

Obtaining Biogas From Animal And Agricultural Energy in Nevsehir City

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Aim of the study: In this study; Nevşehir province's biogas energy production potential has been determined and it has been aimed to draw attention of the public to the importance of biogas usage in our country both in terms of environment and energy.

Material and Methods: In the survey, the number of existing bovine, ovine and poultry animals specified in the Nevşehir Agricultural Master Plan of 2003, and the field crops produced in Nevşehir were calculated according to the potency of the biogas field.

Results: As a result of the research; in the province of Nevşehir, it was determined that a total of 9.540.436,82 m³ / year biogas could be obtained from animal organic matter and agricultural products. Instead of using oil; it was determined that CO₂ emissions of 24.805.135,73 / year would be reduced as a result of the evaluation of this biogas. In Nevşehir, 150.728,4 tons / year fertilizer from cattle, from small cattle; 58.079 tons / year from manure and poultry; and as a total of 223.835,19 tons / year fertilizer, including 15.027,79 tons / year fertilizer, can be obtained. The use of these fertilizers in agriculture will provide both a significant reduction in the use of chemical fertilizers and increased productivity in agriculture. As a result of agricultural products grown in Nevşehir province such as barley, wheat, corn straw and alfalfa, kernels and vetch grasses, it will be possible to obtain a total of about 14.589 m³ of methane gas. Since 1 m³ of methane gas per day is sufficient for cooking a family of five, this potential will meet the need to cook about 14.589 family members a day. In our country, the burning of animal manures in the countryside and the use of energy in the hands of both energy loss and biogas is used as a reason to lose the fertilizer to be gained. Considering the potential of animals and the existence of agricultural land in our country; it is obvious that the dissemination of biogas plants, particularly in rural areas, will provide great benefits in terms of sustainable ecological balance and economic gain and clean energy efficiency.

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