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Global Rare Earths Markets: The impact of the coronavirus and market outlook

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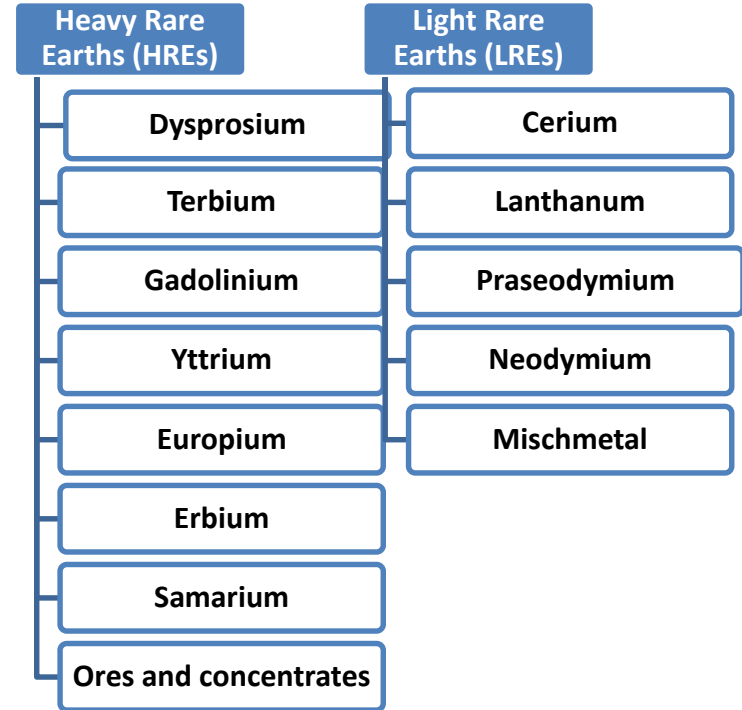


Agenda

1. Argus rare earths coverage
2. The impact of the virus outbreak on rare earths supply
3. The impact of the virus outbreak on rare earths demand
4. An overview of rare earth prices in January and February
5. Outlook and forecast

Argus rare earths coverage

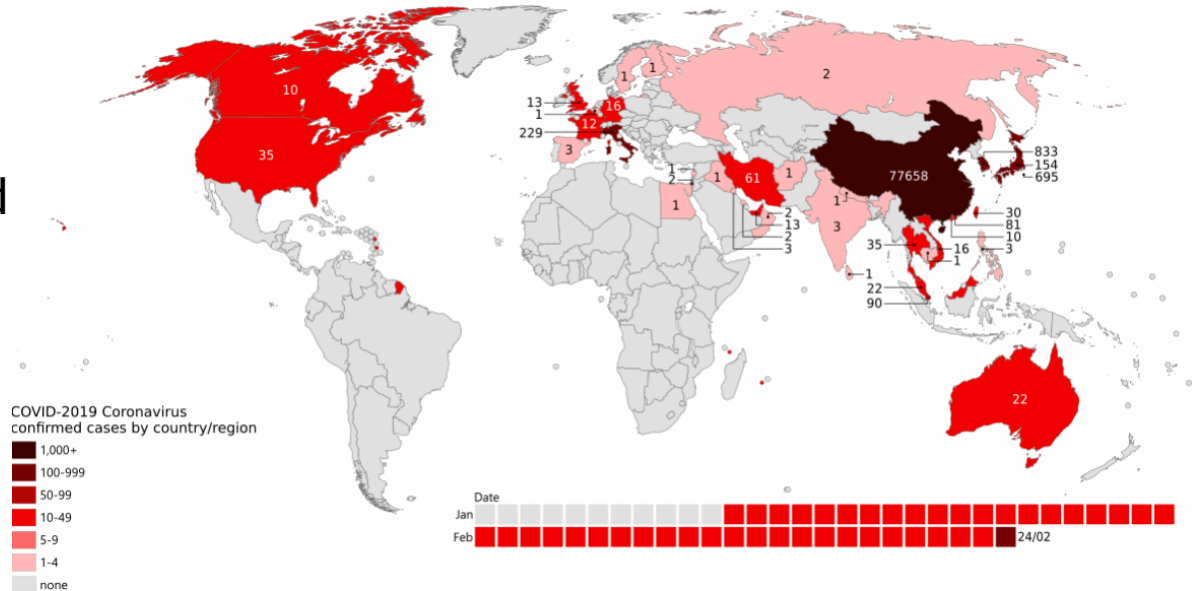
- Daily, twice-weekly and weekly price assessments for 12 rare earth elements
- News, market commentary and analysis
- Historical data back to 2002
- Monthly and annual reports
- Conferences



