



Alternative energy and energy efficient technologies to make affordable clean energy for high mountainous settlements

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SUSTAINABLE DEVELOPMENT GOAL 7 - Ensure access to affordable, reliable, sustainable and modern energy for all

Georgia has obligation to meet the following targets:

7.1 By 2030, ensure universal access to affordable, reliable and modern energy services

7.2 By 2030, increase substantially the share of renewable energy in the global energy mix

7.3 By 2030, double the global rate of improvement in energy efficiency



<https://sustainabledevelopment.un.org/sdg7>



Summary

- To ensure the affordability of electricity, the government of Georgia works in different directions.
- Gasification and electrification of villages in different regions of the country, is one of the major priorities.
- The main goal is to improve living conditions of the population, and protect the forest from uncontrolled cutting and deforestation.



Background

- The work for improving the situation launched in 2012, when four villages were connected to the grid, through the support of the USAID.
- The major works were provided during the period of 2013-2014, when government conducted works in 29 villages.





Strategy

There are about 400 off-grid remote houses in the high mountain regions with no access to electricity, out of which 200 houses are located in 58 villages of Dusheti region and 80% of these 200 houses are located at the border of territory occupied by Russian Federation.

The Government of Georgia has envisaged 350 W PV panel installation for each household, in line with integrating 150 Lt solar hot water facilities.

The project also implies complementary supply with electrical equipment for each house:

- 1 x Refrigerator;
- 1 x Light-Emitting Diode (LED) TV;
- 5 x LED lamps;
- 2 x Sockets for electricity equipment (TV & Refrigerator);
- 1 x Socket for mobile phone charger.





Strategy

We use national standards that are compatible with International Quality Standards (ISO), specifically:

- Solar panels certified to ISO 9001:2008; ISO 14001 and ISO 50001 (energy management systems) standards;
- Refrigerators ISO 9001 (quality management) and ISO 14001 (environmental management) certified;
- LED television certified to ISO 9001 (quality management) and ISO 14001 (environmental management);
- ISO certified LED Lights with ISO 9001 & ISO 14001;
- Electric sockets for electricity equipment with ISO 9001 certificate.





Results and Impact

The complex approach does not only give opportunity of improving living conditions, but also adds more clean energy to the country's energy balance, promote energy efficiency technologies and protects forests from deforestation.



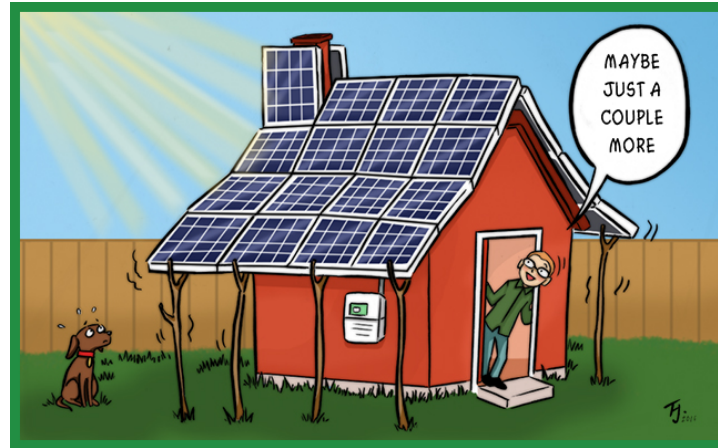
Challenges and Lessons Learned

- To identify the correct target group, which needs to be covered during the first stage of the project implementation.
- Technological and financial unavailability
- Difficult landscape formations
- Identification of correct equipment
- Price of electricity
- Post installation services

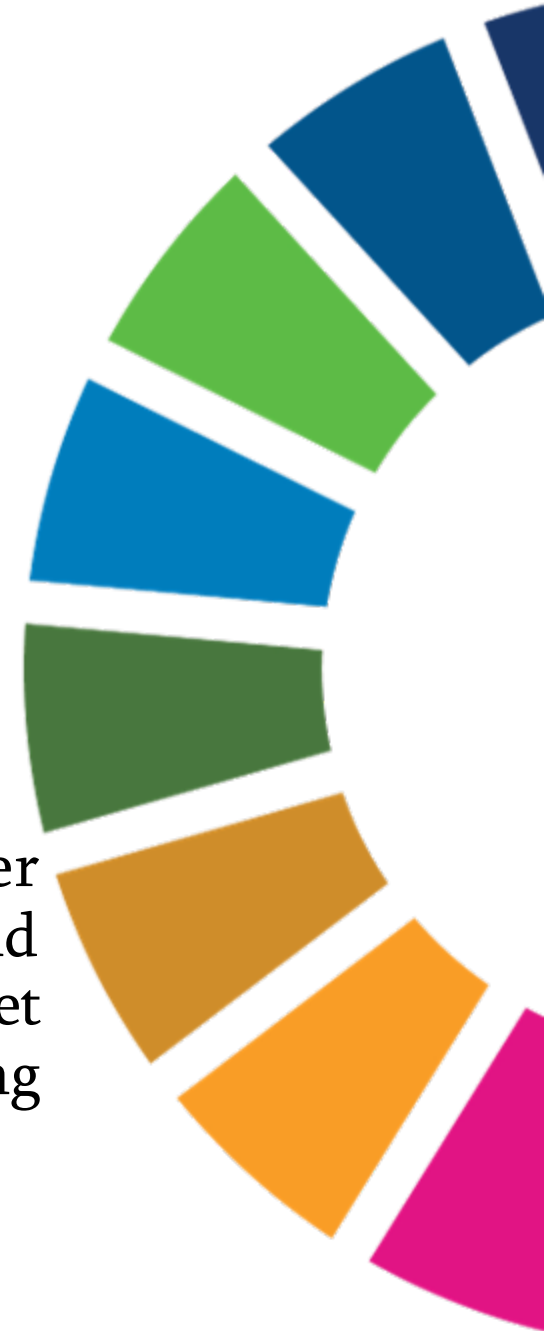




Potential for Replication



This experience gained in Georgia could be replicated in other countries with off-grid villages facing similar challenges and opportunities, where the potential of solar energy is enough to meet essential demand of households, in order to create suitable living conditions.





Thank you for attention!

