General CO_2 emission factors and NCV are provided in Tab. 3- 10.

Tab. 3-10 Net calorific values (NCV), CO_2 emission factors and oxidation factors used in the Czech GHG inventory – 2013

Fuel (IPCC 2006 Guidelines definitions)	NCV [TJ/kt]	CO_2 EF [a)] [t CO_2/TJ]	Oxidation factor	CO_2 EF [b)] [t CO_2/TJ]
Crude Oil	42.400	73.30	1	73.30
Gas/Diesel Oil	42.600	74.10	1	74.10
Residual Fuel Oil	39.475	77.40	1	77.40
LPG [d)]	45.945	65.86	1	65.86
Naphtha	43.600	73.30	1	73.30
Bitumen	40.193	80.70	1	80.70
Lubricants	40.193	73.30	1	73.30
Petroleum Coke	38.500	97.50	1	97.50
Other Oil	40.179	73.30	1	73.30
Coking Coal [d)]	28.709	93.68	1	93.68
Other Bituminous Coal [d)]	25.502	94.32	0.9707	91.55
Lignite (Brown Coal) [d)]	13.409	99.49	0.9846	97.96
Brown Coal Briquettes	20.809	97.50	0.9846[d)]	96.00
Coke Oven Coke	28.465	107.00	1	107.00
Coke Oven Gas (TJ/mill. m^3)	16.064 [c)]	44.40	1	44.40
Natural Gas (TJ/Gg) [d)]	48.845	55.30	1	55.30
Natural Gas (TJ/mill. m^3) [d)]	34.424 [c)]	55.30	1	55.30

a) Emission factor without oxidation factor
b) Resulting emission factor with oxidation factor
c) TJ/mill. m^3, t= 15 °C, p = 101.3 kPa
d) Country specific values of CO_2 EFs and oxidation factors

3.2.5 Uncertainties and time-series consistency

The emission inventory is based on 2 types of data accompanied by different levels of uncertainty:

- Activity data (consumption of individual kinds of fuels)
- Emission factors

Extensive research was carried out in 2012 to obtain new, more accurate values for the uncertainties (CHMI, 2012b). The results are given in chapter 1.6 and Annex 2 furthermore lists source of expert judgement provided for uncertainty analysis for each category.

Activity data

Information on fuel consumption is taken from CzSO (CzSO, 2014).

Uncertainties:

1) on the part of CzSO in collecting and processing the primary data

CzSO does not explicitly state the uncertainties in the published data. However, the uncertainty differs for the individual groups of data – statistical reports from the individual enterprises (economic units with more than 20 employees); consumption by the population is calculated on the basis of models and reports by suppliers of network energy (gas, electricity), production of the individual kinds of fuels (especially automotive fuels) and customs reports (imports, exports); the remainder is calculated so that the fuel consumption is balanced. Each step is accompanied by a different level of uncertainty. Overall the uncertainty in Natural Gas activity data should be lower than uncertainty of Solid Fuels activity data since the Natural Gas is measured more accurately in comparison to for instance coal.

Uncertainties also arise during data processing. CzSO obtains data in mass units – tons per year (1st level of uncertainty). The resultant balance is expressed in energy units – TJ p.a. Recalculation from mass units to energy units must be performed using the fuel calorific value. The determination of these values is