

Piraeus, 1 December 2021

# PRESS RELEASE AIR EMISSION ACCOUNTS: years 2017-2018

The Hellenic Statistical Authority (ELSTAT) announces data on greenhouse gas emissions and other air emissions, for the period 2017-2018, which are collected from administrative sources.

This press release presents data on greenhouse gas and other air emissions, for each type of gas and for the total of gases, which are emitted as a result of the economic activity, as well as by households. The relevant data are presented by sections of the Statistical Classification of Economic Activities (NACE Rev.2) (Tables 1-10, Graphs 1-9).

The percentage contribution of greenhouse gas emissions to the main economic activity sectors of the Statistical Classification of Economic Activities (NACE Rev.2) and to households, by type of gas, is analyzed as follows:

#### Carbon dioxide (CO<sub>2</sub>)

- The section of "Electricity, gas, steam and air conditioning supply" had the most important contribution to Carbon dioxide ( $CO_2$ ) emissions, accounting for 46.2% of the total  $CO_2$  emissions in 2018. The corresponding share in 2017 was 46.5% (Table 4, Graph 1).
- "Manufacturing" accounted for 18.4% of the total  $CO_2$  emissions in 2018. In 2017, the corresponding share was 18.2% (Table 4, Graph 1).
- The section of "Transportation and storage" accounted for 11.7% of the total CO<sub>2</sub> emissions in 2018 and for 11.0% in 2017 (Table 4, Graph 1).
- The section of "Public administration and defense and compulsory social security" accounted for 2.5% of the total CO<sub>2</sub> emissions in 2018 and for 2.7% in 2017 (Table 4, Graph 1).
- Households had also a significant share of CO<sub>2</sub> emissions, accounting for 17.7% of the total CO<sub>2</sub> emissions in 2018. In 2017, the corresponding share was 17.9% (Table 4, Graph 1).

#### Nitrous oxide (N<sub>2</sub>O)

- The "Agriculture, Forestry and Fishing" section had the most significant contribution to Nitrous Oxide ( $N_2O$ ) emissions, accounting for 78.4% of the total  $N_2O$  emissions in 2018. In 2017, the corresponding share amounted to 78.8% (Table 6, Graph 3).
- The "Water, sewage treatment, waste management and remediation activities" section accounted for 7.2% of the total  $N_2O$  in 2018. In 2017, the respective share amounted to 7.1% (Table 6, Graph 3).
- "Manufacturing" accounted for 4.2% of the total  $N_2O$  emissions in 2018 and for 4.4% in 2017 (Table 6, Graph 3).

Information on methodological issues: Agriculture, Livestock, Fisheries and Environmental Statistics Division Energy & Environment Statistics Section Konstantinos Papandreou Tel: +30 213 135 2057 E-mail: k.papandreou@statistics.gr Information for data provision: Tel: 213 135 2022, 2308, 2310 e-mail: data.dissem@statistics.gr

- The "Transportation and storage" section accounted for 4.0% of the total  $N_2O$  emissions in 2018. In 2017, the respective share amounted to 3.5% (Table 6, Graph 3).
- The participation of Households to  $N_2O$  emissions accounted for 2.6% of the total  $N_2O$  emissions in 2018 and for 2.5% in 2017 (Table 6, Graph 3).

## Methane (CH<sub>4</sub>)

- The "Agriculture, Forestry and Fishing" section had the largest share of Methane (CH<sub>4</sub>) emissions, accounting for 43.9% of the total CH<sub>4</sub> emissions in 2018. In 2017, the respective share was 44.5% (Table 8, Graph 5).
- The "Water, sewage treatment, waste management and remediation activities" had also a significant share to CH<sub>4</sub> emissions, amounting to 43.9% of the total CH<sub>4</sub> emissions in 2018. In 2017, the corresponding share amounted to 42.9% (Table 8, Graph 5).
- The "Public Administration and Defense and Compulsory Social Security" accounted for 1.9% of the total CH<sub>4</sub> emissions in 2018 and for 2.2% in 2017 (Table 8, Graph 5).
- The participation of Households to CH<sub>4</sub> emissions amounted to 2.5% of the total CH<sub>4</sub> emissions in 2018. In 2017, the corresponding share amounted to 1.5% (Table 8, Graph 5).

# Hydrofluorocarbons (HFCs)

Hydrofluorocarbons (HFCs) emissions come exclusively from the sections of "Manufacturing", "Construction" and "Human health and social work activities" sectors as follows:

- The "Manufacturing" had the most significant share of HFCs emissions, accounting for 95.9% of total HFCs emissions in 2018. In 2017, the respective share was 96.1% (Table 10, Graph 7).
- The "Construction" section accounted for 3.3% of the total HFCs emissions in 2018. In 2017, the respective share was 3.2% (Table 10, Graph 7).
- The section of "Human health and social work activities" accounted for 0.8% of the total HFCs emissions in 2018. In 2017, the respective share was 0.7% (Table 10, Graph 7).

### Perfuorocarbons (PFCs)

The emissions of Perfluorocarbons (PFCs) come exclusively from the Manufacturing sector. In 2018, the total emissions of Perfluorocarbons amounted to 135,313.1 tonnes and in 2017 to 125,793.8 tonnes (Graph 8).

