

Ex post evaluation

Improvement of the Bishkek local grid/improving efficiency in the electricity distribution network, Kyrgyz Republic

Title	Improvement of the Bishkek local grid/improving efficiency in the electricity distribution network		
Sector and CRS code	Energy: Electric power transmission and distribution (centralised grids) – 23630		
Project number	2004 66 029 / 2004 70 492 / 2007 65 685 / 2007 70 149		
Commissioned by	Federal Ministry for Economic Cooperation and Development (BMZ)		
Recipient/Implementing agency	Kyrgyz Republic/Joint-stock company Severelectro		
Project volume/financing instrument	2004 66 029: EUR 10,225,837.62 (budget loans)/2004 70 492: EUR 200,000.00 (grant)/2007 65 685: EUR 21,415,958.51 (budget loans)/2007 70 149: 1,800,000.00 (grant)		
Project duration	12/2005 or 12/2007 to 02/2021		
Year of report	2024	Year of random sample	2023

Objectives and project outline

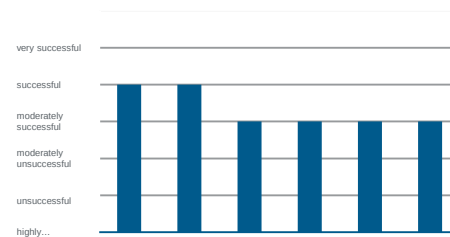
The objective of the two-phase project, which was adapted as part of the evaluation, was to increase efficiency of electricity supply to customers in the supply areas of Severelectro and the successor companies Bishkek Electric Networks Enterprise and Chui Electric Networks Enterprise. At impact level, the goal was to increase the sustainability of the energy supply in selected regions of the Kyrgyz Republic. The project has three components: selected parts of the distribution grid were partially refurbished, modern, smart electricity meters were installed, and a new customer and billing system was to be implemented.

Key findings

The project has had some positive effects. Overall, the project can therefore be rated as moderately successful.

- The project addressed one of the main weaknesses in the Kyrgyz electricity sector, in that it was designed to reduce the technical and commercial losses incurred by the country's largest distribution company.
- The measures were well embedded in the activities of other donors.
- The meter component, in which modern, smart electricity meters were introduced, served as a model for a national roll-out of a meter programme.
- The project's objectives at outcome level were largely achieved. The targets for reducing commercial and technical losses were achieved. Nevertheless, the quality of the electricity supply in the supply area of Severelectro and the successor companies did not improve as expected, as the number of power outages did not decrease as planned, instead had increased at the time of the evaluation. The reasons for this are essentially outside the project's sphere of influence and include a strong increase in demand, insufficient electricity generation and insufficient tariff increases with the associated financial weakness of the executing agency. This has led to a significant backlog in the necessary investments in the electricity grid.
- The handling of old oil-based cables that are no longer required could not be fully assessed as part of the evaluation; any failures with locally limited, negative consequences cannot be ruled out.

Overall rating:
moderately successful



Conclusions

- Approaches to achieving loss reduction, particularly at the level of electricity distribution, often address the core problem in the entire electricity sector of a given country very adequately.
- The financing of several emergency measures in a supply network – as opposed to the complete rehabilitation of only one system component – seems appropriate for securing and improving the electricity supply.
- Precarious financial situations at the implementing agency and/or in the sector as a whole, in particular due to non-cost-covering tariffs, entail a high risk for the sustainability of the impacts achieved.

Ex post evaluation – Rating according to OECD-DAC criteria

Overview of sub-ratings

Phase	Phase I	Phase II
Relevance	2	2
Coherence	2	2
Effectiveness	3	3
Efficiency	3	3
Impact	3	3
Sustainability	3	3
Overall rating:	3	3

