

C02 Emissions by source in 2015

If not otherwise indicated, data from: data/raw/electricity/electricity_fuel_2015.csv

CANSIM Database Table:127-0004

| Fuel | Amount | Amt. Unit | Density [kg/m ³] | Density Source | Mass [kg] | Percentage |
|--------------------|-------------|-----------|------------------------------|----------------|------------------|------------|
| subbituminous coal | 24479385 t | | | | 24.48E+09 | 48.78% |
| natural gas | 10870993 Ml | | 0.90 | [1a] | 9.78E+09 | 19.50% |
| lignite | 8846528 t | | | | 8.85E+09 | 17.63% |
| bituminous coal | 2897518 t | | | | 2.90E+09 | 5.77% |
| wood | 2680909 t | | | | 2.68E+09 | 5.34% |
| heavy fuel oil | 698003 kl | | 930.00 | [2a] | 649.14E+06 | 1.29% |
| petroleum coke | 577519 t | | | | 577.52E+06 | 1.15% |
| diesel | 155734 kl | | 874.61 | [2a] | 136.21E+06 | 0.27% |
| methane | 182914 Ml | | 0.72 | [1a] | 131.15E+06 | 0.26% |
| light fuel oil | 57115 kl | | 719.23 | [2a] | 41.08E+06 | 0.08% |
| propane | 58 kl | | 1.70 | [2a] | 98.60E+00 | 0.00% |
| total | | | | | 50.22E+09 | |

Sources

[1a] http://www.engineeringtoolbox.com/gas-density-d_158.html

[2a] http://www.engineeringtoolbox.com/fuels-densities-specific-volumes-d_166.html

Emissions

Energy Production: 6.32E+11 kWh

CO2 per kWh: 0.11

| KCO2 | KCO2 Unit | KCO2 Source | KCO2 [kg/MJ] | ΔC | ΔC Unit | ΔC Source | ΔC [MJ/kg] | KCO2 [kg/kg] | CO2 mass [kg] |
|---------------|-----------|-------------|--------------|------------|---------|-----------|------------|--------------|------------------|
| 93.3 kg/Mbtu | [1b] | | 88.43E-03 | 31.3 MJ/kg | [3b] | | 31.30 | 2.77 | 67.76E+09 |
| 53.07 kg/Mbtu | [1b] | | 50.30E-03 | 47.7 MJ/kg | [3b] | | 47.70 | 2.40 | 23.47E+06 |
| 97.7 kg/Mbtu | [1b] | | 92.60E-03 | 22 MJ/kg | [3b] | | 22.00 | 2.04 | 18.02E+06 |
| 93.3 kg/Mbtu | [1b] | | 88.43E-03 | 31.3 MJ/kg | [3b] | | 31.30 | 2.77 | 8.02E+06 |
| 0.39 kg/kWh | [2b] | | 108.33E-03 | 15 MJ/kg | [3b] | | 15.00 | 1.63 | 4.36E+06 |
| 73.16 kg/Mbtu | [1b] | | 69.34E-03 | 41 MJ/kg | [3b] | | 41.00 | 2.84 | 1.85E+06 |
| 102.1 kg/Mbtu | [1b] | | 96.77E-03 | 34.2 MJ/kg | [3b] | | 34.20 | 3.31 | 1.91E+06 |
| 3.2 kg/kg | [2b] | | | | | | | 3.20 | 435.86E+03 |
| 2.8 kg/kg | [2b] | | | | | | | 2.80 | 367.22E+03 |
| 2.6 kg/kg | [2b] | | | | | | | 2.60 | 106.80E+03 |
| 63.07 kg/Mbtu | [1b] | | 59.78E-03 | 46.3 MJ/m3 | [3b] | | 1.63 | 2.77 | 272.90E-03 |
| total | | | | | | | | | 67.82E+09 |

Sources

- [1b] https://www.eia.gov/electricity/annual/html/epa_a_03.html
- [2b] http://www.engineeringtoolbox.com/co2-emission-fuels-d_1085.html
- [3b] <http://www.manualihoepli.it/media/doc/pr243.pdf>