### Sulphur hexafluoride (SF<sub>6</sub>)

Sulfur hexafluoride (SF<sub>6</sub>) emissions come exclusively from the Energy sector. In 2018, the total emissions of sulfur hexafluoride amounted to 4,942.7 tonnes and in 2017 to 5,011.1 tonnes (Graph 9).

#### Table 1: Greenhouse gas emissions, 2008-2018\*

|   | 2008      | 2009      | 2010      | 2011      | 2012      | 2013      | 2014      | 2015      | 2016      | 2017      | 2018      |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Carbon Dioxide (CO <sub>2</sub> )<br>In 1,000 tonnes                            | 111,125   | 104,355   | 97,362    | 94,550    | 91,430    | 81,735    | 78,660    | 74,958    | 71,368    | 74,853    | 71,798    |
| Carbon Dioxide (CO <sub>2</sub> ) from combustion of biomass<br>In 1,000 tonnes | 4,273     | 3,944     | 4,190     | 5,142     | 5,708     | 4,710     | 4,757     | 5,202     | 4,546     | 4,741     | 4,678     |
| Nitrous oxide (N <sub>2</sub> O)<br>In tones                                    | 18,969    | 17,757    | 18,421    | 17,602    | 16,166    | 15,160    | 14,466    | 14,256    | 14,436    | 14,648    | 14,379    |
| Methane (CH4)<br>In tonnes  | 449,192   | 434,468   | 442,727   | 437,426   | 430,908   | 421,316   | 412,951   | 406,066   | 392,198   | 402,369   | 403,643   |
| Hydrofluorocardons (HFCs)<br>In tonnes of CO <sub>2</sub> equivalent            | 3,712,346 | 4,036,015 | 4,467,764 | 4,747,224 | 5,153,931 | 5,741,476 | 5,842,951 | 5,999,844 | 6,223,862 | 6,177,933 | 5,907,582 |
| Perfluorocardons (PFCs)<br>In tonnes of CO <sub>2</sub> equivalent              | 118,952   | 91,345    | 129,438   | 110,526   | 147,771   | 172,562   | 134,634   | 119,192   | 135,168   | 125,794   | 135,313   |
| Sulphur hexafluorids (SF6)<br>In tonnes of CO <sub>2</sub> equivalent           | 7,182     | 5,016     | 5,860     | 5,130     | 5,049     | 5,151     | 4,922     | 5,060     | 5,202     | 5,011     | 4,943     |

\*Provisonal data

#### Table 2: Air emissions of other gases, 2008-2018\*

|   | 2008    | 2009    | 2010    | 2011    | 2012    | 2013    | 2014    | 2015    | 2016    | 2017    | 2018    |
|---|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Nitrogen oxides (NOx) In tonnes                     | 448,778 | 428,086 | 357,390 | 319,766 | 279,266 | 267,420 | 263,183 | 256,860 | 256,121 | 261,545 | 254,528 |
| Sulphur oxides (SOx)<br>In tonnes SO₂ equivalent    | 423,308 | 352,392 | 205,101 | 146,383 | 120,083 | 105,888 | 89,350  | 83,849  | 60,697  | 69,324  | 64,584  |
| Ammonia (NH3)<br>In tonnes                          | 71,995  | 67,477  | 72,971  | 72,071  | 69,923  | 69,645  | 66,503  | 65,218  | 64,771  | 63,859  | 62,964  |
| Non-Methane volatile organic compounds<br>In tonnes | 265,294 | 254,910 | 220,424 | 205,258 | 197,852 | 180,367 | 176,567 | 169,495 | 160,910 | 157,118 | 150,089 |
| Carbon monoxide<br>In tonnes                        | 686,524 | 620,407 | 541,037 | 522,877 | 566,091 | 476,961 | 484,450 | 463,072 | 406,609 | 417,940 | 396,226 |

Table 3: Distribution of carbon dioxide (CO<sub>2</sub>) emissions by sections of the Statistical Classification of Economic Activities (NACE Rev. 2) and households, 2008-2018\* In thousand tonnes

