



**International Workshop
on Energy Statistics and Energy Balances**

**MONGOLIA: COAL AND DERIVED FUELS
(DATA COLLECTION AND PROCESSING)**

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Content

Brief introduction about Mongolia

Data source and classification

Collection period and frequency

Data collection, processing and validation

Data dissemination

Mongolia in figures

Territory: 1.5 million square kms (19th largest in the World)

The total length of border: 8.2 thous.km of which: with Russia 3.5 thous.km
with China 4.7 thousand km

Population: 3.0 million (2015)

Population density: 1.8 per square km

Economic growth: 2.3% (2015)

GDP: USD 4.2 thous.\$ (2015)

Major industries: Agriculture, mining

Natural resources: Copper ,coal, gold, iron, silver, molybdenum, tin, zinc, wolfram, fluorspar, and petroleum



Temperatures in the winter -15 C -40 C, in the summer +10 C +35 C



Coal Mining in Mongolia



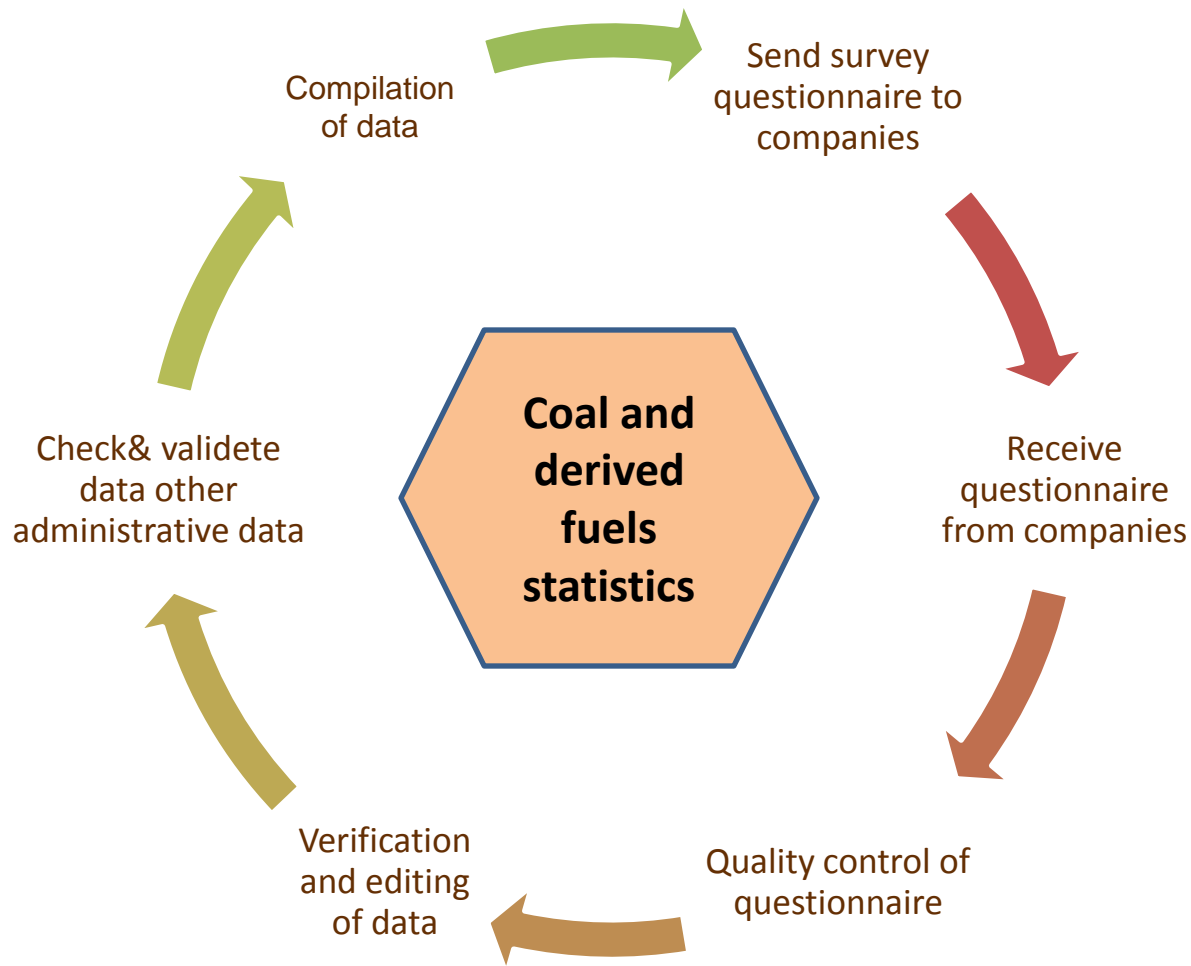
Coal statistics usually include primary (hard coal and lignite) and derived fuels.



