

Comments and methodical explanatory notes (indicators contents)

Primary energy sources, in 2014, decreased by 3.6 % in comparison with the previous year. Repeatedly the primary sources level of solid fuels decreased, primary sources of liquid fuels increased by 4.4 % and, primary sources of gaseous fuels decreased significantly (by 15.4 %). The primary sources structure has not changed much – small reduction of solid fuels share was absorbed by increased share of liquid fuels. The GDP in 2014 increased by 1.98 % (in constant prices of 2010) and the indicator of energy intensity (ratio of primary energy sources and GDP) decreased in 2014 in comparison with 2013 by 5.46 % (from 0.444 GJ/thous.CZK to 0.419 GJ/thous.CZK (both in constant prices of 2010)).

The foreign trade with electricity concerning imports and exports increased, imports more noticeably - (by 12 %). By this the mutual proportion of electricity exports and imports lowered to 2.38 – which means that export exceeded the import 2.38 times. In 2010, electricity exports exceeded its imports 3.25 times. In 2014, the balance of imports and exports amounted to “only” 16 300 GWh.

Energy sources, extracted in the Czech Republic and imported into the Czech Republic are, for the most part, upgraded (from about 86 % in 2014 – quotient of input and primary sources) in order to improve or change their utility value for their utilization in the final consumption. In addition to electric and heat energy production there are concerned further methods for fuels upgrading, especially crude oil processing and hard coal coking. In 2014, crude oil products participated in total upgraded/improved fuels production (without electricity and heat production) with 70.4 % and coking products with 20.6 %.

Production in transformation energy processes in 2014 in comparison with 2013 increased by 3.1 % (by 27 395 TJ). The highest increase in production was in process of crude oil processing (by 11.3 %, 33 184 TJ) and the highest decrease in heat generation (by 4.4 %, 7 495 TJ).

Fuels and energy input in 2014 was higher than in 2013 by 2.3 %. This input decreased by 0.5 % at electricity production, by 4.5 % at heat production and increased by 10.6 % at fuels upgrading processes.

Average efficiency of transformation processes in 2014 slightly increased in comparison with 2013 from 59.9 % to 60.5 %.

Energy processes for fuels upgrading - these are productive activities, whose results is enhancement, let us say change of utility value of energy matters (fuels), that pass through them. Under energy processes in an energy balance there are considered only those processes in which on the one hand a fuel charge/input and on the other hand production/output from processes (utilizable products) and losses on the charge/input are qualified by means of a balance form.

In these processes there occur, as a rule, substantial chemical and physical changes in charged fuels and energy. The report/questionnaire EP 8-01 ascertains data concerning energy balance indicators of the following energy processes:

- high-temperature carbonization in coking plants
- gasification under pressure of coal
- liquid fuels production from crude oil
- generator gas/gas works gas production in industrial coal gasification plants

(gasification in industrial generating stations)
- blast-furnace process

Data for electric and heat energy balance compilation are surveyed by the statistical statement EP 10-01 and are presented in the second part of this publication.

Primary energy sources – *fuels and energy sources gained directly, which did not pass through upgrading processes, i.e. natural resources (indigenous production of fuel, biomass, biofuels in petroleum fuels, biogases, electricity from hydroelectric, wind and solar photovoltaic power plants, primary heat - heat from nuclear fuel), fuels and energy imports decreased by their exports, stock level change and other sources.*

Charge/Input - *represents fuels (energy) that directly enter into energy process where they are processed in order to improve their utility value (e.g. lignite for patent fuels production, crude oil for liquid fuels production, and so on.).*

Production (utilizable products) - *all energy and non-energy products which originate in an energy process.*

Working consumption - *it is the total fuel and energy consumption expended on an energy process operation, i.e. on obtaining utilizable products of the energy process.*

Total losses in the energy process – *they are defined as a difference between charge including working consumption and production.*

Stock draw (+), stock build (-) - *fuels stock level designed for sale (at mining, production and business enterprises), for enterprises (companies) production and operation.*

Stocks draw is the difference between opening (on the 1st of January of the observed year) and closing stocks level (on the 31st of December of the observed year).

Energy process efficiency - *quotient of production and sum of the charge/input and working consumption of the relevant energy process.*