| Economic Activities (NACE Rev. 2) Sections - Households              | 2008    | 2009    | 2010   | 2011   | 2012   | 2013   | 2014   | 2015   | 2016   | 2017   | 2018   |
|--|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Agriculture, forestry and fishing                                    | 2,517   | 1,992   | 1,721  | 1,774  | 923    | 519    | 498    | 528    | 462    | 496    | 496    |
| Mining and quarrying   | 747     | 402     | 455    | 395    | 403    | 205    | 388    | 375    | 383    | 357    | 317    |
| Manufacturing  | 15,078  | 12,405  | 12,504 | 9,858  | 10,674 | 12,880 | 13,421 | 12,671 | 13,067 | 13,602 | 13,189 |
| Electricity, gas, steam and air conditioning supply                  | 53,883  | 50,681  | 48,319 | 50,460 | 50,902 | 44,100 | 40,446 | 35,493 | 31,311 | 34,838 | 33,174 |
| Water supply, sewerage, waste management and remediation activities  | 5       | 5       | 4      | 4      | 2      | 2      | 2      | 3      | 3      | 4      | 4      |
| Construction   | 778     | 710     | 697    | 679    | 655    | 150    | 211    | 287    | 295    | 267    | 237    |
| Wholesale and retail trade; repair of motor vehicles and motorcycles | 445     | 366     | 340    | 166    | 34     | 29     | 22     | 23     | 24     | 22     | 19     |
| Transportation and storage   | 8,538   | 10,069  | 8,737  | 7,636  | 6,865  | 5,217  | 5,666  | 6,616  | 6,777  | 8,223  | 8,411  |
| Accommodation and food service activities                            | 1,183   | 989     | 698    | 506    | 521    | 287    | 341    | 375    | 384    | 347    | 308    |
| Information and communication  | 44      | 36      | 33     | 31     | 33     | 26     | 28     | 26     | 27     | 27     | 24     |
| Financial and insurance activities                                   | 110     | 115     | 117    | 105    | 113    | 74     | 52     | 53     | 54     | 49     | 43     |
| Real estate activities   | 5       | 4       | 4      | 4      | 5      | 5      | 5      | 5      | 5      | 5      | 4      |
| Professional, scientific and technical activitiesç                   | 228     | 219     | 217    | 200    | 217    | 149    | 180    | 154    | 158    | 143    | 127    |
| Administrative and support service activities                        | 105     | 100     | 99     | 105    | 111    | 74     | 57     | 54     | 55     | 50     | 45     |
| Public administration and defence; compulsory social security        | 3,057   | 2,026   | 1,396  | 718    | 1,392  | 1,715  | 1,702  | 1,951  | 2,159  | 1,990  | 1,768  |
| Education  | 1,093   | 812     | 825    | 720    | 845    | 905    | 604    | 488    | 499    | 451    | 401    |
| Human health and social work activities                              | 1,066   | 893     | 858    | 791    | 848    | 607    | 498    | 449    | 457    | 413    | 367    |
| Arts, entertainment and recreation                                   | 154     | 146     | 143    | 142    | 146    | 97     | 82     | 83     | 85     | 77     | 68     |
| Other service activities   | 122     | 93      | 85     | 83     | 79     | 47     | 45     | 53     | 54     | 48     | 43     |
| Activities of households as employers                                | 55      | 52      | 51     | 49     | 48     | 28     | 26     | 30     | 30     | 27     | 24     |
| Activities of extraterritorial organisations and bodies              | 0       | 0       | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Total emissions of NACE Rev.2 sections                               | 89,214  | 82,116  | 77,303 | 74,426 | 74,816 | 67,117 | 64,274 | 59,719 | 56,288 | 61,437 | 59,069 |
| Households   | 21,912  | 22,239  | 20,058 | 20,124 | 16,614 | 14,618 | 14,385 | 15,239 | 15,080 | 13,416 | 12,729 |
| Grand Total emissions  | 111,125 | 104,355 | 97,362 | 94,550 | 91,430 | 81,735 | 78,660 | 74,958 | 71,368 | 74,853 | 71,798 |

| Economic Activities (NACE Rev. 2) Sections - Households              | 2008  | 2009  | 2010  | 2011  | 2012  | 2013  | 2014  | 2015  | 2016  | 2017  | 2018  |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Agriculture, forestry and fishing                                    | 2.3   | 1.9   | 1.8   | 1.9   | 1.0   | 0.6   | 0.6   | 0.7   | 0.6   | 0.7   | 0.7   |
| Mining and quarrying   | 0.7   | 0.4   | 0.5   | 0.4   | 0.4   | 0.3   | 0.5   | 0.5   | 0.5   | 0.5   | 0.4   |
| Manufacturing  | 13.6  | 11.9  | 12.8  | 10.4  | 11.7  | 15.8  | 17.1  | 16.9  | 18.3  | 18.2  | 18.4  |
| Electricity, gas, steam and air conditioning supply                  | 48.5  | 48.6  | 49.6  | 53.4  | 55.7  | 54.0  | 51.4  | 47.4  | 43.9  | 46.5  | 46.2  |
| Water supply, sewerage, waste management and remediation activities  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Construction   | 0.7   | 0.7   | 0.7   | 0.7   | 0.7   | 0.2   | 0.3   | 0.4   | 0.4   | 0.4   | 0.3   |
| Wholesale and retail trade; repair of motor vehicles and motorcycles | 0.4   | 0.4   | 0.3   | 0.2   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Transportation and storage   | 7.7   | 9.6   | 9.0   | 8.1   | 7.5   | 6.4   | 7.2   | 8.8   | 9.5   | 11.0  | 11.7  |
| Accommodation and food service activities                            | 1.1   | 0.9   | 0.7   | 0.5   | 0.6   | 0.4   | 0.4   | 0.5   | 0.5   | 0.5   | 0.4   |
| Information and communication  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Financial and insurance activities                                   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   |
| Real estate activities   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Professional, scientific and technical activitiesς                   | 0.2   | 0.2   | 0.2   | 0.2   | 0.2   | 0.2   | 0.2   | 0.2   | 0.2   | 0.2   | 0.2   |
| Administrative and support service activities                        | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   |
| Public administration and defence; compulsory social security        | 2.8   | 1.9   | 1.4   | 0.8   | 1.5   | 2.1   | 2.2   | 2.6   | 3.0   | 2.7   | 2.5   |
| Education  | 1.0   | 0.8   | 0.8   | 0.8   | 0.9   | 1.1   | 0.8   | 0.7   | 0.7   | 0.6   | 0.6   |
| Human health and social work activities                              | 1.0   | 0.9   | 0.9   | 0.8   | 0.9   | 0.7   | 0.6   | 0.6   | 0.6   | 0.6   | 0.5   |
| Arts, entertainment and recreation                                   | 0.1   | 0.1   | 0.1   | 0.2   | 0.2   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   |
| Other service activities   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   |
| Activities of households as employers                                | 0.0   | 0.0   | 0.1   | 0.1   | 0.1   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Activities of extraterritorial organisations and bodies              | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total emissions of NACE Rev. 2 sections                              | 80.3  | 78.7  | 79.4  | 78.7  | 81.8  | 82.1  | 81.7  | 79.7  | 78.9  | 82.1  | 82.3  |
| Households   | 19.7  | 21.3  | 20.6  | 21.3  | 18.2  | 17.9  | 18.3  | 20.3  | 21.1  | 17.9  | 17.7  |
| Grand Total emissions  | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Table 4: Percentage distribution of carbon dioxide (CO<sub>2</sub>) emissions by sections of the Statistical Classification of Economic Activities (NACE Rev. 2) and in households, 2008-2018\*

