

Thesis Title Potential for Biomass Production and Utilization
 from Crop Residues in Thailand : A Case Study
 of Crop Residues from Rice and Sugarcane

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ABSTRACT

The study of potential for biomass and utilization from crop residues in Thailand was established by using the techniques of energy system analysis and system dynamics approach to gain insights into system behavior including the interrelated factors that influence the change of system behavior. According to the purpose of study, crop residues from Rice and Sugarcane was selected to be the cases of study

About 47 million metric tons of crop residues from Rice and 6 million metric tons from Sugarcane are produced yearly in Thailand. Of the crop residues from Sugarcane, 4 million metric tons/year are produced in the Central and 1 million metric tons/year are produced in the Northeast. And crop residues from Rice, 15 million metric tons/year are produced in the Central and 15 million metric tons in the Northeast.

According to the utilization of crop residues from Rice, more than 50 % are combustion in the North, Central and South. But in the Northeast 98 % are fed animals. For Sugarcane, only 2 % are fertilization, 9% ploughing under and 83 % are neglected in the field. This remaining that crop residues from Rice and Sugarcane about 31 million metric tons are available for other useful instead of neglected or combustion in the field. The alternative of potential use as energy source, as useful nutrients for cropping land or use as local renewable source of energy. For the case of use as energy resources, the trend of crop residues production from rice and sugarcane the maximum is 31 million tons in 2009, it will be obtained the energy about 127×10 million kg.cal. This means that 12 thousand tons litres of diesel oil can be saved per year.