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A view of Argus

- One of the world’s leading PRAs, Argus has more than 1000 staff members and offices in the world’s principal commodity trading and production centres
- Publishing more than 25,000 price assessments, plus market intelligence for world commodities markets
- Coverage includes:
  - Energy, including oil, natural gas, power, coal, asphalt, base oils, biomass, emissions and more
  - Fertilizers
  - Petrochemicals
  - Metals
- Services
  - Price reporting and indexation
  - Consulting
  - Conferences
  - Data science
- Indexation examples
  - US crude oil
  - European gasoline
  - Asia-Pacific LPG
  - Coal
  - US and European environmental markets
Our consulting capabilities

Investment Support
- Investment feasibility analysis
- Market due diligence
- Long-run supply/demand assessment

Asset Analysis
- Asset optimisation
- Market price maximisation
- Performance benchmarking

Market & Pricing Strategy
- Market entry strategy
- Target market analysis
- Customer segmentation

Regulatory Response
- Regulatory policy impact analysis
- Optimal compliance strategy
- Investment decision support

Transfer & Off-spec Pricing
- Tax authority compliance support
- Internal transfer pricing analysis
- Price adjustments for product specs

Argus Consulting Services
Experienced analysts and market experts
Global coverage with local presence
Commodity market expertise
Trusted data

illuminating the markets
## Metals consulting services update

### Argus Battery Materials Service
**Monthly**
- 12-month price projections
- Comprehensive trade data and full year forecast
- Supply and demand analysis, & crucial developments
- Project tracker
- Excel datafile

**Bi-annual Analytics Update (Excel datafile & webinar – pdf slides) – Li, Co, Ni, Mn & graphite**
- 10-year supply forecast model (including update of project tracker)
- 10-year demand forecast model (by element and end-use application)
- 10-year price forecast by element

**Analyst access**
- Access to our battery materials experts for market queries, updates etc.

**White papers, webinars & other content**

### Argus Rare Earths Service
**Monthly**
- 12-month price projections
- Comprehensive trade data and full year forecast
- Supply and demand analysis, & crucial developments
- Project tracker
- Excel datafile

**Bi-annual Analytics Update (Excel datafile & webinar – pdf slides)**
- 10-year supply forecast model (including update of project tracker)
- 10-year demand forecast model (by element and end-use application)
- 10-year price forecast by element (REO basis)

**Analyst access**
- Access to our rare earths experts for market queries, updates etc.

**White papers, webinars & other content**

### Argus Tungsten Service
**Monthly**
- 12-month price projections
- Comprehensive trade data and full year forecast
- Supply and demand analysis, & crucial developments
- Project tracker
- Excel datafile

**Bi-annual Analytics Update (Excel datafile & webinar – pdf slides)**
- 10-year supply forecast model (including update of project tracker)
- 10-year demand forecast model (by region and end-use application)
- 10-year price forecast (APT basis)

**Analyst access**
- Access to our tungsten experts for market queries, updates etc.

**White papers, webinars & other content**
Metals consulting services update – Battery Materials

Argus Battery Materials Monthly Outlook

Outlook

The month ahead
Average battery material prices were mixed in May, with lithium, cobalt and graphite prices declining, and nickel and manganese prices improving. The outlook for the month ahead is for most prices to continue to weaken, with only nickel and possibly cobalt showing the downward trend.

The next 3-6 months
Market fundamentals should come more into play in the next six months, but the new Covid-19 outbreak in China has added uncertainty to the market outlook.

12 months forward
Demand for battery raw materials is expected to continue to forge ahead in the coming 12 months, although there are signs of a slowdown in electric vehicle growth.

Lithium prices
Average lithium carbonate prices in China were $13,600-$14,000/mt, down by 3% from May, and spot prices continued to weaken in June. Chinese ex-works lithium carbonate prices averaged $11,600-12,000/mt in May (down by 6%), and the offshore price dropped by 5% to $11,250-11,800/mt.

Battery Materials Analytics

Metals
illuminating the markets
Metals consulting services update – Rare Earths

Argus Rare Earths Monthly Outlook

Outlook

The month ahead
Limited spot availability and a rise in enquiries bolstered prices for praseodymium-neodymium, neodymium, gadolinium and terbium, while other rare earth elements were flat at best on weak demand. The outlook for the month ahead is generally stable, with potential upside for neodymium and some YIBO prices.

The next 3-4 months
The outlook for rare earth prices in the medium-term is clouded by the global effects of Covid-19, and any second wave of the virus will knock back demand further.

3-12 months forward
In the longer term, prices for rare earths used in vehicle electrification and clean energy could increase, while other rare earth prices are expected to be flat at best.