Graph 1: Percentage distribution of carbon dioxide (CO<sub>2</sub>) emissions by main sections of the Statistical Classification of Economic Activities (NACE Rev. 2) and households 2008\* and 2018\*



\*Provisional data



#### Graph 2: Carbon dioxide (CO<sub>2</sub>) emissions, as a total, in the economic activity sectors and in households, 2008-2018\*

Table 5: Distribution of nitrous oxide (N<sub>2</sub>O) emissions by sections of the Statistical Classification of Economic Activities (NACE Rev. 2) and in households, 2008-2018\*, in tonnes.

| Economic Activities (NACE Rev. 2) Sections - Households              | 2008     | 2009     | 2010     | 2011     | 2012     | 2013     | 2014     | 2015     | 2016     | 2017     | 2018     |
|--|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Agriculture, forestry and fishing                                    | 13,567.4 | 12,740.9 | 13,434.6 | 12,739.9 | 11,943.4 | 12,028.2 | 11,267.0 | 11,046.1 | 11,309.9 | 11,548.8 | 11,275.9 |
| Mining and quarrying   | 27.5     | 20.2     | 23.7     | 21.8     | 16.3     | 14.4     | 10.3     | 9.8      | 8.8      | 7.7      | 7.0      |
| Manufacturing  | 2,128.9  | 1,919.6  | 2,076.0  | 2,160.9  | 1,603.7  | 679.3    | 712.6    | 723.5    | 671.6    | 645.4    | 609.3    |
| Electricity, gas, steam and air conditioning supply                  | 572.2    | 552.9    | 517.3    | 525.9    | 536.0    | 474.4    | 446.9    | 390.2    | 311.7    | 350.0    | 333.2    |
| Water supply, sewerage, waste management and remediation activities  | 1,067.1  | 1,066.7  | 1,082.1  | 1,070.3  | 1,065.1  | 1,074.6  | 1,074.3  | 1,070.4  | 1,083.2  | 1,036.8  | 1,034.0  |
| Construction   | 14.7     | 4.3      | 2.5      | 3.2      | 4.1      | 4.9      | 6.4      | 8.8      | 8.8      | 7.7      | 7.1      |
| Wholesale and retail trade; repair of motor vehicles and motorcycles | 7.5      | 5.1      | 4.8      | 4.2      | 3.7      | 2.7      | 3.0      | 3.0      | 3.3      | 2.8      | 2.6      |
| Transportation and storage   | 874.1    | 800.9    | 714.5    | 581.2    | 477.3    | 439.5    | 480.8    | 531.4    | 575.7    | 514.3    | 582.3    |
| Accommodation and food service activities                            | 89.6     | 101.4    | 84.2     | 114.1    | 177.8    | 140.4    | 168.5    | 146.1    | 127.9    | 118.4    | 108.6    |
| Information and communication  | 3.7      | 3.4      | 3.4      | 3.5      | 4.1      | 3.4      | 3.9      | 5.3      | 5.9      | 5.2      | 4.7      |
| Financial and insurance activities                                   | 4.3      | 4.0      | 3.9      | 4.0      | 3.8      | 3.9      | 4.2      | 4.9      | 5.0      | 4.4      | 4.0      |
| Real estate activities   | 0.0      | 1.0      | 0.4      | 0.4      | 0.5      | 0.4      | 0.4      | 0.4      | 0.4      | 0.4      | 0.4      |
| Professional, scientific and technical activitiesç                   | 1.8      | 2.2      | 1.9      | 2.3      | 2.6      | 2.2      | 2.9      | 3.2      | 3.3      | 2.9      | 2.6      |
| Administrative and support service activities                        | 2.5      | 2.7      | 2.3      | 2.4      | 5.0      | 4.1      | 4.9      | 4.8      | 5.0      | 4.3      | 4.0      |
| Public administration and defence; compulsory social security        | 19.5     | 13.5     | 10.8     | 10.6     | 8.3      | 8.2      | 8.2      | 12.4     | 13.0     | 11.3     | 10.4     |
| Education  | 9.7      | 7.1      | 5.6      | 5.2      | 4.2      | 4.1      | 4.2      | 6.4      | 6.5      | 5.7      | 5.2      |
| Human health and social work activities                              | 10.0     | 8.1      | 6.2      | 5.4      | 5.4      | 5.3      | 5.0      | 6.3      | 6.6      | 5.8      | 5.3      |
| Arts, entertainment and recreation                                   | 0.5      | 3.2      | 1.8      | 1.9      | 1.9      | 1.8      | 2.1      | 2.2      | 2.3      | 2.0      | 1.9      |
| Other service activities   | 12.6     | 10.1     | 7.9      | 7.4      | 6.2      | 8.0      | 9.5      | 8.8      | 8.8      | 7.7      | 7.1      |
| Activities of households as employers                                | 2.9      | 1.5      | 1.2      | 0.2      | 0.2      | 0.1      | 0.1      | 0.1      | 0.1      | 0.1      | 0.1      |
| Activities of extraterritorial organisations and bodies              | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      | 0.0      |
| Total emissions of NACE Rev.2 sections                               | 18,416.5 | 17,268.7 | 17,985.2 | 17,264.7 | 15,869.3 | 14,900.0 | 14,215.3 | 13,984.0 | 14,157.9 | 14,281.7 | 14,005.7 |
| Households   | 552.2    | 487.8    | 436.1    | 337.4    | 296.4    | 260.4    | 250.7    | 271.6    | 278.1    | 365.9    | 373.1    |
| Grand Total emissions  | 18,968.7 | 17,756.5 | 18,421.3 | 17,602.1 | 16,165.7 | 15,160.4 | 14,466.0 | 14,255.6 | 14,436.0 | 14,647.7 | 14,378.8 |

