

The European Commission's science and knowledge service

Joint Research Centre



The JRC-IDEES

ENERGY AND CO₂ EMISSIONS BALANCES

Brussels, 12 Oct 2017

JRC-IDEES

Integrated
Database of the
European
Energy
System

WHAT CAN BE FOUND IN JRC-IDEES

Complete and detailed energy balances:

- 81 fuel types - Eurostat level
- 153 sectors - going beyond of Eurostat level
- Time horizon 2000 – 2015

CO₂ balances - same level of details

FUELS STRUCTURE – CONNECTION TO EMISSIONS

Fuels	Energy consumption	Emission factors	CO2 emissions
Solid Fuels	124 316.7	4.19	521 175
Hard coal and derivatives	88 848.2	4.20	373 412
Hard Coal	45 267.8	3.96	179 351
Anthracite	210.2	4.12	865
Coking Coal	1 656.0	3.96	6 559
Other Bituminous Coal	42 995.0	3.96	170 291
Sub-bituminous Coal	406.6	4.02	1 636
Patent Fuels	2 784.6	4.08	11 367
Coke	40 735.5	4.48	182 490
Coke Oven Coke	40 658.6	4.48	182 145
Gas Coke	76.9	4.48	345
Coal Tar	60.3	3.38	204
Lignite and Derivatives	35 169.9	4.16	146 426
Lignite/Brown Coal	15 898.6	4.23	67 230
Peat	1 175.4	4.44	5 217
BKB (browncoal briquettes)	17 787.8	4.08	72 612
Peat Products	308.0	4.44	1 367
Oil Shale and Oil Sands	298.6	4.48	1 338

High-level fuel emissions can be summed up, thus, emission factors can be calculated

With which a close match to UNFCCC submissions is achieved

Emission factors are different for the (low-level) fuels

SECTORS STRUCTURE

Iron and Steel

Iron and Steel - Integrated steelworks

Iron and Steel - Electric arc

Non-Ferrous Metals

Alumina production

Aluminium production - Primary

Aluminium production - Secondary

Other non-ferrous metals

Chemical and Petrochemical

Basic chemicals

Other chemicals

Basic pharmaceutical products

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Residential

Residential: Space heating

Residential: Space cooling

Residential: Water heating

Residential: Cooking

Residential: Refrigerators and freezers

Residential: Washing machines

...

Services

Services: Space heating

Services: Space cooling

Services: Hot water

...

Road

Road transport - Powered 2-wheelers

Road transport - Private cars

Road transport - Buses and coaches

Road transport - Light commercial vehicles

Road transport - Heavy duty vehicles

Rail

Rail transport - Conventional passenger transport

Rail transport - High speed trains

Rail transport - Metro

Rail transport - Conventional freight transport

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53 additional sectors / end-uses introduced

