

Integrated biogas production from energy crops



Thailand promotes integrated biogas production from energy crops, emphasizing on Napier grass which generate 70-120 cubic meters of gas per ton

The Ministry of Energy has promoted biogas production in the industrial sectors --especially in tapioca, palm oil, ethanol, processed foods, and livestock farms--, using wastes from farms, industrial and processed foods plants, as well as biomass and agricultural wastes. However, biogas production from wastes is still unable to catch up with escalating power demand.

Therefore, the Department of Alternative Energy Development and Efficiency has to develop energy crop as another raw material alternative. At present, fast-growing grasses, such as Napier or Bana, have been used as alternatives for biogas production. These crops have high composition of organic substances, including carbohydrate, fat, and protein, which would be used in anaerobic fermentation process to adjust balance between foods and microorganisms within the system. Each rai of land can produce as much as 80 tons of Napier grass and each ton of grass can generate 70-120 cubic meters of biogas. Thus, Napier grass is essential to biogas development in Thailand.

The Department has studied areas with good potential such as self-developed estates, unexploited land, or other areas, as well as gathered research and development studies on biogas production from energy crop in Thailand and in other countries. It also conducted comparative studies of no less than five energy crops with biogas production potential and identified appropriate biogas production technology for each potential crop. These information were combined with DEDE's own

and arranged in systematic way to connect all data bases related to the matter as well as providing recommendation on integrated biogas production from energy crops.

More promotion of integrated biogas production from energy crops in Thailand would help reducing fossil fuel usage. As Thailand is an expert in agricultural sector, it could enjoy great benefits from using energy crops to produce biogas.