China's coronavirus outbreak since mid-January

- As of 26 February
 - 78,190 infected
 - 2,718 died
 - 2,491 suspected

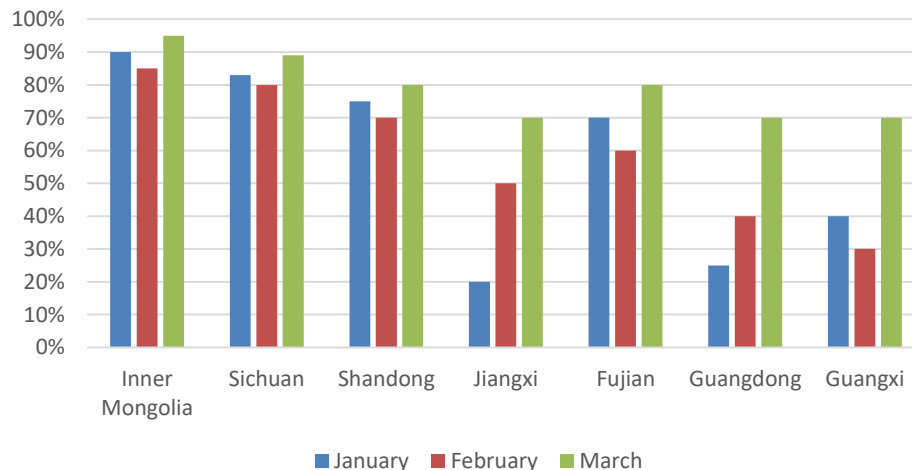
Source: Chinese government



Operating rates at major regions: January-March 2020

- Higher run rates of LREs in Inner Mongolia, Sichuan and Shandong
 - Plentiful feedstock inventories
 - Away from Wuhan, the epicenter of the outbreak
 - Rates slipped in February on logistical issues
- A sharp fall in production rates of HREs in Jiangxi, Guangdong and Guangxi in January and first half of February
 - Low temperatures in winter
 - Transport restrictions, quarantine measures
 - Output restarts and the return of workers delayed to late January
 - Higher labor and freight costs
- Operating rates in March expected to rise, while limited ore feedstock availability is likely to keep HRE rates low.

Operating rates at major regions January-March 2020



Major light rare earths (LRE) plants output

Major LREs plants maintain normal production

Company	Product	Plant location	Plant capacity	Remarks
Baotou Ruixin	Metal processing	Inner Mongolia	80,000 t/yr	Normal production
Baotou Hefa	Separation	Inner Mongolia	20,000 t/yr carbonate, 15,000 t/yr oxides	Normal production
Baotou Xijun	Separation/metal processing	Inner Mongolia	10,000 t/yr	Normal production
Leshan Shenghe	Separation	Sichuan	5,500 t/yr	Normal production
Sichuan Ruifeng	Separation	Sichuan	8,000 t/yr	Normal production
Sichuan JCC RE	Separation/metal processing	Sichuan	16,000 t/yr separation, 2,000 t/yr metal	Normal production
Baotou Lingzhi RE	Seperation	Shandong	22,000 t/yr	Normal production

