

ENERGY EFFICIENCY CENTRE GEORGIA

CDM as Instrument for Industrial Development and Poverty Alleviation in Caucasus"

**Efficient Residential Lighting Project
Tbilisi, Georgia**

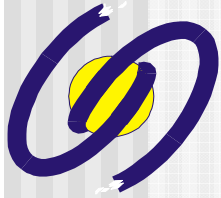
ENERGY EFFICIENCY CENTRE GEORGIA

LIANA GARIBASHVILI

27 March, 2008

Tbilisi, Georgia





ENERGY EFFICIENCY CENTRE GEORGIA

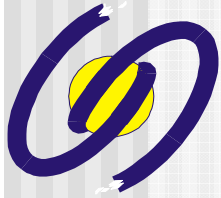
Efficient Residential Lighting Project

Applicant: Energy Efficiency Centre Georgia

Project Location: Tbilisi, Georgia

Applicant background: NGO with main goal to support RE & EE development and as a result improve national energy security level and minimize negative environmental impact. Fields of activities: Development & Implementation of Energy Saving Measures in Buildings, EE and Cleaner production in industry, Development & Implementation of RE projects, Since 2002 involved in Development of CDM projects in Georgia. In 2007 signed ERPA to bundle VERs for 9 hydros.





ENERGY EFFICIENCY CENTRE GEORGIA

Efficient Residential Lighting Project

Project activities:

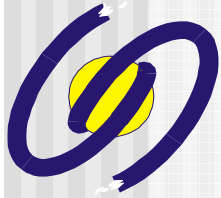
Distribution of the 20 watt CFLs among 51 000 households in 2 densely populated districts of Tbilisi to replace currently used 100 watt standard incandescent bulbs.

Annual savings per household in electricity consumption equal to 438 kWh (30,88 €).

Objective:

The project aims at the reduction of end-user energy consumption and reduction of GHG emissions in residential buildings among the 51000 households in Tbilisi capital of Georgia.