List of abbreviations

BENE	Bishkek Electric Networks Enterprise
BMZ	German Federal Ministry for Economic Cooperation and Development
CENE	Chui Electric Networks Enterprise
DAC	Development Assistance Committee
DC	Development cooperation
DFID	UK Department for International Development
EPE	Ex post evaluation
EUR	euro
FC	Financial cooperation
FC E	FC evaluation
GDP	Gross domestic product
GWh	Gigawatt hours
HDI	Human Development Index
IEA	International Energy Agency
JSC	Joint stock company
kV	Kilovolt
kWh	kilowatt hour
MDG	Millennium Development Goals
MW	Megawatt
MWh	Megawatt hours
NDCs	Nationally Determined Contributions
NEGK	National Electric Grid of Kyrgyzstan
OECD	Organisation for Economic Co-operation and Development
OPK	Operational appraisal criteria
PA	Project appraisal
PAR	Project appraisal report
PCR	Project completion report
PP	Project proposal
SDGs	Sustainable Development Goals
SECO	Swiss State Secretariat for Economic Affairs
TC	Technical cooperation
TWh	Terawatt hours
UNFCCC	United Nations Framework Convention on Climate Change
USAID	United States Agency for International Development
USD	US dollar

Overall context and classification of the project

The electricity generation capacity installed in the Kyrgyz Republic was around 3,900 megawatts (MW) in 2021. Around 86 % of this was attributable to seven larger hydroelectric power plants and around 14 % to several smaller ones. Domestic generation of around 15.1 terawatt hours (TWh), which is based almost exclusively on hydropower,¹ is not enough to meet the increasing domestic demand. This is due to fluctuating water availability, which in turn results from fluctuating precipitation amounts.² Significant amounts of electricity had to be imported (2021: around 1.1 TWh; 2022: around 2.5 TWh),³ which nevertheless was unable to prevent power outages. This is a problem that is felt in the winter season in particular, as the demand for electricity is two to three times higher during this time than in summer. In addition, the infrastructure of the entire Kyrgyz electricity sector is outdated and insufficiently maintained. This led to significant technical losses: a problem which to a certain extent is still ongoing today.⁴ Electricity prices are state-determined and among the lowest in the world. As a result, there is a significant shortfall along the entire value chain, which leads to a precarious financial situation for the mostly state-owned actors in the electricity sector. Annual subsidies from the state budget have not yet been sufficient to finance the new and replacement investments necessary for modernisation.

Since the design of phase I of the project in 2003, the overall context in the Kyrgyz electricity sector has changed significantly. At the time, a stronger commercialisation and subsequent privatisation of the electricity distribution companies, including the implementing agency JSC Severelectro, were planned. Severelectro was responsible for electricity distribution and supply, particularly in Bishkek and the surrounding areas. However, the fundamental structural changes were not implemented in practice or were only implemented temporarily. The Kyrgyz electricity sector was most recently reformed in 2022. The four existing Kyrgyz electricity distribution companies were integrated into the national electricity company "National Electric Grid of Kyrgyzstan" (NEGK). NEGK is about 95 % state-owned (directly and indirectly). Severelectro's supply area has been divided into two parts within NEGK: Bishkek Electric Networks Enterprise (BENE) is responsible for supplying the city of Bishkek and Chui Electric Networks Enterprise (CENE) is responsible for the surrounding region of Chui. BENE and CENE each have their own management, but neither company is financially independent. Among other things, their respective revenues go directly to NEGK and are also used for cross-subsidising other NEGK activities. As a result of the restructuring and liquidation of the original project executing agency Severelectro, the evaluation took into account the current situation in the sector whenever possible.

The project considered as part of the evaluation consisted of two phases. The two phases, each consisting of investment measures and a complementary measure, were contractually confirmed at the end of 2005 (phase I) and at the end of 2007 (phase II). As part of the investment measures of both phases, activities were carried out within a power grid component (component 1) and within a meter component (component 2). The respective activities as part of the complementary measures can be summarised in a billing system component (component 3). The components of the phases are evaluated irrespective of the phases and only a joint rating is given.

The investment measures with respect to the electricity distribution networks (component 1) and with respect to the electricity meters (component 2) were largely concluded by the end of 2017. The introduction of a new billing system (component 3) was delayed and was not formally completed until the beginning of 2021.

The present evaluation had to be carried out on the basis of limited data, as sufficient data could not be provided by the project partners.

¹ Two thermal cogeneration plants are coal-fired.

² According to the World Bank, electricity consumption increased by around 70 % over the past decade.

³ Data from: [World Bank. Kyrgyz Republic - Renewable Energy Development Project \(English\). Washington, D.C.: World Bank Group](#)

⁴ For more information on the Kyrgyz energy sector, see also: IEA: [Kyrgyzstan 2022 Energy Sector Review \(iea.blob.core.windows.net\)](#) or IRENA: [The Kyrgyz Republic - Renewables Readiness Assessment](#).

