Short-term forecasts of fuels consumption in the analysis of energy security

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Abstract — **Energy security is the main goal of almost all of documents in the energy sector. The monitoring 46 indicators of energy security is based on the annually replenished database to calculate indicators. Fuel consumption indicators are grouped in the separate block. Forecasting is based on values of fuels consumption for time series and used extrapolation growth factors CAGR. Pollutant emissions are additional area that can be analyzed through the built-up forecasts of fuel consumption. In this paper attention is paid to the analysis of 25 pollutants under the list of EMEP-2016. There are many recommendations on expanding the use of biomass instead of coal and gas. Almost the whole biomass is burned in the residual sector. Biofuels is practically the only available energy resource in the country. The calculations allow to do conclusions: 1)The replacement of natural gas with biomass adduce to the growth of all pollutants;2) The replacement of coal with biomass decreases emissions for 13 pollutants, but increases emissions for the other 8 substances (TSP, PM10, PM2,5, BC, Cd, Cr, Zn, HCB);3) Recommendations for the expanded use of biomass and the replacement of coal and natural gas should be reviewed**.

Keywords—**energy security; predicting; energy balance; biomass; emissions; pollutants.**

REFERENCES

[1]. Energy Balances 2010-2015, www,statistica.md