November 27, 2022

Dataset | Open Access

Open database on global coal and metal mine production

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See also the associated Data Descriptor published in Nature Scientific Data: www.nature.com/articles/s41597-023-01965-y (https://www.nature.com/articles/s41597-023-01965-y)

This data set covers global extraction of coal and metal ores on an individual mine level. It covers 1171 individual mines in 80 different countries, reporting mine-level production for 80 different materials in the period 2000-2021. Furthermore, also data on mining coordinates, ownership, mineral reserves, mining waste, transportation of mining products, as well as mineral processing capacities (smelters and mineral refineries) and production is included. The data was gathered manually from more than 1900 openly available sources, such as annual or sustainability reports of mining companies. All datapoints are linked to their respective source documents. After manual screening and entry of the data, automatic cleaning, harmonization and data checking was conducted. Geoinformation was obtained either from coordinates available in company reports, or by retrieving the coordinates via Google Maps API and subsequent manual checking. For mines where no coordinates could be found, other geospatial attributes such as province, region, district or municipality were recorded, and linked to the GADM data set, available at www.gadm.org (https://www.gadm.org).

The data set, found in the "data" sub-folder, consists of 12 tables. The table “facilities” contains descriptive and spatial information of mines and processing facilities, and is available as a GeoPackage (GPKG) file. All other tables are available in comma-separated values (CSV) format. If you are working in Excel or have problems handling the GeoPackage file, it can be converted to Excel with an online tool, such as https://mygeodata.cloud/converter/gpkg-to-xlsx (https://mygeodata.cloud/converter/gpkg-to-xlsx).

A schematic depiction of the database is provided in the file database_model.pdf. A description of all variables of all tables is provided in the Excel file variables_descriptions.xlsx, and all materials for which production is reported in the database are listed in the file materials_covered.xlsx.

For convenience, global and national coverage shares for every material and country with recorded production in the database is provided in the file coverage_table.pdf. These coverage shares were calculated by comparing the production values of this database to official production statistics reported in the UNEP IRP Global Material Flows Database, to be found under https://www.resourcepanel.org/global-material-flows-database (https://www.resourcepanel.org/global-material-flows-database). For significant raw material producing countries, these coverage shares are also visualised in the file coverage_national_area_charts.pdf.

Preview

transport.csv	65.0 kB
waste.csv	70.0 kB
database_model.pdf	76.7 kB
materials_covered.xlsx	11.3 kB
variables_descriptions.xlsx	12.1 kB

Files (1.1 MB)

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Publication date:

November 27, 2022

DOI:

DOI 10.5281/zenodo.7369478

Keyword(s):

raw material extraction (/search?q=keywords%3A%22raw+material+extraction%22) mining (/search?q=keywords%3A%22mining%22) coal (/search?q=keywords%3A%22coal%22) metal ores (/search?q=keywords%3A%22metal+ores%22) minerals (/search?q=keywords%3A%22minerals%22) mine production (/search?q=keywords%3A%22mine+production%22)

Grants:

European Commission:

- FINEPRINT - Spatially explicit material footprints: fine-scale assessment of Europe's global environmental and social impacts (725525)

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Jasansky, Simon, Lieber, Mirko, Giljum, Stefan, & Maus, Victor. (2022). Open database on global coal and metal mine production (1.0.3) [Data set]. Zenodo. https://doi.org/10.5281/zenodo.7369478

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