Technology Fact Sheet for Mitigation

Technology	Description	Benefits	Challenges
Bioethanol from maize [i]	1st generation bioethanol, also known as carbohydrate ethanol, can be produced from starch based crops such as maize. Unlike bioethanol from sugar based stocks, bioethanol production from this feedstock requires an additional process hydrolysis process to convert into sugar and this requires additional investment. Production costs from maize in the region have been estimated under regional conditions to be 60 US$ cents/litre. Land requirements, to produce 50,000 tonnes of bioethanol per annum from maize requires 24,000 ha of land.	Social, economic and environmental development opportunities include: job creation in the agriculture and forestry sectors, Job creation in the industrial sector; increasing farm incomes; increasing energy security by producing and using biofuels locally, thus reducing the dependence on imported fossil oil; saving foreign currency by displacing fossil oil imports; earning foreign currency by producing biofuels for export; diversifying the industrial sector; GHG savings: most biofuels offer a net GHG savings compared to fossil fuels.	The challenge for bioethanol from maize is relatively higher than that from ethanol and requires subsides for its implementation. It also competes with food since maize is used as a staple food for African countries.

[i] **This fact sheet has been extracted from TNA Report – Technology Needs Assessment and Technology Action Plans For Climate Change Mitigation– Zambia. You can access the complete report from the TNA project website http://tech-action.org/**