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STATE OF ISRAEL

# WASTE AND EMISSION OF POLLUTANTS IN THE MANUFACTURING AND ELECTRICITY INDUSTRIES 2020

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# PREFACE

This publication presents data on waste, sewage and emission of pollutants in the Manufacturing and Electricity industries in Israel. Although these industries contribute substantially to business activity in the economy, their operations have environmental consequences because they are a considerable source of waste, air pollution, and greenhouse gas emissions.

This publication aims to estimate the quantities of industrial waste, identify the means of treating waste and the recycled materials, present water consumption and sewage production, as well as examine energy consumption in the Manufacturing and Electricity industries and its consequences for air pollution and greenhouse gas emissions by industry. The data will be used by decision-makers to formulate environmental policy, as well as by the business sector, academic institutions, and international organizations (such as the OECD).

This publication, which deals with waste that is generated by the Manufacturing and Electricity industries, is part of the satellite account for waste. The satellite account provides a comprehensive overview of waste in Israel, and includes data such as the sources of waste, materials, and their treatment methods.

The data in this publication are based on a designated survey, the Environmental Protection in Manufacturing Survey. This survey, which was conducted for the fifth time by the Central Bureau of Statistics, was carried out in accordance with international (OECD) methodology, with adjustments for Israel. The survey examined the impact of industry on the environment in terms of production of waste, water usage and sewage production, energy usage, and emission of air pollutants.

We would like to thank the companies that took part in the survey and enabled us to produce this information.

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Jerusalem, 2024

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# INTRODUCTION

## A. General

Accelerated technological and industrial development contributes much to human well-being. Yet at the same time, such development places a growing burden on the environment that necessitates proper attention and treatment. Those areas of industry that have a negative effect on the environment are solid waste production, wastewater production, greenhouse gas emissions, and air pollution.

### Solid Waste

Society and the state recognize the need for the wise management of waste. Waste management includes, among other actions, the creation of controlled landfill sites to prevent harm to land and groundwater, as well as the controlled operation of means of transport and landfilling of the waste.

The increase in the amount of landfilled waste in Israel exacerbates the shortage of open spaces. Therefore, methods of treatment other than landfilling are being explored. A broad perspective must include all of the following: examining how effectively raw materials are being used, promoting education and information about conservation and the efficient use of resources, operating recycling systems and promoting recycling industries, as well as exploring alternatives to landfilling the waste. These means enable a reduction in the amount of waste that is landfilled and an increase in the efficient use of resources.

Like other countries, Israel must cope with waste that originates from various sources.

In recent years, the CBS has developed a satellite account for waste in order to get an overall view of all the sources of waste and their treatment method. The satellite account gathers all the waste data and presents it at different resolutions, according to the source of waste (domestic and commercial, industrial, agricultural, and construction), the type of material, and the treatment method. The account enables quality control of the data received from each source, identification of gaps and deficiencies, and identification of trends and processes in the field. Thus, a comprehensive view of the waste streams in Israel is obtained, and it serves as an important basis for local and international publications and reports.

### Air Pollution and Global Warming

Global population growth and technological and industrial development entail activities that cause, among other phenomena, emission of greenhouse gases. An increase in atmospheric greenhouse gas concentrations increases the greenhouse effect and thereby contributes to rising global temperatures. This temperature increase, known as global warming, affects the weather and various climatic phenomena.

A major source of greenhouse gas emissions is combustion of fuel for the purpose of generating energy. All Manufacturing establishments require energy to run machinery and equipment, and they obtain it through electricity consumption or, alternatively, by direct fuel combustion.

The Manufacturing[1] and Electricity industries contribute considerably to business activity in the Israeli economy. However, they are also a significant source of waste, air pollution, and greenhouse gas emissions. Solid information regarding the extent of their influence is necessary in order to formulate policies and determine courses of action for environmental protection. In addition, Israel is required to report waste and air pollution data by sector to various international organizations, including the OECD[2] and the UN.

In order to evaluate the quantity of waste, treatment methods, and the distribution of fuel consumption by industry, the Central Bureau of Statistics (CBS) conducted the Environmental Protection in Manufacturing Survey, 2020 (previous surveys on this topic were conducted for 2010, 2012, 2014, and 2017). The goals of the survey were to estimate the quantity of industrial waste and sewage generated in each industry, ascertain the methods of waste treatment, identify the recycled materials, and examine energy consumption in the Manufacturing and Electricity industries. In the Environmental Protection in Manufacturing Survey, 2020, companies were sampled according to the Standard Industrial Classification of All Economic Activities, 2011. In the survey, data were also collected regarding quantities of sewage and sewage treatment methods. The data were used to calculate the satellite account of water in Israel.

Care should be taken in comparing the current survey data and the 2017 survey data with data from the surveys of previous years due to changes in the sample. Also, due to the Coronavirus (COVID-19) pandemic, beginning in March 2020 restrictions were put in place in Israel when necessary. These restrictions might have affected the data in the publication.

This publication adds an important dimension to knowledge about the topic of industrial waste. It presents quantities of waste by industry, as is the practice in the OECD, as well as by treatment method (removal to landfill or recycling). Also presented in this publication are quantities of the following: fuel consumption, emissions of greenhouse gases, and emissions of selected air pollutants. The quantities are listed by industry.

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1 Including Mining and Quarrying.

2 OECD – The Organisation for Economic Cooperation and Development, an international organization of which Israel is a full member. The OECD serves, among other functions, as a source of statistical, economic, and social data in accordance with uniform standards that enable comparisons to be made. Its databases cover a wide variety of topics, including environmental issues.

The relevant audience for the data in this publication are decision-makers in the public sector, such as the Ministry of Environmental Protection, the Ministry of Finance, and the Ministry of Economy and Industry; stakeholders in the business sector, such as the Manufacturers Association of Israel and Manufacturing and Electricity establishments; international organizations such as the OECD and the UN; academic and research institutions, and the general public.

## B. Main Findings

### Waste by Type of Waste and by Industry

In 2020, the quantities of waste produced in the industries of Manufacturing (Section C), Mining and quarrying (Section B), and Electricity supply (Division 35) totalled approximately 3.3 million tons[3] (a decrease of 15% compared with 2017). Dry waste, totalling about 1.6 million tons, comprised the majority of the waste that was produced (of which 0.6 million tons was "coal ash" – ash produced during the coal-burning process in Electricity supply). Approximately 1.5 million tons of mixed waste and approximately 0.2 million tons of hazardous waste were also produced in the Manufacturing and Electricity industries.

It should be noted that the decrease in the amount of dry waste was due to the transition to natural gas and a decrease in coal usage. In contrast, there has been an increase in the amount of mixed waste over the years, which was mainly indicated in the increase in organic matter.

**Table A. Waste in the Manufacturing and Electricity Industries, by Type of Waste, Selected Years(1)**

Tons

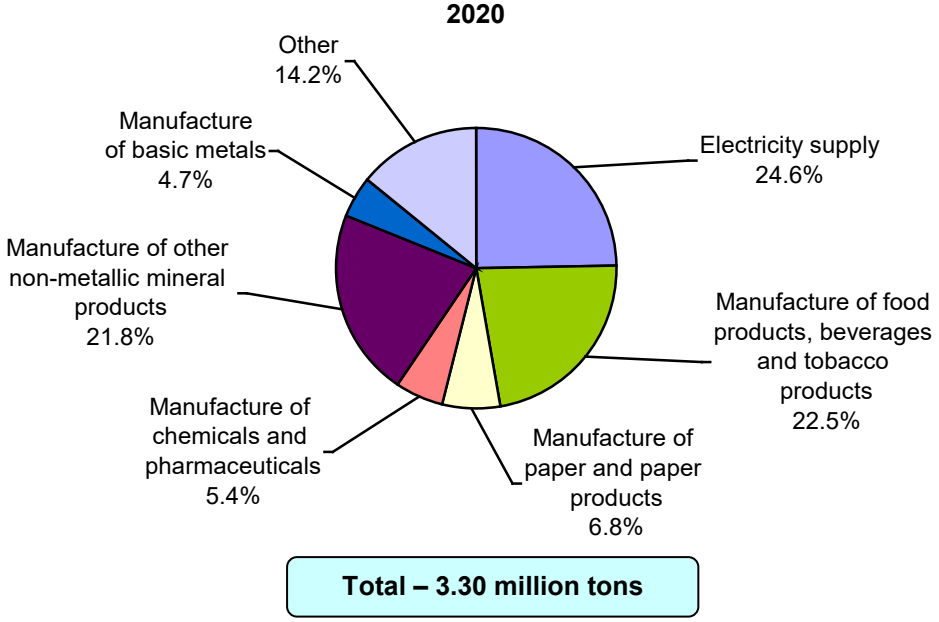
| Type of waste | 2010 | 2012 | 2014 | 2017 | 2020 |
|---|---|---|---|---|---|
| **Total** | **3,384,697** | **3,522,275** | **3,387,901** | **3,861,653** | **3,297,076** |
| Dry waste | 2,129,090 | 2,213,174 | 1,897,348 | 2,275,294 | 1,552,591 |
| Mixed waste | 1,120,854 | 1,148,661 | 1,319,375 | 1,367,903 | 1,542,353 |
| Hazardous waste | 134,752 | 160,440 | 171,179 | 218,456 | 202,132 |

(1) Care should be taken in comparing the 2017 and 2020 survey data with data from the surveys of previous years due to changes in the sample.

Of all waste in Manufacturing and Electricity, 69% derived from the following industries: Electricity supply (Division 35, 25%), in which the majority of waste was dry waste (mainly coal ash); Manufacture of food products, beverages and tobacco products (Divisions 10–12, 22%), in which the majority was mixed waste; and Manufacture of other non-metallic mineral products (Division 23, 22%), in which the majority was dry waste.

[3] The term "ton" refers to metric ton, i.e., 1,000 kg.

**DIAGRAM 1. WASTE IN THE MANUFACTURING AND ELECTRICITY INDUSTRIES, BY INDUSTRY 2020**




**Total – 3.30 million tons**

An examination of the types of waste produced in the Manufacturing and Electricity industries, by industry, shows that mixed waste was produced in all of the industries, but dry and hazardous waste were concentrated in certain industries.

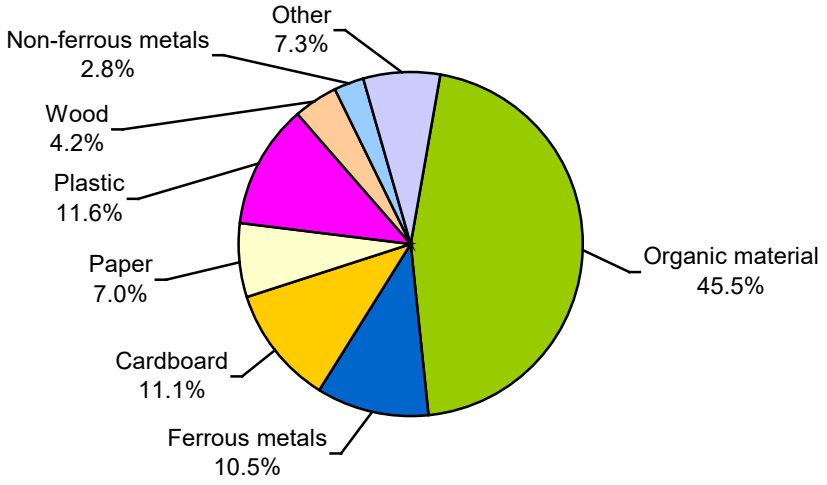
The source of 69% of **mixed waste** was in the following three industries: Manufacture of food products, beverages and tobacco products – 740,235 tons (Divisions 10–12, 48%), an increase of 34% compared with 2017; Manufacture of paper and paper products – 208,640 tons (Division 17, 13%), an increase of 23% compared with 2017; Manufacture of basic metals – 122,178 tons (Division 24, 8%), a decrease of 6% compared with 2017.

The source of 95% of **dry waste** was in two main industries: Electricity supply – 782,423 tons (Division 35, 51%) and Manufacture of other non-metallic mineral products – 686,784 tons (Division 23, 44%). In the Mining and quarrying industries, there have been changes in the patterns of waste production and its treatment.

The source of 77% of **hazardous waste** was in the following three industries: Manufacture of chemicals and pharmaceuticals – 88,201 tons (Divisions 20–21, 44%), a decrease of 30% compared with 2017; Manufacture of computers, electronic and optical products and electrical equipment – 42,881 tons (Divisions 26–27, 21%), an increase of 134% compared with 2017; Manufacturing of basic metals – 24,025 tons (Division 24, 12%), a decrease of 9% compared with 2017.

In terms of the composition of the waste by type of material, it appears that the mixed waste (1.54 million tons) was comprised mostly of organic material (approximately 700,000 tons), cardboard and paper (approximately 280,000 tons), and metals (approximately 205,000 tons).

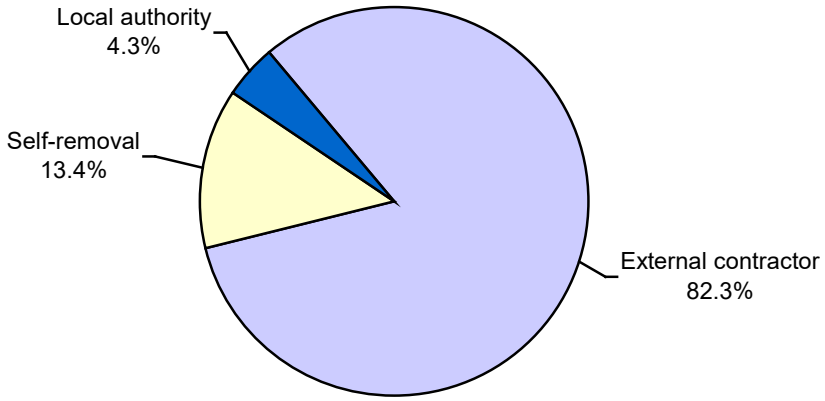
**DIAGRAM 2. MIXED WASTE IN THE MANUFACTURING AND ELECTRICITY INDUSTRIES, BY TYPE OF MATERIAL 2020**




**Total – 1.54 million tons**

The waste in the Manufacturing and Electricity industries was collected by an external contractor, the local authority, or by the company's self-removal. Most of the waste was collected by external contractors – 82% in 2020.

**DIAGRAM 3. WASTE IN THE MANUFACTURING AND ELECTRICITY INDUSTRIES, BY PARTY RESPONSIBLE FOR REMOVAL 2020**




**Total – 3.30 million tons**

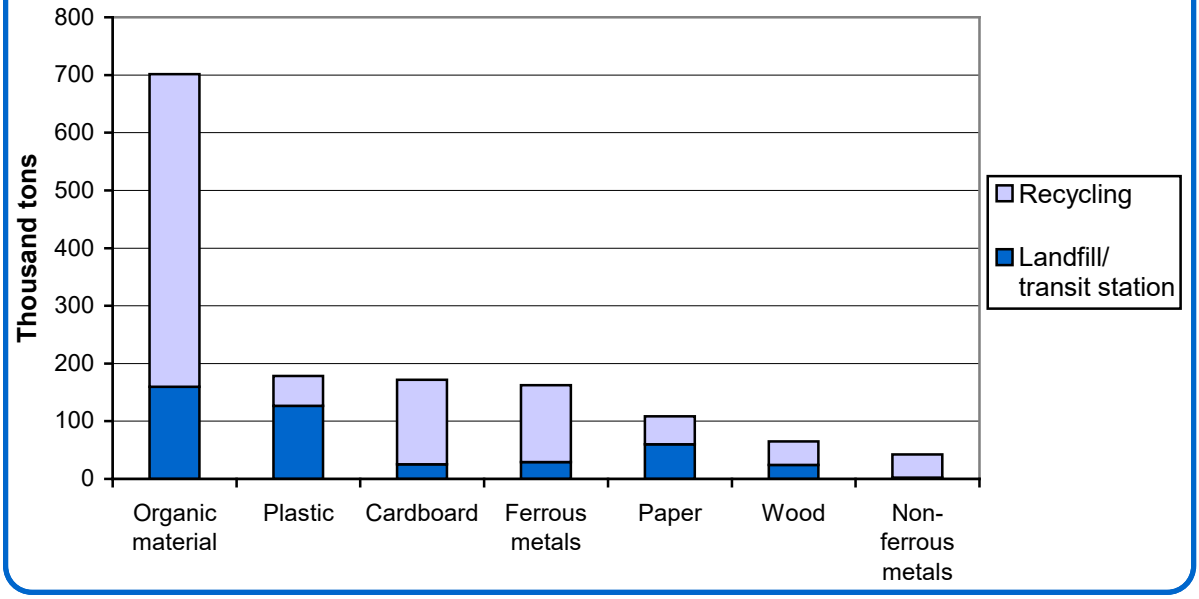
## Waste Treatment Methods

The survey distinguished between two types of waste treatment: removal to landfill or transit station, and removal to recycling. These are the two main treatment methods for mixed waste, hazardous waste, and dry waste in Israel.

In 2020, the percentage of waste sent for recycling in the Manufacturing and Electricity industries was 75%. The highest percentage of recycling was in dry waste – 86%; in mixed waste the percentage of recycling was 69%; and 33% for hazardous waste.

Approximately 1.1 million tons of mixed waste in all the Manufacturing and Electricity industries were sent directly for recycling in 2020. Of this amount, there were approximately 540,000 tons of organic material (an increase of 55% compared with 2017), approximately 133,000 tons of ferrous metals (a decrease of 2% compared with 2017), and approximately 147,000 tons of cardboard (an increase of 15% compared with 2017). The materials that had high rates of recycling were non-ferrous metals (95%) and cardboard (85%), while plastic had lower rates of recycling (29%).

**DIAGRAM 4. MIXED WASTE IN THE MANUFACTURING AND ELECTRICITY INDUSTRIES, BY TYPE OF MATERIAL AND TREATMENT METHOD 2020**




In the following industries, more than 70% of the total amount of waste that was generated in the Manufacturing and Electricity industries was taken directly for recycling: Electricity supply (Division 35, 97%); Manufacture of food products, beverages and tobacco products (Divisions 10–12, 83%); Printing and reproduction of recorded media (Division 18, 81%); Mining and quarrying (Divisions 05–09, 79%); Manufacture of refined petroleum products (Division 19, 74%); Manufacture of other non-metallic mineral products (Division 23, 73%); and Manufacture and processing of leather and related products (Division 15, 72%).

In the Electricity supply industry, most of the material sent for recycling was coal ash (77%, 0.6 million tons), which is generated in the coal-burning process.