Resources (2013)

Coal (bln.t) 175.5

DATA COLLECTION AND PROCESSING



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Processing and data validation

Verification includes logical, range, variance and consistency checks

Validation edits

- to check the validity of basic identification of classificatory items in unit data

Logical edits

- ensure that two or more data items do not have contradictory values.

Consistency edits

- check to ensure that precise and correct arithmetic relationships exist between two or more data items.

Range edits

- identify whether or not a data item value falls inside a determined acceptable range.

Variance edits

- involve looking for suspiciously high variances at the output edit stage.

METHODOLOGY, CLASSIFICATION

Guidelines/Methodologies:

- ✓ Methodology on Estimation of Energy Balance, approved by NSO, 2008

Classification:

- ✓ ISIC 4.0
- ✓ CPC 2.0
- ✓ Coal, coal product classification (MNS6457: 2014)

Data source:

- ✓ Official statistics (companies)
- ✓ Administrative data Ministry of Mining
- ✓ Data of Customs office



CALCULATE FOLLOWING BALANCES EVERY YEAR

Since
1965

⑩ BALANCE OF ELECTRICITY

Since
1965

⑩ BALANCE OF COAL

Since
1995

⑩ BALANCE OF THERMAL ENERGY

COLLECTION PERIOD AND FREQUENCY

| Name of questionnaire | Frequency | SCOPE | Source | Number Of Entities | Number of indicators | Dissemination |
|---------------------------|-----------|--------|-----------|--------------------|----------------------|-----------------------------|
| INDUSTRIAL MONTHLY REPORT | Monthly | Full | Companies | 40 | 12 | Monthly bulletin & yearbook |
| PRODUCER PRICE INDEX | Monthly | Sample | Companies | 5 | 1 | Monthly bulletin & yearbook |
| BALANCE OF COAL | Annual | Full | Companies | 42 | 18 | Yearbook |
| ANNUAL ENTREPRISE SURVEY | Annual | Full | Companies | 42 | 18 | Yearbook |
| SUT | Annual | Sample | Companies | 42 | 1 | Year book |

DATA DISSEMINATION

BALANCE OF COAL

| Indicators | 2012 | 2013 | 2014 | 2015 |
|---|-----------------|-----------------|-----------------|-----------------|
| | thous.t | | | |
| Resources- Total | 38 809.4 | 38 981.5 | 33 413.4 | 30 373.6 |
| <i>Stock at the beginning of the year</i> | 8 883.0 | 8 857.5 | 8 124.2 | 6 166.9 |
| <i>Produced</i> | 29 926.1 | 30 123.3 | 25 287.8 | 24 205.9 |
| <i>State owned mining company</i> | 10 335.6 | 12 322.2 | 11 087.5 | 10 281.3 |
| <i>Private sector's mining company</i> | 19 590.5 | 17 801.1 | 14 200.3 | 13 924.6 |
| <i>Import</i> | 0.3 | 0.7 | 1.4 | 0.8 |
| Consumption-Total | 7 381.3 | 8 180.9 | 8 342.2 | 7 793.3 |
| <i>Consumed by thermal power stations</i> | 5 800.9 | 6 374.7 | 6 650.9 | 6 687.5 |
| <i>Distributed to establishments and households for fuel purposes</i> | 1 580.4 | 1 806.2 | 1 691.3 | 1 105.8 |
| <i>Industry & construction</i> | 336.6 | 222.7 | 144.0 | 53.3 |
| <i>Transport & communication</i> | 42.2 | 11.3 | 49.9 | 45.1 |
| <i>Agriculture</i> | 3.7 | 7.5 | 8.1 | 7.8 |
| <i>Communal housing</i> | 637.0 | 787.5 | 568.4 | 510.5 |
| <i>of which: household</i> | 626.0 | 783.2 | 563.6 | 508.6 |
| <i>Other</i> | 480.8 | 615.1 | 532.4 | 337.3 |
| <i>Manufacturing</i> | 7 047.1 | 10 082.9 | 4 590.2 | 2 614.4 |
| <i>Export</i> | 15 523.5 | 12 593.5 | 14 314.1 | 13 348.3 |
| <i>Losses during transportation and storage</i> | 80.1 | 162.1 | 388.5 | 151.8 |
| <i>Stock at the end of the year</i> | 8 857.5 | 8 124.2 | 6 166.9 | 6 617.6 |