Major heavy rare earths (HRE) plants output

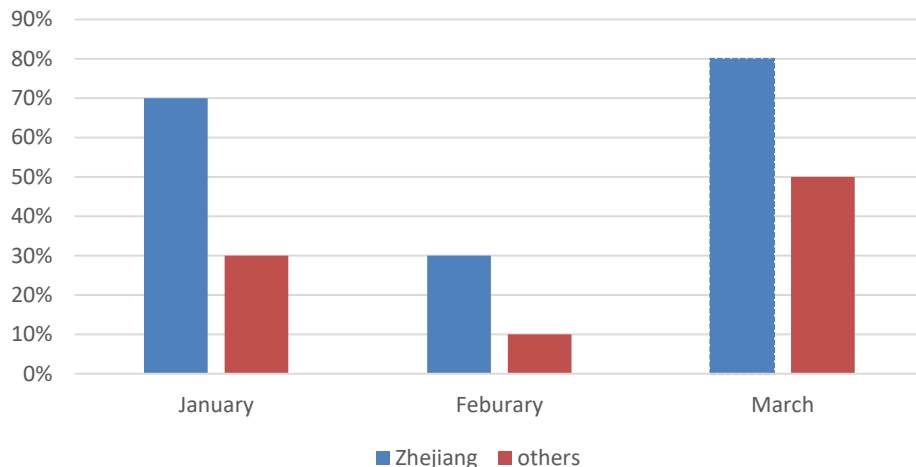
Most HREs plants halted or cut output in January-February

Company	Product	Plant location	Plant capacity	Remarks
Chenguang	Separation/metal processing	Jiangxi	8,000 t/yr	Halt separation and cut metal output
Qiandong	Separation/metal processing	Jiangxi	6,000 t/yr	Halt separation and cut metal output
Southern RE Hi-tech	Metal processing	Jiangxi	1,800 t/yr	Cut output and will resume in March
Fujian Changting Golden Dragon	Separation/metal processing	Fujian	5,000 t/yr oxide, 3,000 t/yr metal	Resumed normal output in mid-February stopping for a week
Fuyuan RE	Separation	Guangdong	5,000 t/yr	Restart in late February after a halt in January
Chinalco Guosheng	Separation	Guangxi	3,500 t/yr	Restart in late February after a halt in January
Chinalco Jinyuan	Separation	Guangxi	2,400 t/yr	Restart in late February after a halt in January

China's magnets operating rates and output forecast

- A significant fall in magnet output in February
 - Logistical bottlenecks, quarantine measures
 - Falling demand from downstream sectors on slow economic growth
 - Delayed output restarts and labour shortages
- Operating rates to rise in March, following the resume of logistics services and workers returning to factories
- Weaker sales, slower expansion and lower exports are forecast to reduce magnet output growth in 2020.

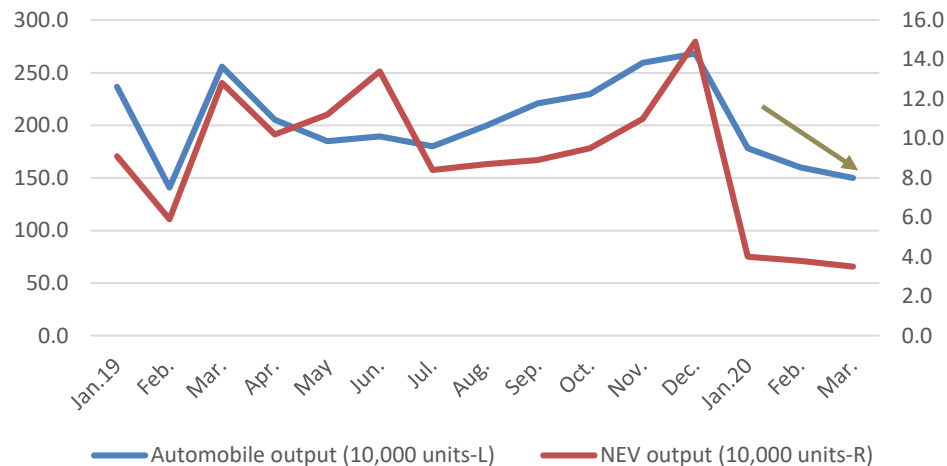
China magnets run rates January-March 2020



