

Focus group report: Biogas, biofuels, waste and transport

The discussions focused mainly on biogas and biodiesel as options for Botswana. A Swedish representative from Ageratec presented their turn-key plants of various sizes to make biodiesel from vegetable oils. Botswana, through the Department of Energy, is in the process of a procurement to produce 50 000 m³ per year from tentatively Jathropa and a 10 percent blend-in quota obligation for 2016 is planned. There is currently only one biodiesel plant in Botswana, this one using waste cooking oil. An ongoing project for making biogas from waste in Lusaka was also presented. As an alternative to anaerobic digestion for biogas a high temperature, relatively small scale, thermal gasification technology was also presented. This technology can handle feedstock which is not suitable for digestion. The Department of Energy is developing a biogas project in Mabesekwa which will use cow dung. There is also a private initiative that plans a 1 MW biogas project using municipal solid waste. In addition, there are two small scale private biogas plants, one in a hotel using mainly food waste, and one at a chicken farm using litter. The synergies between biogas and biodiesel were emphasised. Feedstock for biodiesel generates organic waste suitable for biogas and the biodiesel production generates glycerol as a by-product which in lack of a higher value market (e.g., for making soap) is well suited for boosting biogas production as a substrate.

Biogas projects are relatively small in size and would be suitable for bundling or programmatic CDM, or possibly the voluntary carbon market. With a few plants already in place the technology has already been demonstrated in Botswana. Experiences from other countries show that biogas projects often require considerable coordination between actors: suppliers of substrate, users of the digestate (as fertilizer and soil conditioner), and users of the gas. A potential user in urban areas is local vehicle fleets such as buses. Biogas can be an important cooking fuel in rural villages. However, it appears difficult to earn emission credits from a 10% biodiesel quota policy in the current CDM regime unless it can be repackaged as projects in some way.

Contacts were established between technology suppliers and consultants and potential business partners from Botswana. There is a need for more cooperation and coordination between the Department of Energy and the Department of Waste, and the Botswana Meat Commission (since slaughterhouse waste is an excellent substrate for biogas). A suitable agent and entrepreneur that can facilitate coordination is needed and seed funding for such an effort seems to be available from Swedish or Nordic development aid and financing institutions.