

Georgia: Power Rehabilitation Projects I and II

Ex-post evaluation report

OECD sector	23040/Electrical transmission/distribution	
BMZ project ID	I) 1997 65 868 II) 2000 65 334	
Project executing agency	Georgian State Electric System (GSE)	
Consultant	Fichtner GmbH & Co KG	
Year of ex-post evaluation report	2009	
	Project appraisal (planned)	Ex-post evaluation (actual)
Start of implementation	I) Q 1 1998 II) Q 3 2000	I) Q 3 1998 II) Q 4 2003
Period of implementation	I) 25 months II) 24 months	I) 29 months II) 37 months
Investment costs	I) EUR 7.7 million II) EUR 13.7 million	I) EUR 7.7 million II) EUR 13.7 million
Counterpart contribution	I) EUR 0.3 million II) EUR 0.9 million	I) EUR 0.3 million II) EUR 0.9 million
Finance, of which FC funds	I) EUR 7.4 million II) EUR 12.8 million	I) EUR 7.4 million II) EUR 12.8 million
Other institutions/donors involved	<>	<>
Performance rating	I) 1 II) 1	
• Relevance	I) 1 II) 1	
• Effectiveness	I) 1 II) 1	
• Efficiency	I) 2 II) 2	
• Overarching developmental impacts	I) 1 II) 1	
• Sustainability	I) 3 II) 3	

Brief Description, Overall Objective and Project Objectives with Indicators

The two projects comprised rehabilitation measures in power transmission. Power Rehabilitation Project I primarily involved measures in the Kutaisi and Zestafoni transformer substations with the aim of stabilising power transmission from the hydroelectric power stations in the West to the load centres in the Tbilisi area. Power Rehabilitation Project II entailed rehabilitation measures as part of a parallel-financed Electricity Market Support Project (EMSP) by the World Bank as well as advisory measures (management contractor) and comprehensive sectoral dialogue. The objective of the measure was to make a contribution to improving power supply in Georgia and electricity trade with neighbouring regions and to enhancing the framework for the electricity market and the participation of private actors in the electric power sector by raising the reliability of power transmission. The overall objective of the projects was to contribute to restoring an adequate minimum national supply of electric energy and to economic growth in Georgia. The target group consisted of all consumers connected to the electricity grid.

Expanding power supply remains a priority goal of Georgia's. The aim is to secure supply for its own population but also step up exports to neighbouring countries. As part of the Black Sea energy alliance, the German Federal Government supports this goal. Another concern is to improve regional energy cooperation for the purpose of crisis prevention.

Programme design

The rehabilitated facilities in Power Rehabilitation Project I were commissioned in November 2000. The initial operating problems included insufficient spare parts, in particular for compressors, operatives' problems with handling new electronic protection relays and generally inadequate funds to obtain additional spare parts for preventive maintenance. The additional training of operatives and the supply of spare parts were accounted for in the follow-on Power Rehabilitation Project II. The operational statistics reveal an extremely low fault rate and satisfactory capacity utilisation of the facilities. In the period before evaluation, only one failure was recorded in the transmission line between Zestafoni and Kutaisi. Line capacity utilisation is up to about 70%.

The facilities rehabilitated under Power Rehabilitation Project II were gradually commissioned between November 2006 and January 2007, with considerable reductions in transmission losses and the number of system failures.

The Georgian State Electric System is responsible for the operation and maintenance of the transformer substations. The operatives were thoroughly trained by the management contractor financed by the World Bank, which ensured the transfer of know-how in new technologies. A qualified operation and maintenance team of 14 personnel is located at the Zestafoni transformer substation - the main focus of technical rehabilitation. Sustainable operation and the overall functionality of the system depend heavily, however, on the project executing agency being able to finance regular preventive maintenance of the facilities and the rehabilitation of damage-prone components. We see risks for project sustainability here.

The project executing agency is the Georgia State Electric System, a limited liability company wholly owned by the Georgian Government and under the supervision of the Ministry of Energy and the Enterprise Management Agency. The company bears sole responsibility for national power transmission. It is able today to operate and maintain the power transmission grid.

Key Results of Impact Analysis and Performance Rating

At appraisal of both projects, the macroeconomic assessment pertained to their contribution to maintaining or improving electric power supply and thus laying the foundations for economic growth. Reduced electricity losses and increased income were expected to lessen the need for subsidies from the national budget and have a beneficial impact on fiscal policy. These impacts were achieved by the two projects. Electricity supply has been stabilised and electricity losses curtailed by a large margin. Georgia has been able to achieve good economic growth rates and fiscal policy has benefited, even though the power sector has still not cleared all its debts.

Although not all classes of society have profited from economic growth, poorer sections of the population have also benefited from improved electricity supply. The World Bank estimates that the share of poor households with access to 24-hour power supply rose from 19% to 66% between 2003 and 2006. The projects were geared to achieving a general developmental impact. The projects for improving power supply afforded no scope for contributing to cultural changes in gender relations in Georgia. No direct environmental pollution is evident. The projects were not concerned with participatory development/good governance.

In assessing the developmental efficacy of the two projects, we arrive at the following findings:

Relevance: The development constraint (core problem) was correctly identified and the rehabilitation of central transformer substations for national power supply and its combination with sectoral reforms and financing a management contractor for the project executing agency in the second phase removed a major bottleneck in power supply. The project results chain of paving the way for economic growth by improving power supply is also still valid. The projects conformed with the energy-policy priorities of the Georgian Government and the goals of German development policy. Only through close interaction among the donors, particularly with the World Bank, and intensive sectoral dialogue could the Georgian Government be persuaded to carry out politically difficult adjustment processes. Altogether, we therefore assess project relevance as very good (Subrating 1).