GROSS INDUSTRIAL OUTPUT*, by international standard industrial classification

| Divisions | 2012 | 2013 | 2014 | 2015** |
|---|----------------|-----------------|-----------------|-----------------|
| | bln.tog | | | |
| Total | 9 821.3 | 10 443.7 | 14 402.9 | 13 734.6 |
| Mining and quarrying | 5 787.0 | 6 099.8 | 9 271.3 | 8 685.7 |
| <i>Mining of coal and lignite</i> | <i>1 722.6</i> | <i>1 461.1</i> | <i>1 081.7</i> | <i>975.1</i> |
| <i>Extraction of crude petroleum</i> | 430.7 | 770.9 | 1 125.2 | 755.5 |
| <i>Mining of metal ores</i> | 2 255.6 | 3 273.7 | 6 467.5 | 6 412.4 |
| ... | | | | |
| Manufacturing | 3 012.1 | 3 212.8 | 4 042.7 | 3 741.1 |
| <i>Manufacture of coke and refined petroleum products</i> | 508.1 | 563.5 | 676.7 | 396.8 |
| ... | | | | |

COMPOSITION OF GROSS INDUSTRIAL OUTPUT*, by international standard industrial classification, by percentage share to total

| Divisions | 2012 | 2013 | 2014 | 2015** |
|---|---------------------------|--------------|--------------|--------------|
| | Percentage share to total | | | |
| Total | 100.0 | 100.0 | 100.0 | 100.0 |
| Mining and quarrying | 58.9 | 58.4 | 64.4 | 63.2 |
| <i>Mining of coal and lignite</i> | 17.5 | 14.0 | 7.5 | 7.1 |
| <i>Extraction of crude petroleum</i> | 4.4 | 7.4 | 7.8 | 5.5 |
| <i>Mining of metal ores</i> | 23.0 | 31.3 | 44.9 | 46.7 |
| | | | | |
| Manufacturing | 30.7 | 30.8 | 28.1 | 27.2 |
| <i>Manufacture of coke and refined petroleum products</i> | 5.2 | 5.4 | 4.7 | 2.9 |

COAL PRODUCTION AND EXPORT

| <i>Commodities</i> | <i>Unit</i> | 2012 | 2013 | 2014 | 2015* |
|------------------------|----------------|----------|----------|----------|----------|
| <i>Coal production</i> | <i>thous.t</i> | 29 926.1 | 30 123.3 | 25 287.8 | 24 205.9 |
| <i>Export- coal</i> | <i>thous.t</i> | 20 915.5 | 18 373.1 | 19 499.0 | 14 472.6 |
| <i>Coal per capita</i> | <i>t</i> | 11.0 | 10.8 | 8.8 | 8.2 |



SUPPLY TABLE - 2013 at basic prices, including a transformation into purchasers' prices, bln.tog

| | Products | ISIC | Mining of coal and lignite | Manufacture of coke and refined petroleum products | DOMESTIC OUTPUT, at basic prices | Import | TOTAL SUPPLY, at basic prices | Valuation | TOTAL SUPPLY, at purchasers' prices |
|----|---|------|----------------------------|--|----------------------------------|-----------------|-------------------------------|----------------|-------------------------------------|
| A | C | CPC | 5 | 19 | 56 | | 59 | | 71 |
| 5 | Coal and lignite; peat | 11 | 1 380.1 | 0.0 | 1 380.2 | 0.6 | 1 380.7 | 239.9 | 1 620.7 |
| 10 | Electricity, town gas, steam and hot water | 17 | 1.4 | 0.0 | 427.5 | 0.0 | 427.5 | - 33.0 | 394.5 |
| 14 | Grain mill products, starches and starch products; other food products | 23 | 0.0 | 0.0 | 262.2 | 429.4 | 691.6 | 191.5 | 883.1 |
| 23 | Coke oven products; refined petroleum products; nuclear fuel | 33 | 0.8 | 563 531.2 | 564.4 | 2 320.8 | 2 885.2 | 857.6 | 3 742.8 |
| 40 | Wholesale trade services | 61 | 0.1 | 0.0 | 1 620.3 | 0.0 | 1 620.3 | - 1 620.3 | 0.0 |
| 41 | Retail trade services | 62 | 2.0 | 0.0 | 1 626.6 | 0.0 | 1 626.6 | - 1 626.6 | 0.0 |
| 42 | Accommodation, food and beverage services | 63 | 0.2 | 0.0 | 494.8 | 110.4 | 605.2 | 15.0 | 620.2 |
| 43 | Passenger transport services | 64 | 0.3 | 0.0 | 1 212.5 | 9.7 | 1 222.2 | - 24.2 | 1 198.0 |
| 44 | Freight transport services | 65 | 1.4 | 0.0 | 882.8 | 156.7 | 1 039.5 | - 561.0 | 478.5 |
| 46 | Supporting transport services | 67 | 0.0 | 0.0 | 572.6 | 14.6 | 587.2 | 15.0 | 602.2 |
| 48 | Electricity, gas and water distribution (on own account) | 69 | 1.4 | 0.0 | 573.7 | 178.3 | 752.0 | 51.1 | 803.1 |
| 50 | Real estate services | 72 | 0.1 | 0.0 | 1 621.5 | 0.0 | 1 621.5 | 50.6 | 1 672.1 |
| 51 | Leasing or rental services without operator | 73 | 0.2 | 0.0 | 80.8 | 32.8 | 113.6 | 2.8 | 116.5 |
| 54 | Other professional, technical and business services | 83 | 0.0 | 0.0 | 1 217.0 | 294.4 | 1 511.4 | 23.2 | 1 534.6 |
| 57 | Support services to agriculture, hunting, forestry, fishing, mining and utilities | 86 | 73.1 | 0.0 | 116.7 | 90.1 | 206.8 | 5.6 | 212.4 |
| 69 | TOTAL | | 1 461.1 | 563 531.2 | 33 935.7 | 11 382.0 | 45 317.7 | 2 178.6 | 47 496.3 |
| 72 | OUTPUT at basic prices | | 1 461.1 | 563 531.2 | 33 935.7 | 11 777.2 | 45 712.9 | 2 178.6 | 47 891.5 |