## Energy Consumption, Greenhouse Gas Emissions, and Air Pollutants

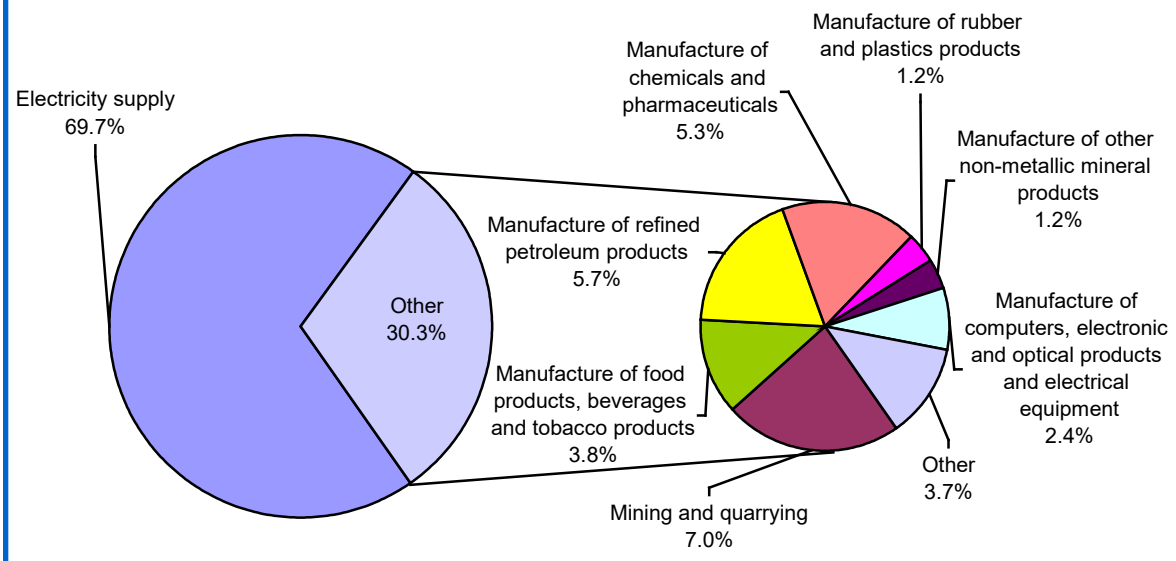
Energy consumption (fuels and electricity) and the measures taken for energy efficiency in factories were examined as part of the survey. Also, emissions of greenhouse gases and selected air pollutants were calculated from the combustion of natural gas and petroleum products: fuel oil (heavy and light), diesel oil (for manufacturing and transport), liquefied petroleum gas, gasoline and kerosene. It should be noted that other fuels also used extensively in Manufacturing (such as coal, petcoke, oil shale, and some of the natural gas) were not included in this survey.

From 2017 to 2020, the change in the mixture of fuel consumption continued with the transition to natural gas, which replaced other fuels, mainly coal, fuel oil, and diesel oil. This trend was previously evident in the Electricity supply industry (Division 35), but in 2020 a similar change was mainly detected in the following industries: Manufacture of computers, electronic and optical products and electrical equipment (Divisions 26–27), Manufacture of basic metals (Division 24), and Manufacture of food products, beverages and tobacco products (Divisions 10–12).

### Energy Consumption

In 2020, energy consumption in Manufacturing (the fuels listed above and electricity) totalled 9,567,000 t.o.e. (ton of oil equivalent). 92% of the energy was consumed by the following industries: Electricity supply (Division 35, 70%); Mining and quarrying (Divisions 05–09, 7%); Manufacture of refined petroleum products (Division 19, 6%); Manufacture of chemicals and pharmaceuticals (Divisions 20–21, 5%); and Manufacture of food products, beverages and tobacco products (Divisions 10–12, 4%).

**DIAGRAM 5. TOTAL ENERGY CONSUMPTION (FUELS AND ELECTRICITY) IN THE MANUFACTURING AND ELECTRICITY INDUSTRIES, BY INDUSTRY 2020**




The introduction of natural gas in recent years led to changes in the consumption patterns of fuel in the Manufacturing and Electricity industries. Table B shows the decline in the consumption of coal (which is used to generate electricity), diesel oil for manufacturing, and heavy fuel oil, and the increase in the consumption of natural gas. The transition of electricity production from coal to natural gas, which is more efficient for producing electricity, enables the use of a smaller amount of energy relative to the increase in usage. The table shows that stability has been maintained over the years in the consumption of other sources of energy that are used for manufacture: light fuel oil, liquefied petroleum gas, and electricity. Likewise, no great changes have been seen over the years in the consumption of fuels for transport (diesel and gasoline).

**Table B. Fuel Consumption in the Manufacturing and Electricity Industries, by Type of Fuel, Selected Years(1)**

Thousand t.o.e.

| Type of Fuel | 2012 | 2014 | 2017 | 2020 |
|---|---|---|---|---|
| **Total** | **14,393** | **14,635** | **14,958** | **14,701** |
| **Survey Data** | | | | |
| Gasoline | 80 | 89 | 102 | 90 |
| Diesel for transport | 118 | 109 | 111 | 95 |
| Diesel for manufacturing | 2,099 | 61 | 208 | 91 |
| Heavy fuel oil | 1,569 | 162 | 167 | 83 |
| Light fuel oil | 72 | 77 | 58 | 44 |
| Kerosene | 4 | 0 | 4 | 3 |
| Liquefied petroleum gas | 141 | 134 | 133 | 116 |
| Electricity | 1,112 | 1,171 | 1,141 | 1,185 |
| Natural gas | (3)2,090 | 5,565 | 7,356 | 7,861 |
| **Administrative data** | | | | |
| Coal, petcoke, oil shale, waste, and refinery gases(2) | 9,198 | 7,267 | 5,678 | 5,134 |

(1) In this table, the survey data are combined with the administrative data. However, only the survey data is presented in Table 9 in the Tables chapter.

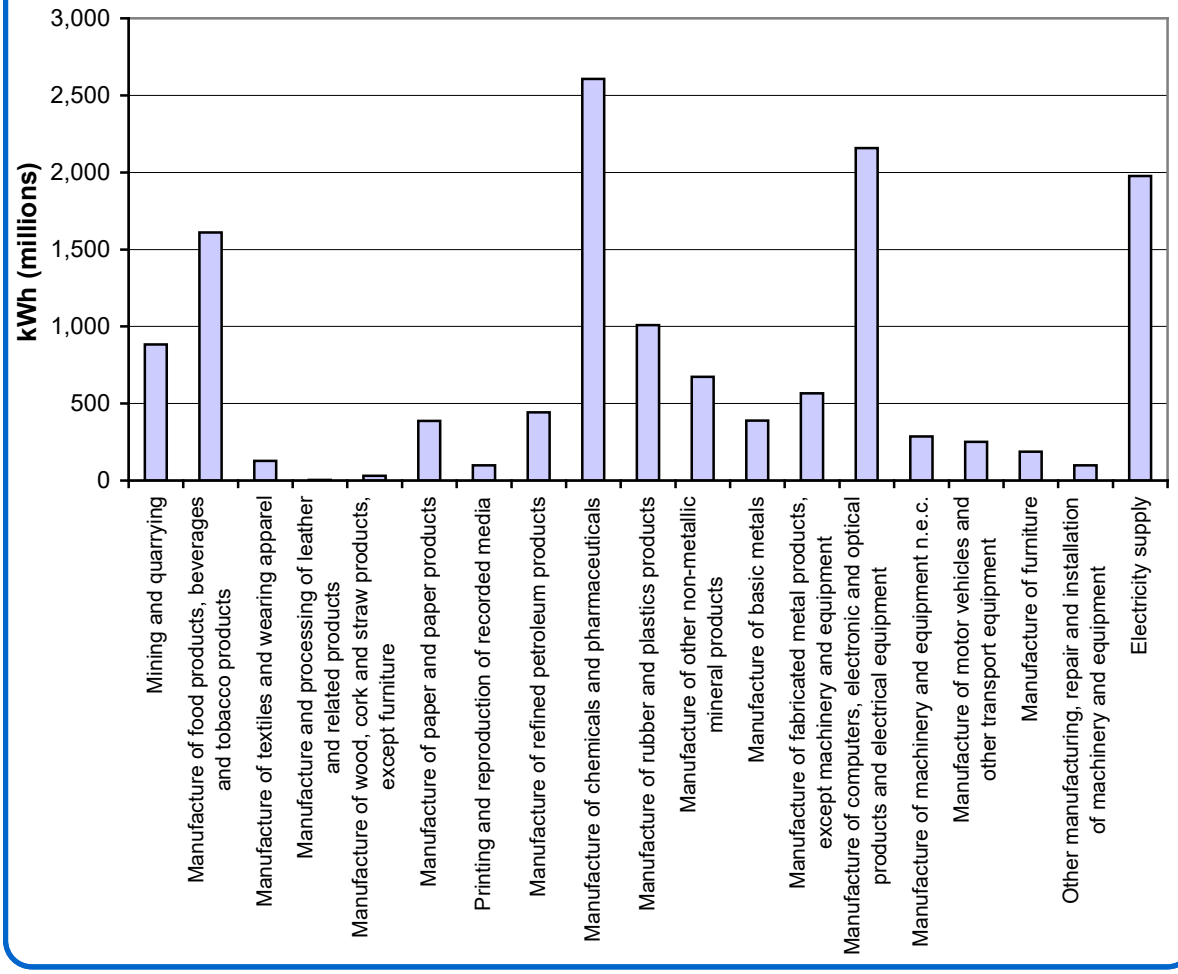
(2) The total consumption has increased compared with previous publications due to the update of this category and the inclusion of energy consumption from waste combustion and refinery gases.

(3) Data on natural gas consumption from administrative sources that do not come from the survey data.

## Electricity Consumption

This survey also examined electricity consumption by industry. In 2020, total electricity consumption in the Manufacturing and Electricity industries was 13,784 million kWh, which constituted 21% of total electricity consumption in Israel,[4] (compared with 13,262 million kWh in 2017, an increase of 4%). The following industries had the highest electricity consumption of all industries: Manufacture of chemicals and pharmaceuticals (Divisions 20–21, 19%); Manufacture of computers, electronic and optical products and electrical equipment (Divisions 26–27, 16%); Electricity supply (for own consumption) (Division 35, 14%); Manufacture of food products, beverages and tobacco products (Divisions 10–12, 12%).

**DIAGRAM 6. ELECTRICITY CONSUMPTION IN THE MANUFACTURING AND ELECTRICITY INDUSTRIES, BY INDUSTRY 2020**




[4] In 2020, total electricity consumption in Israel was 67,195 million kWh (Table 24.3: Electricity Generation and Electricity Supply, Statistical Abstract of Israel).

## Energy Efficiency

As part of the survey, the companies were asked about taking measures to increase energy efficiency. The survey examined two types of measures: measures for monitoring energy consumption and improvements to increase energy efficiency. As part of the monitoring measures for energy consumption, 9% of the companies employed an energy supervisor in 2020 (6% in 2017), 8% conducted an energy survey (4% in 2017), and 4.3% of the companies had an energy management system (3.8% in 2017).

Improvements that were made in order to increase energy efficiency and replacement of equipment included replacement of the lighting system in 32% of the companies (27% in 2017); motors in 12% of the companies (8% in 2017); climate control systems (air-conditioning for heating and cooling) in 9% of the companies (5% in 2017); and other equipment in 6% of the companies (similar to 2017).

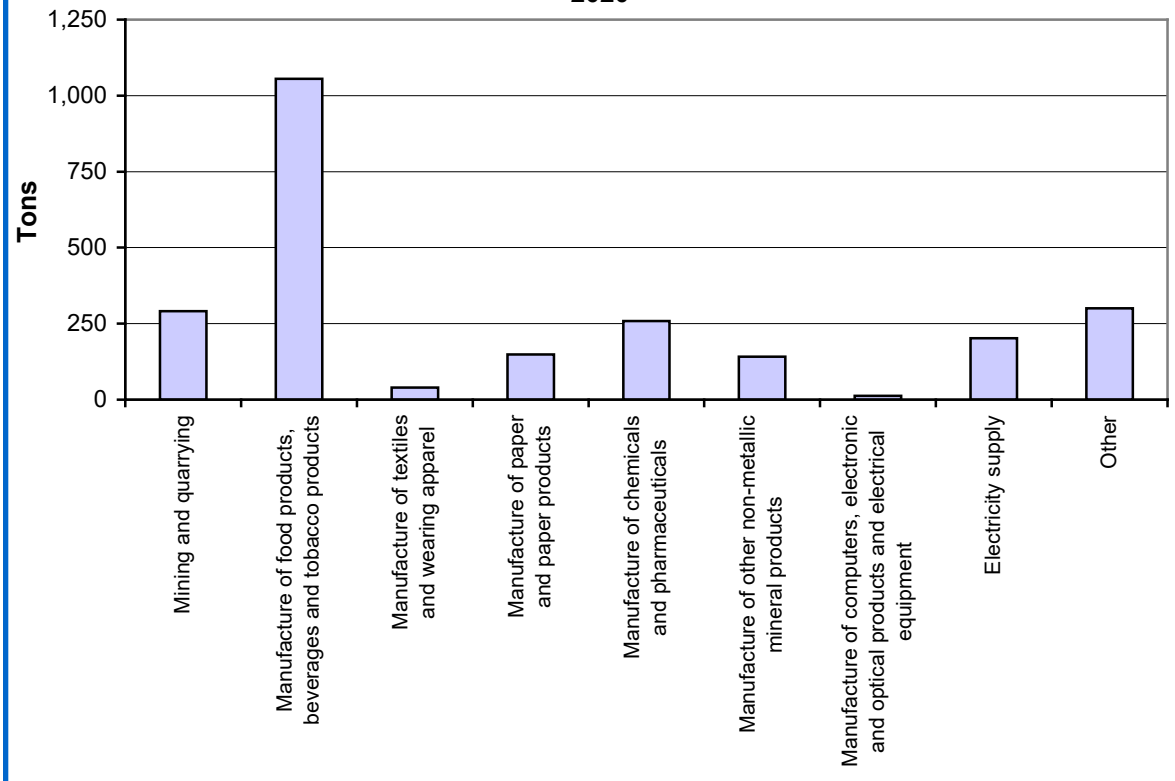
Large energy consumers is a concept that describes companies in which the energy consumption is higher than 2,000 t.o.e. In 2020 these companies together consumed 96% of the total consumption in the Manufacturing and Electricity industries. In these companies, the rate of measures taken to monitoring energy consumption and improve equipment, was substantially higher than the rate among small energy consumers. One-third of the large energy consumers employed an energy supervisor, compared with 6% of the small energy consumers. The lighting systems were replaced in 43% of the large energy consumers (in 30% of the small energy consumers), 33% replaced motors (9% of the small energy consumers), and 20% replaced climate control systems (air-conditioning for heating and cooling) (7% of the small energy consumers).

## Emissions of Air Pollutants

Emissions of air pollutants from fuel combustion in the Manufacturing and Electricity industries were also calculated based on the amounts of fuel noted above. The amount of pollutant emissions is influenced by the amount of fuel consumption and the mixture of fuels and their quality. The use of polluting fuels, such as those with a high sulfur content, causes higher emissions.

In 2020, approximately 2,450 tons of **sulfur dioxide** were emitted from the combustion of fuels (99% of them from production processes) – A decrease of 50% compared with 2017 (approximately 4,921 tons), mainly as a result of a decrease in the consumption of fuel oil, which accounts for 91% of the emissions. The following industries accounted for 86% of the emissions generated: Manufacture of food products, beverages and tobacco products (Divisions 10–12, 43%); Mining and quarrying (Divisions 05–09, 12%); Manufacture of chemicals and pharmaceuticals (Divisions 20–21, 11%); Electricity supply (Division 35, 8%); Manufacture of other non-metallic mineral products (Division 23, 6%); Manufacture of paper and paper products (Division 17, 6%).

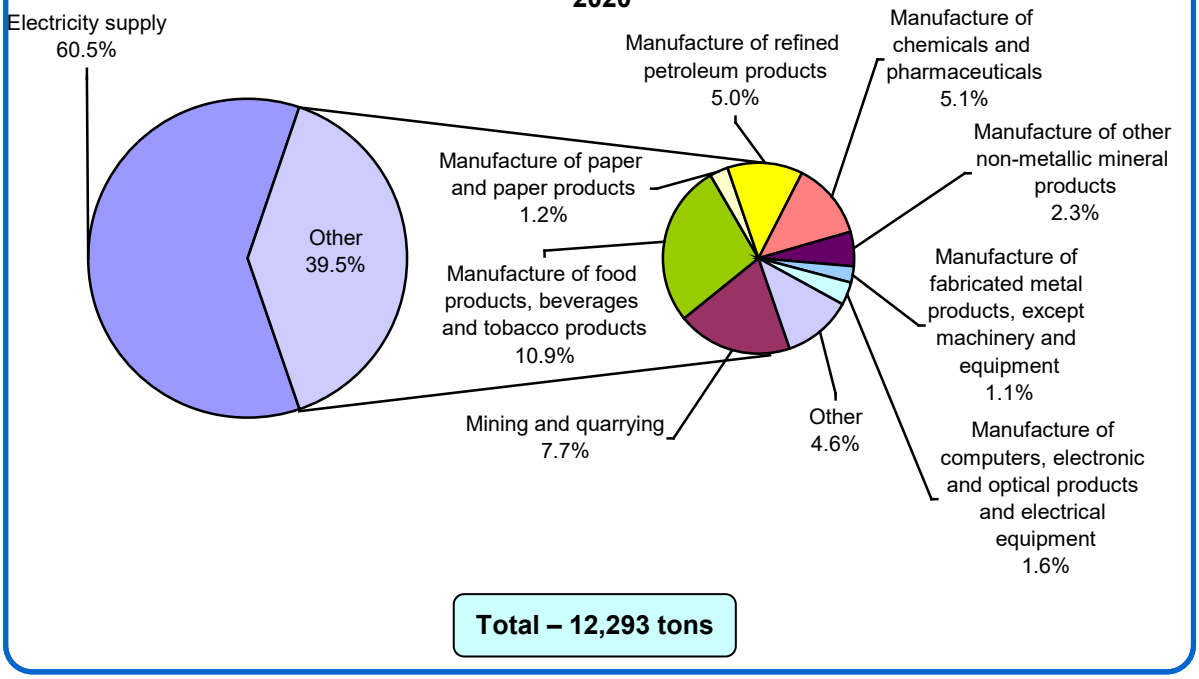
**DIAGRAM 7. EMISSIONS OF SULFUR DIOXIDE ($SO_2$) FROM THE COMBUSTION OF SELECTED FUELS IN THE MANUFACTURING AND ELECTRICITY INDUSTRIES, BY INDUSTRY 2020**




**Total – 2,450 tons**

Approximately 12,000 tons of **nitrogen oxides** (93% of this amount came from production processes) were emitted in 2020. Of the emissions, 90% were in the following industries: Electricity supply (Division 35, 61%); Manufacture of food products, beverages and tobacco products (Divisions 10–12, 11%); Mining and quarrying (Divisions 05–09, 8%); Manufacture of chemicals and pharmaceuticals (Divisions 20–21, 5%); and Manufacture of refined petroleum products (Division 19, 5%).