Effectiveness: The project objective indicators had been met in full or exceeded at ex-post evaluation. The rehabilitated facilities operate very smoothly and there are a considerable number of private investors in the electric power sector (over 20). The capacity utilisation of the facilities is high and they make their contribution to more effective transmission (reduction of transmission losses from 16%-22% to 2%). The measures taken by the management contractor for reorganising the project executing agency GSE were very successful, e.g. reduction of about 4,000 personnel to around 1,000 and a current collection efficiency of 100%). The recommendations for proper management made on final inspection are generally complied with. Altogether, we assess the current operational situation as good. We see a certain risk after completion of the management contract that the effects achieved will not last, which we assess under the sustainability criterion. In view of the excellent outcomes, we gauge the effectiveness of both projects as very good (Subrating 1).

Efficiency: The rehabilitation of facilities in line with current priorities makes for an efficient measure to attain project objectives. They were also reached without any great delays (6-12 months). The joint finance of the management contractor by the World Bank and KfW also conform with the recommendations of the Paris Declaration, which calls for better donor harmonisation. Due, however, to political opposition until the beginning of the assignment (March 2003), large delays of 1.5 - 2 years occurred here. National electric power supply has also been made more efficient from a sectoral standpoint. The operational appraisal criteria have largely been met. Above all, the macroeconomic costs are largely, if not fully, covered by the rates. At 2%, the electricity losses in transmission are very small. Heavy losses in distribution remain a critical factor, though. Owing to the deficits in production and distribution, we assess the efficiency of both projects as good, despite the very good results in power transmission (Subrating 2).

Overarching developmental impacts: The overall objective of the projects was to make a contribution to restoring an adequate minimum national supply of electric energy and to economic growth in Georgia.

This overall objective was reached. Besides the technical effects of direct improvements in power supply, considerable changes were effected in the sector. The results also benefit the population, as attested by the increased ratio of poorer households with access to electricity. The significance of secure electric power supply for national stability also became apparent in the winter of 2001, when mass anti-government demonstrations took place during the energy crisis in Tbilisi and in large parts of the rest of the country for the first time since independence. Finally, reliable power transmission is also essential for the planned electricity trade with neighbouring countries. Based on the above considerations, we classify the overarching developmental impacts as very good (Subrating 1).

Sustainability: The financed facilities have been properly operated till now. The finances of the project executing agency have also improved with more resources for maintenance. Some risks jeopardise the future capacity of the project executing agency. The present government has repeatedly avowed its resolve to keep to its market-economy course. In view of the unstable political situation, changes cannot be

ruled out, however. We assess the sustainability of both projects as satisfactory (Subrating 3).

Despite satisfactory sustainability only, due to the very good and good ratings for relevance, effectiveness, efficiency and impact, we accord the projects a performance rating of very good (Rating: 1). Besides the effects achieved, the reason is the cogent approach chosen for engagement in the electricity sector, starting with emergency assistance, then rehabilitation, sectoral reforms and cross-border cooperation, which benefit the population and contribute to political stabilisation in the country. The basic danger of deterioration in difficult countries should not give grounds for a lower rating, as long as there is no tangible indication for this.

General conclusions

Sectoral reforms are a lengthy undertaking that require a sound strategy, ongoing commitment, an adequate scale of inputs and close donor coordination. As the example of the engagement in the Georgian electricity sector shows, it is possible to achieve a very high level of success even in a difficult environment, provided the general political climate allows.

Notes on the methods used to evaluate project success (project rating)

Projects are evaluated on a six-point scale, the criteria being relevance, effectiveness (outcome), “overarching developmental impact” and efficiency. The ratings are also used to arrive at a final assessment of a project’s overall developmental efficacy. The scale is as follows:

- 1 Very good rating that clearly exceeds expectations
- 2 Good rating fully in line with expectations and without any significant shortcomings
- 3 Satisfactory rating – project falls short of expectations but the positive results dominate
- 4 Unsatisfactory rating – significantly below expectations, with negative results dominating despite discernible positive results
- 5 Clearly inadequate rating – despite some positive partial results the negative results clearly dominate
- 6 The project has no positive results or the situation has actually deteriorated

A rating of 1 to 3 is a positive assessment and indicates a successful project while a rating of 4 to 6 is a negative assessment and indicates a project which has no sufficiently positive results.

Sustainability is evaluated according to the following four-point scale:

Sustainability level 1 (very good sustainability)

The developmental efficacy of the project (positive to date) is very likely to continue undiminished or even increase.

Sustainability level 2 (good sustainability)

The developmental efficacy of the project (positive to date) is very likely to decline only minimally but remain positive overall. (This is what can normally be expected.)

Sustainability level 3 (satisfactory sustainability)

The developmental efficacy of the project (positive to date) is very likely to decline significantly but remain positive overall. This rating is also assigned if the sustainability of a

project is considered inadequate up to the time of the ex post evaluation but is very likely to evolve positively so that the project will ultimately achieve positive developmental efficacy.

Sustainability level 4 (inadequate sustainability)

The developmental efficacy of the project is inadequate up to the time of the ex post evaluation and an improvement is very unlikely. This rating is also assigned if the sustainability that has been positively evaluated to date is very likely to deteriorate severely and no longer meet the level 3 criteria.

The overall rating on the six-point scale is compiled from a weighting of all five individual criteria as appropriate to the project in question. A rating of 1 to 3 indicates a “successful” project while a rating of 4 to 6 indicates an “unsuccessful” project. In using (with a project-specific weighting) the five key factors to form a overall rating, it should be noted that a project can generally only be considered developmentally “successful” if the achievement of the project objective (“effectiveness”), the impact on the overall objective (“overarching developmental impact”) and the sustainability are considered at least “satisfactory” (rating 3).