

**Documentation of statistics for
Mining and Quarrying 2013**

1 Introduction

The purpose of the statistics is to produce a complete set of statistics on the extraction of raw materials in Denmark. The statistics have been compiled since 1973, but their scope has been widened over the years.

History

In 2013 the statistical intelligence was replaced by two * NYT from Statistics Denmark *, one on the raw material extraction from the sea floor and one of quarrying on land (former title : Mining and quarrying in Denmark) .

Extraction of raw materials on land: In the period 1973-1988, the statistics on the extraction of raw materials on land were managed by the Geological Survey of Denmark and Greenland, a research and advisory institution under the Ministry of Environment and Energy. In the period 1989-1995, the statistics on the extraction of raw materials on land were managed by the National Forest and Nature Agency (now called Danish Nature Agency), another research and advisory institution under the Ministry of Environment and Energy. Since 1996, the statistics have been managed by Statistics Denmark. The statistics are based on questionnaires filled in annually by the extractors of different raw materials from all gravel pits.

- Since 1997, the statistics have been expanded to include extractions of natural gas, oil and salt. This stopped with the publication for raw materials 2001.
- Since 1998, the statistics have been published with information about the recycling of construction waste and waste from power stations.
- Since 1999, the statistics have been published with information about imports and exports of raw materials.
- From 2005, the statistics will only be published with regional information about extractions of raw materials on land and from the bottom of the sea.

Extraction of raw materials from the sea floor: In the period 1973-1988, the statistics on the extraction of raw materials from the bottom of the sea were managed by the Geological Survey of Denmark and Greenland. In 1989, the statistics passed to the National Forest and Nature Agency (now called Danish Nature Agency), where they still belong. The statistics are now collected electronically through computer reports directly from ships to the Danish Nature Agency.

2 Statistical presentation

The statistics show the extraction of raw materials in Denmark from the land and from the sea floor by regions and municipalities. It shows the quantitative distribution of mineral resource type.

2.1 Data description

The statistics show trends in the extraction of raw materials in Denmark on land and from the bottom of the sea.

2.2 Classification system

Extraction on land: Stone, gravel and sand, quartz sand, granite, chalk and limestone, moler, clay, plastic clay and bentonite, peat and sphagnum and other raw materials: (Kaotin, sandstone, slate, clayey and also soil and top soil).

Some of the variables in the application statistics are divided into the following classifications, (subgroups):

- Stone, gravel and sand: Construction and road materials, asphalt materials, concrete materials, other applications of materials and unknown applications of materials.
- Quartz sand: Filter sand, sand for construction, concrete sand, sandblasting sand and other applications of sand.
- Chalk and lime: Cement, flue gas filler, chalk for manufacturing, agriculture and for fodder, quicklime and paper stuffing.
- Clay: Ceramic industry, red-burned bricks, yellow-burned bricks, and other applications of clay.

Extraction from the bottom of the sea: Stone, gravel and sand, paddings, stones and shells fished by buckets, other applications.

2.3 Sector coverage

The statistics include the primary industries.

2.4 Statistical concepts and definitions

Andet: nyttiggjort overskudsmateriale af sand, grus, sten.

Andre råstoffer: Råstofskategori indeholdende kaolin, sandsten, skifer, klæg samt biprodukterne råjord, muld og lossepladsgas.

Ekspanderende ler: Råstofskategori indeholdende ekspanderende ler.

Fylldsand: Råstofskategori indeholdende fylldsand.

Grabsten og søsten: Råstofskategori indeholdende grabsten og søsten.

Granit: Råstofskategori indeholdende granit.

Kommune: Kommune_kode for ARB_enhed (beliggenhedsadresse).

Kridt/kalk: Råstofskategori indeholdende Kridt/kalk.

Kvartssand: Råstofskategori indeholdende kvartssand

Ler: Råstofskategori indeholdende ler.

Moler: Råstofskategori indeholdende moler.

Region: Regions-kode for ARB_enhed (beliggenhedsadresse). Kode der angiver hvilken region en kommune tilhører (før 1.januar 2007, amt).

Samlet indvinding: Samlet indvinding af råstoffer på land.

Sand, grus og sten: Råstofskategori indeholdende sand, grus og sten.

Skaller: Råstofskategori indeholdende skaller.

Tørv: Råstofskategori indeholdende Tørv.

