TECHNOLOGY FACTSHEET

ETHANOL COOK STOVE [1]

1. **Sector/ Sub Sector:** Industry and household

2. **Introduction:** 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 and industries where it is used for boiler heating. Ethanol is produced from sugar plants or other sources of biomass

3. **Technology Name: Ethanol Cook stove**

4. **Technology Characteristics:** 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. Ethanol is an alcohol that is produced by fermentation of sugars from various crops, such as maize, sorghum, wheat, cassava and sugarcane. It can be used for different energy applications varying from boiler heating in industries to water heating and cooking. This description focuses on the latter service. Improved biomass cook stoves can aim for 30% efficiency and reduces the amount of wood fuel used and thus decreases pollutant emissions.

5. **Country Specific Applicability:** Technology is applicable in Sri Lanka

6. **Status of the technology in the country and its future market potential**: Technology is not available in Sri Lanka at commercial level. There is a high potential for this type of renewable energy applications in the future

7. **Barriers:** Initial investment for cook stove and ethanol production facility and constant supply

8. **Benefits:** Smart fuel source and lesser environmental impacts

9. **Operations:** -

10. **Costs:** 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. The 'CookSafe' stove can boil a litre of water in

[1] **This fact sheet has been extracted from TNA Report – Mitigation for Sri Lanka. You can access the complete report from the TNA project website** http://tech-action.org/

eleven minutes, and a litre of ethanol can last between eleven and thirteen hours of burn time. The NARI stove was estimated to cost Rs 800 to 1000 (between €12 and €15) if mass produced. The Superblu stove from Malawi claims that it costs approximately 2.5 Malawi Kwacha (MK) an hour (around € 0.014) to cook on this stove while it costs around € 0.14 an hour with charcoal and MK15 (€ 0.12) an hour with paraffin.