**DIAGRAM 8. EMISSIONS OF NITROGEN OXIDES ($NO_X$) FROM THE COMBUSTION OF SELECTED FUELS IN THE MANUFACTURING AND ELECTRICITY INDUSTRIES, BY INDUSTRY 2020**




**Total – 12,293 tons**

**Emissions of Greenhouse Gases**

Greenhouse gas emissions from fuel combustion in the Manufacturing and Electricity industries were also calculated based on the quantities of fuel consumed. The emissions that were calculated included the following gases: carbon dioxide ($CO_2$), methane ($CH_4$), and nitrous oxide ($N_2O$).[5]

In 2020, these emissions[6] were approximately 50% of the greenhouse gas emissions from fuel combustion in the Manufacturing and Electricity industries.[7]

In the following industries, fuel combustion in production processes and in transportation produced 96% of the greenhouse gas emissions mentioned above: Electricity supply (Division 35, 76%); Mining and quarrying (Divisions 05–09, 7%); Manufacture of refined petroleum products (Division 19, 6%); Manufacture of chemicals and pharmaceuticals (Divisions 20–21, 4%); and Manufacture of food products, beverages and tobacco products (Divisions 10–12, 3%).

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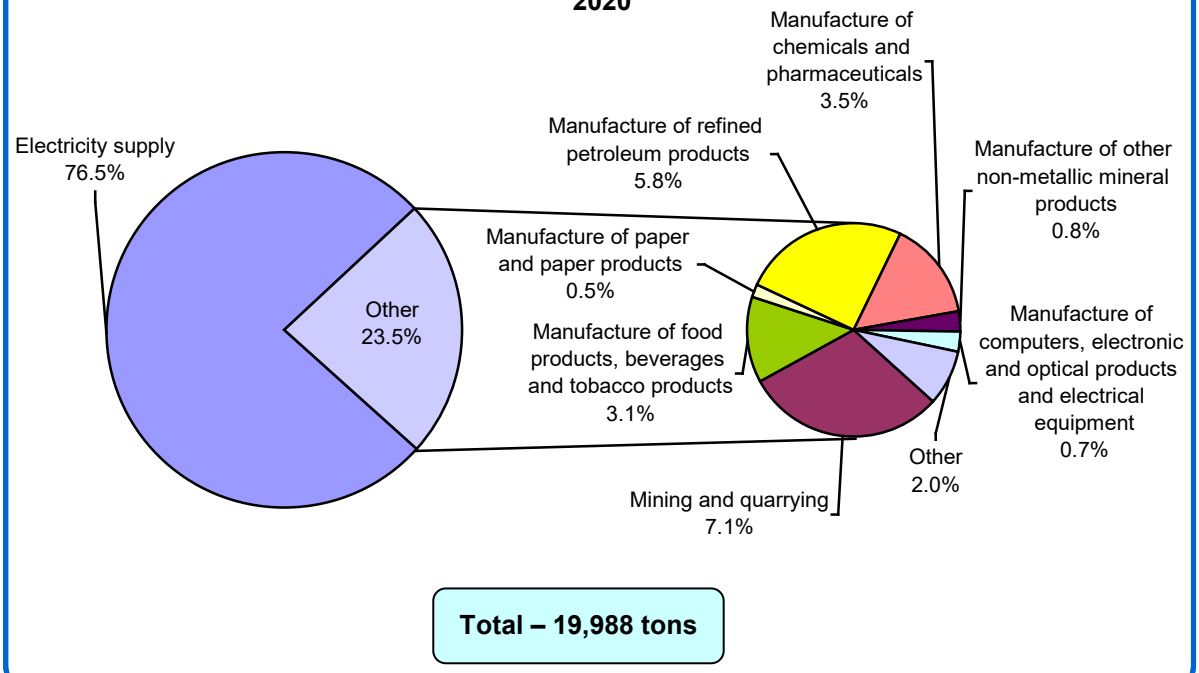
5 In order to enable comparison among the various gases and sources of emissions, the gases were converted to comparable values using the Global Warming Potential (GWP) coefficient, which is calculated for one hundred years. A GWP value is determined for each gas, with the basis of comparison being the value for carbon dioxide, which is defined as 1. The larger the GWP value, the greater the influence of the gas on global warming. The GWP coefficients of methane and nitrous oxide that were used for the calculation were 21 and 310, respectively.

6 Includes only the fuels for which data were collected in this survey and mentioned above: natural gas and petroleum products – fuel oil (heavy and light), diesel oil (for manufacturing and transport), liquefied petroleum gas, gasoline and kerosene. For example, emissions from coal burning are not included.

7 The total amount of greenhouse gas emissions from fuel combustion in 2020 was 61,084,000 tons of $CO_2$ equivalent (Table 22.7: Emissions of Greenhouse Gases, by Source, Statistical Abstract of Israel).

**DIAGRAM 9. EMISSIONS OF GREENHOUSE GASES (IN $CO_2$ EQUIVALENT) FROM THE COMBUSTION OF SELECTED FUELS IN THE MANUFACTURING AND ELECTRICITY INDUSTRIES, BY INDUSTRY 2020**




In addition to greenhouse gas emissions from fuels included in the survey (natural gas and petroleum products), there are additional fuels used in the Manufacturing and Electricity industries. Table C below shows greenhouse gas emissions from these fuels (coal, oil shale, waste, petcoke, and refinery gases). It can be seen from the table that most of the emissions originate from the Electricity supply industry (Division 35, 82%), Manufacture of refined petroleum products (Division 19, 6%), and Mining and quarrying (Divisions 05–09, 4%).

**Table C. Greenhouse Gas Emissions From Fuel Combustion in the Manufacturing and Electricity Industries, by Industry, 2020**

Thousand tons in $CO_2$ equivalent, unless stated otherwise

| Industry | Total (Percent-ages) | Total | Survey Data(1) | Administrative Data(2) |
|---|---|---|---|---|
| **Total** | **100** | **39,270** | **19,988** | **19,282** |
| Electricity supply | 82 | 32,059 | 15,281 | 16,777 |
| Mining and quarrying | 4 | 1,420 | 1,420 | - |
| Manufacture of refined petroleum products | 6 | 2,378 | 1,186 | 1,192 |
| Manufacture of chemicals and pharmaceuticals | 2 | 867 | 702 | 165 |
| Manufacture of food products, beverages and tobacco products | 2 | 617 | 617 | - |
| Manufacturing of other non-metallic mineral products | 3 | 1,297 | 154 | 1,143 |
| Manufacture of computers, electronic and optical products and electrical equipment | 0 | 136 | 136 | - |
| Manufacture of paper and paper products | 0 | 97 | 97 | - |
| Other industries | 1 | 399 | 394 | 5 |

(1) Natural gas and petroleum products – fuel oil (heavy and light), diesel oil (for manufacturing and transport), liquefied petroleum gas, gasoline, and kerosene.

(2) Coal, oil shale, waste, petcoke, and refinery gases.

## Water Consumption and Sewage Production

According to the survey data, approximately 2,254 million cubic meters ($m^3$) of water were consumed in Israel in 2020. Of that amount, approximately 145 million $m^3$ were used in the Manufacturing and Electricity industries, compared with approximately 105 million $m^3$ that were consumed in 2017. Drinking water consumption in Manufacturing in 2020 was approximately 100 million $m^3$ (7%) of approximately 1,345 million $m^3$ that were consumed in the economy in general. In addition, Manufacturing consumed approximately 45 million $m^3$ (5%) of non-drinking water, out of approximately 910 million $m^3$ of non-drinking water that were used in the entire economy.[8]

In comparison to the previous survey (2017), there was an increase of approximately 40 million $m^3$ (38%) in the consumption of drinking water. The main source of the increase was in the following industries: Manufacture of food products, beverages and tobacco products (Divisions 10–12, approximately 17 million $m^3$); Electricity supply (Division 35, approximately 7 million $m^3$); and Manufacture of computers, electronic and optical products and electrical equipment (Divisions 26–27, approximately 5 million $m^3$). In the consumption of non-drinking water, there was also an increase of 38% due to the increase in Mining and quarrying (Divisions 05–09, approximately 6 million $m^3$); in Manufacture of computers, electronic and optical products and electrical equipment (Division 26–27, approximately 4 million $m^3$); and in Electricity supply (Division 35, approximately 2 million $m^3$).

Of the total water in Manufacturing, 65% was consumed by the following three main industries: Manufacture of food products, beverages and tobacco products – approximately 40 million $m^3$ (Divisions 10–12, 27%); Mining and quarrying – approximately 28 million $m^3$ (Divisions 05–09, 19%); and Manufacture of chemicals and pharmaceuticals – approximately 27 million $m^3$ (Divisions 20–21, 19%).

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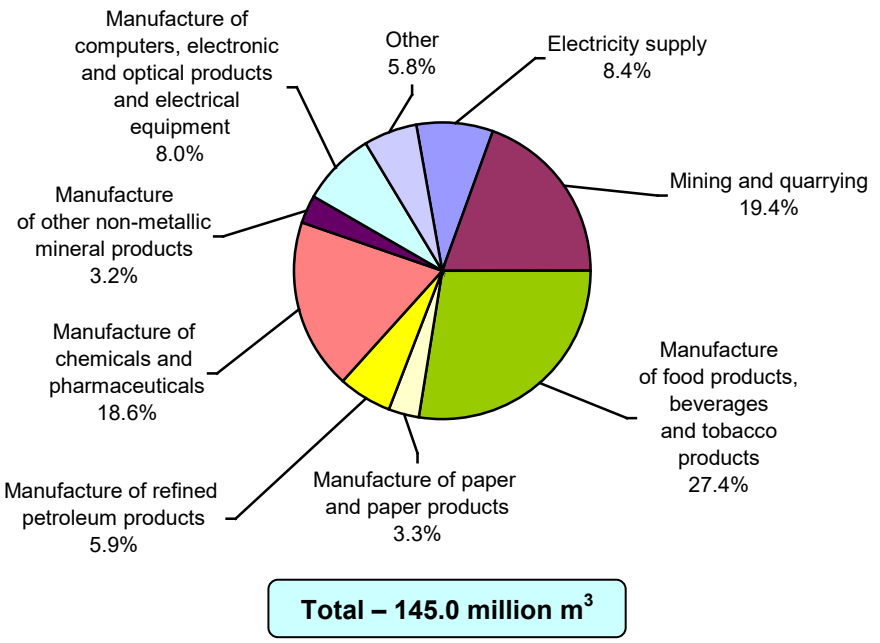
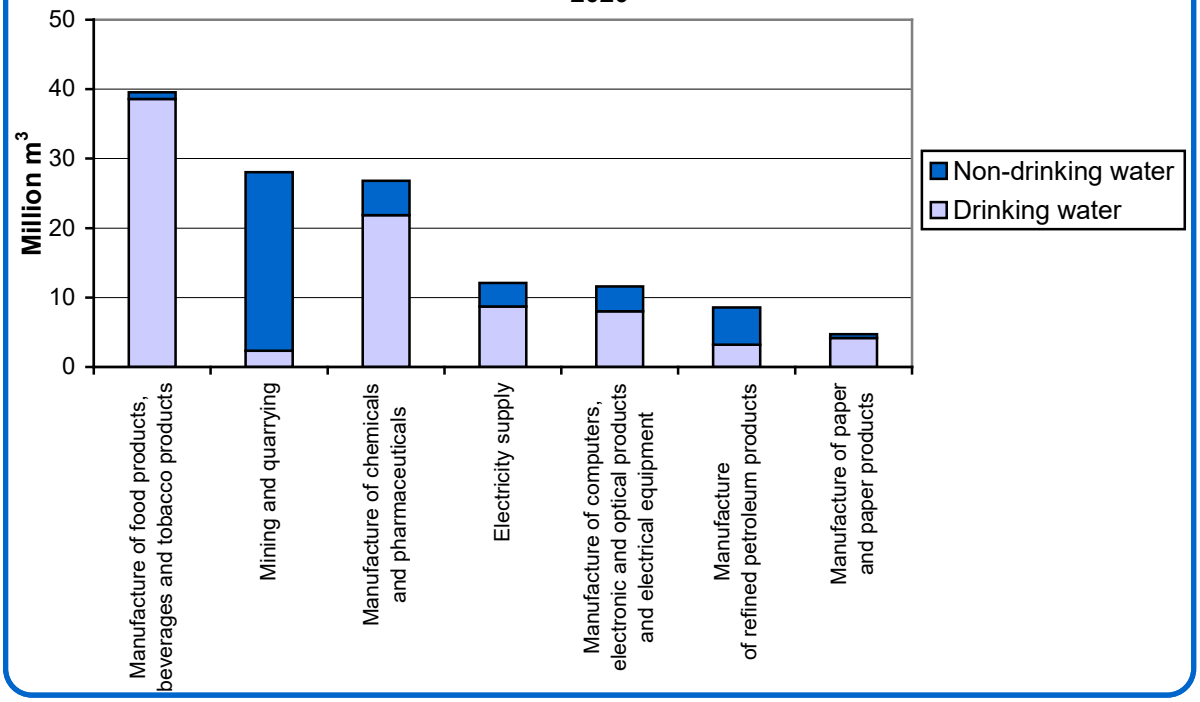
[8] See: Water Authority. Regulatory Division (2021). Water Consumption for 2020, Summary Report (Hebrew only).

**DIAGRAM 10. WATER CONSUMPTION IN THE MANUFACTURING AND ELECTRICITY INDUSTRIES, BY INDUSTRY 2020**



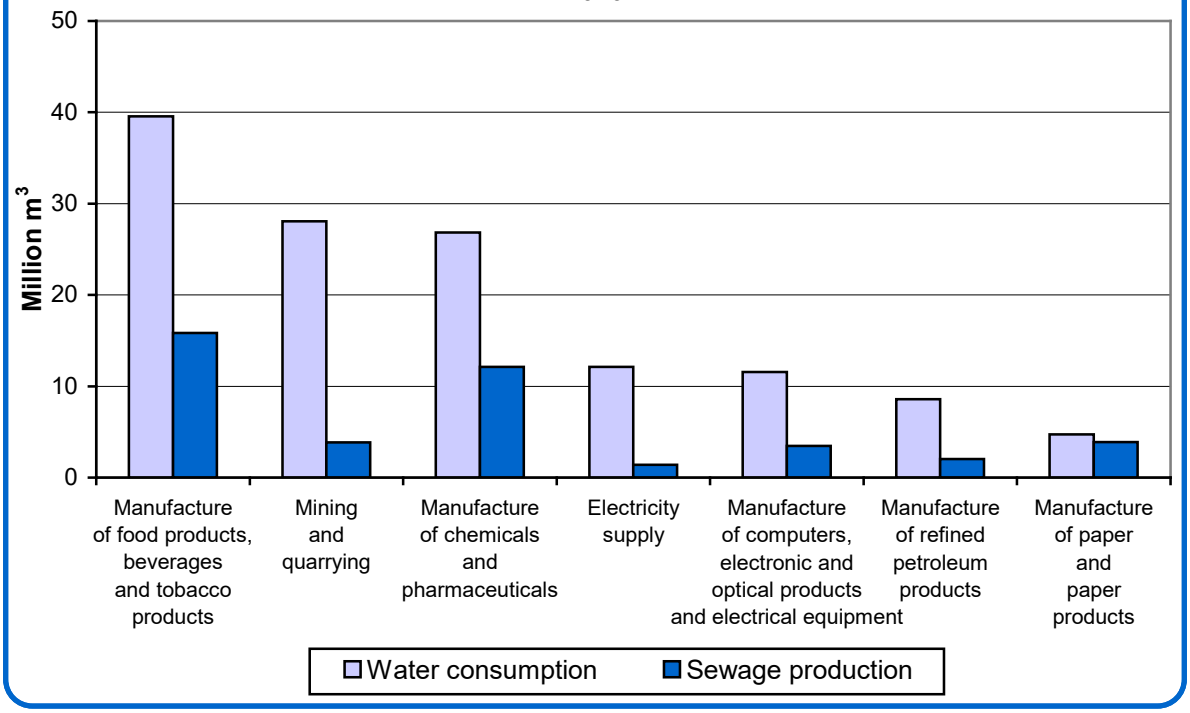

Manufacture of food products, beverages and tobacco products (Divisions 10–12) consumed the largest amount of drinking water – approximately 39 million $m^3$, while Mining and quarrying (Divisions 05–09) consumed the largest amount of non-drinking water – approximately 26 million $m^3$.

**DIAGRAM 11. WATER CONSUMPTION IN THE MANUFACTURING AND ELECTRICITY INDUSTRIES, BY INDUSTRY (SELECTED INDUSTRIES) 2020**



In 2020, approximately 49 million $m^3$ of sewage (compared with approximately 47 million $m^3$ in 2017) were generated in Manufacturing. Of the total amount of sewage in Manufacturing, 74% came from four industries: Manufacturing of food products, beverages and tobacco products – approximately 16 million $m^3$ (Divisions 10–12, 33%); Manufacture of chemicals and pharmaceuticals – approximately 12 million $m^3$ (Divisions 20–21, 25%); Manufacture of paper and paper products – approximately 4 million $m^3$ (Division 17, 8%); and Mining and quarrying – approximately 4 million $m^3$ (Divisions 05–09, 8%).