2.5 Statistical unit

The statistics are based on the raw materials, which can be classed according to the Raw Materials Act (Råstofloven): Stone, gravel and sand, granite, chalk, etc. The statistics are divided into raw materials on land and from the bottom of the sea.

The raw materials which can be classed according to the Subsurface Act (Undergrundsloven) are treated separately. They are oil, natural gas and salt. The statistics for oil and natural gas also contain information on market value and state revenues from oil and natural gas as well as estimations of the air and water pollution caused by the extraction activities. The raw materials are classified according to their application, which implies that nearly all raw materials are registered into different classes of dimensions. The volumes of the individual registered raw materials should be reported in cubic metres. Oil should be reported in tonnes and natural gas in Nm³, (normal cubic metres). The extraction of raw materials on land is distributed by county and municipality, after 2007 the distribution is instead on the municipalities and the new regions. Raw materials from the bottom of the sea are geographically distributed by area of water (place of extraction), and by municipality (port of discharge). The extraction of oil and natural gas is not distributed geographically.

2.6 Statistical population

2.7 Reference area

The extraction of raw materials on land is distributed by county and municipality, after 2007 the distribution is instead on the municipalities and the new regions. Raw materials from the bottom of the sea are geographically distributed by area of water (place of extraction), and by municipality (port of discharge). The extraction of oil and natural gas is not distributed geographically.

2.8 Time coverage

The statistics covers the period from 2006 and forward. Older time series are described under Comparability over time.

2.9 Base period

Not relevant for these statistics.

2.10 Unit of measure

The unit of measure is cubic meters.

2.11 Reference period

The production year is the year for the extraction of raw materials.

2.12 Frequency of dissemination

News from Statistics Denmark* and *Statistical News, Environment and Energy* are published annually.

2.13 Legal acts and other agreements

Order no. 1440 of 11. December 2007 (Repealed: 1164 of 16 December 1996, Section 4) on the application and reporting of the extraction of raw materials on land, and the Act on Statistics Denmark (Lov om Danmarks Statistik), Section 6. (Compare with Order no. 15 of 12 January 1997 with amendments of Act no. 386 of 13 June 1990 and Act no. 1025 of 19 December 1992 on raw materials.)

2.14 Cost and burden

The response burden is zero, since it is not Statistics Denmark which collects the data.

2.15 Comment

Additional information can be obtained from Statistics Denmark.

3 Statistical processing

Data are annually collected from all extractors on land. The reported data are checked for errors by comparing changes over time in the municipalities and for the totals for each resource category. Figures for raw materials extracted from the sea are checked for errors in the same way.

3.1 Source data

The statistics is build on questionnaires, sent out by municipalities, filled in annually by the extractors. The questionnaires provide information on the physical volume of different raw materials extracted from all gravel pits. Information concerning the extraction of raw materials from the sea is received by the Nature Agency.

3.2 Frequency of data collection

Data is collected annually.

3.3 Data collection

Data on mining and quarrying on land are collected by Statistics Denmark. Statistics Denmark sends an e-mail to all municipalities including a link to the reporting possibilities (paper or Excel table). The municipalities send either paper or Excel table on to a extractor, as it is only the municipalities who knows who extract raw materials in their municipality (The local authorities have the right to authorize mining and quarrying). Once the municipality has received the reported data they send them to Statistics Denmark and the corresponding region.

Data on the extraction of raw materials from the sea received treated by Nature Agency.

3.4 Data validation

The submitted data undergo an error control. If the reported figures deviates considerably from earlier records then the enterprise in question is asked to investigate the correctness of the returned figures figures. It is assumed that not all errors in submitted forms are detected, and therefore the statistic is a subject to some uncertainty connected to report errors. The error checking focuses on the reports with most impact on the results, and the uncertainty connected to report errors is therefore normally considered quite low, especially when it is on aggregated level.

3.5 Data compilation

Mining and quarrying statistics are a census. Therefore, figures are published after the described method under 'Statistical treatment'.

3.6 Adjustment

Not relevant for these statistics.

4 Relevance

There is great interest in the published figures on raw materials among the Regions, which use the statistics to make extraction plans. The statistics are also requested by municipalities, industry organizations, other public and private institutions, researchers, companies and the news media. The statistics is used in the compilation of the Economic Accounts for the environment in the National Accounts.

