

Comments and methodical explanatory notes (indicators contents)

Primary energy sources, in 2010, achieved growth in comparison with the previous year by 5.3 %. Primary sources of all fuels and heat increased, only primary sources of electricity showed a drop. Interannual growth of GDP in 2010 was only 2.3 % - for that reasons the indicator of energy intensity (demandingness), ratio of primary energy sources and GDP, is higher than in 2009: 0.613 GJ/thous.CZK (in constant prices of 2000). In 2009, this indicator equalled to 0.596 GJ/thous.CZK (in constant prices of 2000).

As for the primary energy sources structure in 2010 there were almost no changes – only the share of gaseous fuels increased by 1.7 % at the cost of other items. The foreign trade with electricity concerning imports and exports decreased but imports noticeably therefore mutual proportion of electricity exports and imports are historically at the highest level. Electricity exports exceed its imports more than three times (3.25 times).

Energy sources, extracted in the Czech Republic and imported into the Czech Republic are, for the most part, upgraded (from about 83 % in 2010) 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 2010, crude oil products participated in total upgraded/improved fuels production (without electricity and heat production) with 70.9 % and coking products with 19.6 %.

Production in transformation energy processes in 2010 in comparison with 2009 increased by 7.6 % (by 68 610 TJ). Only BKB production decreased (by 15.4 %) and then in the second half of 2010 closed down. The greatest growth of production was achieved in process of crude oil processing (by 9.4%, 29 345 TJ), blast-furnace gas production in blast furnaces (by 17%, 3 176 TJ) and heat production (by 10.9 %, 18 568 TJ).

Fuels and energy input in 2010 was higher than in 2009 by 4.5 %. This growth equalled to 4.7% at heat production, 2.5 % at electricity production and 7.8 % at fuels upgrading processes

Average efficiency of transformation processes in 2010 increased in comparison with 2009 from 58.8 % to 60.7 %. Production efficiency in gasification under pressure of coal process increased the most of all (by 6.4 %) and in heat production (by 4.3 %). In 2010, production efficiency in other processes remained at the similar level as in 2009.

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:

- brown coal briquetting
- high-temperature carbonization in coking plants
- gasification under pressure of coal
- liquid fuels production from crude oil
- gas works gas/generator 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 report/questionnaire EP 10-01 and are presented in second part of this publication.

Primary energy sources - fuels energy sources gained directly, which did not pass through upgrading processes, i.e. natural resources (indigenous production of fuel, electricity from hydroelectric 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 a 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 are defined as a difference between charge including working consumption and production.

Suppliers stock/supplies - fuels stock level designed for sale (at mining, production and business enterprises).

Consumers stock/supplies - fuels stock level designed for enterprises (companies) production and operation. Stock draw is the difference between opening (on the 1st of January of the observed year) and closing stock 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.