**DIAGRAM 12. WATER CONSUMPTION AND SEWAGE PRODUCTION IN THE MANUFACTURING AND ELECTRICITY INDUSTRIES, BY INDUSTRY (SELECTED INDUSTRIES) 2020**

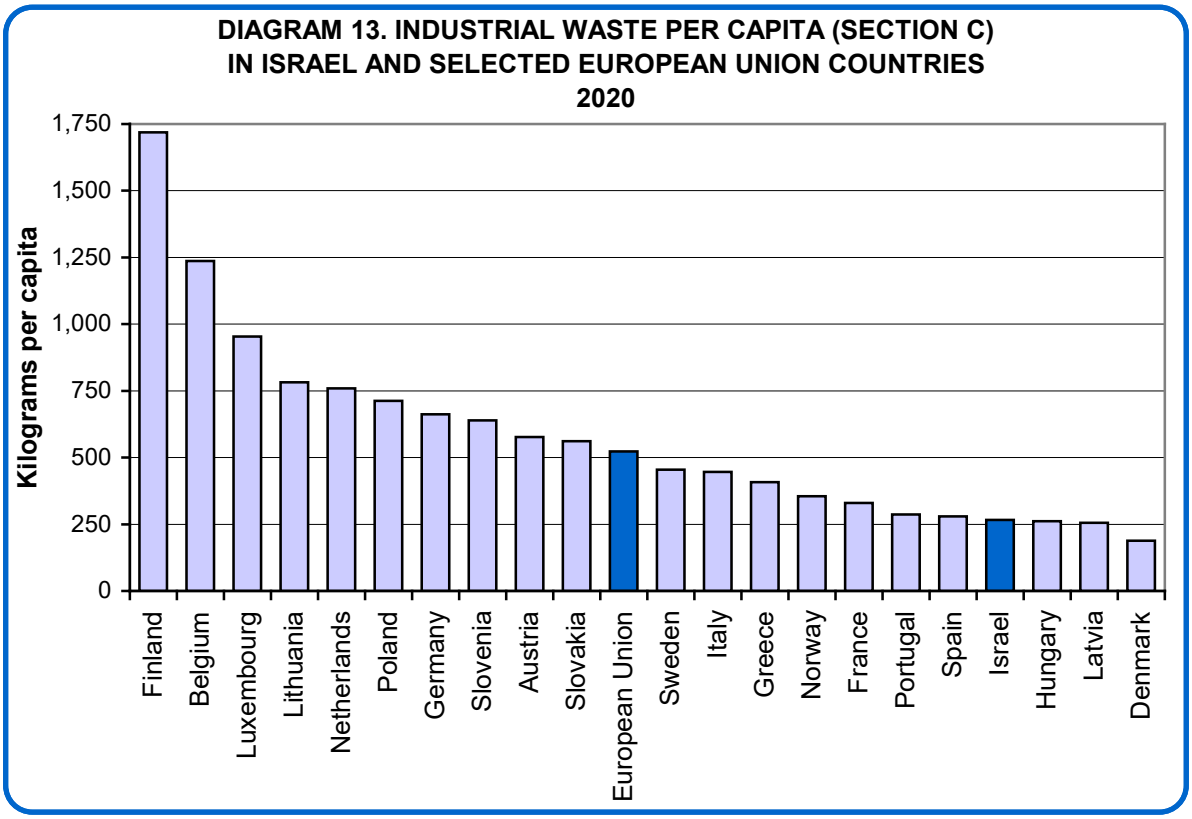


## International Comparisons

In 2020, the quantity of industrial waste per capita (Section C) in Israel was 266 kg (a decrease of 9% compared with 2017). A comparison between Israel and the European Union countries found that the values in Israel were similar to those of Hungary and Latvia. However, the values in Finland were six times higher, and five times higher in Belgium than in Israel. The European Union average – 523 kg per capita – higher than the Israeli value.

Note that this comparison does not take into account the different characteristics of the industries in each country.

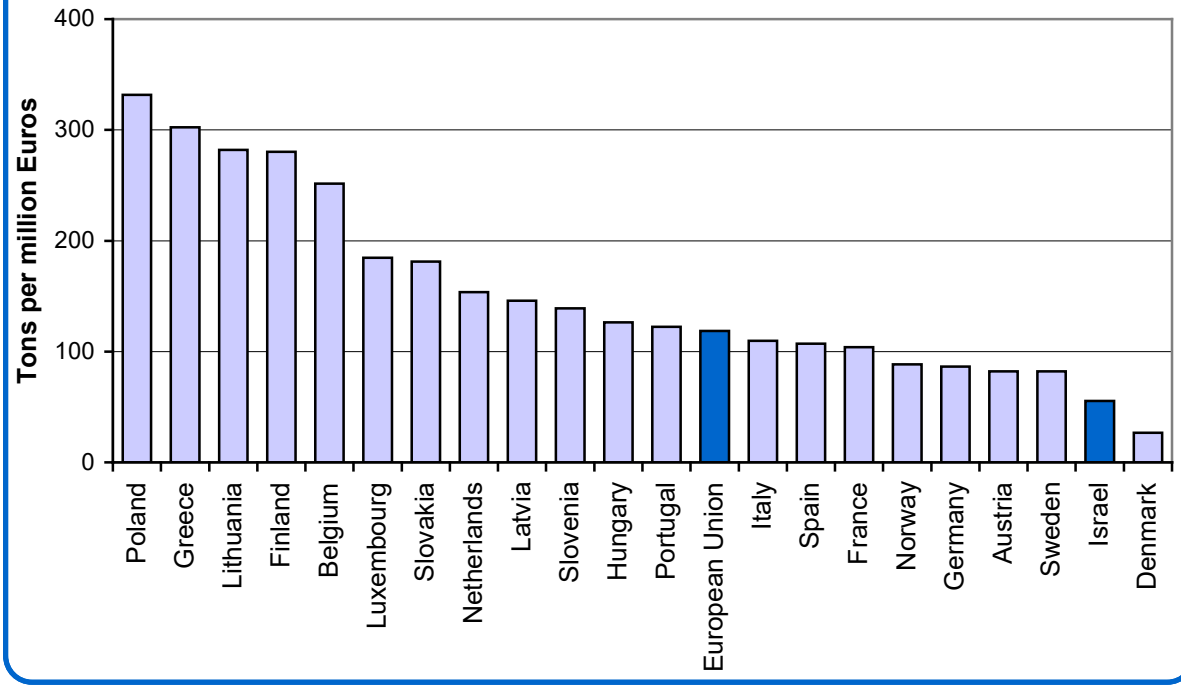
**DIAGRAM 13. INDUSTRIAL WASTE PER CAPITA (SECTION C) IN ISRAEL AND SELECTED EUROPEAN UNION COUNTRIES 2020**



In order to reflect the characteristics of industry in each country, a comparison was made between the quantities of waste produced per industry gross output unit (Section C).

In 2020, Israel produced approximately 55 tons of waste per million Euros of the gross output in Manufacturing (Section C) (a decrease of 11% compared with 2017). This value was lower than that of most of the European Union countries in 2020, except for Denmark. The values found in Poland were six times higher than in Israel, and the values in Greece were five times higher than in Israel. The average value of waste per million Euros in the European Union (119 tons) was higher than in Israel.

**DIAGRAM 14. WASTE PER INDUSTRY GROSS OUTPUT UNIT (SECTION C) IN ISRAEL AND SELECTED EUROPEAN UNION COUNTRIES 2020**



## C. Terms, Definitions, and Explanations

### Types of Waste

**Hazardous waste –** Wastes that, owing to their toxic, infectious, radioactive or flammable properties, pose a substantial actual or potential hazard to the health of humans and other living organisms and the environment.

**Dry waste –** Waste generated by activities in the areas of construction, destruction, and installation of infrastructure. Contains dust and remnants of construction material. Does not contain hazardous substances.

**Mixed waste –** Waste generated by household, commercial, or industrial activities. Contains remnants of food, packaging, waste from production processes, and yard waste. Does not contain hazardous substances.

### Sources of Waste

**Household waste –** Waste generated in the residential environment. Includes food residue, packing materials, and products that are spoiled or worn out.

**Commercial waste –** Waste generated by business establishments such as stores, markets, office buildings, restaurants, shopping centres, and movie theatres.

**Industrial waste –** Waste generated by the production and packing of industrial products.

### Waste Treatment Methods

In order to increase the efficiency of waste treatment, it is customary to rank the treatments according to their effect on the environment. The goal is to transform the waste into a resource and to minimize the amount of waste that is landfilled. The treatment methods examined in the survey were recycling and landfill.

**Recycling** – The processing and use of waste as raw materials in production and consumption processes; for example, the melting of scrap iron so that it can be converted into new iron products.

**Landfill** – Uncontrolled or controlled burial of waste in the ground in accordance with sanitary, environmental, or security requirements. Waste is transferred for landfill either directly to landfill sites or via transit stations from which it is transferred to landfill sites.

### Parties Responsible for Waste Removal

Waste and recycling materials produced at the establishment are removed to waste treatment sites by one of the following parties:

**External contractor:** Removal of waste by licenced waste removal contractors;

**Local authority:** Removal of waste by the waste removal system of local authorities;

**Self-removal:** Removal of waste by the establishment using internal equipment and personnel.

### Waste Treatment Sites

**Landfill site** – A site designated for landfill of waste. Landfill sites are distinguished according to the type of waste that is transferred to them: mixed, dry, or hazardous.

**Transit station** – A site used for sorting, initial treatment, and routing of waste. In a first stage, most of the waste is transferred to the transit stations located throughout Israel, from which it is transferred to landfill sites or to recycling plants. Some of the transit stations include a system for sorting and separating the waste in preparation for recycling, including the following operations: chopping of yard waste, separation of paper and plastic from the waste, and preparation of compost from the organic material in the waste.

**Recycling plant** – A plant established in order to treat recyclable waste.

Recyclable waste includes the following materials: plastic, paper, oil, construction waste, organic material, yard waste chips, metals, etc.

Recycling plants receive the waste from the following sources:

- Industrial establishments (via collection systems such as collection of cardboard and oil)
- Collection equipment set up in localities (such as equipment for collection of plastic bottles and paper)
- Transit stations (such as yard waste chips and plastic sorted at the transit stations)

## Greenhouse Gases

**Greenhouse gas (GHG)** – A gas that occurs naturally or that results from human activities. GHGs contribute to the greenhouse effect and global warming. Including carbon dioxide ($CO_2$), nitrous oxide ($N_2O$), methane ($CH_4$), ozone ($O_3$), sulfur hexafluoride ($SF_6$), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and other gases.

**Greenhouse effect** – A process in which greenhouse gases effectively absorb thermal infrared radiation emitted by the Earth's surface, by gases in the atmosphere, and by clouds. The infrared radiation turns into heat, which causes the warming of the atmosphere.

**Global warming** – An increase in the near surface temperature of the Earth. In the distant past, changes in Earth's temperature occurred as a result of natural processes. The term "global warming" refers to the warming predicted as a result of increased anthropogenic emissions of greenhouse gases that strengthen the greenhouse effect, which, in turn, causes global climate changes.

## Water and Sewage

**Sewage –** Water that has been polluted by an anthropogenic source. The source of contamination can be human and animal waste, toxic substances, metals, acids, etc. The source of sewage can be domestic, industrial, commercial, or agricultural. The flow of sewage in the environment can cause damage to health and to the environment and can be a real hazard to groundwater. Therefore, sewage must undergo appropriate treatment at a sewage purification plant.

**Industrial sewage –** Waste water emanating from manufacturing establishments, not including sanitary waste. Industrial sewage can be more hazardous than urban sewage due to the substances that it contains. Industrial sewage can be treated at the establishment where it was generated, transferred to an urban treatment plant, or transferred to special installations for the treatment of industrial sewege.

**Non-drinking water –** Water that is not fit for drinking, including brackish water, floodwater, effluents, and self-abstraction of water.

**Drinking water –** Water of good quality that is fit for drinking and for any other use.

# D. Methodology

## Survey Population

The survey population included Manufacturing companies and companies engaged in the production and distribution of electricity that have 10 or more employee jobs. The companies included were those classified as Section B – Mining and Quarrying; as Section C – Manufacturing; and as Division 35 from Section D (Electricity supply), as defined in the Standard Industrial Classification of all Economic Activities, 2011 (see Appendix).

## Period Investigated

The data collected on quantities of treated waste and sewage, and fuel consumption refer to activities that took place in 2020.

## Sampling Method

### Sampling Frame

The sampling frame was based on the sampling frame used in the Indices of the Manufacturing Survey conducted by the Senior Department of Business-Economic Statistics of the CBS. The sampling frame included all companies listed in the CBS's Business Register that operated in the Manufacturing industry (excluding diamonds) and the Electricity industry in 2020.

Companies that did not belong to the survey population were removed from the sampling frame. These included: companies that did not belong to Manufacturing, companies that did not have labour data for 2020, companies that ceased operations at the beginning of 2020, and companies with an average of 9 or fewer employee jobs in 2020.

In general, the sampling unit in the frame contained one company. In certain cases, the frame contained several companies due to special connections between them.

### Planning and Drawing of the Sample

The sampling frame was divided into groups of Manufacturing and Electricity industries (sampled industries) in order to meet the OECD's recommendations. These industry groups reflect companies' operational and technical homogeneity, as well as their environmental context. For example, a company that manufactures paper is typified mostly by expenditures for sewage treatment, as opposed to a mining and quarrying company, which is typified mainly by the protection of air quality.

For the purpose of planning the sample, size groups were defined for each sampled industry based on the average number of employee jobs or revenue for 2020. The selected statistic was based on an in-depth analysis of the results of the previous survey regarding the strength of the relationship between the survey's target

variables and the average number of employee jobs or revenue. The statistic that was chosen for the group had the highest correlation.

The sample that was drawn was a simple random sample without replacement in size strata. That is, in each stratum, the companies were sampled with equal probabilities in accordance with the sample allocation and the number of companies in the stratum. In each group, the uppermost size stratum, which is comprised of the companies with the highest size data, is a "take-all" stratum, in which all companies were drawn in the sample with certainty. The other size strata were referred to as the probability strata, in which a sample was drawn with a probability of less than 1. The sample was allocated among the different size strata within each industry group using the algorithm of Laveallee and Hidrogulou (1988) and the Neyman allocation in order to obtain a minimal sample size at the desired level of precision. In a few groups that contained a large number of small companies, these companies were divided into strata of equal size, and were allocated to the sample of companies such that the sample's inverse probability would not be greater than 30.

It should be emphasized that the level of precision is obtained for the size datum upon which the sample is planned. A similar level of precision should be obtained for other variables examined in the survey that correlate strongly with the size datum. The sampling error is expected to be higher for other variables examined in the survey that do not correlate with the size datum.

The sample that was drawn included 1,074 sampling units. Some of the sampling units are made up of several companies. In all, 1,229 companies were contacted.

## Research Method

At the preliminary stage of data collection, companies that came up in the sample were located by telephone calls, together with a clarification of the information that was requested before the questionnaire was sent out. General information about the company was collected, an inquiry was made as to whether the company had several locations of activity, and contact people for filling out the questionnaire were found. The primary goal of the company-location stage was to lay the groundwork that would enable the data to be collected in the most efficient way.

The data were collected using two methods: by questionnaires that were completed with the assistance and guidance of an interviewer who visited the company, or by a questionnaire that was sent in the mail and filled out with telephone support. In the first stage, the questionnaire was sent to the company's contact person (such as the person in charge of environmental protection, the company engineer, or the director of operations) for the purpose of collecting the data and preparing the material needed. In the second stage, an appointment was made for the interviewer's visit or for telephone support in filling out the questionnaire.

Data collection lasted for approximately eight months – from September 2021 until April 2022.

## Response to the Survey

Although a survey is a complex matter, response rates were high, and most of the companies gave of their time to answer the survey questions. Nevertheless, because of the complexity of the subject and the difficulty involved in obtaining the relevant data within the companies, some of the companies may not have provided a full report.

The data for 2020 are based on questionnaires that were received from 1,076 of 1,229 companies that were included in the sample.

**Table D. Interview Results**
**(of the total number of companies that were included in the sample), 2020**

| Interview Results | Percentages |
|---|---|
| Accepted | 88 |
| Not accepted | 12 |
| Company’s activity did not match the survey population | 7 |
| Closed or inactive companies, refusals, and other | 5 |

The non-response rate was 12%. In 7% of the companies, the company's activity did not match the survey population because the companies did not belong to the Manufacturing and Electricity industries. Five percent of the companies did not respond due to response burden, refusal, closed company or other reasons.

## Handling of Data

The review of the questionnaires and the data involved two stages. The first stage included checking the completeness of the reporting of the general information of the companies and of the contact person, as well as the completeness of the data reported. In the second stage – that of quality control and preparation – additional checks were carried out that included the following: whether the questionnaire had been filled out completely, the type of waste, classification of the waste into appropriate categories (mixed, dry, and hazardous), conversion of waste and fuel reported by volume to weight, quantity size, and whether the company’s reported main activity matched the industry in which it was classified in the Business Register.

If additional clarification was needed, a follow-up request was sent to the contact person. After the information required to complete the questionnaires was received, the questionnaires were entered into an information system.

## Estimation Method

Each of the companies covered in the survey was assigned a weight, also called a "weighting coefficient", that indicated the number of companies it represented in the survey year. The weighting coefficient was calculated in two stages.

First stage: The company's preliminary weight was calculated as the inverse of its sampling probability. The greater a company's sampling probability, the smaller the number of companies that it represented.

Second stage: The company's final weight was obtained by multiplying the preliminary weight by a factor that corrected for the non-response in each sampling stratum. The higher the non-response rate was in a stratum, the larger was the non-response correction coefficient.

## E. Reliability of the Data

The data presented in the tables, which were estimates based on a sample survey, were subject to various possible errors:

### Sampling Errors

Sampling errors result from the fact that the companies that were investigated were only a sample rather than the total survey population. The sample upon which the current survey was based was only one of a number of possible samples that could have been included through the same sampling method and of the same size. Obviously, estimates based on different samples will differ from each other, and will almost always be different from the value that would be obtained if information was collected from the entire population rather than only from a sample.

The **estimate** X' is the value, estimated from the specific sample in this survey, of the corresponding value X that would have been obtained had data been collected from the entire population.

The **sampling error of the estimate** σ(X') is an average measure of the variability between all of the values of the estimate that would have been obtained from all possible samples of the same size using the same sampling method, and the value that would have been obtained under the same conditions of data collection, from the entire population.

The **relative sampling error of the estimate** σ(X') / X' is estimated by the ratio between the sampling error and the estimate. In order to caution the reader against using estimates that are liable to have high sampling errors, estimates having relative sampling errors between 15% and 30% are shown in parentheses in the tables of the publication. Estimates having relative sampling errors higher than 30% are not shown (the ".." symbol appears instead).

### Non-Sampling Errors

Non-sampling errors in a survey can result from many factors at all stages of data collection and processing. They can be found in a process in which information is collected from the entire population, and not only from a sample of units.