Products	2018 (t)	2019 (t)	2020E (t)
Sintered NdFeB bulk	155,000	170,000	185,000
Pr/Nd oxide consumption	47,000	51,000	55,500
Dy oxide consumption	1,200	1,380	1,550

China's automobile and NEV output 2019~2020

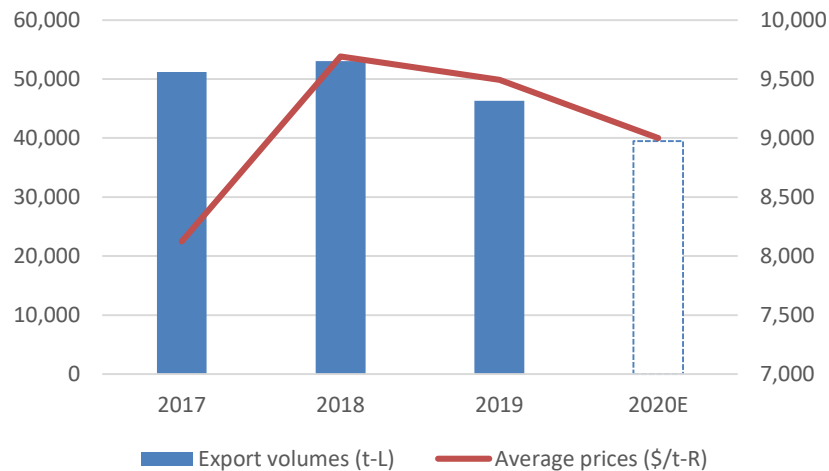
- China's auto and NEV output to fall in 1Q 2020
 - Delay in output restarts
 - Plunging consumer spending
- A fall in auto and NEV output expected to reduce magnets and Pr/Nd consumption



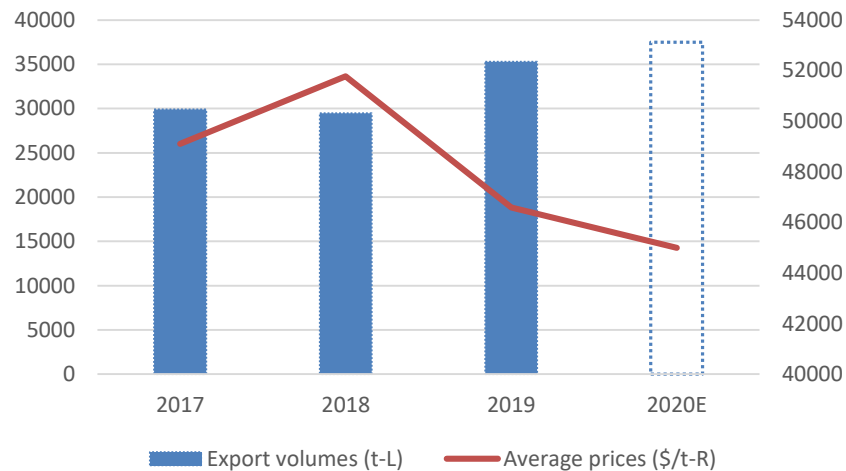
Year	automobile total output(10,000 units)	magnets consumption (t)	Pr/Nd consumption (t)	NEV output (10,000 units)	magnets needed (t)	Pr/Nd needed (t)
2017	2,901	50,767	13,199	77	3,850	988
2018	2,780	48,650	12,649	127	6,350	1,650
2019	2,572	45,010	11,702	124	6,200	1,600
2020E	2,300	40,250	10,465	115	5,700	1,480