ENERGY EFFICIENCY CENTRE GEORGIA

Efficient Residential Lighting Project

Isani-Samgori
and Gldani –
Nadzaladevi
districts, Tbilisi

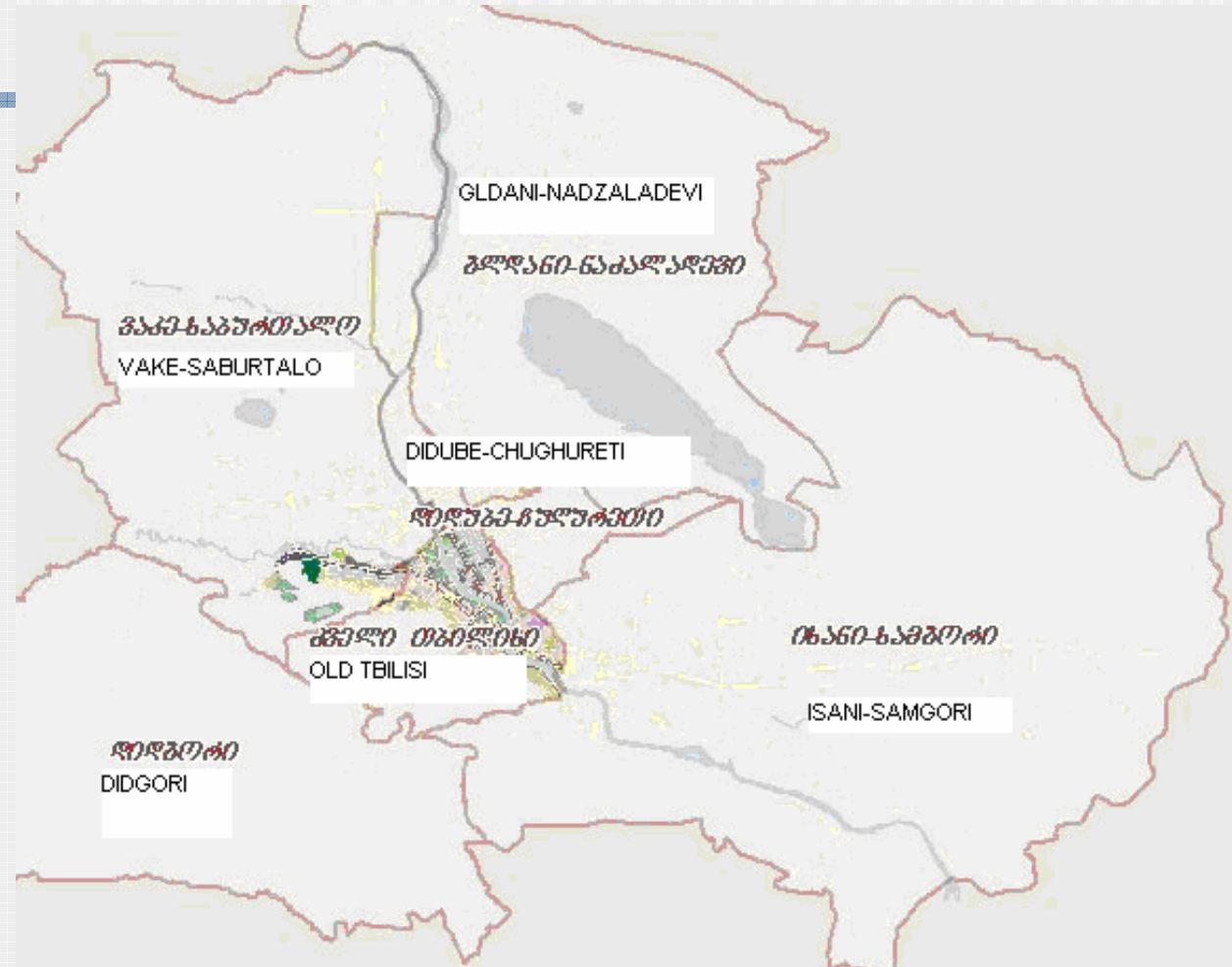
4 settlements

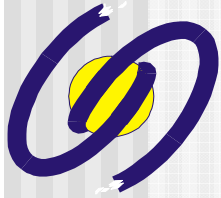
Sanzona- 28,300
households;

Gldani-29,700
households;

Varketili-13,000
households; and

Vazisubani- 8,000
households





ENERGY EFFICIENCY CENTRE GEORGIA

Efficient Residential Lighting Project

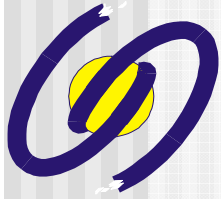
From 79,000 subscribers in the chosen settlements 51,000 will participate in the project

3 100 W standard incandescent bulbs will be changed to 20W compact fluorescent light bulbs.

Average daily time in use – 5hours

Annual savings per household in electricity consumption 438 kWh, CFL bulb lifetime 10,000 (5,5 years)

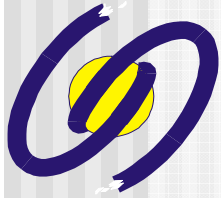




Distribution of CFLs in target areas

<u>CFLs to be distributed per year</u>	Project area 1	Project area 2	Project area 3	Project area 4	Total light bulbs
2008	16,000	18,000	10,000	7,000	51,000
2009	16,000	18,000	10,000	7,000	51,000
2010	16,000	18,000	10,000	7,000	51,000
2011					
2012					
2013					
2014					
2015					
TOTAL	48,000	54,000	30,000	21,000	153,000





Efficient Residential Lighting Project

CERs generated by the project:

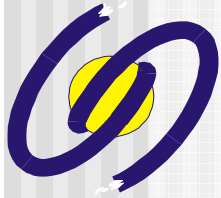
	2009	2010	2011	2012	2013	2014	2015	TOTAL
Emission reduction tCO2	2859	5718	8577	8577	8577	7147	4288	45743

Physical implementation – by stages 2008-2015

Expected date of commencement -2008

Status of the project: PIN (potential gold standard project)



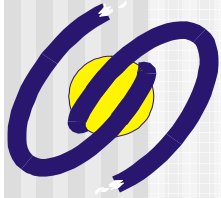


Financial calculations

€	YEAR	2009	2010	2011	2012	2013	2014	2015	TOTAL
CER volumes		2859	5718	8577	8577	8577	7147	4288	45743
CER revenue		34308	68616	102924	102924	102924	85764	51456	548916
CFL costs	-173400	-173400	-173400						-520200
Revenue from sale of bulbs	21848	21848	21848						65544
Project Management	-19246	-24255	-24255	-10195	-10195	-10195	-10195	-10195	-118731
Total expenses	-192646	-197655	-197655	-10195	-10195	-10195	-10195	-10195	-638931
Revenue	-170798	-141499	-107191	92729	92729	92729	75569	41261	-24471

Expected scheme of financing the project: CFLs manufacturers interested in obtaining CERs, international donors.





ENERGY EFFICIENCY CENTRE GEORGIA

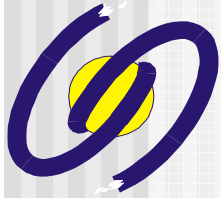
Efficient Residential Lighting Project

Expected contribution to sustainable development:

The project will contribute to the local environmental sustainability since it will decrease the use of electricity generated using the fossil fuels. Therefore the project contributes to the better use of the local natural resources. In addition the project uses clean and efficient technologies. Raised awareness among population on clean energy efficient technologies.

The project will contribute to meeting the Kyoto Protocol goals by helping to reduce GHG emissions.



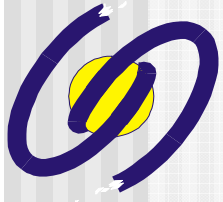


Additionality

A significant barrier to the implementation of this project demonstrate clearly that the proposed CDM project is additional. The major barrier is:

Investment barrier :project needs high investments in comparison to revenue it generates. As the light bulbs will be distributed at a nominal price of 1 GEL each the project will not generate enough revenue to cover operating costs, generated revenue of the CERs is not sufficient to cover the cost of CFL bulbs and project management and operation costs.





ENERGY EFFICIENCY CENTRE GEORGIA

THANK YOU

Tel. 995 32 24 25 40/24 25 41

Fax. 995 32 24 25 42

www.eecgeo.org