| Economic Activities (NACE Rev. 2) Sections - Households              | 2008  | 2009  | 2010  | 2011  | 2012  | 2013  | 2014  | 2015  | 2016  | 2017  | 2018  |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Agriculture, forestry and fishing                                    | 71.5  | 71.8  | 72.9  | 72.4  | 73.9  | 79.3  | 77.9  | 77.5  | 78.3  | 78.8  | 78.4  |
| Mining and quarrying   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.0   |
| Manufacturing  | 11.2  | 10.8  | 11.3  | 12.3  | 9.9   | 4.5   | 4.9   | 5.1   | 4.7   | 4.4   | 4.2   |
| Electricity, gas, steam and air conditioning supply                  | 3.0   | 3.1   | 2.8   | 3.0   | 3.3   | 3.1   | 3.1   | 2.7   | 2.2   | 2.4   | 2.3   |
| Water supply, sewerage, waste management and remediation activities  | 5.6   | 6.0   | 5.9   | 6.1   | 6.6   | 7.1   | 7.4   | 7.5   | 7.5   | 7.1   | 7.2   |
| Construction   | 0.1   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.1   | 0.1   | 0.1   | 0.0   |
| Wholesale and retail trade; repair of motor vehicles and motorcycles | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Transportation and storage   | 4.6   | 4.5   | 3.9   | 3.3   | 3.0   | 2.9   | 3.3   | 3.7   | 4.0   | 3.5   | 4.0   |
| Accommodation and food service activities                            | 0.5   | 0.6   | 0.5   | 0.6   | 1.1   | 0.9   | 1.2   | 1.0   | 0.9   | 0.8   | 0.8   |
| Information and communication  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Financial and insurance activities                                   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Real estate activities   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Professional, scientific and technical activitiesç                   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Administrative and support service activities                        | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Public administration and defence; compulsory social security        | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   |
| Education  | 0.1   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Human health and social work activities                              | 0.1   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Arts, entertainment and recreation                                   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Other service activities   | 0.1   | 0.1   | 0.0   | 0.0   | 0.0   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.0   |
| Activities of households as employers                                | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Activities of extraterritorial organisations and bodies              | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total emissions of NACE Rev.2 sections                               | 97.1  | 97.3  | 97.6  | 98.1  | 98.2  | 98.3  | 98.3  | 98.1  | 98.1  | 97.5  | 97.4  |
| Households   | 2.9   | 2.7   | 2.4   | 1.9   | 1.8   | 1.7   | 1.7   | 1.9   | 1.9   | 2.5   | 2.6   |
| Grand Total emissions  | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

#### Table 6: Percentage distribution of nitrous oxide (N2O) emissions by sections of the Statistical Classification of Economic Activities (NACE Rev. 2) and in households, 2008-2018\*

Graph 3: Percentage distribution of nitrous oxide (N<sub>2</sub>O) emissions by main sections of the Statistical Classification of Economic Activities (NACE Rev. 2) and households, 2008\* and 2018\*



\*Provisional data



#### Graph 4: Nitrous oxide (N<sub>2</sub>O) emissions, as a total, in the economic activity sectors and in households, 2008-2018\*