China's rare earths and magnets exports 2017-20

China rare earths exports 2017-20



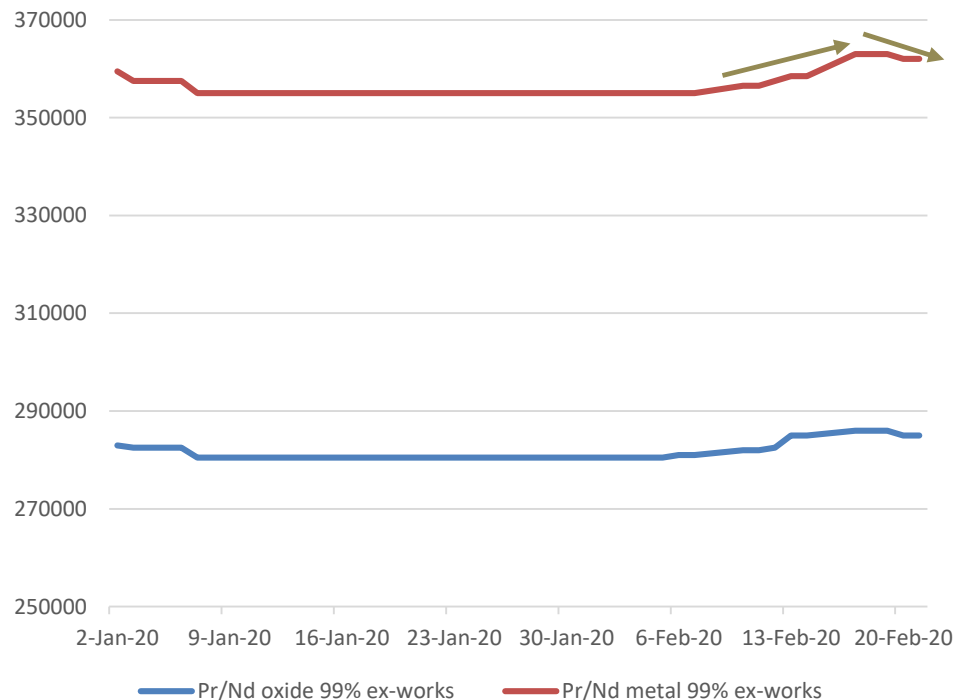
China magnets exports 2017-20



- Rare earths export volumes and prices to fall further in 2020
 - Slowdown in global economic growth
 - Output expansion from international suppliers
 - Plentiful supplies, following a rise in rare earths mining quotas and higher operating rates
- An expected fall in magnets export growth and export prices in 2020

