

Technology Fact Sheet for Mitigation

Technology	Description	Benefits	Challenges
Ethanol (gel fuel) ⁱ	Alcohol burning stoves based on ethanol can be used for cooking, water heating and heating of buildings. The technology can be applied in households, institutions (e.g. schools), industries where it is used for boiler heating and in catering industry where it is used for keeping food warm. Ethanol is produced from sugar plants or other sources of biomass. An ethanol gel stove could cost between USD 2 and USD 20 per unit and the fuel cost would be USD 0.30-0.70/litre of ethanol. Five litres of gel costs about \$9.70 and paraffin costs approximately \$3.55 for the same amount. A two-plate stove sells for R160 (approx. \$25 USD) and a lamp for R50 (around \$8) in South Africa.	An advantage of the technologies is that ethanol burning does not have the air pollution problems of simple biomass burning for cooking purposes. As ethanol provides a higher heat flux with no soot or smoke, cooking and hot water production can take place faster and pollution free. The greenhouse gas emission reduction contribution from ethanol cook stoves depends on the feedstock used for the ethanol, the distance from feedstock location to ethanol production, and what it replaces.	The challenge lies in the source of production of gel fuel since it requires initially to produce to produce ethanol which is mixed with a gel and currently there are no small scale ethanol production systems

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/>