



ASSESSMENT OF THE MOST SUITABLE TECHNICAL SOLUTIONS FOR ENERGY PRODUCTION FROM BIOMASS IN UKRAINE

V. O. Antonenko, E. M. Olyinik

*Scientific Engineering Centre Biomass
Zheliabova str. 2A, 03067 – Ukraine*

ABSTRACT

Solid biofuels that are currently produced in Ukraine: firewood, wood chips produced from various illiquid wood (or wood cutting and cutting health care for the forest, shelterwood waste, etc.), wood chips produced from wood industry wastes, biofuels produced from energy crops, pellets and briquettes from sawdust as well as from chips of different origins.

About 4 million dense. m³ of firewood produced in Ukraine every year: in Kiev oblast - 350 thousand m³ and 1200 thousand m³ in adjacent regions (Chernihiv, Cherkasy, Vinnytsia, region of Zhytomyr). Most of the firewood is consumed by the population for heating.

In 2010 in Ukraine, the volume of liquid timber harvesting was 16 146 thousand m³. It includes the procurement of major harvesting (7,239 thousand dense m³) and procurement of logging-related forest management, other logging and forestry clearing (8,907 thousand dense m³). Large quantities of waste are produced in the course of these kinds of cut. These residues remain on the felling area and their volume is 595.1 thousand m³.

Currently the most common technologies for production of heat from biomass that can be applied in Ukraine are the direct combustion technologies using different types of boiler grates, burning with the low-side entrance of fuel, combustion in fluidized and circulating fluidized bed, pulverized fuel combustion. Typically, the choice of this or that technology is dependent on the characteristics of biomass. For combined heat and power generation, the incineration method should ensure the reliable production of heat energy with required parameters, which ultimately must be guaranteed by the manufacturer of the boiler equipment.

Keywords: biomass, heat energy, boiler, combustion