

The gasification of the mixture of digestate and wood in an atmospheric fluidized gasifier

MILČÁK Pavel^{1, a *}, BALÁŠ Marek^{1, b}, LISÝ Martin^{1, c}, KRACÍK Petr^{1, d},
VAVŘÍKOVÁ Petra^{1, e} ELBL Patrik^{1, f}

¹Energy Institute – Department of Power Engineering, Faculty of Mechanical Engineering, Brno University of Technology, Technická 2, 602 00 Brno, Czech Republic

^a pavel.milcak@vutbr.cz, ^b balas.m@fme.vutbr.cz, ^c lisy@fme.vutbr.cz, ^d kracik@fme.vutbr.cz,
^e petra.vavrikova@vutbr.cz, ^f patrik.elbl@vutbr.cz,

Keywords: gasification, digestate, wood, tar, fluidized gasifier

Abstract.

The paper summarizes the results of the research of the gasification of the digestate mixture from the biogas station and along with wood. The gasification has taken place in an atmospheric fluid gasifier, where air and a mixture of air and water steam were gasifying media. During the experiments the behavior of fuel mixtures in the gasifier was investigated, the composition of the produced gas generator and the amount of tar in the gas were analyzed. In the framework of the evaluation of the measured data, the mass and energy balances of the process were carried out.

Acknowledgement

This work was supported by the Ministry of Education, Youth and Sports of the Czech Republic under OP RDE grant number CZ.02.1.01/0.0/0.0/16_019/0000753 “Research centre for low-carbon energy technologies” and project TH02030120 “ Thermal processing of remains of dry fermentation”