
Changes to Statistics Finland's fuel classification effective as from 1 January 2013

The fuel classification is used in the compilation of the Greenhouse Gas Inventory, energy surveys and emissions supervision related to emissions trading and on monitoring electricity produced by renewable energy sources entitling to production subsidy.

Statistics Finland has updated the fuel classification. Several new fuel categories were added and the content definitions were revised. The caloric values of certain categories, the default oxidation coefficients and the default emission coefficients of carbon dioxide were updated.

The following changes have been made to the classification:

- Category *131 Natural gas* was divided into two categories *1311 Natural gas* and *1312 Liquefied natural gas*
- New category *3114 Stump wood chips*
- Previous category *3122 Sawdust, cutter shavings etc.* was divided into two categories *3122 Saw dust* and *3124 Cutter shavings, grinding powder, etc.*
- Category *314 By-products from wood processing industry* was divided into three categories *3141 Pine oil and pitch*, *3142 Methanol and turpentine* and *3149 Other by-products and waste products from the wood processing industry*
- New category *3173 Energy willow*
- New category *3174 Vegetable oils and fats*
- Category *318 Animal-based fuels* was divided into two categories *3181 Animal fats* and *3189 Other animal-based fuels*
- New category *3214 Biomethane*
- New category *3215 Synthetic biogas*
- Previous category *322 Liquid biofuels* was renamed *Bioliquids* and divided into three categories *3221 Biofuel oil*, *3222 Biopyrolysis oil* and *3229 Other liquid biofuels*
- The content and headings of categories *3231 Recovered fuels* and *3238 Municipal waste/mixed waste* were revised.
- New category *3234 Deinking sludge*
- New category *3235 Waste pellets*
- New category *326 Biocoal*

As concerns wood residue, the classification was changed in order that residue types differing in their caloric value and humidity (primarily bark, saw dust and cutter shavings) could be better specified into their own categories. This may cause problems when these residue types are used mixed so that they are not measured separately. In such cases, you are requested to make on the annual level as reliable estimate as possible on the breakdown of total energy of the mixture to different categories. The supplier of the fuel can help in making the estimate. However, it is more important to obtain the total energy amount of wood fractions than having a precise breakdown.

For the transition period, category *3128 Unspecified industrial wood residue* is retained in the classification, but it is meant to be removed in connection with the next updating.

The headings of light fuel oil and motor fuel oil were changed to correspond to the present practice. Certain other headings were also revised.

The heading and content definition of municipal waste were updated.

The default caloric values and carbon dioxide coefficients of transportation liquid fuels and light fuel oil include the effect of biofuel shares mixed into them. The distribution obligation of transportation biofuels is taken into account in the estimation of biofuel shares. The fuel-specific assumptions concerning biofuel shares used in the calculation of the coefficients for 2013 are specified at the end of this release.

Fuel-specific default emission coefficients and default caloric values were revised and updated based on the Greenhouse Gas Inventory and data on emissions trading as well.

The emission coefficients are based on a number of different sources presented in the National Greenhouse Gas Inventory (http://www.stat.fi/tup/khkinv/fin_nir_2011_2013_01_15.pdf, Chapter 3.2.2.2). The default emission coefficients of key fuels are based on the following sources:

- Natural gas:
Based on the composition of Russian natural gas, from which the annual average is estimated, Gasum Oy as the source.
- Heavy fuel oil:
Based on Neste Oil Corporation's results from the measurement of carbon concentrations in different types of fuels and an assessment made based on them.
- Light fuel oil:
Account is taken in the emission coefficient of the biofuel share of fuel oil, which is assumed to be two per cent of the energy content in 2013. The same biofuel share is assumed for both heating use and off-road machinery.
- LPG:
Calculated based on the shares of propane and butane and data on the average compositions reported by the Finnish Natural Gas Association.
- Hard coal:
Based on Statistics Finland's report on imported volumes and shares and caloric values of hard coal. From 2008 onwards, the default values of hard coal are based on data on emissions trading plants for preceding years.
- Motor gasoline:
In the emission coefficient and caloric value, account is taken of the biofuel share, which in 2013 is assumed to be for motor gasoline eight per cent of the volume, on average.
- Diesel oil:
In the emission coefficient and caloric value, account is taken of the biofuel share, which in 2013 is assumed to be for diesel oil seven per cent of the volume, on average.
- Energy peat:
Based on a report of the Technical Research Centre of Finland from 2003.
- Mixed fuels:
Based on a master's thesis commissioned by Statistics Finland from a student in 2004 and later estimates. The CO₂ coefficient of mixed fuels includes the share of fossil coal only. The average share of organic substance included in mixed fuels is estimated yearly, which may subsequently have an effect on the default caloric value and emission coefficient.
- Biofuels:
Default CO₂ emission coefficients of the IPCC have been partly used for biofuels, partly coefficients estimated on the basis of fuel properties. In emissions trading the carbon dioxide

emissions generated by biofuels are not reported, nor are they included in Finland's total greenhouse gas emissions. Instead, they are reported separately as supplementary information.

The revision of the classification will be effective as from 1 January 2013. As regards any other changes that may require the modification of greenhouse gas emission permits or revision of the conditions for which emission permits have been granted, the holders of such permits are requested to contact the Energy Market Authority.

Fuel classification: www.stat.fi/polttoaineluokitus

In the classification, updated coefficients are indicated with an asterisk.

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