

**Documentation of statistics for  
Mining and Quarrying 2016**

## 1 Introduction

The mining and quarrying statistics show the amount and type of mining and quarrying in Denmark. The statistics is used for analytical purposes. The statistics has been made since 1973 but is only comparable since 2006.

## 2 Statistical presentation

The mining and quarrying statistics are a yearly measurement of extracted raw material types from land and from the sea floor stated in Cubic meters. The statistics are grouped by raw material types and by geography.

### 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

Extractor: Person or company who has been given permission to extract raw materials granted by LBK nr 124 af 26/01/2017 (Bekendtgørelse af lov om råstoffer)

Extraction area: Area with permission to extract raw materials granted by LBK nr 124 af 26/01/2017 (Bekendtgørelse af lov om råstoffer)

Mining and Quarrying: Extraction of raw materials from land comprises stone, gravel and sand, Quarts sand, granite, clay, plastic clay and betonite, moler, chalk and limestone, peat and spagnum and other raw materials. Extraction of raw materials from the sea comprises sand, gravel and stone, gravel, padding, stone fished by buckets, shells fished by buckets and other applications

## 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 Nm<sup>3</sup>, (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

Anyone who extracts raw materials from land or sea

## 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**

01-01-2016 - 31-12-2016

## **2.12 Frequency of dissemination**

Yearly

## **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 Regions collect data and submit data to Statistics Denmark

## **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 built 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 The Danish Regions and transferred to Statistics Denmark through a system to system solution.

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. Data are being validated and Figures are published at an aggregated level

### **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**

Users seem satisfied with the statistics. There has to date never been a user satisfaction survey.

### **4.3 Data completeness rate**

Not relevant for this Statistics

## **5 Accuracy and reliability**

The statistics is based on a census sample. 100 per cent of the population are covered. The overall accuracy of these statistics are therefore high.

### **5.1 Overall accuracy**

All Extraction sites are obliged to submit data to The Regions and The Nature Agency. 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**

The mining and quarrying statistics are based on a census sample. The sample error is 0

### **5.3 Non-sampling error**

It is assumed, that there are no other uncertainties.

### **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**

All Extraction sites are obliged to submit data to The Regions and The Nature Agency. 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.

## **5.7 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.

## **6 Timeliness and punctuality**

The Regions and The Nature Agency collects data and Statistics Denmark publishes the statistics within 1 month after receiving data. The statistics is normally published at the pre-announced time.

### **6.1 Timeliness and time lag - final results**

The statistics are published annually and about six to eight months after the end of the reference year.

### **6.2 Punctuality**

The statistics is normally published at the scheduled time.

## **7 Comparability**

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.

### **7.1 Comparability - geographical**

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

### **7.2 Comparability over time**

The statistics can be compared at the municipal level from 2006 onwards. Due to the the new municipality-reform in 2007, statistics before that time are aggregated at another level, and cannot be compared directly.

### 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.

*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.

### 7.4 Coherence - internal

There are no sources for possible internal inconsistency.

## 8 Accessibility and clarity

These statistics are published yearly in a Danish press release, at the same time as the tables are updated in the StatBank. In the StatBank, these statistics can be found under the subject Mining and quarrying in the following tables [RSTo1](#), [RST3](#) og [RSTo4](#). For further information, go to the [subject page](#).

### 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**

These statistics are published annually in a Danish press release.

### **8.5 Publications**

The figures are included in Statistical Yearbook. It can be found from this homepage [Publications](#).

### **8.6 On-line database**

The statistics are published in the StatBank under the subject in the following tables:

- [RSTo4](#): Unloading of raw materials from the bottom of the sea by region, type of raw material and time
- [RST3](#): Extraction of raw materials in Denmark. by region, type of raw material and time
- [RSTo1](#): Extraction of raw materials in Denmark. by region, type of raw material and time

### **8.7 Micro-data access**

There is no micro-data access.

### **8.8 Other**

Nor relevant for this statistics

### **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**

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**

Not relevant

### **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 these statistics are in the division of Food Industries. The person responsible is Jeppe Herring, tel. +45 39 17 33 25, email: [jhr@dst.dk](mailto:jhr@dst.dk)

### **9.1 Contact organisation**

Statistics Denmark

### **9.2 Contact organisation unit**

Food Industries, Business Statistics

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Responsible for the statistics

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