The main non-sampling errors in a survey are:

1. Errors in coverage of the survey population: The sampling frame is subject to under-coverage of companies that belong to the population. This under-coverage can result from several causes, such as new companies not yet included in the Business Register at the time the sample was drawn, errors in the industry classifications, or erroneous assessment of a company (for example, a company with 10 or more employee jobs being assessed as a company that is below this threshold).
2. Errors resulting from non-response: Errors resulting from the fact that companies did not respond either because they refused to respond or for other reasons. This can cause a certain bias in the estimates because the characteristics of companies that responded to the survey might be different from those of companies that did not respond. The estimation method used was intended to reduce this bias.
3. Response errors: Errors resulting from misunderstanding of the questions, disinterest in responding, or inability to respond correctly.
4. Data-entry errors: The responses to the questionnaires, which are entered into a database, are subject to errors during the data-entry process. Some of these errors are identified and corrected through later checks of all the data that was entered.
5. Errors arising during the processing stages: Errors that occur during the processing of the data. Some of these errors are identified and corrected through later checks of all the obtained data.

It is difficult and sometimes impossible to assess non-sampling errors. It is important to note that efforts were made during the planning and execution of the survey to limit the number of such errors as much as possible.

## F. Confidentiality of the Data

Pursuant to the Statistics Ordinance, the Central Bureau of Statistics is obligated to maintain the confidentiality of the data obtained from the companies. Therefore, in certain cases the data were presented in aggregated form so as not to disclose the information in detail.

## Appendix: Industries According to the Standard Industrial Classification of All Economic Activities, 2011[1]

| Code | Industry (Division) |
|---|---|
| **Section B (05–09)** | **Mining and quarrying** |
| **Section C** | **Manufacturing** |
| 10–12 | Manufacture of food products, beverages and tobacco products |
| 13–14 | Manufacture of textiles and wearing apparel |
| 15 | Manufacture and processing of leather and related products |
| 16 | Manufacture of wood, cork and straw products, except furniture |
| 17 | Manufacture of paper and paper products |
| 18 | Printing and reproduction of recorded media |
| 19 | Manufacture of refined petroleum products |
| 20–21 | Manufacture of chemicals and pharmaceuticals |
| 22 | Manufacture of rubber and plastics products |
| 23 | Manufacture of other non-metallic mineral products |
| 24 | Manufacture of basic metals |
| 25 | Manufacture of fabricated metal products, except machinery and equipment |
| 26–27 | Manufacture of computers, electronic and optical products and electrical equipment |
| 28 | Manufacture of machinery and equipment n.e.c. |
| 29–30 | Manufacture of motor vehicles and other transport equipment |
| 31 | Manufacture of furniture |
| 32–33 | Other manufacturing, repair and installation of machinery and equipment |
| **Section D (35)** | **Electricity supply** |

[1] See: Central Bureau of Statistics (2012). Standard Industrial Classification of All Economic Activities, 2011. Tech. Pub. No. 80.

# TABLES

TABLES ARE PRESENTED IN HEBREW ORDER –
FROM RIGHT TO LEFT

# EXPLANATORY NOTES

## Area Covered by the Statistical Data

The statistical data relate to the economic territory of the State of Israel, unless otherwise stated.

**A. The economic territory of a country** (according to the definition of the OECD-SNA. For a detailed definition, see: OECD, Glossary of Statistical Terms): The economic territory of a country consists of the geographic territory administered by a government within which persons, goods and capital circulate freely.

**The economic territory of the State of Israel**: According to this definition, the economic territory of the State of Israel is as indicated in paragraph B below.

**B. District and Sub-District**:
The districts and sub-districts are defined according to the official administrative division of the State of Israel, which includes 6 districts and 15 sub-districts. Including Israeli localities in the Judea and Samaria Area.

**Ton**

The term "ton" refers to metric ton, i.e., 1,000 kg.

## Special Symbols in the Tables

| | | |
|---|---|---|
| - | = | No cases |
| .. | = | Unknown or not for publication |
| 0 | = | A value smaller than half the unit by which data are presented in the table |
| ( ) | = | Estimates with relative sampling errors between 15% and 30% |

**TABLE 1. WASTE IN THE MANUFACTURING AND ELECTRICITY INDUSTRIES, BY TYPE OF WASTE AND TREATMENT METHOD**

**לוח 1. פסולת בענפי התעשייה והחשמל, לפי סוג פסולת ואופן טיפול**

Tons, unless otherwise stated

טונות, אלא אם כן צוין אחרת

| | Type of waste | 2020 | 2017(1) | 2014 | 2012 | סוג פסולת | |
|---|---|---|---|---|---|---|---|
| Total | **Total** | **3,297,076** | **3,861,653** | **3,387,901** | **3,522,275** | **סך הכל** | סך הכל |
| | Dry waste | 1,552,591 | 2,275,294 | 1,897,348 | 2,213,174 | פסולת יבשה | |
| | Mixed waste | 1,542,353 | 1,367,903 | 1,319,375 | 1,148,661 | פסולת מעורבת | |
| | Hazardous waste | 202,132 | 218,456 | 171,179 | 160,440 | פסולת מסוכנת | |
| Removal to landfill or to transit stations | **Total** | **838,467** | **980,545** | **797,871** | **870,789** | **סך הכל** | פינוי להטמנה או לתחנות מעבר |
| | Dry waste | 223,560 | 270,165 | 175,299 | 175,851 | פסולת יבשה | |
| | Mixed waste | 479,049 | 526,689 | 495,699 | 574,032 | פסולת מעורבת | |
| | Hazardous waste | 135,857 | 183,691 | 126,872 | 120,907 | פסולת מסוכנת | |
| Removal to recycling - total | **Total** | **2,458,609** | **2,881,108** | **2,590,031** | **2,651,485** | **סך הכל** | פינוי למחזור - סך הכל |
| | Dry waste | 1,329,031 | 2,005,129 | 1,722,048 | 2,037,323 | פסולת יבשה | |
| | Mixed waste | 1,063,304 | 841,214 | 823,676 | 574,629 | פסולת מעורבת | |
| | Hazardous waste | 66,274 | 34,765 | 44,306 | 39,534 | פסולת מסוכנת | |
| Removal to recycling - percentage of recycling of the total waste | **Total** | **74.6** | **74.6** | **76.4** | **75.3** | **סך הכל** | פינוי למחזור - אחוז מחזור מסך הפסולת |
| | Dry waste | 85.6 | 88.1 | 90.8 | 92.1 | פסולת יבשה | |
| | Mixed waste | 68.9 | 61.5 | 62.4 | 50.0 | פסולת מעורבת | |
| | Hazardous waste | 32.8 | 15.9 | 25.9 | 24.6 | פסולת מסוכנת | |

(1) Due to change in the sample, as of 2017, caution should be taken when comparing with data from previous years.

(1) עקב שינוי במדגם, החל משנת 2017 יש להיזהר בהשוואה לנתוני שנים קודמות.

**TABLE 2. WASTE IN THE MANUFACTURING AND ELECTRICITY INDUSTRIES, BY INDUSTRY AND TYPE OF WASTE(1)**

**לוח 2. פסולת בענפי התעשייה והחשמל, לפי ענף כלכלי וסוג פסולת(1)**

Tons — **2020** — טונות

| Industry (Division) | פסולת מסוכנת Hazardous waste | פסולת מעורבת Mixed waste | פסולת יבשה Dry waste | סך הכל Total | ענף כלכלי ראשי | סמל Code |
|---|---|---|---|---|---|---|
| **Mining and quarrying, Manufacturing and Electricity supply - total** | **202,132** | **1,542,353** | **1,552,591** | **3,297,076** | **כרייה וחציבה, תעשייה ואספקת חשמל - סך הכל** | **B, C, 35** |
| Mining and quarrying | 4,398 | 12,571 | 19,300 | 36,269 | כרייה וחציבה | 05-09 |
| Manufacture of food products, beverages and tobacco products | 1,088 | 740,235 | .. | 743,091 | ייצור מוצרי מזון, משקאות ומוצרי טבק | 10-12 |
| Manufacture of textiles and wearing apparel | 7 | 10,909 | 7 | 10,924 | ייצור טקסטיל ומוצרי הלבשה | 13-14 |
| Manufacture and processing of leather and related products | .. | 648 | - | 649 | ייצור ועיבוד של מוצרי עור ושל אביזרים נלווים | 15 |
| Manufacture of wood, cork and straw products, except furniture | - | (20,173) | 27 | (20,200) | ייצור מוצרי עץ, שעם וקש, פרט לרהיטים | 16 |
| Manufacture of paper and paper products | 3,137 | 208,640 | (12,288) | 224,066 | ייצור נייר ומוצריו | 17 |
| Printing and reproduction of recorded media | (387) | 24,316 | .. | 24,706 | הדפסה ושכפול של חומר תקשורתי מוקלט | 18 |
| Manufacture of refined petroleum products | 9,675 | 3,620 | 4,804 | 18,099 | ייצור מוצרי נפט מזוקק | 19 |
| Manufacture of chemicals and pharmaceuticals(2) | 88,201 | 66,705 | (22,669) | 177,575 | ייצור כימיקלים ותרופות(2) | 20-21 |
| Manufacture of rubber and plastics products | (1,858) | 70,014 | .. | 72,054 | ייצור מוצרי גומי ופלסטיק | 22 |
| Manufacture of other non-metallic mineral products | 422 | 30,508 | 686,784 | 717,714 | ייצור מוצרים אחרים על בסיס מינרלים אל-מתכתיים | 23 |
| Manufacture of basic metals | 24,025 | 122,178 | (8,364) | 154,568 | תעשיית מתכות בסיסיות | 24 |
| Manufacture of fabricated metal products, except machinery and equipment | 6,626 | 69,852 | (8,653) | 85,131 | ייצור מוצרי מתכת בהרכבה, פרט למכונות ולציוד | 25 |
| Manufacture of computers, electronic and optical products and electrical equipment | 42,881 | 49,860 | 2,583 | 95,325 | ייצור מחשבים, מכשור אלקטרוני ואופטי וציוד חשמלי | 26-27 |
| Manufacture of machinery and equipment n.e.c. | 4,721 | 30,758 | 53 | 35,531 | ייצור מכונות וציוד לנמ"א | 28 |
| Manufacture of motor vehicles and other transport equipment | 6,807 | 17,145 | 1,197 | 25,148 | ייצור כלי תחבורה והובלה | 29-30 |
| Manufacture of furniture | (1,110) | 31,259 | (401) | 32,770 | ייצור רהיטים | 31 |
| Other manufacturing, repair and installation of machinery and equipment | (1,167) | 9,451 | 1,083 | 11,701 | ענפי ייצור אחרים, תיקון, תחזוקה והתקנה של מכונות וציוד | 32-33 |
| Electricity supply | 5,622 | 23,510 | 782,423 | 811,556 | אספקת חשמל | 35 |

(1) The presentation of the data reflects the sampling errors. See Introduction.

(2) Due to change in the classification of the materials in dry waste, caution should be taken when comparing with data from previous years.

(1) אופן הצגת הנתונים משקף את טעויות הדגימה. ראו מבוא.

(2) עקב שינוי בסיווג החומרים בפסולת היבשה, יש להיזהר בהשוואה לנתוני שנים קודמות.

**TABLE 3. WASTE IN THE MANUFACTURING AND ELECTRICITY INDUSTRIES, BY INDUSTRY AND TREATMENT METHOD(1)**

**לוח 3. פסולת בענפי התעשייה והחשמל, לפי ענף כלכלי ואופן טיפול(1)**

Tons, unless otherwise stated — **2020** — טונות, אלא אם כן צוין אחרת

| Industry (Division) | פינוי למחזור Removal to recycling: אחוז מחזור מסך הפסולת Percentage of recycling of the total waste | פינוי למחזור Removal to recycling: סך הכל Total | פינוי להטמנה או לתחנות מעבר Removal to landfill or to transit stations | סך הכל Total | ענף כלכלי ראשי | סמל Code |
|---|---|---|---|---|---|---|
| **Mining and quarrying, Manufacturing and Electricity supply - total** | **74.6** | **2,458,609** | **838,467** | **3,297,076** | **כרייה וחציבה, תעשייה ואספקת חשמל - סך הכל** | **B, C, 35** |
| Mining and quarrying | 78.9 | 28,602 | 7,667 | 36,269 | כרייה וחציבה | 05-09 |
| Manufacture of food products, beverages and tobacco products | 83.0 | 616,960 | 126,131 | 743,091 | ייצור מוצרי מזון, משקאות ומוצרי טבק | 10-12 |
| Manufacture of textiles and wearing apparel | 54.1 | 5,906 | 5,017 | 10,924 | ייצור טקסטיל ומוצרי הלבשה | 13-14 |
| Manufacture and processing of leather and related products | 71.5 | 464 | 185 | 649 | ייצור ועיבוד של מוצרי עור ושל אביזרים נלווים | 15 |
| Manufacture of wood, cork and straw products, except furniture | 64.4 | (13,014) | 7,186 | (20,200) | ייצור מוצרי עץ, שעם וקש, פרט לרהיטים | 16 |
| Manufacture of paper and paper products | 52.9 | 118,623 | 105,442 | 224,066 | ייצור נייר ומוצריו | 17 |
| Printing and reproduction of recorded media | 81.2 | 20,066 | 4,640 | 24,706 | הדפסה ושכפול של חומר תקשורתי מוקלט | 18 |
| Manufacture of refined petroleum products | 73.9 | 13,370 | 4,729 | 18,099 | ייצור מוצרי נפט מזוקק | 19 |
| Manufacture of chemicals and pharmaceuticals | 27.0 | 47,871 | 129,704 | 177,575 | ייצור כימיקלים ותרופות | 20-21 |
| Manufacture of rubber and plastics products | 48.8 | 35,189 | 36,866 | 72,054 | ייצור מוצרי גומי ופלסטיק | 22 |
| Manufacture of other non-metallic mineral products | 72.5 | 520,150 | 197,565 | 717,714 | ייצור מוצרים אחרים על בסיס מינרלים אל-מתכתיים | 23 |
| Manufacture of basic metals | 62.6 | 96,693 | 57,875 | 154,568 | תעשיית מתכות בסיסיות | 24 |
| Manufacture of fabricated metal products, except machinery and equipment | 52.8 | 44,945 | 40,186 | 85,131 | ייצור מוצרי מתכת בהרכבה, פרט למכונות וציוד | 25 |
| Manufacture of computers, electronic and optical products and electrical equipment | 50.1 | 47,798 | 47,527 | 95,325 | ייצור מחשבים, מכשור אלקטרוני ואופטי וציוד חשמלי | 26-27 |
| Manufacture of machinery and equipment n.e.c. | 59.5 | 21,139 | 14,392 | 35,531 | ייצור מכונות וציוד לנמ"א | 28 |
| Manufacture of motor vehicles and other transport equipment | 53.1 | 13,362 | 11,786 | 25,148 | ייצור כלי תחבורה והובלה | 29-30 |
| Manufacture of furniture | 59.1 | 19,351 | 13,419 | 32,770 | ייצור רהיטים | 31 |
| Other manufacturing, repair and installation of machinery and equipment | (39.3) | (4,603) | 7,099 | 11,701 | ענפי ייצור אחרים, תיקון, תחזוקה והתקנה של מכונות וציוד | 32-33 |
| Electricity supply | 97.4 | 790,505 | 21,051 | 811,556 | אספקת חשמל | 35 |

(1) The presentation of the data reflects the sampling errors. See Introduction.

(1) אופן הצגת הנתונים משקף את טעויות הדגימה. ראו מבוא.

**TABLE 4. WASTE IN THE MANUFACTURING AND ELECTRICITY INDUSTRIES, BY INDUSTRY AND PARTY RESPONSIBLE FOR REMOVAL(1)**

**לוח 4. פסולת בענפי התעשייה והחשמל, לפי ענף כלכלי וגורם מפנה(1)**

Tons — **2020** — טונות

| Industry (Division) | הרשות המקומית Local authority | קבלן חיצוני External contractor | פינוי עצמי Self-removal | סך הכל Total | ענף כלכלי ראשי | סמל Code |
|---|---|---|---|---|---|---|
| **Mining and quarrying, Manufacturing and Electricity supply - total** | **142,459** | **2,712,244** | **442,373** | **3,297,076** | **כרייה וחציבה, תעשייה ואספקת חשמל - סך הכל** | **B, C, 35** |
| Mining and quarrying | 1,828 | 15,308 | 19,134 | 36,269 | כרייה וחציבה | 05-09 |
| Manufacture of food products, beverages and tobacco products | (51,887) | 656,811 | (34,392) | 743,091 | ייצור מוצרי מזון, משקאות ומוצרי טבק | 10-12 |
| Manufacture of textiles and wearing apparel | (1,532) | 9,296 | (96) | 10,924 | ייצור טקסטיל ומוצרי הלבשה | 13-14 |
| Manufacture and processing of leather and related products | 207 | 442 | - | 649 | ייצור ועיבוד של מוצרי עור ושל אביזרים נלווים | 15 |
| Manufacture of wood, cork and straw products, except furniture | 766 | (19,404) | 30 | (20,200) | ייצור מוצרי עץ, שעם וקש, פרט לרהיטים | 16 |
| Manufacture of paper and paper products | 4,795 | 201,781 | (17,489) | 224,066 | ייצור נייר ומוצריו | 17 |
| Printing and reproduction of recorded media | 3,149 | 21,468 | .. | 24,706 | הדפסה ושכפול של חומר תקשורתי מוקלט | 18 |
| Manufacture of refined petroleum products | 215 | 17,509 | 375 | 18,099 | ייצור מוצרי נפט מזוקק | 19 |
| Manufacture of chemicals and pharmaceuticals | 8,508 | 151,721 | (17,346) | 177,575 | ייצור כימיקלים ותרופות | 20-21 |
| Manufacture of rubber and plastics products | 12,133 | 57,481 | .. | 72,054 | ייצור מוצרי גומי ופלסטיק | 22 |
| Manufacture of other non-metallic mineral products | (3,498) | 369,801 | (344,416) | 717,714 | ייצור מוצרים אחרים על בסיס מינרלים אל-מתכתיים | 23 |
| Manufacture of basic metals | 2,352 | 148,380 | (3,836) | 154,568 | תעשיית מתכות בסיסיות | 24 |
| Manufacture of fabricated metal products, except machinery and equipment | 11,512 | 72,101 | .. | 85,131 | ייצור מוצרי מתכת בהרכבה, פרט למכונות ולציוד | 25 |
| Manufacture of computers, electronic and optical products and electrical equipment | (13,169) | 81,486 | .. | 95,325 | ייצור מחשבים, מכשור אלקטרוני ואופטי וציוד חשמלי | 26-27 |
| Manufacture of machinery and equipment n.e.c. | 4,885 | 30,532 | (115) | 35,531 | ייצור מכונות וציוד לנמ"א | 28 |
| Manufacture of motor vehicles and other transport equipment | 2,605 | 22,405 | 138 | 25,148 | ייצור כלי תחבורה והובלה | 29-30 |
| Manufacture of furniture | (3,714) | 28,780 | .. | 32,770 | ייצור רהיטים | 31 |
| Other manufacturing, repair and installation of machinery and equipment | 1,883 | 9,803 | .. | 11,701 | ענפי ייצור אחרים, תיקון, תחזוקה והתקנה של מכונות וציוד | 32-33 |
| Electricity supply | 13,821 | 797,734 | - | 811,556 | אספקת חשמל | 35 |

(1) The presentation of the data reflects the sampling errors. See Introduction.