4.1 User Needs

- *Users:* Municipalities, counties, ministries, organizations, international organizations, the media as well as private enterprises and private individuals.
- *Application:* The statistics are applied for the purpose of public and private planning and are used for education and as a statistical basis for the public debate.

4.2 User Satisfaction

There has to date never been a user satisfaction survey.

4.3 Data completeness rate

In preparation.

5 Accuracy and reliability

According to the extractions of raw materials on ground and on the bottom of the sea the sources of error are estimated to be a maximum of 1,5 percent of the total amount of extractions and to be 0,5 percent of every raw material.

Errors in data from the municipalities can occur.

5.1 Overall accuracy

Extraction of raw materials on land and from the bottom of the sea: The data are very accurate. They represent a compilation of figures on the total extraction of raw materials, and the statistics provide the basis for the duties which the extractors have to pay to the state. Misstatements will in most cases be discovered quickly, as the responsible authority has fairly precise expectations as to the types and volumes of extracted materials.

5.2 Sampling error

Not relevant for these statistics.

5.3 Non-sampling error

In preparation.

5.4 Quality management

Statistics Denmark follows the recommendations on organisation and management of quality given in the Code of Practice for European Statistics (CoP) and the implementation guidelines given in the Quality Assurance Framework of the European Statistical System (QAF). A Working Group on Quality and a central quality assurance function have been established to continuously carry through control of products and processes.

5.5 Quality assurance

Statistics Denmark follows the principles in the Code of Practice for European Statistics (CoP) and uses the Quality Assurance Framework of the European Statistical System (QAF) for the implementation of the principles. This involves continuous decentralized and central control of products and processes based on documentation following international standards. The central quality assurance function reports to the Working Group on Quality. Reports include suggestions for improvement that are assessed, decided and subsequently implemented.

5.6 Quality assessment

Overall accuracy Extraction of raw materials on land and from the bottom of the sea: The data are very accurate. They represent a compilation of figures on the total extraction of raw materials, and the statistics provide the basis for the duties which the extractors have to pay to the state. Misstatements will in most cases be discovered quickly, as the responsible authority has fairly precise expectations as to the types and volumes of extracted materials.

Sources of inaccuracy: Errors in the data from the municipalities can occur.

Measures on accuracy: According to the extractions of raw materials on ground and on the bottom of the sea the sources of error are estimated to be a maximum of 1,5 percent of the total amount of extractions and to be 0,5 percent of every raw material.

5.7 Data revision - policy

Statistics Denmark revises published figures in accordance with the [Revision Policy for Statistics Denmark](#). The common procedures and principles of the Revision Policy are for some statistics supplemented by a specific revision practice.

5.8 Data revision practice

Only final statistics are published. But in 2007 in connection with the new municipality-reform, some questionnaires will be returned after deadline for the publication.

6 Timeliness and punctuality

Indices on the main raw materials groups are published already 14 days after the last received data. This is rather quick for a survey based statistics such as this.

The punctuality is high, with delays happening very rarely.

6.1 Timeliness and time lag - final results

The statistics are published annually and about five months after the end of the production year. Statistics Denmark compiles and publishes the statistics in *News from Statistics Denmark*, when all the questionnaires on the extraction of raw materials on land have been returned and when the Agency for Spatial and Environmental Planning has delivered the statistics on the extraction of raw materials from the bottom of the sea. About 14 days later, Statistics Denmark publishes an article in the series: *Statistical News, Environment and Energy*.

6.2 Punctuality

The statistics is normally published at the scheduled time.

7 Comparability

Comparability over Time

The statistics can be compared at the municipal level from 1980 onwards. The data have been largely unchanged over time. The quality or the reliability of the statistics is expected to be higher after 1990, because at that time a duty on the extraction of raw materials was introduced together with the control of all reports on extractions through the official channels. According to problems with implementation of the new municipality-reform in 2007 the data are considered to have a lower quality for 2007 than for 2006.

Comparability with other Statistics

Statistics on sales by manufacturers: The statistics on sales by manufacturers contain information on, for example, turnover, from enterprises engaging in manufacturing and the extraction of raw materials. When comparing data from the statistics on sales by manufacturers and the statistics on raw materials, the following should be noted:

In the statistics on sales by manufacturers, the turnover variable contains turnover of own products. Some of the extractors use the raw materials as an input in their own production. Such products will not be included in the statistics on sales by manufacturers, but only in the statistics on raw materials. Where the extractors belong to an industry outside manufacturing, for example contractors, other construction industry, agriculture, the transport industry and other manufacturing activities, the raw materials are only included in the statistics on raw materials. Many raw materials are extracted by enterprises with less than ten employees. These raw materials are only included in the statistics on raw materials. Finally salt is considered similar to other raw materials in the statistics on sales by manufacturers whereas salt is in fact a separate item in the statistics on raw materials.