Certain prices
Chinese-sourced oxide prices dropped in July, outpacing the monthly average losses of 3.2%, but certain metal prices improved. The average monthly NBP price for REEHAR c consuming neodymium oxide was $25,183.45/kg in July, down by 3.3% while average spot prices for Y2O3 consumer metal rose by 5.4% to $7,500.00/kg. Monthly NBP prices for REEHAR REEHAR consumer oxide in Europe were assessed at $25,750.00/kg on 2 July.

Available on the Argus Publication App
Metals consulting services update – Tungsten

Argus Tungsten Monthly Outlook

Outlook

The month ahead
Monthly average tungsten prices were generally flat in July, although spot prices were rising at the end of the month. The outlook for the month ahead is for a rise in spot prices, but any rise will be limited by a lack of spot demand.

The week ahead
In the medium term, tungsten prices may improve slowly, depending on the possibility of second waves of Covid-19 and renewed lockdowns.

3Q outlook forward
Market fundamentals and end-use pressures should come more into play in the longer term, while the reverberations in severe cases following the Covid-19 outlook will dictate the direction of prices.

Tungsten concentrate prices
Spot tungsten concentrate prices in China increased slightly at the end of July, meaning the monthly average up on compared to June. The monthly average increased by 0.6% YoY (Y695.71-737.59) in July, with the average to 11 August set up by heavy spot at Y1060 (6%180.58-Y1095). Argus tungsten concentrate contracts quoted averaged $130-150/tonne in July (vs.

Outlook: Strengthening

Metals

illuminating the markets

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Metals

Capabilities

- **Metals price forecasting** – Forecast prices 10-15 years ahead – published information for rare earths, tungsten and cobalt (other battery materials to follow). Plus single client price forecasting

- **Market landscape** – Comprehensive analysis of metals end-use markets and applications, with long-term forecasts for demand (e.g. transport model, rechargeable battery outlook)

- **Supply outlook/new sources** – Detailed project trackers and long-term supply forecasts for a number of metals

- **Technology assessment** – Investigation of technological changes and market impacts (e.g. changing battery technologies)

Example Projects

- **Rare earth carbonate market and pricing study** – Analysis of the market for rare earth carbonates, building a model for RE carbonate pricing and price forecast to 2030

- **Rare earth concentrate market study** – Market, pricing and price forecasts for RE concentrates

- **Training and supply risk management** – Overview of REEs and 9 other elements + risk analysis for a major OEM company

- **Antimony market impact & advisory study** – Understanding the effect of new capacity on global supply-demand balance, as well as future antimony pricing & potential hedging mechanisms

illuminating the markets
Our global metals project experiences

Rare earth carbonate pricing & market study
Analysis of the RE carbonate market, pricing model & forecast

Minor metals market presentation
For a major Swedish company (exploration, mining, smelting and metals recycling)

Rare earths market study
Russian by-product rare earths producer (from fertilizer production)

Battery Material Supply outlook
Japanese conglomerate investigating the supply risks for metals in li-ion batteries for EVs

Analysis of REE and Ti6Al4V markets
For a diversified international industrial and financial business

Training and supply risk management
Overview of REEs and 9 other elements + risk analysis for a major OEM company

Antimony market advisory study
For a Middle Eastern metals project company

Niobium metal market study
Overview and market forecasts for a Chinese refractory metal producer

Rare Earths Market overview
Part of IPO documents for an African mining project

Producer site visits and interviews
Arranged a programme of tungsten producer site visits for a metals market investment fund (including a Chinese market report)

Ferro-alloys factsheets
For a global and diversified mining business headquartered in London

Rare earth concentrate market study
Market, pricing and price forecasts for rare earth mixed concentrates (potential project)

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Electric vehicle sales forecast

- EV sales are forecast to decline by 6pc in 2020, from 2.26mn units sold in 2019 to 2.13mn in 2020, with BEV sales falling 9pc and PHEV sales only decreasing 1pc primarily due to relatively strong European demand.

- Argus forecasts total EV sales of 7.2mn in 2025, which includes 5.7mn BEVs and 1.5mn PHEVs.

- In 2030, Argus forecasts 23mn EVs sold, 19mn of which are BEVs and the remaining 4mn PHEVs.

- 82pc of EVs sold globally in 2030 will be BEVs and 18pc PHEVs, increasing the average battery size per EV.
Global offshore wind installations reached 28.9 GW by the end of 2019.

6.1 GW of offshore wind capacity went into operation in 2019 (27pc growth from 2018 - a record year).

Largest offshore wind markets in 2019:
- UK: 9.7 GW
- Germany: 7.5 GW
- China: 4.9 GW

China leads the way with a total capacity of 3.7 GW currently under construction, followed by the Netherlands with 1.5 GW.
Tungsten charts

Production cost curve

Price forecast

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