(1) אופן הצגת הנתונים משקף את טעויות הדגימה. ראו מבוא.

**TABLE 5. MIXED WASTE IN THE MANUFACTURING AND ELECTRICITY INDUSTRIES, BY INDUSTRY AND TREATMENT METHOD(1)**

**לוח 5. פסולת מעורבת בענפי התעשייה והחשמל, לפי ענף כלכלי ואופן טיפול(1)**

Tons, unless otherwise stated — **2020** — טונות, אלא אם כן צוין אחרת

| Industry (Division) | פינוי למחזור Removal to recycling: אחוז מחזור מסך הפסולת Percentage of recycling of the total waste | פינוי למחזור Removal to recycling: סך הכל Total | פינוי להטמנה או לתחנות מעבר Removal to landfill or to transit stations | סך הכל Total | ענף כלכלי ראשי | סמל Code |
|---|---|---|---|---|---|---|
| **Mining and quarrying, Manufacturing and Electricity supply - total** | **68.9** | **1,063,304** | **479,049** | **1,542,353** | **כרייה וחציבה, תעשייה ואספקת חשמל - סך הכל** | **B, C, 35** |
| Mining and quarrying | 58.2 | 7,319 | 5,252 | 12,571 | כרייה וחציבה | 05-09 |
| Manufacture of food products, beverages and tobacco products | 83.3 | 616,521 | 123,714 | 740,235 | ייצור מוצרי מזון, משקאות ומוצרי טבק | 10-12 |
| Manufacture of textiles and wearing apparel | 54.1 | 5,904 | 5,005 | 10,909 | ייצור טקסטיל ומוצרי הלבשה | 13-14 |
| Manufacture and processing of leather and related products | 71.4 | 463 | 185 | 648 | ייצור ועיבוד של מוצרי עור ושל אביזרים נלווים | 15 |
| Manufacture of wood, cork and straw products, except furniture | 64.5 | (13,014) | 7,159 | (20,173) | ייצור מוצרי עץ, שעם וקש, פרט לרהיטים | 16 |
| Manufacture of paper and paper products | 56.6 | 118,026 | 90,614 | 208,640 | ייצור נייר ומוצריו | 17 |
| Printing and reproduction of recorded media | 82.3 | 20,018 | 4,299 | 24,316 | הדפסה ושכפול של חומר תקשורתי מוקלט | 18 |
| Manufacture of refined petroleum products | 65.7 | 2,376 | 1,243 | 3,620 | ייצור מוצרי נפט מזוקק | 19 |
| Manufacture of chemicals and pharmaceuticals | 39.4 | 26,290 | 40,415 | 66,705 | ייצור כימיקלים ותרופות | 20-21 |
| Manufacture of rubber and plastics products | 49.6 | 34,730 | 35,284 | 70,014 | ייצור מוצרי גומי ופלסטיק | 22 |
| Manufacture of other non-metallic mineral products | 28.1 | 8,563 | 21,945 | 30,508 | ייצור מוצרים אחרים על בסיס מינרלים אל-מתכתיים | 23 |
| Manufacture of basic metals | 68.5 | 83,666 | 38,513 | 122,178 | תעשיית מתכות בסיסיות | 24 |
| Manufacture of fabricated metal products, except machinery and equipment | 62.7 | 43,811 | 26,040 | 69,852 | ייצור מוצרי מתכת בהרכבה, פרט למכונות ולציוד | 25 |
| Manufacture of computers, electronic and optical products and electrical equipment | 44.4 | 22,154 | 27,706 | 49,860 | ייצור מחשבים, מכשור אלקטרוני ואופטי וציוד חשמלי | 26-27 |
| Manufacture of machinery and equipment n.e.c. | 62.6 | 19,248 | 11,510 | 30,758 | ייצור מכונות וציוד לנמ"א | 28 |
| Manufacture of motor vehicles and other transport equipment | 54.7 | 9,379 | 7,766 | 17,145 | ייצור כלי תחבורה והובלה | 29-30 |
| Manufacture of furniture | 57.4 | 17,944 | 13,315 | 31,259 | ייצור רהיטים | 31 |
| Other manufacturing, repair and installation of machinery and equipment | (46.6) | (4,401) | 5,050 | 9,451 | ענפי ייצור אחרים, תיקון, תחזוקה והתקנה של מכונות וציוד | 32-33 |
| Electricity supply | 40.3 | 9,476 | 14,034 | 23,510 | אספקת חשמל | 35 |

(1) The presentation of the data reflects the sampling errors. See Introduction.

(1) אופן הצגת הנתונים משקף את טעויות הדגימה. ראו מבוא.

**TABLE 6. HAZARDOUS WASTE IN THE MANUFACTURING AND ELECTRICITY INDUSTRIES, BY INDUSTRY AND TREATMENT METHOD(1)**

**לוח 6. פסולת מסוכנת בענפי התעשייה והחשמל, לפי ענף כלכלי ואופן טיפול(1)**

Tons, unless otherwise stated — **2020** — טונות, אלא אם כן צוין אחרת

| Industry (Division) | פינוי למחזור Removal to recycling: אחוז מחזור מסך הפסולת Percentage of recycling of the total waste | פינוי למחזור Removal to recycling: סך הכל Total | פינוי להטמנה או לתחנות מעבר Removal to landfill or to transit stations | סך הכל(2) Total(2) | ענף כלכלי ראשי | סמל Code |
|---|---|---|---|---|---|---|
| **Mining and quarrying, Manufacturing and Electricity supply - total** | **32.8** | **66,274** | **135,857** | **202,132** | **כרייה וחציבה, תעשייה ואספקת חשמל - סך הכל** | **B, C, 35** |
| Mining and quarrying | 48.0 | 2,110 | 2,288 | 4,398 | כרייה וחציבה | 05-09 |
| Manufacture of food products, beverages and tobacco products | 38.9 | 423 | 666 | 1,088 | ייצור מוצרי מזון, משקאות ומוצרי טבק | 10-12 |
| Manufacture of textiles and wearing apparel | 28.9 | 2 | 5 | 7 | ייצור טקסטיל ומוצרי הלבשה | 13-14 |
| Manufacture and processing of leather and related products | .. | .. | - | .. | ייצור ועיבוד של מוצרי עור ושל אביזרים נלווים | 15 |
| Manufacture of wood, cork and straw products, except furniture | - | - | - | - | ייצור מוצרי עץ, שעם וקש, פרט לרהיטים | 16 |
| Manufacture of paper and paper products | 19.0 | 597 | 2,540 | 3,137 | ייצור נייר ומוצריו | 17 |
| Printing and reproduction of recorded media | .. | .. | (339) | (387) | הדפסה ושכפול של חומר תקשורתי מוקלט | 18 |
| Manufacture of refined petroleum products | 64.0 | 6,196 | 3,479 | 9,675 | ייצור מוצרי נפט מזוקק | 19 |
| Manufacture of chemicals and pharmaceuticals | 19.0 | 16,767 | 71,433 | 88,201 | ייצור כימיקלים ותרופות | 20-21 |
| Manufacture of rubber and plastics products | (24.7) | 459 | (1,399) | (1,858) | ייצור מוצרי גומי ופלסטיק | 22 |
| Manufacture of other non-metallic mineral products | 11.3 | 48 | 375 | 422 | ייצור מוצרים אחרים על בסיס מינרלים אל-מתכתיים | 23 |
| Manufacture of basic metals | 35.2 | 8,455 | 15,570 | 24,025 | תעשיית מתכות בסיסיות | 24 |
| Manufacture of fabricated metal products, except machinery and equipment | 17.1 | 1,134 | 5,492 | 6,626 | ייצור מוצרי מתכת בהרכבה, פרט למכונות ולציוד | 25 |
| Manufacture of computers, electronic and optical products and electrical equipment | 54.7 | 23,464 | 19,417 | 42,881 | ייצור מחשבים, מכשור אלקטרוני ואופטי וציוד חשמלי | 26-27 |
| Manufacture of machinery and equipment n.e.c. | 40.1 | 1,892 | 2,829 | 4,721 | ייצור מכונות וציוד לנמ"א | 28 |
| Manufacture of motor vehicles and other transport equipment | 50.0 | 3,403 | 3,403 | 6,807 | ייצור כלי תחבורה והובלה | 29-30 |
| Manufacture of furniture | 95.0 | (1,054) | (56) | (1,110) | ייצור רהיטים | 31 |
| Other manufacturing, repair and installation of machinery and equipment | .. | .. | (974) | (1,167) | ענפי ייצור אחרים, תיקון, תחזוקה והתקנה של מכונות וציוד | 32-33 |
| Electricity supply | 0.5 | 28 | 5,594 | 5,622 | אספקת חשמל | 35 |

(1) The presentation of the data reflects the sampling errors. See Introduction.

(2) Including industrial wastewater classified as hazardous waste.

(1) אופן הצגת הנתונים משקף את טעויות הדגימה. ראו מבוא.

(2) כולל שפכים תעשייתיים שסווגו כפסולת מסוכנת.

**TABLE 7. WASTE IN THE MANUFACTURING AND ELECTRICITY INDUSTRIES, BY INDUSTRY AND TYPE OF MATERIAL(1)**

**לוח 7. פסולת בענפי התעשייה והחשמל, לפי ענף כלכלי וסוג חומר(1)**

Tons — **2020** — טונות

| Industry (Division) | אחר Other | פסולת יבשה Dry waste | פסולת מסוכנת(2) Hazardous waste(2) | זכוכית Glass | טקסטיל Textile | שמנים משומשים Used oils | מתכות ברזיליות Ferrous metals | מתכות אל-ברזיליות Non-ferrous metals | פלסטיק Plastic | קרטון Cardboard | נייר Paper | עץ Wood | חומר אורגני Organic material | סך הכל Total | ענף כלכלי ראשי | סמל Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Mining and quarrying, Manufacturing and Electricity supply - total** | **75,926** | **1,552,591** | **202,132** | **15,085** | **(11,281)** | **(9,870)** | **162,540** | **42,517** | **178,416** | **171,733** | **108,287** | **65,107** | **701,590** | **3,297,076** | **כרייה וחציבה, תעשייה ואספקת חשמל - סך הכל** | **B, C, 35** |
| Mining and quarrying | 251 | 19,300 | 4,398 | 124 | - | 221 | 5,893 | 23 | 1,539 | 732 | 459 | 1,993 | 1,337 | 36,269 | כרייה וחציבה | 05-09 |
| Manufacture of food products, beverages and tobacco products | (18,705) | .. | 1,088 | (4,234) | .. | (5,515) | (5,568) | .. | 29,760 | (37,561) | 10,639 | 6,058 | 621,596 | 743,091 | ייצור מוצרי מזון, משקאות ומוצרי טבק | 10-12 |
| Manufacture of textiles and wearing apparel | 178 | 7 | 7 | - | 5,406 | - | 169 | .. | 1,106 | (1,868) | 932 | 343 | (906) | 10,924 | ייצור טקסטיל ומוצרי הלבשה | 13-14 |
| Manufacture and processing of leather and related products | 32 | - | 1 | - | 4 | - | - | - | 52 | 104 | 20 | - | 436 | 649 | ייצור ועיבוד של מוצרי עור ושל אביזרים נלווים | 15 |
| Manufacture of wood, cork and straw products, except furniture | 313 | 27 | - | .. | - | 1 | 115 | (238) | 1,574 | (794) | 280 | (16,123) | 734 | (20,200) | ייצור מוצרי עץ, שעם וקש, פרט לרהיטים | 16 |
| Manufacture of paper and paper products | 37,261 | (12,288) | 3,137 | .. | (524) | 7 | 2,142 | 35 | (37,577) | 74,397 | 51,226 | 1,891 | 3,562 | 224,066 | ייצור נייר ומוצריו | 17 |
| Printing and reproduction of recorded media | .. | .. | (387) | - | .. | .. | (63) | (612) | 716 | (3,575) | 16,752 | (379) | 2,040 | 24,706 | הדפסה ושכפול של חומר תקשורתי מוקלט | 18 |
| Manufacture of refined petroleum products | 776 | 4,804 | 9,675 | - | - | 2 | - | 1,461 | 285 | 210 | 240 | 118 | 527 | 18,099 | ייצור מוצרי נפט מזוקק | 19 |
| Manufacture of chemicals and pharmaceuticals | 4,199 | (22,669) | 88,201 | .. | .. | (488) | 4,631 | .. | 18,845 | 10,907 | 5,373 | 5,392 | 11,628 | 177,575 | ייצור כימיקלים ותרופות | 20-21 |
| Manufacture of rubber and plastics products | .. | .. | (1,858) | - | .. | (436) | 2,111 | .. | 40,109 | 6,830 | 4,007 | 4,531 | 8,900 | 72,054 | ייצור מוצרי גומי ופלסטיק | 22 |
| Manufacture of other non-metallic mineral products | (1,395) | 686,784 | 422 | 8,776 | (187) | 510 | 4,620 | .. | 6,609 | 1,257 | 1,013 | 2,021 | 4,115 | 717,714 | ייצור מוצרים אחרים על בסיס מינרלים אל-מתכתיים | 23 |
| Manufacture of basic metals | 331 | (8,364) | 24,025 | - | - | (120) | 96,349 | 11,458 | 10,149 | (946) | 667 | (345) | 1,813 | 154,568 | תעשיית מתכות בסיסיות | 24 |
| Manufacture of fabricated metal products, except machinery and equipment | (97) | (8,653) | 6,626 | .. | 186 | (1,387) | (24,355) | (14,454) | 5,344 | (5,185) | 4,406 | (926) | 12,295 | 85,131 | ייצור מוצרי מתכת בהרכבה, פרט למכונות וציוד | 25 |
| Manufacture of computers, electronic and optical products and electrical equipment | 5,666 | 2,583 | 42,881 | 0 | 2 | 120 | (1,515) | 2,449 | 7,633 | (10,627) | 4,236 | 4,720 | 12,892 | 95,325 | ייצור מחשבים, מכשור אלקטרוני ואופטי וציוד חשמלי | 26-27 |
| Manufacture of machinery and equipment n.e.c. | 349 | 53 | 4,721 | 7 | .. | 325 | 5,537 | 2,495 | 5,806 | 5,545 | 2,871 | (2,280) | 5,512 | 35,531 | ייצור מכונות וציוד לנמ"א | 28 |
| Manufacture of motor vehicles and other transport equipment | 2,468 | 1,197 | 6,807 | 9 | .. | 429 | (3,400) | 2,359 | 1,586 | 1,241 | 1,314 | 1,291 | 3,043 | 25,148 | ייצור כלי תחבורה והובלה | 29-30 |
| Manufacture of furniture | (311) | (401) | (1,110) | .. | .. | .. | (874) | .. | (4,872) | (6,004) | (608) | 15,373 | 2,014 | 32,770 | ייצור רהיטים | 31 |
| Other manufacturing, repair and installation of machinery and equipment | (67) | 1,083 | (1,167) | (3) | .. | (147) | (400) | .. | 1,622 | (2,070) | 845 | .. | 2,314 | 11,701 | ענפי ייצור אחרים, תיקון, תחזוקה והתקנה של מכונות וציוד | 32-33 |
| Electricity supply | 1,937 | (3)782,423 | 5,622 | - | - | 150 | 4,797 | 2,252 | 3,229 | 1,879 | 2,397 | 941 | 5,927 | 811,556 | אספקת חשמל | 35 |

(1) The presentation of the data reflects the sampling errors. See Introduction.
(2) Including industrial wastewater classified as hazardous waste.
(3) Mostly coal ash.

(1) אופן הצגת הנתונים משקף את טעויות הדגימה. ראו מבוא.
(2) כולל שפכים תעשייתיים שסווגו כפסולת מסוכנת.
(3) ברובו אפר פחם.