USE TABLE - 2013 at purchasers' prices, bln.tog

| No | Description | CPC | Mining of coal and lignite | Manufacture of coke and refined petroleum products | INTERMEDIATE CONSUMPTION | Final consumption | Gross Capital Formation | Export | TOTAL USE, at purchasers' prices |
|----|---|-----|----------------------------|--|--------------------------|-------------------|-------------------------|----------------|----------------------------------|
| A | B | C | 5 | 19 | 56 | | | | 66 |
| 23 | Coke oven products; refined petroleum products; nuclear fuel | 33 | 185 281.6 | 29 728.7 | 2 268 379.1 | 649 453.1 | 155 897.2 | 669 073.3 | 3 742 802.7 |
| 43 | Passenger transport services | 64 | 38 635.6 | 1 284.9 | 552 163.1 | 498 708.9 | 0.0 | 147 137.2 | 1 198 009.2 |
| 44 | Freight transport services | 65 | 64 010.5 | 846.2 | 322 231.5 | 15 138.9 | 0.0 | 141 112.0 | 478 482.4 |
| 46 | Supporting transport services | 67 | 30 066.9 | 351.1 | 472 250.8 | 73 264.4 | 0.0 | 56 661.6 | 602 176.8 |
| 48 | Electricity, gas and water distribution (on own account) | 69 | 21 136.2 | 46.3 | 722 757.9 | 80 358.0 | 0.0 | 0.0 | 803 115.9 |
| 49 | Financial and related services | 71 | 39 216.1 | 4 566.7 | 995 822.0 | 199 352.4 | 0.0 | 16 250.5 | 1 211 424.9 |
| 51 | Leasing or rental services without operator | 73 | 14 632.8 | 3 125.1 | 96 186.1 | 6 710.2 | 0.0 | 13 575.0 | 116 471.3 |
| 54 | Other professional, technical and business services | 83 | 20 548.4 | 1 223.4 | 786 641.0 | 149 489.6 | 265 071.4 | 333 380.8 | 1 534 582.7 |
| 56 | Support services | 85 | 12 711.9 | 1 480.3 | 453 721.6 | 105 408.1 | 0.0 | 0.0 | 559 129.7 |
| 57 | Support services to agriculture, hunting, forestry, fishing, mining and utilities | 86 | 29 897.0 | 3 789.6 | 203 104.6 | 0.0 | 0.0 | 9 317.0 | 212 421.6 |
| 69 | TOTAL | ... | 867.3 | 263.3 | 16 940.1 | 13 106.6 | 10 215.2 | 7 234.4 | 47 496.3 |
| 74 | Compensation of employees | D11 | 109.0 | 14.1 | 4 979.9 | | | | |
| 75 | Other net taxes on production | D29 | 48.1 | 0.0 | 71.5 | | | | |
| 76 | Consumption of fixed capital | | 87.5 | 24.5 | 1 205.6 | | | | |
| 77 | Operating surplus, net | B3g | 349.2 | 261.5 | 10 738.6 | | | | |
| 78 | VALUE ADDED at basic prices | | 593.8 | 300.2 | 16 995.7 | | | | |
| 79 | OUTPUT at basic prices | | 1 461.1 | 563.5 | 33 935.7 | | | | |



Thank you for you attention

<http://www.nso.mn>

<http://www.1212.mn>