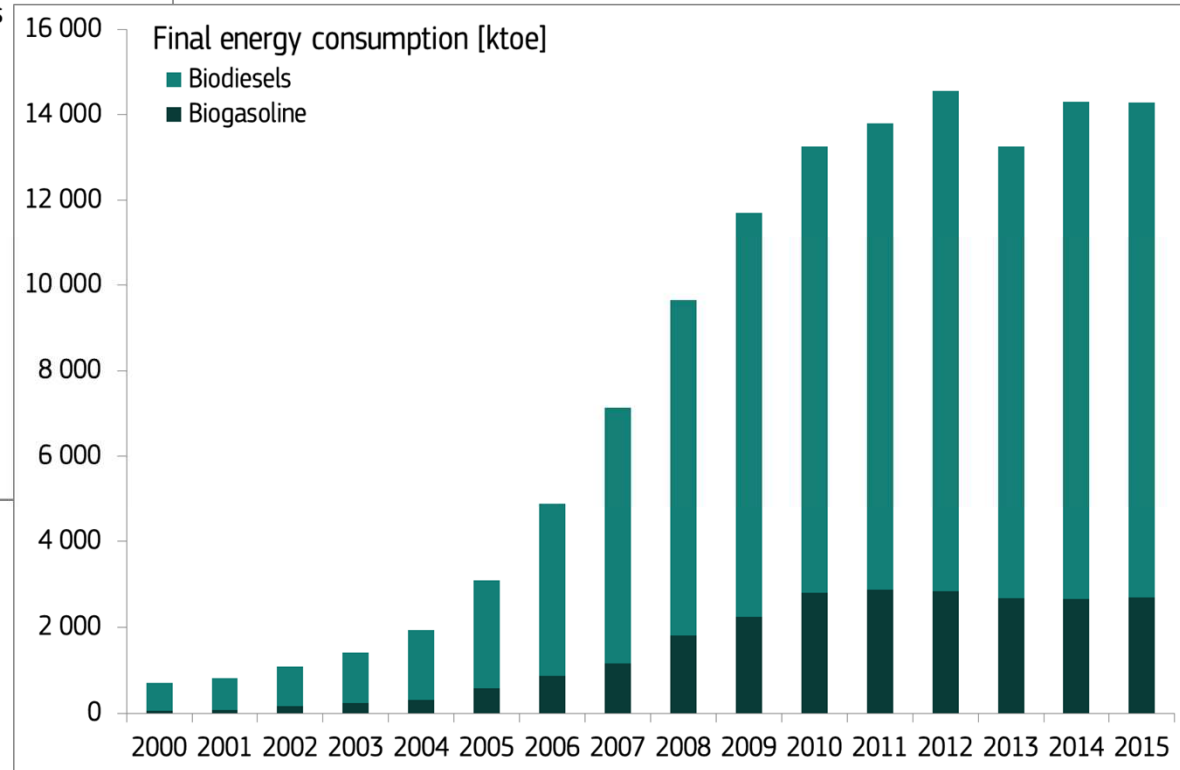
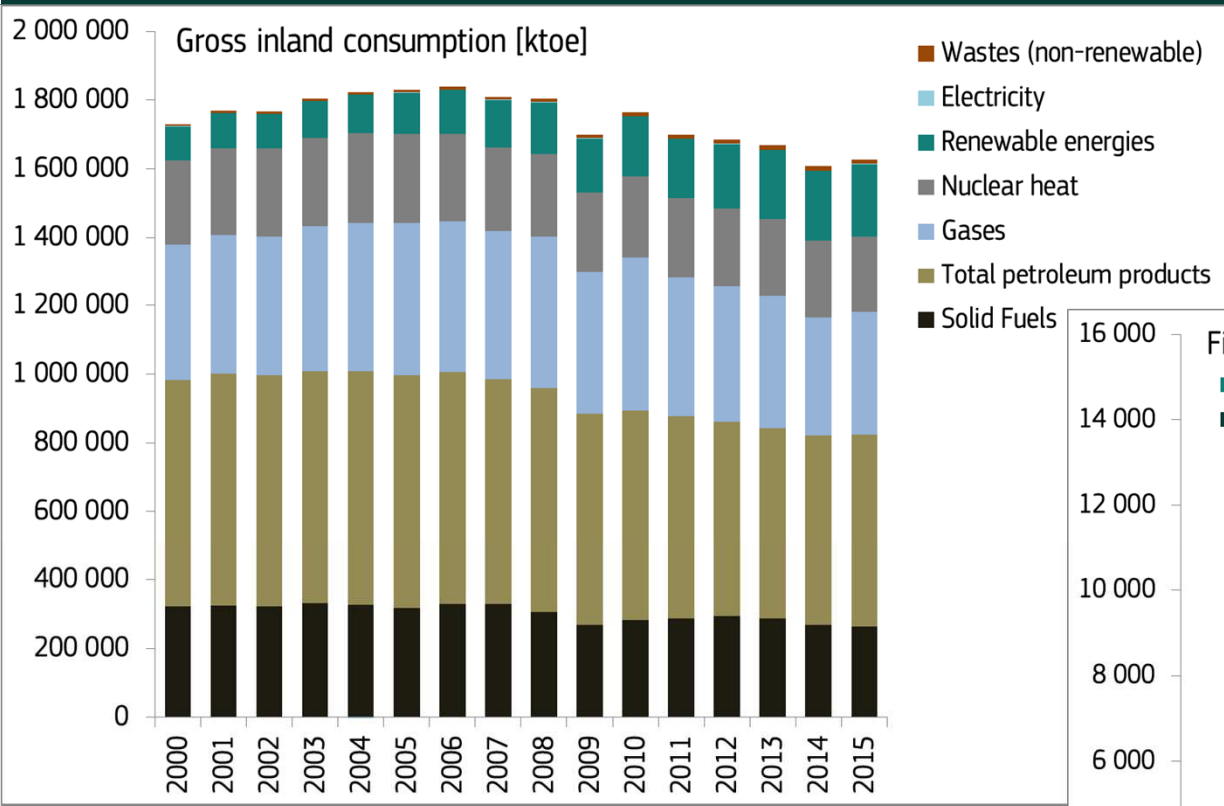
FILE FORMAT

As the JRC-IDEES is focusing on the evolution of the energy system, the balance sheets follow a timeline format:

- sheets describe sectors
where
- information on fuels (rows) and
- years (columns) is provided

Gross inland consumption (ktoe) B_100900		2000	2001	2002	2003 ...
All Products	0000	1 730 113.9	1 769 011.8	1 767 631.5	1 805 019.1 ...
Solid Fuels	2000	321 253.5	323 144.1	322 035.5	332 121.3 ...
Hard coal and derivatives	2100	225 803.7	225 189.2	223 488.9	231 524.6 ...
Hard Coal	2111	221 513.4	220 463.4	217 910.0	226 707.7 ...
Anthracite	2115	93.9	92.4	324.7	2 929.3 ...
Coking Coal	2116	62 637.4	59 659.3	57 542.6	57 883.4 ...
Other Bituminous Coal	2117	156 796.0	159 139.5	158 295.6	164 270.2 ...
Sub-bituminous Coal	2118	1 986.1	1 572.2	1 747.2	1 624.8 ...
Patent Fuels	2112	6.3	-7.7	35.0	13.3 ...
Coke	2120	4 276.7	4 699.3	5 299.8	4 555.0 ...
Coke Oven Coke	2121	4 276.7	4 699.3	5 299.8	4 555.0 ...
Gas Coke	2122	-	-	-	- ...
Coal Tar	2130	7.3	34.3	244.1	248.6 ...
Lignite and Derivatives	2200	92 570.4	95 144.7	95 774.6	97 340.1 ...
Lignite/Brown Coal	2210	89 940.5	91 940.3	92 410.4	93 859.8 ...
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EASY-TO-EXTRACT INFORMATION





Thank you for your attention



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