Project summary

In order to reduce the technical and non-technical (commercial) losses of Severelectro / its successor companies, two overarching components were implemented in the corresponding electricity distribution network area(s): within the scope of the partial rehabilitation of selected 110-kV- or 35-kV-substations, cables, lines and switching equipment with circuit breakers incl. measuring and protection equipment were replaced at the 35-/10-/6kV-level (component 1 – grid component). In addition, around 60,000 electronic electricity meters were installed in Alamedin and Sokuluk as well as around 120,000 smart electricity meters in Bishkek; an expanded metering infrastructure (meter data acquisition system) was also introduced (component 2 – meter component). Within the scope the complementary measures, a (temporary) organisational unit was set up at the project executing agency Severelectro to monitor for and remove unauthorised household connections (phase I) and in phase II it was attempted to introduce a new customer and billing system (component 3 – customer and billing system component).

The project's target group comprised all household electricity consumers, as well as small industrial and commercial customers in the supply area of the (former) electricity distribution company Severelectro / the supply areas of the successor companies Bishkek Electric Networks Enterprise (BENE) and Chui Electric Networks Enterprise (CENE), which were formed during the reorganisation of the electricity sector in 2022.

Total costs

Table1: Breakdown of total costs

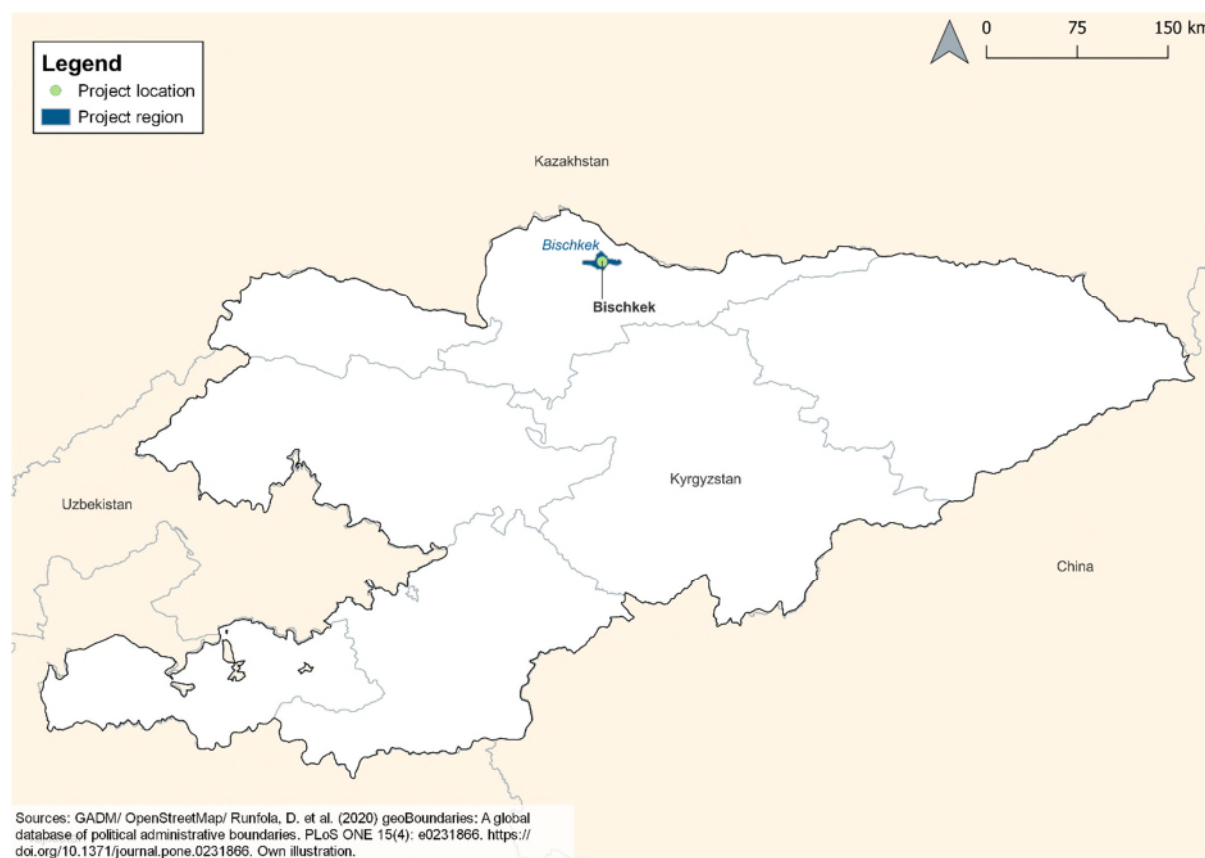
In EUR million	Phase I				Phase II			
	Investment (planned)	Investment (actual)	Complementary measure (planned)	Complementary measure (actual)	Investment (planned)	Investment (actual)	Complementary measure (planned)	Complementary measure (actual)
Investment costs (total)	12.0	12.0	0.2	0.2	22.2	22.2	1.8	1.13
Counterpart contribution	1.8	1.8 ⁵	0.0	0.0	0.8	0.8	0.0	0.0
Debt financing	10.2	10.2	0.2	0.2	21.4	21.4	1.8	1.13
<i>of which BMZ budget funds</i>	<i>10.2</i>	<i>10.2</i>	<i>0.2</i>	<i>0.2</i>	<i>21.4</i>	<i>21.4</i>	<i>1.8</i>	<i>1.13</i>

