Comments and methodical explanatory notes (indicators contents)

Primary energy sources, in 2007, were on the same level as in 2006 (1 879 PJ). Considering that economic growth continued also in 2007 (GDP in 2007 in comparison with 2006 increased by roughly 6.6%), the indicator of energy intensity (demandingness), i.e. ratio of primary energy sources and GDP, reached again its lower value than in previous year: 0.628 GJ/thous. CZK (in constant prices of 2000). In 2006, this indicator equalled to 0.669 GJ/thous. CZK (in constant prices of 2000).

As for the primary energy sources structure it has not gone through significant changes in 2007 – their steadily almost half consists of solid fuels (49.7%), the share of primary heat has been stabilized on c. 15%. As for the electricity foreign trade the exports exceeded the imports more than 2.5 times in 2007 and reached 26.4 TWh (growth by 9.5% in comparison with 2006). It also means that 30% of generated electricity was exported.

Energy sources, extracted in the Czech Republic and imported into the Czech Republic are, for the most part, upgraded (c. 85 % in 2007) 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 2007, crude oil products participated in total upgraded/improved fuels production (without electricity and heat production) with 64.4 % and coking products with 24.4 %.

Production in transformation energy processes in 2007 in comparison with 2006 increased by c. 2.7 % (by 26 983 TJ). There decreased production in all transformation processes with the exception of electricity, blast furnace gas and gas works gas (producer gas) production. In absolute values, this decrease is the most important in crude oil processing (19 515 TJ), and heat production (13 869 TJ). Electricity production increased by 15 195 TJ.

Fuels and energy input in 2007 was higher than in 2006 by 0.5 %. It increased, in the first place, at electricity generation (by 5,4 %). Input for heat generation decreased by 5,0 % and input for fuels upgrading decreased by 4.6 %.

Average efficiency of transformation processes in 2007 decreased in comparison with 2006 by 1.8 %. Efficiency in gasification under pressure of coal process decreased the most of all (by 2.6%) and in brown coal briquetting (by 2.2%) where this production also considerably decreased (by 25.6%). Moderate growth of efficiency was achieved only at gas works gas (producer gas) production (by 0.5%).

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:

- 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)

The energy balance of the blast-furnace gas production (blast-furnace process) is composed from the report/questionnaire EP 7-01 data, 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.