

# Anthracite Market Survey

## *A Research Proposal by Resource-Net*

### **Introduction**

Anthracite is a high-rank coal, with low volatile matter, typically less than 10% and fixed carbon more than 80% (*see Appendix 1*). While much of the annual production goes for combustion in specially equipped power stations, opportunities also exist as coke replacement in some process industries (mainly for lumps), ore-agglomeration (fines) and other higher value applications. Demand by the power sector has been in sharp decline in recent years, in Europe especially.

**Resource-Net is well qualified to undertake a report on anthracite being the only research organization following this market on a continuous basis.** A monthly report on the coke and anthracite markets has been issued since 2007 and has gained acceptance as the key reference source for information on these markets.

Russia has emerged in recent years as the key anthracite supplier to Europe and other markets around the world. Since the conflict in 2014, production in Ukraine has been under the control of Russian-backed parties. Vietnam's position as an exporter is rapidly diminishing due to its high cost profile and government policies. Other sources such as South Africa and the United States focus primarily on their domestic markets, with limited exports. Supply is emerging from Peru though is likely to remain small in scale.

### **Outline Coverage**

The Survey will include the following:

#### **Anthracite Supply**

- Main producers worldwide with approximate “run of mine” capacity;
- Ownership of main producers;
- Historical production by country (2001-19);
- Grades by major mine and/or country;
- Logistics issues (port, rail etc) as they impact anthracite availability;
- Future developments in world mine capacity, new projects;
- Future anthracite availability – China, Peru, Russia, South Africa, Ukraine, Vietnam plus available export statistics.

#### **Demand for Anthracite**

- Historical anthracite consumption (all grades combined) by country (2001-19);
- Forecast anthracite requirements by country to 2024.

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## Outline Coverage (cont'd)

### Consuming Sector Outlook

Unsize (fines) Markets:

- Power stations
- Ore sintering & pelletizing
- Pulverized coal injection (PCI) in the blast furnace
- Ilmenite smelting
- Electrodes (paste for EAFs, cathodes for aluminium smelting)

Sized (lumps) Markets:

- Electric-arc furnace smelting (manganese alloys, ferrochrome, calcium carbide)
- Lime kilns (soda ash, sugar-beet refining, dolomite, lime)
- Additive in steelmaking
- Domestic heating

*To include the following:*

- Specifications required for each application;
- Discussion of alternatives to anthracite in above applications;
- Approximate historical demand by world region and application.

### Price Analysis & Forecasts

- Price forecasts to 2024: lumps and fines, \$/tonne cfr Europe;
- Analysis of long-term anthracite price development versus coke and coking coal.

The report will be around 150-170 pages in length.

## Methodology

The approach to sourcing information for the “Anthracite Market Survey” is primarily by communications and interviews with participants in the market, i.e. consumers, traders and producers in all parts of the world.

Sources of information will include:

- Statistical data on production and demand from industry associations and producers;
- Conference papers and company information;
- Trade data when available;
- Interviews with key industry participants.

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## Costs, Conditions & Timing

**The cost for the report will be €1700 or US\$1900.** Invoices for the full amount will be issued in March. Companies wishing to subscribe should confirm by contacting Resource-Net via email without delay. Full payment will be required in all cases before dispatch of the report.

**The “Anthracite Market Survey” will be completed by the end of June 2020.** The report would be sent out in “Portable Document Format” (pdf). Companies subscribing would be required to restrict access to the research to their own personnel, as according to Resource-Net’s standard conditions of supply.

## Background

Andrew Jones has more than twenty years' experience of analysing the global commodities sector as well as an extensive technical knowledge of the steelmaking and non-ferrous metals industries. Prior to establishing “Resource-Net” in 1999, he had been employed in commodities research and equity analysis in several countries.

He has an Honours Degree in Metallurgy from the University of Sheffield (UK) and an MSc in Multinational Commerce from Boston University Brussels. He is based in Belgium and South Africa.

Any questions or expressions of interest in this proposal should be addressed to:

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## Appendix 1

### Definition of Anthracite

**Anthracite:** Highest rank of coal, with low volatile matter, typically less than 10% (dry basis); fixed carbon is normally >80%; and high hardness / good “grindability” (HGI <40).

However, there is some variation in the definition with some countries seemingly also reporting so-called “semi-anthracite” - having volatiles 10-12% (or even up to 15%) and fixed carbon <80% - as “full anthracite”. These grades are typically sold into low-volatile PCI and power-generation markets.

***CF:***

**Medium-rank coals:** bituminous (steam, PCI/soft coking, hard coking, low-volatile PCI).

**Low-rank coals:** lignite, sub-bituminous.

Areas of use for anthracite can be categorized as follows:

- **Power generation:** high calorific value (CV) required, low sulphur;
- **Domestic (smokeless) fuel:** high CV, low sulphur, ease of ignition (determined by volatile content);
- **Reductant in various processes:** carbon content, sulphur and phosphorus contents all important. Size is normally dependent on the process and precise plant configuration.