

## **Abstract**

This paper, as literature retrieval, evaluates progressive trends in development of technologies for energetic use of fossil fuels. The introduction is focused on reasons for increase of energetic efficiency of combustion processes, especially reasons for using of fossil fuels and their consumption over the world and in Czech Republic. Next chapter focuses on mainly used fossil fuels, which means coal, crude oil and its derivatives and natural gas. Those are evaluated in term of quality and historical progress, too. Fundamental chapter analyses particular improvements but also complex technologies used in energetic, for example using of gas turbines, assets of Kalina cycle, complex technology of Integrated Gasification Combined Cycle (IGCC), combined heat and power production (CHP), combined cycle gas turbine (CCGT) or pressurised fluid bed combustion (PFBC).