Technology Fact Sheet

Compressed Natural Gas in Transport[i]

1) **Sector:** Energy

2) **Subsector:** Transport

3) **Technology Name:** Compressed Natural Gas in Transport

4) **Scale:** Large scale

5) **Availability:** Short term

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

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

Currently majority of vehicles are powered by gasoline which led to air pollution. Estimated sub sector GHG emissions (mega tons of CO2 equivalent) is 1400 Gg1- CO_2 . Moreover, increased gasoline prices caused higher expenditures on fuel which creates incentive to switch to alternative type of fuel.

The Well-to-Wheel CO2 emission of a natural gas powered vehicle are about 25% lower than from a gasoline powered passenger car. The existing gasoline vehicles can be converted to dual fuel burning vehicle and the cost of travel at current prices is about 25% of the cost of travel with gasoline.

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

Technology is already highly cost effective for high mobility vehicles. There is a clear trend in switching to gas – especially in view of recent fuel cost increases. The main obstacles are concern about safety of the technology and relative scarcity of filling stations. Accelerated dissemination of the technology can be achieved through:

- Measures for safety assurance
- Information campaign for potential users
- Land allocation for gas filling stations in the central districts of cities. Additional benefits can be achieved through the development of compressor manufacturing in GTU and gas tank manufacturing.

9) **Impact statements**

- **Country social development priorities:** The project provides additional employment opportunities, improves transport availability for low income part of society.

- **Country economic development priorities:** Sustainable economic development, poverty reduction. Implementation of compressed natural gas in transport assists

[1] Own estimate based on NCCC2

economic development through promotion of mobility, local manufacturing of tanks and compressors and jobs creation.

- **Country environmental development priorities:** The major benefit of compressed natural gas in transport is reduction in local air pollution. Estimated reduction in GHG emissions is 1.2 mln tons or 1000Gg.

- **Other consideration and priorities such as market potential:** It is assumed that at least 24% of vehicles will switch to compressed gas until 2020. The market can be considerably increased if enabling environment is in place (awareness, information, policy and regulation, etc.). Some gasoline discouragement actions may be in place as well.

10) Costs (US$)

- **Capital costs over 10 years:** Cost of converting the vehicles is born by consumers, station costs by businesses. Only state contribution needed is safety assurance, promotion and land allocation for gas filling stations. Estimated capital cost is 4.5 mln USD for the state and 19.5 mln for private sector.

- **Operational costs over 10 years:** There are no additional operation costs for vehicles. Operational and maintenance costs are reduced compared to gasoline vehicles. The estimated running cost of inspection and quality assurance is 3.5 mln over 10 years.

- **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/**