**TABLE 8. WASTE REMOVED DIRECTLY TO RECYCLING IN THE MANUFACTURING AND ELECTRICITY INDUSTRIES, BY INDUSTRY AND TYPE OF MATERIAL(1)**

**לוח 8. פסולת שפונתה ישירות למחזור בענפי התעשייה והחשמל, לפי ענף כלכלי וסוג חומר(1)**

Tons — **2020** — טונות

| Industry (Division) | אחר Other | פסולת יבשה Dry waste | פסולת מסוכנת(2) Hazardous waste(2) | זכוכית Glass | טקסטיל Textile | שמנים משומשים Used oils | מתכות ברזיליות Ferrous metals | מתכות אל-ברזיליות Non-ferrous metals | פלסטיק Plastic | קרטון Cardboard | נייר Paper | עץ Wood | חומר אורגני Organic material | סך הכל Total | ענף כלכלי ראשי | סמל Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Mining and quarrying, Manufacturing and Electricity supply - total** | **43,542** | **1,329,031** | **66,274** | **(6,332)** | **4,399** | **(5,545)** | **133,235** | **40,455** | **51,988** | **146,590** | **48,467** | **40,977** | **541,775** | **2,458,609** | **כרייה וחציבה, תעשייה ואספקת חשמל - סך הכל** | **B, C, 35** |
| Mining and quarrying | 25 | 19,173 | 2,110 | - | - | 120 | 5,690 | 23 | 49 | 68 | 64 | 1,282 | - | 28,602 | כרייה וחציבה | 05-09 |
| Manufacture of food products, beverages and tobacco products | (14,231) | (16) | 423 | .. | - | .. | (5,447) | 378 | (9,900) | (32,185) | (2,961) | 5,409 | 539,660 | 616,960 | ייצור מוצרי מזון, משקאות ומוצרי טבק | 10-12 |
| Manufacture of textiles and wearing apparel | 3 | - | 2 | - | 3,245 | - | 167 | .. | 285 | (1,506) | 539 | 159 | - | 5,906 | ייצור טקסטיל ומוצרי הלבשה | 13-14 |
| Manufacture and processing of leather and related products | - | - | 1 | - | 4 | - | - | - | 2 | 94 | 2 | - | 360 | 464 | ייצור ועיבוד של מוצרי עור ושל אביזרים נלווים | 15 |
| Manufacture of wood, cork and straw products, except furniture | .. | - | - | - | - | - | 114 | 152 | .. | .. | (2) | .. | - | (13,014) | ייצור מוצרי עץ, שעם וקש, פרט לרהיטים | 16 |
| Manufacture of paper and paper products | (15,218) | - | 597 | - | (480) | (2) | 883 | 35 | 2,903 | 73,694 | 24,034 | 778 | - | 118,623 | ייצור נייר ומוצריו | 17 |
| Printing and reproduction of recorded media | .. | - | .. | - | - | .. | (63) | (612) | .. | (3,330) | 15,802 | (103) | - | 20,066 | הדפסה ושכפול של חומר תקשורתי מוקלט | 18 |
| Manufacture of refined petroleum products | 776 | 4,797 | 6,196 | - | - | - | - | 1,461 | - | 21 | - | 118 | - | 13,370 | ייצור מוצרי נפט מזוקק | 19 |
| Manufacture of chemicals and pharmaceuticals | 2,452 | .. | 16,767 | 1 | 524 | .. | 4,558 | (578) | 5,252 | 8,242 | (1,580) | 2,529 | .. | 47,871 | ייצור כימיקלים ותרופות | 20-21 |
| Manufacture of rubber and plastics products | 796 | - | 459 | - | - | 222 | 1,945 | 119 | (23,704) | 3,963 | (489) | 3,445 | 45 | 35,189 | ייצור מוצרי גומי ופלסטיק | 22 |
| Manufacture of other non-metallic mineral products | 98 | 511,539 | 48 | (2,834) | - | 31 | 2,864 | .. | 1,098 | 117 | (29) | (649) | 838 | 520,150 | ייצור מוצרים אחרים על בסיס מינרלים אל-מתכתיים | 23 |
| Manufacture of basic metals | 2 | 4,572 | 8,455 | - | - | .. | 71,359 | 11,458 | .. | .. | 30 | .. | - | 96,693 | תעשיית מתכות בסיסיות | 24 |
| Manufacture of fabricated metal products, except machinery and equipment | 47 | - | 1,134 | .. | - | (1,079) | (24,219) | (14,408) | .. | .. | .. | (679) | .. | 44,945 | ייצור מוצרי מתכת בהרכבה, פרט למכונות ולציוד | 25 |
| Manufacture of computers, electronic and optical products and electrical equipment | 5,188 | 2,179 | 23,464 | 0 | 2 | 90 | (1,325) | 2,449 | 1,369 | (8,651) | 357 | 2,373 | 351 | 47,798 | ייצור מחשבים, מכשור אלקטרוני ואופטי וציוד חשמלי | 26-27 |
| Manufacture of machinery and equipment n.e.c. | 316 | 0 | 1,892 | - | - | (177) | 5,350 | 2,495 | 3,074 | 4,581 | 1,334 | .. | 131 | 21,139 | ייצור מכונות וציוד לנמ"א | 28 |
| Manufacture of motor vehicles and other transport equipment | 2,164 | 580 | 3,403 | - | - | 199 | (3,252) | 2,359 | .. | 611 | (230) | 471 | 0 | 13,362 | ייצור כלי תחבורה והובלה | 29-30 |
| Manufacture of furniture | (310) | (353) | (1,054) | - | (104) | .. | (846) | .. | (3,034) | (4,763) | .. | (8,477) | (119) | 19,351 | ייצור רהיטים | 31 |
| Other manufacturing, repair and installation of machinery and equipment | (8) | (8) | .. | - | .. | (147) | (355) | .. | .. | (1,495) | .. | (160) | - | (4,603) | ענפי ייצור אחרים, תיקון, תחזוקה והתקנה של מכונות וציוד | 32-33 |
| Electricity supply | 1,900 | (3)781,000 | 28 | - | - | 150 | 4,797 | 2,252 | 1 | 213 | 162 | 1 | - | 790,505 | אספקת חשמל | 35 |

(1) The presentation of the data reflects the sampling errors. See Introduction.

(2) Including industrial wastewater classified as hazardous waste.

(3) Mostly coal ash.

(1) אופן הצגת הנתונים משקף את טעויות הדגימה. ראו מבוא.

(2) כולל שפכים תעשייתיים שסווגו כפסולת מסוכנת.

(3) ברובו אפר פחם.

**TABLE 9. SELECTED FUELS CONSUMED IN THE MANUFACTURING AND ELECTRICITY INDUSTRIES, BY INDUSTRY, TYPE OF USE AND TYPE OF FUEL(1)**

**לוח 9. צריכת דלקים נבחרים בענפי התעשייה והחשמל, לפי ענף כלכלי, סוג שימוש וסוג דלק(1)**

Tons — **2020** — טונות

| Industry (Division) | לשינוע For transportation | | לייצור For production | | | | | | ענף כלכלי ראשי | סמל Code |
|---|---|---|---|---|---|---|---|---|---|---|
| | בנזין Gasoline | סולר Diesel oil | גז טבעי Natural gas | קרוסין Kerosene | גז פחמימני מעובה Liquefied petroleum gas | סולר Diesel oil | מזוט קל Light fuel oil | מזוט כבד Heavy fuel oil | | |
| **Mining and quarrying, Manufacturing and Electricity supply - total** | **84,330** | **91,629** | **6,635,191** | **2,892** | **102,264** | **87,761** | **45,674** | **85,978** | **כרייה וחציבה, תעשייה ואספקת חשמל - סך הכל** | **B, C, 35** |
| Mining and quarrying; Manufacture of refined petroleum products | 778 | 3,658 | 894,095 | - | 774 | 17,502 | 12,617 | 3,010 | כרייה וחציבה; ייצור מוצרי נפט מזוקק | 05-09,19 |
| Manufacture of food products, beverages and tobacco products | 8,909 | 30,877 | (48,575) | - | (47,846) | 12,139 | 18,868 | (38,014) | ייצור מוצרי מזון, משקאות ומוצרי טבק | 10-12 |
| Manufacture of textiles and wearing apparel | 947 | 1,755 | 6,525 | - | 1,626 | 140 | - | 2,100 | ייצור טקסטיל ומוצרי הלבשה | 13-14 |
| Manufacture and processing of leather and related products | 20 | (21) | - | - | - | 2 | - | - | ייצור ועיבוד של מוצרי עור ושל אביזרים נלווים | 15 |
| Manufacture of wood, cork and straw products, except furniture | 525 | 2,499 | - | .. | 415 | 389 | - | - | ייצור מוצרי עץ, שעם וקש, פרט לרהיטים | 16 |
| Manufacture of paper and paper products | 825 | (2,098) | 17,438 | (63) | .. | .. | .. | 3,779 | ייצור נייר ומוצריו | 17 |
| Printing and reproduction of recorded media | (896) | 510 | - | - | .. | (93) | - | - | הדפסה ושכפול של חומר תקשורתי מוקלט | 18 |
| Manufacture of chemicals and pharmaceuticals | 6,847 | 6,565 | 200,143 | - | 15,443 | 4,557 | .. | (7,970) | ייצור כימיקלים ותרופות | 20-21 |
| Manufacture of rubber and plastics products | 4,618 | 3,326 | 4,512 | .. | .. | (852) | 1,137 | .. | ייצור מוצרי גומי ופלסטיק | 22 |
| Manufacture of other non-metallic mineral products | 4,511 | 16,331 | 14,108 | - | 1,146 | 7,265 | 2,244 | 4,825 | ייצור מוצרים אחרים על בסיס מינרלים אל-מתכתיים | 23 |
| Manufacture of basic metals | 1,325 | 2,481 | (2,708) | (14) | (8,381) | (634) | 350 | - | תעשיית מתכות בסיסיות | 24 |
| Manufacture of fabricated metal products, except machinery and equipment | 8,426 | (6,101) | .. | - | (6,027) | (1,572) | - | - | ייצור מוצרי מתכת בהרכבה, פרט למכונות ולציוד | 25 |
| Manufacture of computers, electronic and optical products and electrical equipment | 20,949 | 3,959 | 4,892 | 2,109 | 8,807 | 3,619 | - | - | ייצור מחשבים, מכשור אלקטרוני ואופטי וציוד חשמלי | 26-27 |
| Manufacture of machinery and equipment n.e.c. | 7,506 | 3,755 | .. | - | (1,579) | 1,654 | - | - | ייצור מכונות וציוד לנמ"א | 28 |
| Manufacture of motor vehicles and other transport equipment | .. | 1,334 | .. | 691 | (1,555) | 839 | - | - | ייצור כלי תחבורה והובלה | 29-30 |
| Manufacture of furniture | .. | 2,581 | (101) | (1) | (183) | 175 | - | - | ייצור רהיטים | 31 |
| Other manufacturing, repair and installation of machinery and equipment | 2,538 | (1,326) | .. | - | (764) | .. | - | - | ענפי ייצור אחרים, תיקון, תחזוקה והתקנה של מכונות וציוד | 32-33 |
| Electricity supply | 1,904 | 2,454 | 5,440,610 | 12 | - | 35,739 | - | 13,000 | אספקת חשמל | 35(2) |

(1) The presentation of the data reflects the sampling errors. See Introduction.

(2) In 2017 there was a change in the mix of fuels for power generation.

(1) אופן הצגת הנתונים משקף את טעויות הדגימה. ראו מבוא.

(2) בשנת 2017 חל שינוי בתמהיל הדלקים לייצור חשמל.

**TABLE 10. AIR POLLUTANT EMISSIONS FROM COMBUSTION OF SELECTED FUELS IN THE MANUFACTURING AND ELECTRICITY INDUSTRIES, BY INDUSTRY(1)(2)**

**לוח 10. פליטות מזהמי אוויר משרפת דלקים נבחרים בענפי התעשייה והחשמל, לפי ענף כלכלי(1)(2)**

Tons — **2020** — טונות

| Industry (Division) | תחמוצות חנקן Nitrogen oxides, $NO_x$ | Sulfur dioxide, $SO_2$ | | ענף כלכלי ראשי | סמל Code |
|---|---|---|---|---|---|
| | | מזה: משרפת מזוט Thereof: From burning fuel oil | גופרית דו-חמצנית סך הכל Total | | |
| **Mining and quarrying, Manufacturing and Electricity supply - total** | **12,293** | **2,237** | **2,450** | **כרייה וחציבה, תעשייה ואספקת חשמל - סך הכל** | **B, C, 35** |
| Mining and quarrying | 940 | 256 | 291 | כרייה וחציבה | 05-09 |
| Manufacture of food products, beverages and tobacco products | 1,341 | (1,016) | (1,056) | ייצור מוצרי מזון, משקאות ומוצרי טבק | 10-12 |
| Manufacture of textiles and wearing apparel | 58 | 39 | 40 | ייצור טקסטיל ומוצרי הלבשה | 13-14 |
| Manufacture and processing of leather and related products | (0) | - | 0 | ייצור ועיבוד של מוצרי עור ושל אביזרים נלווים | 15 |
| Manufacture of wood, cork and straw products, except furniture | 28 | - | 1 | ייצור מוצרי עץ, שעם וקש, פרט לרהיטים | 16 |
| Manufacture of paper and paper products | (151) | (146) | (148) | ייצור נייר ומוצריו | 17 |
| Printing and reproduction of recorded media | 8 | - | (0) | הדפסה ושכפול של חומר תקשורתי מוקלט | 18 |
| Manufacture of refined petroleum products | 615 | 8 | 8 | ייצור מוצרי נפט מזוקק | 19 |
| Manufacture of chemicals and pharmaceuticals | 627 | .. | (258) | ייצור כימיקלים ותרופות | 20-21 |
| Manufacture of rubber and plastics products | .. | .. | .. | ייצור מוצרי גומי ופלסטיק | 22 |
| Manufacture of other non-metallic mineral products | 287 | 126 | 142 | ייצור מוצרים אחרים על בסיס מינרלים אל-מתכתיים | 23 |
| Manufacture of basic metals | (113) | 6 | 10 | תעשיית מתכות בסיסיות | 24 |
| Manufacture of fabricated metal products, except machinery and equipment | 130 | - | (5) | ייצור מוצרי מתכת בהרכבה, פרט למכונות ולציוד | 25 |
| Manufacture of computers, electronic and optical products and electrical equipment | 194 | - | 13 | ייצור מחשבים, מכשור אלקטרוני ואופטי וציוד חשמלי | 26-27 |
| Manufacture of machinery and equipment n.e.c. | 68 | - | 4 | ייצור מכונות וציוד לנמ"א | 28 |
| Manufacture of motor vehicles and other transport equipment | 49 | - | 3 | ייצור כלי תחבורה והובלה | 29-30 |
| Manufacture of furniture | 28 | - | 1 | ייצור רהיטים | 31 |
| Other manufacturing, repair and installation of machinery and equipment | 22 | - | (1) | ענפי ייצור אחרים, תיקון, תחזוקה והתקנה של מכונות וציוד | 32-33 |
| Electricity supply | 7,440 | 130 | 202 | אספקת חשמל | 35 |

(1) The presentation of the data reflects the sampling errors. See Introduction.

(2) Including emissions from combustion of fuel oil, natural gas, diesel oil, gasoline, liquefied petroleum gas, and kerosene. See Introduction.

(1) אופן הצגת הנתונים משקף את טעויות הדגימה. ראו מבוא.

(2) כולל פליטות משרפת מזוט, גז טבעי, סולר, בנזין, גז פחמימני מעובה וקרוסין. ראו מבוא.

**TABLE 11. EMISSIONS OF GREENHOUSE GASES(1) FROM COMBUSTION OF SELECTED FUELS IN THE MANUFACTURING AND ELECTRICITY INDUSTRIES, IN $CO_2$ EQUIVALENT, BY INDUSTRY AND TYPE OF USE(2)(3)**

Thousand tons

**לוח 11. פליטות גזי חממה(1) משרפת דלקים נבחרים בענפי התעשייה והחשמל, במונחי פחמן דו-חמצני, לפי ענף כלכלי וסוג שימוש(2)(3)**

אלפי טונות

| Industry (Division) | 2020 | | 2017 | | 2014 | | 2012 | | ענף כלכלי ראשי | סמל |
|---|---|---|---|---|---|---|---|---|---|---|
| | לשינוע For transportation | לייצור For production | לשינוע For transportation | לייצור For production | לשינוע For transportation | לייצור For production | לשינוע For transportation | לייצור For production | | Code |
| **Mining and quarrying, Manufacturing and Electricity supply - total** | **554** | **19,434** | **637** | **18,934** | **593** | **14,331** | **596** | **15,995** | **כרייה וחציבה, תעשייה ואספקת חשמל - סך הכל** | **B, C, 35** |
| Mining and quarrying | 13 | 1,407 | 28 | 764 | 26 | 710 | 22 | 420 | כרייה וחציבה | 05-09 |
| Manufacture of food products, beverages and tobacco products | 126 | 491 | 140 | 520 | (97) | (353) | 101 | 393 | ייצור מוצרי מזון, משקאות ומוצרי טבק | 10-12 |
| Manufacture of textiles and wearing apparel | 9 | 30 | 6 | 33 | .. | (38) | 6 | 57 | ייצור טקסטיל ומוצרי הלבשה | 13-14 |
| Manufacture and processing of leather and related products | (0) | 0 | (0) | - | .. | .. | 1 | 0 | ייצור ועיבוד של מוצרי עור ושל אביזרים נלווים | 15 |
| Manufacture of wood, cork and straw products, except furniture | 10 | 2 | 5 | 1 | (8) | (1) | 8 | 2 | ייצור מוצרי עץ, שעם וקש, פרט לרהיטים | 16 |
| Manufacture of paper and paper products | (9) | 88 | 10 | (95) | 11 | 246 | 12 | 221 | ייצור נייר ומוצריו | 17 |
| Printing and reproduction of recorded media | 4 | (1) | 8 | .. | (4) | (4) | 4 | 6 | הדפסה ושכפול של חומר תקשורתי מוקלט | 18 |
| Manufacture of refined petroleum products | 1 | 1,185 | 2 | 984 | 2 | 1,330 | 2 | 741 | ייצור מוצרי נפט מזוקק | 19 |
| Manufacture of chemicals and pharmaceuticals | 42 | 660 | 51 | 585 | 60 | 706 | 59 | 652 | ייצור כימיקלים ותרופות | 20-21 |
| Manufacture of rubber and plastics products | 25 | .. | 25 | (58) | (26) | .. | 23 | 98 | ייצור מוצרי גומי ופלסטיק | 22 |
| Manufacture of other non-metallic mineral products | 66 | 88 | 56 | 249 | 74 | 209 | 71 | 238 | ייצור מוצרים אחרים על בסיס מינרלים אל-מתכתיים | 23 |
| Manufacture of basic metals | 12 | (36) | 12 | 78 | 10 | 80 | 6 | 72 | תעשיית מתכות בסיסיות | 24 |
| Manufacture of fabricated metal products, except machinery and equipment | 46 | (26) | 55 | (32) | (53) | 56 | 51 | 32 | ייצור מוצרי מתכת בהרכבה, פרט למכונות וציוד | 25 |
| Manufacture of computers, electronic and optical products and electrical equipment | 78 | 58 | 103 | 38 | 103 | .. | 135 | 129 | ייצור מחשבים, מכשור אלקטרוני ואופטי וציוד חשמלי | 26-27 |
| Manufacture of machinery and equipment n.e.c. | 35 | 10 | 39 | 11 | (25) | .. | 21 | 17 | ייצור מכונות וציוד לנמ"א | 28 |
| Manufacture of motor vehicles and other transport equipment | .. | 10 | 34 | 24 | 27 | .. | 19 | 23 | ייצור כלי תחבורה והובלה | 29-30 |
| Manufacture of furniture | (18) | 1 | 17 | .. | 10 | .. | 11 | 2 | ייצור רהיטים | 31 |
| Other manufacturing, repair and installation of machinery and equipment | 12 | 3 | 15 | .. | (10) | .. | 7 | 1 | ענפי ייצור אחרים, תיקון, תחזוקה והתקנה של מכונות וציוד | 32-33 |
| Electricity supply | 14 | 15,268 | 30 | 15,457 | 37 | 10,444 | 36 | 12,892 | אספקת חשמל | 35 |

(1) Includes the gases: carbon dioxide ($CO_2$), methane ($CH_4$) and nitrous oxide ($N_2O$).

(2) The presentation of the data reflects the sampling errors. See Introduction.

(3) Including emissions from combustion of fuel oil, natural gas, diesel oil ,gasoline, liquefied petroleum gas, and kerosene. See Introduction.

(1) נכללים הגזים: פחמן דו-חמצני ($CO_2$), מתאן ($CH_4$) וחנקן תת-חמצני ($N_2O$).