The investments were financed by budget loans and the complementary measures were financed by grants.

⁵ As part of the project completion report (PCR), it was determined that around 95 % of the counterpart contribution was made. During the evaluation it was not possible to check conclusively whether the remaining around 5 % were also made. However, it is plausible to assume that this is the case.

Map of the project country incl. project area Figure 1 shows the project areas and locations.

Figure 1: Map of the project country incl. project area



Source: Own illustration, map basis see map legend.

Rating according to OECD-DAC criteria

Relevance

1. Alignment with policies and priorities

At the time of the project's design, the Kyrgyz electricity sector was suffering from significant technical and commercial losses of around 40 % (see "Effectiveness" section). The inadequate electricity supply was one of the critical factors for the country's further economic development. Improving the energy/electricity supply, among other things through far-reaching commercialisation and privatisation of state-owned companies, was a priority for the Kyrgyz government at the time. This means that the project's objective and design were in line with Kyrgyz policies and priorities. At the time, the electricity tariff level, which was too low to cover costs and which did not provide any incentives for companies to expand their energy supply, was one of the reasons for the precarious supply situation. Among other things, a gradual tariff increase was to be implemented via the state Medium Tariff Policy. However, for political reasons tariffs have only been slightly increased in recent years up to the time of the evaluation. The financing of significant generation, transmission and electricity distribution investments remains a major challenge, so the basic problem of an electricity supply system that does not cover costs and which suffers from large numbers of power outages has barely changed. More recently, the Kyrgyz government announced further steps to increase tariffs and has initiated/envisaged investments at the level of electricity generation, transmission and distribution (in cooperation with public and private financiers) in order to be able to sustainably meet the increased demand for electricity. The "National Development Strategy 2018–2040"⁶ adopted in

⁶ See: <http://donors.kg/en/strategy/5174-national-development-strategy-of-the-kyrgyz-republic-for-2018-2040>.

November 2018 provides for, among other things, the expansion of renewable energies and the financial strengthening of the energy sector in order to improve industrial potential. This strategy aims to reduce technical losses by 11.6 percentage points by 2023, renew energy infrastructure and implement energy-saving programmes. As part of its climate policy, one of the Kyrgyz government's recent commitments was to reduce greenhouse gas emissions by around 17 % by 2025 through the Nationally Determined Contributions (NDCs) updated in October 2021.⁷ Overall, the project's objective and design remained in line with Kyrgyz policies and priorities.

The project was approved / reprogrammed outside of the focus area of the German-Kyrgyz cooperation in 2004 and 2007 "Economic reform and support for the development of the market economy" / "Sustainable economic development". The project's objective aligned with the BMZ's sectoral goals in the energy sector both at the time of design and at the time of evaluation (core topic "Climate and energy, just transition", action areas 1: "Climate protection and climate change adaptation" and 2: "Renewable energies and energy efficiency").⁸

There were no further projects in the energy sector within the framework of German financial or technical cooperation with the Kyrgyz Republic. In line with the BMZ 2030 reform concept, it was decided in 2020/2021 to end the bilateral German-Kyrgyz cooperation and to continue the cooperation in a regional context. At the time of the evaluation the ongoing projects in the focus areas of health and the financial sector are set to be completed.