Table 7: Distribution of Methane (CH<sub>4</sub>) emissions by sections of the Statistical Classification of Economic Activities (NACE Rev. 2) and in households, 2008-2018\* *In tonnes* 

| Economic Activities (NACE Rev. 2) Sections - Households              | 2008    | 2009    | 2010    | 2011    | 2012    | 2013    | 2014    | 2015    | 2016    | 2017    | 2018    |
|--|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Agriculture, forestry and fishing                                    | 196,676 | 195,745 | 199,244 | 198,486 | 196,429 | 192,597 | 185,277 | 182,197 | 179,286 | 179,095 | 177,095 |
| Mining and quarrying   | 1,845   | 1,075   | 811     | 805     | 806     | 830     | 828     | 810     | 752     | 942     | 818     |
| Manufacturing  | 7,106   | 6,878   | 6,000   | 5,658   | 5,400   | 5,474   | 5,256   | 4,180   | 4,275   | 5,309   | 4,639   |
| Electricity, gas, steam and air conditioning supply                  | 718     | 624     | 564     | 589     | 581     | 513     | 472     | 438     | 422     | 475     | 454     |
| Water supply, sewerage, waste management and remediation activities  | 180,052 | 168,557 | 179,650 | 170,982 | 162,349 | 166,620 | 169,248 | 168,952 | 170,040 | 172,420 | 177,368 |
| Construction   | 552     | 477     | 458     | 446     | 359     | 259     | 251     | 231     | 241     | 302     | 262     |
| Wholesale and retail trade; repair of motor vehicles and motorcycles | 18      | 16      | 15      | 16      | 19      | 13      | 13      | 11      | 11      | 14      | 12      |
| Transportation and storage   | 1,391   | 1,395   | 1,429   | 1,220   | 955     | 1,041   | 1,030   | 1,059   | 978     | 1,207   | 1,241   |
| Accommodation and food service activities                            | 11,803  | 10,786  | 9,441   | 12,333  | 14,430  | 12,380  | 12,230  | 10,285  | 8,331   | 8,941   | 7,769   |
| Information and communication  | 2,069   | 1,875   | 1,687   | 2,034   | 2,020   | 1,683   | 1,697   | 1,654   | 920     | 1,152   | 1,001   |
| Financial and insurance activities                                   | 2,758   | 2,500   | 1,890   | 2,711   | 2,749   | 1,898   | 1,768   | 1,669   | 1,297   | 1,623   | 1,410   |
| Real estate activities   | 105     | 95      | 110     | 103     | 94      | 95      | 79      | 71      | 70      | 88      | 76      |
| Professional, scientific and technical activitiesç                   | 5,397   | 5,485   | 4,763   | 4,462   | 5,278   | 4,091   | 3,861   | 2,709   | 2,090   | 2,617   | 2,274   |
| Administrative and support service activities                        | 2,638   | 2,577   | 2,759   | 3,175   | 3,620   | 2,537   | 2,112   | 1,589   | 906     | 1,134   | 985     |
| Public administration and defence; compulsory social security        | 11,192  | 10,126  | 9,514   | 9,009   | 8,936   | 8,511   | 8,219   | 8,458   | 6,422   | 8,040   | 6,986   |
| Education  | 7,015   | 7,010   | 6,012   | 6,250   | 7,337   | 6,225   | 6,410   | 6,125   | 4,510   | 5,647   | 4,906   |
| Human health and social work activities                              | 6,721   | 6,434   | 5,564   | 5,356   | 5,915   | 4,410   | 3,825   | 4,477   | 2,804   | 3,511   | 3,050   |
| Arts, entertainment and recreation                                   | 1,247   | 1,477   | 1,332   | 1,225   | 1,385   | 1,231   | 1,123   | 897     | 589     | 737     | 640     |
| Other service activities   | 2,379   | 4,069   | 3,014   | 3,330   | 3,310   | 3,159   | 2,385   | 2,813   | 1,695   | 2,122   | 1,844   |
| Activities of households as employers                                | 1,008   | 1,008   | 1,023   | 1,901   | 1,905   | 1,293   | 1,037   | 1,026   | 754     | 944     | 820     |
| Activities of extraterritorial organisations and bodies              | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       |
| Total of emissions of NACE Rev.2 sections                            | 442,689 | 428,207 | 435,281 | 430,090 | 423,878 | 414,861 | 407,120 | 399,650 | 386,394 | 396,319 | 393,650 |
| Households   | 6,503   | 6,261   | 7,446   | 7,337   | 7,031   | 6,454   | 5,832   | 6,417   | 5,804   | 6,050   | 9,993   |
| Grand Total emissions  | 449,192 | 434,468 | 442,727 | 437,426 | 430,908 | 421,315 | 412,952 | 406,066 | 392,198 | 402,369 | 403,643 |

| Table 8: Percentage distribution of methane (CH4) emissions by sections of the Statistical Classification of Economic Activities (NACE Rev. 2) and in |
|---|
| households, 2008-2018*  |