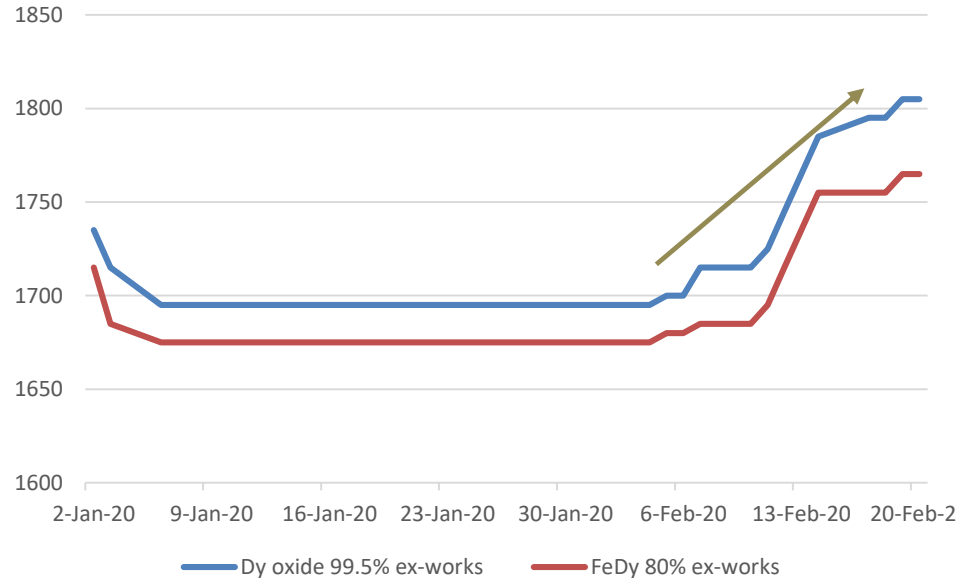
China's Pr/Nd prices

- Rising by 2pc from early February on tight spot supplies caused by logistical issues amid the virus crisis
- Large inventories, higher mining quotas and weaker consumer demand weighed on Pr/Nd prices in late February



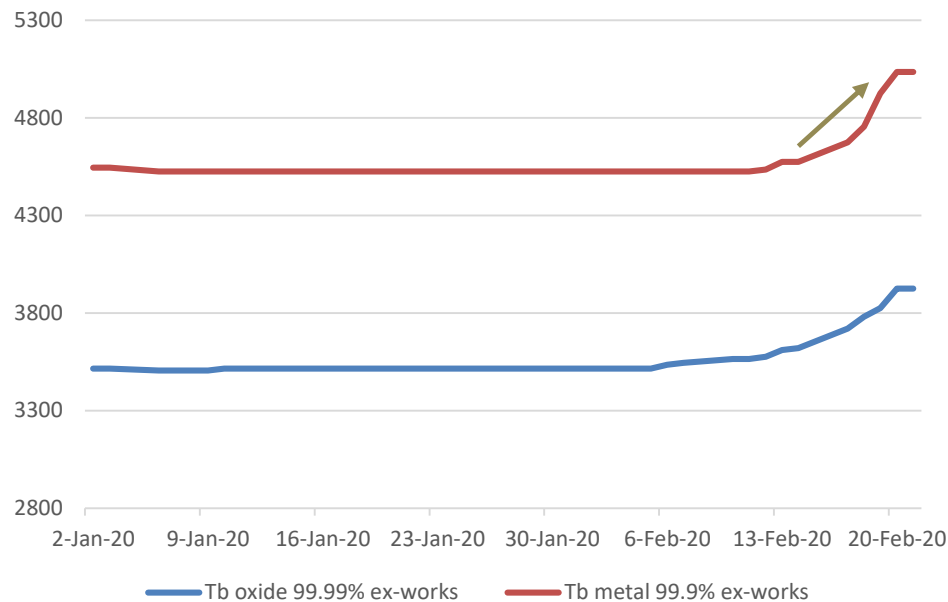
China's Dy prices

- Increasing by 6pc from early February
 - Logistics bottlenecks amid the outbreak
 - Shutdown, output cuts and delay in production resumes
 - Tight ore feedstock supply
 - A fall in ore imports from Myanmar
 - Lower ore output in South China



China's Tb prices

- A 12pc rise from early February
 - Tb oxide increased by 74pc for 2019 exports
 - Tight ore feedstock supply
 - Ore import restrictions from Myanmar
 - Lower ore output in South China
 - A sharp fall in run rates and delayed output restarts amid the virus outbreak



Market outlook

- Plentiful spot supplies and higher operating rates are expected to push down LREs prices, while a rise in magnets output is likely to prevent prices from falling significantly in March.
- HREs prices are expected to rise further, driven by tight ore feedstock availability and lower operating rates.

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- Incisive news and analysis from our team of market experts



Argus Rare Earths Outlook and Annual

- Short-term and long-term price projections
- Comprehensive trade data
- Supply and demand analysis, and crucial developments
- Project tracker
- Excel datafile



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