Technology Fact Sheet

Building Thermal Insulation[i]

1) **Sector:** Energy Efficiency

2) **Subsector:** Buildings

3) **Technology Name:** Building Thermal Insulation

4) **Scale:** Large scale

5) **Availability:** Short term

6) **Technology to be included in prioritization (mandatory inf.):** No

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

Soviet heritage of a high percentage of residential and office buildings with extremely poor thermal resistance has been further aggravated by post independence practice of cheap construction with complete neglect of energy performance of the buildings. Now more than half of Georgia's residential block buildings has bad or very bad energy performance (with thermal resistance as low as 0.5 m^2K/W). This causes excessive energy losses, increased dependence on imported energy and outflow of money that otherwise might be involved in country economic activity. Due to poor thermal resistance of walls the interior of same buildings is affected by excessive heat in summer and requires substantial cooling to create comfortable conditions. This building stock will continue to cause huge losses unless adequate organizational and technical solution will be found for building thermal insulation.

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

There are several technologies for building insulation provided by international vendors. The most common technology is to cover the old buildings with insulation boards attaching them to external walls cover with support nets, plaster and paint. This improves the exterior appearance of buildings as well.

State program for old building stock, helps in community mobilization, municipal co-financing and long term cheap loans need to be involved to make this technology affordable. Local production of insulation materials needs to be developed.

9) **Impact statements**

- **Social development priorities:** Implementation of building thermal insulation is directly related to higher employment, reduced energy bills and improved living conditions, especially for vulnerable population.

- **Economic development priorities:** Since there is a large stock of thermally inefficient buildings, their insulation can be related to significant economic activity, reduction of energy dependence, sustainable economic development and poverty reduction.

- **Environmental development priorities:** This technology can significantly reduce natural gas burning for heating and improve the quality of air in apartments and neighborhoods. The hazards related to natural gas use will be reduced and exterior of buildings will be improved.

10) Costs (US$)

- **Capital costs over 10 years:** 55-75GEL/ m2
- **Operational costs over 10 years:** N/A
- **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/**