| Economic Activities (NACE Rev. 2) Sections - Households              | 2008  | 2009  | 2010  | 2011  | 2012  | 2013  | 2014  | 2015  | 2016  | 2017  | 2018  |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Agriculture, forestry and fishing                                    | 43.8  | 45.1  | 45.0  | 45.4  | 45.6  | 45.7  | 44.9  | 44.9  | 45.7  | 44.5  | 43.9  |
| Mining and quarrying   | 0.4   | 0.2   | 0.2   | 0.2   | 0.2   | 0.2   | 0.2   | 0.2   | 0.2   | 0.2   | 0.2   |
| Manufacturing  | 1.6   | 1.6   | 1.4   | 1.3   | 1.3   | 1.3   | 1.3   | 1.0   | 1.1   | 1.3   | 1.1   |
| Electricity, gas, steam and air conditioning supply                  | 0.2   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   |
| Water supply, sewerage, waste management and remediation activities  | 40.1  | 38.8  | 40.6  | 39.1  | 37.7  | 39.5  | 41.0  | 41.6  | 43.4  | 42.9  | 43.9  |
| Construction   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   |
| Wholesale and retail trade; repair of motor vehicles and motorcycles | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Transportation and storage   | 0.3   | 0.3   | 0.3   | 0.3   | 0.2   | 0.2   | 0.2   | 0.3   | 0.2   | 0.3   | 0.3   |
| Accommodation and food service activities                            | 2.6   | 2.5   | 2.1   | 2.8   | 3.3   | 2.9   | 3.0   | 2.5   | 2.1   | 2.2   | 1.9   |
| Information and communication  | 0.5   | 0.4   | 0.4   | 0.5   | 0.5   | 0.4   | 0.4   | 0.4   | 0.2   | 0.3   | 0.2   |
| Financial and insurance activities                                   | 0.6   | 0.6   | 0.4   | 0.6   | 0.6   | 0.5   | 0.4   | 0.4   | 0.3   | 0.4   | 0.3   |
| Real estate activities   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Professional, scientific and technical activitiesς                   | 1.2   | 1.3   | 1.1   | 1.0   | 1.2   | 1.0   | 0.9   | 0.7   | 0.5   | 0.7   | 0.6   |
| Administrative and support service activities                        | 0.6   | 0.6   | 0.6   | 0.7   | 0.8   | 0.6   | 0.5   | 0.4   | 0.2   | 0.3   | 0.2   |
| Public administration and defence; compulsory social security        | 2.5   | 2.3   | 2.1   | 2.1   | 2.1   | 2.0   | 2.0   | 2.1   | 1.6   | 2.0   | 1.7   |
| Education  | 1.6   | 1.6   | 1.4   | 1.4   | 1.7   | 1.5   | 1.6   | 1.5   | 1.2   | 1.4   | 1.2   |
| Human health and social work activities                              | 1.5   | 1.5   | 1.3   | 1.2   | 1.4   | 1.0   | 0.9   | 1.1   | 0.7   | 0.9   | 0.8   |
| Arts, entertainment and recreation                                   | 0.3   | 0.3   | 0.3   | 0.3   | 0.3   | 0.3   | 0.3   | 0.2   | 0.2   | 0.2   | 0.2   |
| Other service activities   | 0.5   | 0.9   | 0.7   | 0.8   | 0.8   | 0.7   | 0.6   | 0.7   | 0.4   | 0.5   | 0.5   |
| Activities of households as employers                                | 0.2   | 0.2   | 0.2   | 0.4   | 0.4   | 0.3   | 0.3   | 0.3   | 0.2   | 0.2   | 0.2   |
| Activities of extraterritorial organisations and bodies              | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total emissions of NACE Rev.2 sections                               | 98.6  | 98.6  | 98.3  | 98.3  | 98.4  | 98.5  | 98.6  | 98.4  | 98.5  | 98.5  | 97.5  |
| Households   | 1.4   | 1.4   | 1.7   | 1.7   | 1.6   | 1.5   | 1.4   | 1.6   | 1.5   | 1.5   | 2.5   |
| Grand Total emissions  | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

# Graph 5: Percentage distribution of methane (CH<sub>4</sub>) emissions by main sections of the Statistical Classification of Economic Activities (NACE Rev. 2) and households 2008\* and 2018\*



\*Provisional data

#### 500,000 450,000 400,000 350,000 300,000 In tonnes 250,000 200,000 150,000 100,000 50,000 0 2013 2018 2008 2009 2010 2011 2012 2014 2015 2016 2017 Total gass emissions Total of NACE Rev. 2 sections Households

#### Graph 6: Methane (CH<sub>4</sub>) emissions, as a total, in the economic activity sectors and in households, 2008-2018\*