(2) אופן הצגת הנתונים משקף את טעויות הדגימה. ראו מבוא.

(3) כולל פליטות משרפת מזוט, גז טבעי, סולר, בנזין, גז פחמימני מעובה וקרוסין. ראו מבוא.

**TABLE 12. ELECTRICITY CONSUMPTION AND EMISSIONS OF GREENHOUSE GASES(1) FROM ELECTRICITY CONSUMPTION IN THE MANUFACTURING AND ELECTRICITY INDUSTRIES, BY INDUSTRY(2)(3)**

**לוח 12. צריכת חשמל ופליטות גזי חממה(1) מצריכת חשמל בענפי התעשייה והחשמל, לפי ענף כלכלי(2)(3)**

| Industry (Division) | פליטות גזי חממה מצריכת חשמל, במונחי פחמן דו-חמצני (אלפי טונות) Emissions of greenhouse gases from electricity consumed, in $CO_2$ equivalent (thousand tons) | | | | צריכת חשמל (מיליוני קוט"ש) Electricity consumption (million kWh) | | | | ענף כלכלי ראשי | סמל Code |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2020 | 2017 | 2014 | 2012 | 2020 | 2017 | 2014 | 2012 | | |
| **Mining and quarrying, Manufacturing and Electricity supply - total** | **6,523** | **6,990** | **8,640** | **10,248** | **13,784** | **13,262** | **13,620** | **12,936** | **כרייה וחציבה, תעשייה ואספקת חשמל - סך הכל** | **B, C, 35** |
| Mining and quarrying | 418 | 519 | 1,438 | 1,467 | 883 | 985 | 2,267 | 1,852 | כרייה וחציבה | 05-09(4) |
| Manufacture of food products, beverages and tobacco products | 762 | 793 | 792 | 1,078 | 1,610 | 1,504 | 1,249 | 1,360 | ייצור מוצרי מזון, משקאות ומוצרי טבק | 10-12 |
| Manufacture of textiles and wearing apparel | 60 | 89 | 109 | 134 | 127 | 169 | 172 | 169 | ייצור טקסטיל ומוצרי הלבשה | 13-14 |
| Manufacture and processing of leather and related products | 1 | (3) | (2) | 2 | 3 | (6) | (4) | 3 | ייצור ועיבוד של מוצרי עור ושל אביזרים נלווים | 15 |
| Manufacture of wood, cork and straw products, except furniture | 14 | 14 | 289 | 388 | 30 | 27 | 456 | 490 | ייצור מוצרי עץ, שעם וקש, פרט לרהיטים | 16 |
| Manufacture of paper and paper products | 183 | 234 | | | 387 | 444 | | | ייצור נייר ומוצריו | 17 |
| Printing and reproduction of recorded media | 47 | 64 | 73 | 51 | 99 | 122 | 116 | 64 | הדפסה ושכפול של חומר תקשורתי מוקלט | 18 |
| Manufacture of refined petroleum products | 210 | 178 | 2,053 | 2,031 | 443 | 338 | 3,237 | 2,563 | ייצור מוצרי נפט מזוקק | 19 |
| Manufacture of chemicals and pharmaceuticals | 1,233 | 1,281 | | | 2,606 | 2,429 | | | ייצור כימיקלים ותרופות | 20-21 |
| Manufacture of rubber and plastics products | 478 | 587 | 592 | 861 | 1,009 | 1,114 | 933 | 1,086 | ייצור מוצרי גומי ופלסטיק | 22 |
| Manufacture of other non-metallic mineral products | 318 | 453 | .. | .. | 672 | 859 | .. | .. | ייצור מוצרים אחרים על בסיס מינרלים אל-מתכתיים | 23(4) |
| Manufacture of basic metals | 184 | 206 | 297 | 301 | 389 | 391 | 469 | 380 | תעשיית מתכות בסיסיות | 24 |
| Manufacture of fabricated metal products, except machinery and equipment | 268 | 325 | 364 | 449 | 567 | 617 | 574 | 567 | ייצור מוצרי מתכת בהרכבה, פרט למכונות ולציוד | 25 |
| Manufacture of computers, electronic and optical products and electrical equipment | 1,021 | 664 | 772 | 1,022 | 2,158 | 1,260 | 1,217 | 1,290 | ייצור מחשבים, מכשור אלקטרוני ואופטי וציוד חשמלי | 26-27 |
| Manufacture of machinery and equipment n.e.c. | 135 | (142) | (121) | 198 | 286 | (269) | (190) | 250 | ייצור מכונות וציוד לנמ"א | 28 |
| Manufacture of motor vehicles and other transport equipment | 119 | 205 | 277 | 302 | 250 | 388 | 436 | 381 | ייצור כלי תחבורה והובלה | 29-30 |
| Manufacture of furniture | (89) | 96 | 49 | 82 | (188) | 183 | 77 | 103 | ייצור רהיטים | 31 |
| Other manufacturing, repair and installation of machinery and equipment | 46 | (48) | (59) | 45 | 98 | (91) | (92) | 57 | ענפי ייצור אחרים, תיקון, תחזוקה והתקנה של מכונות וציוד | 32-33 |
| Electricity supply | 935 | 1,090 | 1,352 | 1,838 | 1,976 | 2,067 | 2,131 | 2,320 | אספקת חשמל | 35 |

(1) Includes the gases: carbon dioxide ($CO_2$), methane ($CH_4$) and nitrous oxide ($N_2O$).

(2) The presentation of the data reflects the sampling errors. See Introduction.

(3) In this table, the emissions generated in the production of electricity are attributed to the electricity consumers in the economy industries.

(4) Due to the limitations of statistical confidentiality, in the years 2012 and 2014 the data of "Mining and quarrying" include the data of "Manufacture of other non-metallic mineral products" (Division 23) as well.

(1) נכללים הגזים: פחמן דו-חמצני ($CO_2$), מתאן ($CH_4$) וחנקן תת-חמצני ($N_2O$).

(2) אופן הצגת הנתונים משקף את טעויות הדגימה. ראו מבוא.

(3) בלוח זה יוחסו כלל פליטות גזי החממה הנוצרות בתהליך ייצור החשמל לצרכני החשמל בענפי הכלכלה.

(4) בשל מגבלות סודיות סטטיסטית, בשנים 2012 ו-2104 נתוני הענף "כרייה וחציבה" כוללים גם את ענף 23 – "ייצור מוצרים אחרים על בסיס מינרלים אל-מתכתיים".

**TABLE 13. ENERGY CONSUMPTION IN THE MANUFACTURING AND ELECTRICITY INDUSTRIES, NUMBER OF COMPANIES, AND PERCENTAGE OF COMPANIES TAKING ENERGY EFFICIENCY MEASURES, BY INDUSTRY AND TYPE OF MEASURE(1)(2)**

**לוח 13. צריכת אנרגיה בענפי התעשייה והחשמל, מספר חברות ושיעור החברות שביצעו פעולות להתייעלות אנרגטית, לפי ענף כלכלי וסוג פעולה(1)(2)**

Percentages, unless otherwise stated — **2020** — אחוזים, אלא אם כן צוין אחרת

| Industry (Division) | החלפת ציוד Replacement of equipment | | | | אמצעי בקרה על צריכת אנרגיה Measures for monitoring energy consumption | | | מספר חברות | סך צריכת האנרגיה (אלפי שעט"ן) | ענף כלכלי ראשי | סמל Code |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | אחר Other | מערכות אקלום Climate control systems | מנועים Motors | מערכות תאורה Lighting systems | מערכת לניהול אנרגיה Energy management system | ממונה אנרגיה Energy supervisor | סקר אנרגיה Energy survey | Number of companies | Energy consumption (thousand t.o.e.) | | |
| **Mining and quarrying, Manufacturing and Electricity supply - total** | **(5.7)** | **9.1** | **12.4** | **31.6** | **4.3** | **9.2** | **8.3** | **..** | **9,567** | **כרייה וחציבה, תעשייה ואספקת חשמל - סך הכל** | **B, C, 35** |
| Mining and quarrying | 5.7 | (17.1) | 28.6 | 42.9 | 5.7 | 20.0 | 20.0 | 130 | 668 | כרייה וחציבה | 05-09 |
| Manufacture of food products, beverages and tobacco products | .. | .. | (17.9) | (24.3) | (3.0) | (9.5) | 6.1 | 3,514 | 359 | ייצור מוצרי מזון, משקאות ומוצרי טבק | 10-12 |
| Manufacture of textiles and wearing apparel | 2.8 | 3.7 | (17.8) | (22.7) | .. | (8.7) | 3.7 | 1,477 | 26 | ייצור טקסטיל ומוצרי הלבשה | 13-14 |
| Manufacture and processing of leather and related products | - | - | (10.9) | (10.9) | - | - | .. | | 0 | ייצור ועיבוד של מוצרי עור ושל אביזרים נלווים | 15 |
| Manufacture of wood, cork and straw products, except furniture | 6.2 | - | 2.1 | 18.3 | - | 2.1 | - | .. | 7 | ייצור מוצרי עץ, שעם וקש, פרט לרהיטים | 16 |
| Manufacture of paper and paper products | .. | .. | (12.2) | 47.3 | 7.3 | (27.4) | .. | 228 | 70 | ייצור נייר ומוצריו | 17 |
| Printing and reproduction of recorded media | .. | .. | .. | (26.0) | .. | (3.5) | (2.8) | 1,634 | 10 | הדפסה ושכפול של חומר תקשורתי מוקלט | 18 |
| Manufacture of refined petroleum products | - | 50.0 | 50.0 | 75.0 | 50.0 | 75.0 | 50.0 | 548 | 544 | ייצור מוצרי נפט מזוקק | 19 |
| Manufacture of chemicals and pharmaceuticals | .. | 10.8 | (18.3) | (57.4) | 10.1 | 20.4 | 17.9 | | 511 | ייצור כימיקלים ותרופות | 20-21 |
| Manufacture of rubber and plastics products | (4.9) | (13.8) | (27.9) | (42.2) | 9.4 | (15.5) | (15.6) | 653 | 119 | ייצור מוצרי גומי ופלסטיק | 22 |
| Manufacture of other non-metallic mineral products | 2.7 | (13.9) | (20.1) | (37.5) | (2.0) | 10.2 | (10.3) | 903 | 112 | ייצור מוצרים אחרים על בסיס מינרלים אל-מתכתיים | 23 |
| Manufacture of basic metals | (6.7) | 9.9 | .. | (43.4) | 6.7 | (14.2) | 25.5 | 283 | 51 | תעשיית מתכות בסיסיות | 24 |
| Manufacture of fabricated metal products, except machinery and equipment | .. | .. | .. | (25.1) | 0.7 | .. | 1.3 | 3,752 | 74 | ייצור מוצרי מתכת בהרכבה, פרט למכונות וציוד | 25 |
| Manufacture of computers, electronic and optical products and electrical equipment | .. | .. | .. | (38.9) | (7.4) | (10.4) | .. | 1,006 | 234 | ייצור מחשבים, מכשור אלקטרוני ואופטי וציוד חשמלי | 26-27 |
| Manufacture of machinery and equipment n.e.c. | (2.3) | .. | .. | (42.9) | .. | 6.8 | 4.9 | 581 | 40 | ייצור מכונות וציוד לנמ"א | 28 |
| Manufacture of motor vehicles and other transport equipment | 2.1 | (15.5) | (10.5) | 42.4 | 8.7 | 18.3 | 10.7 | 206 | 36 | ייצור כלי תחבורה והובלה | 29-30 |
| Manufacture of furniture | (2.0) | .. | .. | (21.5) | - | (0.4) | .. | .. | 23 | ייצור רהיטים | 31 |
| Other manufacturing, repair and installation of machinery and equipment | .. | .. | .. | .. | 1.0 | 2.5 | .. | 3,339 | 14 | ענפי ייצור אחרים, תיקון, תחזוקה והתקנה של מכונות וציוד | 32-33 |
| Electricity supply | 22.0 | 29.4 | 29.4 | 36.7 | 29.4 | 36.7 | 44.1 | .. | 6,670 | אספקת חשמל | 35 |

(1) The presentation of the data reflects the sampling errors. See Introduction.

(2) Including combustion of fuel oil, natural gas, diesel oil, gasoline, liquefied petroleum gas, and kerosene. See Introduction.

(1) אופן הצגת הנתונים משקף את טעויות הדגימה. ראו מבוא.

(2) כולל שרפת מזוט, גז טבעי, סולר, בנזין, גז פחמימני מעובה וקרוסין. ראו מבוא.

**TABLE 14. ENERGY CONSUMPTION IN THE MANUFACTURING AND ELECTRICITY INDUSTRIES AND PERCENTAGE OF COMPANIES TAKING ENERGY EFFICIENCY MEASURES, BY QUANTITY OF ENERGY CONSUMED BY THE COMPANY AND TYPE OF MEASURE(1)(2)**

**לוח 14. צריכת אנרגיה בענפי התעשייה והחשמל ושיעור החברות שביצעו פעולות להתייעלות אנרגטית, לפי כמות אנרגיה שנצרכה בחברה וסוג פעולה(1)(2)**

Percentages, unless otherwise stated — **2020** — אחוזים, אלא אם כן צוין אחרת

| | החלפת ציוד Replacement of equipment | | | | אמצעי בקרה על צריכת אנרגיה Measures for monitoring energy consumption | | | סך צריכת האנרגיה (אלפי שעט"ן) | |
|---|---|---|---|---|---|---|---|---|---|
| | אחר Other | מערכות אקלום Climate control systems | מנועים Motors | מערכות תאורה Lighting systems | מערכת לניהול אנרגיה Energy management system | ממונה אנרגיה Energy supervisor | סקר אנרגיה Energy survey | Total energy consumption (thousand t.o.e.) | |
| **Mining and quarrying, Manufacturing and Electricity supply - total** | **(5.7)** | **9.1** | **12.4** | **31.6** | **4.3** | **9.2** | **8.3** | **9,567** | **כרייה וחציבה, תעשייה ואספקת חשמל - סך הכל** |
| Quantity of energy consumed by the company (t.o.e.) | | | | | | | | | כמות אנרגיה שנצרכה בחברה |
| Up to 2,000 | (5.1) | (7.2) | (8.8) | 29.6 | 2.7 | 5.6 | (6.0) | 399 | עד 2,000 |
| Over 2,000 | (9.6) | (19.9) | (33.3) | (43.4) | (13.3) | (29.9) | 21.4 | 9,169 | מעל 2,000 |

(1) The presentation of the data reflects the sampling errors. See Introduction.

(2) Including combustion of fuel oil, natural gas, diesel oil, gasoline, liquefied petroleum gas, and kerosene. See Introduction.

(1) אופן הצגת הנתונים משקף את טעויות הדגימה. ראו מבוא.

(2) כולל שרפת מזוט, גז טבעי, סולר, בנזין, גז פחמימני מעובה וקרוסין. ראו מבוא.

**TABLE 15. WATER CONSUMPTION AND SEWAGE PRODUCTION IN THE MANUFACTURING AND ELECTRICITY INDUSTRIES, BY INDUSTRY(1)**

**לוח 15. צריכת מים וייצור שפכים בענפי התעשייה והחשמל, לפי ענף כלכלי(1)**

Thousands $m^3$ — **2020** — אלפי מ"ק

| Industry (Division) | שפכים Sewage | מים Water | | | ענף כלכלי ראשי | סמל Code |
|---|---|---|---|---|---|---|
| | | שוליים Non-drinking | שפירים Drinking | סך הכל Total | | |
| **Mining and quarrying, Manufacturing and Electricity supply - total** | **48,532** | **44,802** | **99,700** | **144,502** | **כרייה וחציבה, תעשייה ואספקת חשמל - סך הכל** | **B, C, 35** |
| Mining and quarrying | 3,863 | 25,721 | 2,332 | 28,053 | כרייה וחציבה | 05-09 |
| Manufacture of food products, beverages and tobacco products | 15,842 | 985 | 38,569 | 39,553 | ייצור מוצרי מזון, משקאות ומוצרי טבק | 10-12 |
| Manufacture of textiles and wearing apparel | 260 | - | 524 | 524 | ייצור טקסטיל ומוצרי הלבשה | 13-14 |
| Manufacture and processing of leather and related products | 12 | - | 20 | 20 | ייצור ועיבוד של מוצרי עור ושל אביזרים נלווים | 15 |
| Manufacture of wood, cork and straw products, except furniture | 29 | - | 52 | 52 | ייצור מוצרי עץ, שעם וקש, פרט לרהיטים | 16 |
| Manufacture of paper and paper products | 3,887 | 559 | 4,184 | 4,743 | ייצור נייר ומוצריו | 17 |
| Printing and reproduction of recorded media | 89 | - | 138 | 138 | הדפסה ושכפול של חומר תקשורתי מוקלט | 18 |
| Manufacture of refined petroleum products | 2,043 | 5,365 | 3,203 | 8,569 | ייצור מוצרי נפט מזוקק | 19 |
| Manufacture of chemicals and pharmaceuticals; Manufacture of rubber and plastics products | 13,225 | 5,196 | 23,429 | 28,625 | ייצור כימיקלים ותרופות; ייצור מוצרי גומי ופלסטיק | 20-22 |
| Manufacture of other non-metallic mineral products | 570 | 5 | 4,566 | 4,571 | ייצור מוצרים אחרים על בסיס מינרלים אל-מתכתיים | 23 |
| Manufacture of basic metals | 501 | - | 1,010 | 1,010 | תעשיית מתכות בסיסיות | 24 |
| Manufacture of fabricated metal products, except machinery and equipment | .. | .. | .. | .. | ייצור מוצרי מתכת בהרכבה, פרט למכונות ולציוד | 25 |
| Manufacture of computers, electronic and optical products and electrical equipment | 3,483 | 3,549 | 8,023 | 11,572 | ייצור מחשבים, מכשור אלקטרוני ואופטי וציוד חשמלי | 26-27 |
| Manufacture of machinery and equipment n.e.c. | 506 | - | 683 | 683 | ייצור מכונות וציוד לנמ"א | 28 |
| Manufacture of motor vehicles and other transport equipment; Manufacture of furniture; Other manufacturing, repair and installation of machinery and equipment | 870 | - | 1,376 | 1,376 | ייצור כלי תחבורה והובלה; ייצור רהיטים; ענפי ייצור אחרים, תיקון, תחזוקה והתקנה של מכונות וציוד | 29-33 |
| Electricity supply | 1,392 | 3,392 | 8,727 | 12,119 | אספקת חשמל | 35 |

(1) The presentation of the data reflects the sampling errors. See Introduction.

(1) אופן הצגת הנתונים משקף את טעויות הדגימה. ראו מבוא.