammunition, Coins and Others	86	-
Construction Industry	43	21
	-	-
<b>Global Copper Use Change 2020</b>	<b>- 2,788</b>	<b>- 1,442</b>

### Imports of Copper, Alloy Scrap and Copper Waste kt gross weight. Reported to May 19, 2020\*



### Exports of Copper Concentrates Reported by Country in Recent Months\* kt Gross Weight



## Main Importers of Recycled Copper: Annual Growth Q1-2020

*imports reported in thousand tonnes gross weight. kt*  
*Q1\*2020 Vs Q1\*2019*

<b>China (People's Republic of)</b>	<b>-37%</b>
<b>Germany</b>	<b>-16%</b>
<b>Korea (Rep. of)</b>	<b>4%</b>
<b>Belgium</b>	<b>-3%</b>
<b>Malaysia</b>	<b>-36%</b>
<b>Japan</b>	<b>-36%</b>
<b>Hong Kong</b>	<b>-22%</b>
<b>Taiwan</b>	<b>4%</b>
<b>Spain</b>	<b>-27%</b>
<b>United States</b>	<b>-24%</b>
<b>Poland</b>	<b>-21%</b>
<b>India</b>	<b>-57%</b>
<b>Canada</b>	<b>-16%</b>
<b>Netherlands</b>	<b>-33%</b>
<b>France</b>	<b>-10%</b>
<b>Austria</b>	<b>-42%</b>
<b>ROW Reporting</b>	<b>-25%</b>
<b>Reported Weighted Average</b>	<b>-26%</b>

## Copper Concentrate Exports Reported in Q1-2020 Vs Q1-2019

**ICSG based on GTT with Full Q1 Reported**

	Q1 2019	Q2 2019	Q3 2019	Q4 2019	Q1 2020	Q1 2020 / Q1 2019
Chile	3,402	3,025	3,585	3,087	3,131	<b>-8%</b>
Peru	2,019	2,177	2,145	2,384	1,810	<b>-10%</b>
Australia	447	431	484	537	410	<b>-8%</b>
Brazil	273	271	281	305	230	<b>-16%</b>
Kazakhstan	200	209	196	153	219	10%
Canada	92	103	106	109	103	12%
Georgia	83	98	99	95	85	2%
Sample	6,516	6,314	6,896	6,669	5,990	<b>-8%</b>