Table 9: Hydrofluorocarbons (HFCs) emissions by sections of the Statistical Classification of Economic Activities (NACE Rev. 2), in tonnes of CO<sub>2</sub> equivalent, 2008-2018\*

| Economic Activities (NACE<br>Rev. 2) Sections | 2008      | 2009      | 2010      | 2011      | 2012      | 2013      | 2014      | 2015      | 2016      | 2017      | 2018      |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Manufacturing                                 | 3,443,381 | 3,809,143 | 4,238,810 | 4,535,979 | 4,937,134 | 5,505,502 | 5,607,711 | 5,762,224 | 5,984,650 | 5,938,900 | 5,938,900 |
| Construction                                  | 152,683   | 155,573   | 160,270   | 162,675   | 168,569   | 191,442   | 189,726   | 192,146   | 193,419   | 195,059   | 195,059   |
| Human health and social work activities       | 116,282   | 71,299    | 68,684    | 48,570    | 48,228    | 44,532    | 45,514    | 45,474    | 45,793    | 45,360    | 45,360    |
| Total emissions                               | 3,712,346 | 4,036,015 | 4,467,764 | 4,747,224 | 5,153,931 | 5,741,476 | 5,842,951 | 5,999,844 | 6,223,862 | 6,179,319 | 6,179,319 |

\*Provisional data

# Table 10: Percentage distribution of hydrofluorocarbons (HFCs) emissions by sections of the Statistical Classification of Economic Activities (NACE Rev. 2), 2008-2018\*

| Economic Activities (NACE Rev. 2) Sections | 2008  | 2009  | 2010  | 2011  | 2012  | 2013  | 2014  | 2015  | 2016  | 2017  | 2018  |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Manufacturing                              | 92.8  | 94.4  | 94.9  | 95.6  | 95.8  | 95.9  | 96.0  | 96.0  | 96.2  | 96.1  | 95.9  |
| Construction                               | 4.1   | 3.9   | 3.6   | 3.4   | 3.3   | 3.3   | 3.2   | 3.2   | 3.1   | 3.2   | 3.3   |
| Human health and social work activities    | 3.1   | 1.8   | 1.5   | 1.0   | 0.9   | 0.8   | 0.8   | 0.8   | 0.7   | 0.7   | 0.8   |
| Total emissions                            | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Graph 7: Distribution of hydrofluorocarbons (HFCs) emissions by section of the Statistical Classification of Economic Activities (NACE Rev. 2), 2008-2018\*



Graph 8: Perfuorocarbons (PFCs) emissions in Manufacturing, in tonnes of CO2 equivalents, 2008-2018\*



\*Provisional data



#### Graph 9: Sulphur hexafluoride (SF₀) emissions in Energy, in tonnes of CO₂ equivalents, 2008-2018\*

#### **EXPLANATORY NOTES**

- LegalThe Air Emissions Accounts are compiled pursuant to Regulation 691/2011 of theframework:European Parliament and of the Council (Section 1) which provides for and lays<br/>down the methodological frame for the compilation of Air Emissions Accounts.
- Methodology: The main source of primary data on greenhouse gas and other air emissions is the Annual inventory submission of Greece under the convention and Kyoto protocol for greenhouse and other gases. This inventory is compiled and submitted by the Ministry of Environment and Energy, in the frame of the Kyoto protocol on greenhouse gases and other gases to UNFCCC and CLRTAP.

**Concepts and** Air Emissions Accounts include the following gases categories:

- **Definitions:** 1. <u>Carbon dioxide (CO<sub>2</sub>):</u> Carbon dioxide (CO<sub>2</sub>) is the most important among the greenhouse gases because it is emitted in larger quantities and by important sectors of the economy. The main source of carbon dioxide (CO<sub>2</sub>) emissions is the use of coal substances for energy production.
  - Methane (CH<sub>4</sub>): Methane (CH<sub>4</sub>) holds the second place as regards air emissions that impact on the increase of the world temperature, expressed in CO<sub>2</sub> equivalents. The impact of methane (CH<sub>4</sub>) on climate change is approximately 25 times more powerful than Carbon dioxide (CO<sub>2</sub>). The main sources of methane emissions are Agriculture, and mainly Livestock, and Waste management.
  - 3. <u>Nitrous oxide (N<sub>2</sub>O)</u>: Nitrous oxide holds the third place as regards air emissions that impact on the increase of the world temperature, expressed in CO<sub>2</sub> equivalents. The impact of N<sub>2</sub>O on climate change is approximately 298 times more powerful than Carbon dioxide (CO<sub>2</sub>). The main sources of nitrous oxide emissions are Agriculture (use of nitrates fertilizers) and Manufacturing.
  - 4. <u>Hydrofluorocarbons (HFCs) and Perfluorocarbons (PFCs)</u>: They are in the fourth place as regards air emissions that impact on the increase of the world temperature, expressed in CO<sub>2</sub> equivalents. Their impact on climate change is approximately 5,020 times more powerful than Carbon dioxide (CO<sub>2</sub>). The main source of these gases is Manufacturing and mainly the production of aluminum.
  - 5. <u>Sulphur hexafluoride (SF<sub>6</sub>):</u> Sulphur hexafluoride (SF<sub>6</sub>) holds the fifth place as regards air emissions that impact on the increase of the world temperature, expressed in CO<sub>2</sub> equivalents. The impact of sulphur hexafluoride on climate change is approximately 23,900 times more powerful than Carbon dioxide (CO<sub>2</sub>). The main source of sulphur hexafluoride emissions is the activities related to electric energy transfer.
- **References:** More information (Tables, questionnaires and methodology) on the survey on Air Emissions Accounts can be found on the website of ELSTAT (<u>www.statistics.gr</u>), at: <u>http://www.statistics.gr/el/statistics/-/publication/SOP08/-</u>