General business statistics: The general business statistics contain information on, for example, turnover, employment, energy consumption and different accounting data for extractors belonging to the mining industry. Some of the estimations include only enterprises with more than 20 employees while others include only enterprises which are registered as cooperative societies or private limited companies. The share of the population of extractors included in these estimations differs, and it is far from the total population, as can be seen in the statistics on the extraction of raw materials.

Statistics on national accounts: The statistics on national accounts include in the extraction of raw materials data on the extraction of oil and natural gas. In addition, the statistics on national accounts include only one variable: other extractions, and this concept is stone, sand and gravel, etc., which is the main concept in the statistics on the extraction of raw materials.

7.1 Comparability - geographical

There is no EU regulations or international standards, making comparability with other international statistics impossible.

7.2 Comparability over time

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7.3 Coherence - cross domain

Statistics on sales by manufacturers: The statistics on sales by manufacturers contain information on, for example, turnover, from enterprises engaging in manufacturing and the extraction of raw materials. When comparing data from the statistics on sales by manufacturers and the statistics on raw materials, the following should be noted: In the statistics on sales by manufacturers, the turnover variable contains *turnover of own products*. Some of the extractors use the raw materials as an input in their own production. Such products will not be included in the statistics on sales by manufacturers, but only in the statistics on raw materials. Where the *extractors belong to an industry outside manufacturing*, for example contractors, other construction industry, agriculture, the transport industry and other manufacturing activities, the raw materials are only included in the statistics on raw materials. Many raw materials are extracted by *enterprises with less than ten employees*. These raw materials are only included in the statistics on raw materials. Finally salt is considered similar to other raw materials in the statistics on sales by manufacturers whereas salt is in fact a separate item in the statistics on raw materials.

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7.4 Coherence - internal

There are no sources for possible internal inconsistency.

8 Accessibility and clarity

News from Statistics Denmark, an article in *Environment and Energy (Statistical News)*, *Statistical Yearbook*, and *Statbank Denmark*.

8.1 Release calendar

The publication date appears in the release calendar. The date is confirmed in the weeks before.

8.2 Release calendar access

The Release Calendar can be accessed on our English website: [Release Calendar](#).

8.3 User access

Statistics are always published at 8:00 a.m. at the day announced in the release calendar. No one outside of Statistics Denmark can access the statistics before they are published.

8.4 News release

The figures are published in a annually news release, NYT from Statistics Denmark.

8.5 Publications

The figures are included in Statistical Yearbook.

8.6 On-line database

All figures are published in the on-line database Statbank.

8.7 Micro-data access

There is no micro-data access.

8.8 Other

Not relevant in 2013.

8.9 Confidentiality - policy

In the compilation of the Extraction of raw materials in Denmark, the confidentiality policy of Statistics Denmark is followed (link, in Danish).

8.10 Confidentiality - data treatment

In the compilation of the statistics on raw materials, the confidentiality policy of Statistics Denmark is followed (link, in Danish). When a detailed industry figure is affected by confidentiality issues, no figures are published, but they are included in overlying aggregates.

8.11 Documentation on methodology

1. Oracle documentation.
2. Times 3 documentation.
3. This declaration of contents.

8.12 Quality documentation

Results from the quality evaluation of products and selected processes are available in detail for each statistics and in summary reports for the Working Group on Quality.

9 Contact

The administrative placement of this statistic is in the division of Food Industries. The person responsible is Dennis Hansen , tel. +45 3917 3667, email: deh@dst.dk

9.1 Contact organisation

Statistics Denmark

9.2 Contact organisation unit

Food Industries, Business Statistics

9.3 Contact name

Dennis Hansen

9.4 Contact person function

Responsible for the statistics

9.5 Contact mail address

Sejrøgade 11, 2100 Copenhagen

9.6 Contact email address

deh@dst.dk

9.7 Contact phone number

+45 3917 3667

9.8 Contact fax number

+45 39 17 39 99