Technology Fact Sheet

Efficient Wood Stoves [i]

1) **Sector:** Energy Supply

2) **Subsector:** Renewable Energy

3) **Technology Name:** Efficient Wood Stoves

4) **Scale:** Large scale (applicable only in rural areas)

5) **Availability:** Short term

6) **Technology to be included in prioritization (mandatory inf.):** Yes

7) **Background/notes (short description of the technology option)**

Currently about 60% of families in rural areas use inefficient stoves. Intensive consumption of wood resources leads to deforestation and deficit of wood in some regions.

Replacement of inefficient wood stoves with efficient ones provides saving on wood fuel that can reduce deforestation. Efficient (80% efficiency) stoves require up to 4 times less wood logs per heating season. Leveled cost of energy in such stoves is the lowest. This creates an incentive for people not to switch to gas for heating and helps to avoid increase in CO_2 - emissions. Additionally, this stove is more comforTable1. and safe that can reduce number of accidents. It burns wood more effectively, so the amount of dangerous particles that might be released is reduced.

8) **Implementation assumptions (how the technology will be implemented and diffused across the sub-sector)**

Information campaign is needed prior to implementation of efficient wood stoves to inform people of all benefits that the stove can bring. Additionally, incentive campaigns are needed, such as loan schemes to help people to finance purchase of efficient stoves and to assist producers of stoves, assist market development through providing training, tax incentive schemes, grants, etc.

9) **Reduction in GHG emissions over 10 years:** Estimated reduction of GHG emissions over the 10 year period is 2.9mln tones of CO_2.

10) **Impact statements**

- **Country social development priorities:** The project directly benefits individual households through installation of efficient stoves which will result in energy savings and lower expenditures, and contribute to national objectives to reduce poverty and deforestation.

- **Country economic development priorities:** Sustainable economic development, rural development. Implementation of efficient stoves can assist rural development

through job creation, cost-saving for low-income rural residents, and prevent migration of people from villages.

- **Country environmental development priorities:** The major benefit of energy-efficient wood stoves is reduction in consumption of wood. In addition, use of such stoves lead to cost-savings for the consumer over the life-cycle of the appliance, and improve local air quality

- **Other consideration and priorities such as market potential:** This technology is proven and available in Georgia. The market is undeveloped and production is low-scale. The market can be considerably improved if enabling environment is in place (awareness, financial incentive, policy and regulation, etc.).

11) Costs (US$)

- **Capital costs over 10 years:** The cost of an efficient wood stove varies according to design features and materials used. It ranges within 150-180$. Since more than 100 000 families use inefficient stoves, cost of implementation of efficient ones can be 15 000 000-18 000 000 $ over 10 years. Lifetime of quality stoves exceeds 10 years.

- **Operational costs over 10 years:** This measure saves the fuel costs to consumers compared to current usage of inefficient stoves. Thus the effect on operation costs is positive.

- **Other costs over 10 years:** N/A

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