The project's objectives were based on the Millennium Development Goals (MDGs). The project has contributed and will continue to contribute to the Agenda 2030, in particular to SDG 7 ("Affordable and clean energy") and SDG 13 ("Climate action"). Conceptually, the project aligns with the Paris Agreement from 2015 and the corresponding subsequent agreements, as it aims to reduce greenhouse gas emissions at impact level. The project was designed in accordance with the Accra Agenda⁹ with regard to the requirements for a) own responsibility and self-financing, b) use of the partners' financial systems and c) harmonisation. In addition, the Kyrgyz Republic was one of the DAC/OECD harmonisation pilot countries,¹⁰ which agreed to take part in facilitating country-level harmonisation as part of the Rome Declaration.¹¹

The selection of the executing agency, the at the time largely state-owned public limited company JSC Severelectro, was made in consultation with other active donors in the sector (see section "Coherence"). JSC Severelectro was one of four electricity distribution companies and was responsible as a monopolist for supplying electricity to the city of Bishkek and the surrounding regions of Chui and Talas. The project was in line with and supported JSC Severelectro's commercialisation and privatisation efforts.

2. Alignment with needs and capacities of persons concerned

The project target group was all electricity consumers in the supply area of Severelectro and its successor companies in Bishkek as well as in the Chui and Talas regions.¹² The measures focused on household customers in Bishkek, particularly in the districts of Alamedin and Sokuluk, and in the Chui region.

The unreliable electricity supply, characterised by frequent outages, significantly reduced living and production conditions in the region and thereby also hampered economic growth. The underlying problem behind these effects was seen in the high technical and commercial losses. The resulting poor financial situation of the project executing agency severely limited its ability to make investments to remedy the deficits. The objective of reducing losses and thereby improving the electricity supply therefore aligned with the developmental needs of the target group. The needs of particularly disadvantaged/vulnerable sections of the target group were not the focus of the

⁷ Assuming international support, greenhouse gas emissions will be reduced by around 37 % by 2025 and by around 44 % by 2030. Around 60 % of Kyrgyz greenhouse gas emissions come from the energy sector (see [OHVB ENG or 08102021.pdf \(unfccc.int\)](#)).

⁸ Please refer to: (i) No. 100 of the BMZ materials "Renewable energy for sustainable development and climate action" (10/1999), (ii) BMZ strategy paper "BMZ concepts 145 – Sector concept Sustainable energy for development" (01/2007), (iii) BMZ core topic strategy: "Responsibility for our planet – climate and energy" from June 2021 (Action area 2 "Renewable energies and energy efficiency"): [BMZ core strategy: "Responsibility for Our Planet – Climate and Energy"](#).

⁹ See: <https://www.oecd.org/dac/effectiveness/parisdeclarationandaccraagendaforaction.htm>.

¹⁰ See: <https://www.oecd.org/dac/effectiveness/35036791.pdf>

¹¹ See: <https://www.oecd.org/dac/effectiveness/31451637.pdf>

¹² Of the customers connected in the Severelectro supply area, around 97 % were private households, and around 3 % were electricity customers in the production industry. An explicit target group and affected party analysis was not carried out as part of the project's design.

project objective. As part of the activities of parallel projects, including those of DFID,¹³ the needs of the socially vulnerable sections of the population were addressed via the further development of the tariff system. Social tariffs (life-line tariffs) were introduced, whereby the price for the first 700 kWh is reduced. This helps low-income households in particular.

Given that all population groups benefit equally from a better electricity supply, gender impact potentials were not particularly emphasised in the project's design and objectives (phase I). No negative impacts on gender equality were expected. A measurable increase in the female employment rate was also not expected.¹⁴ Overall, the project's design is considered to be gender neutral. This assessment was also considered to be acceptable at the time of the evaluation. No further, notable gender impact potentials would have been expected from a different design.

3. Suitability of project concept

The basic project concept was based on the core problem and was overall suitable for contributing to its solution. Technically, organisationally and financially, the design was realistic, although the funds provided were not sufficient to modernise/rehabilitate all of the project executing agency's substations / switchgear and replace all electricity meters in the supply area. Nevertheless, the financial scope was sufficient to achieve the desired effects.

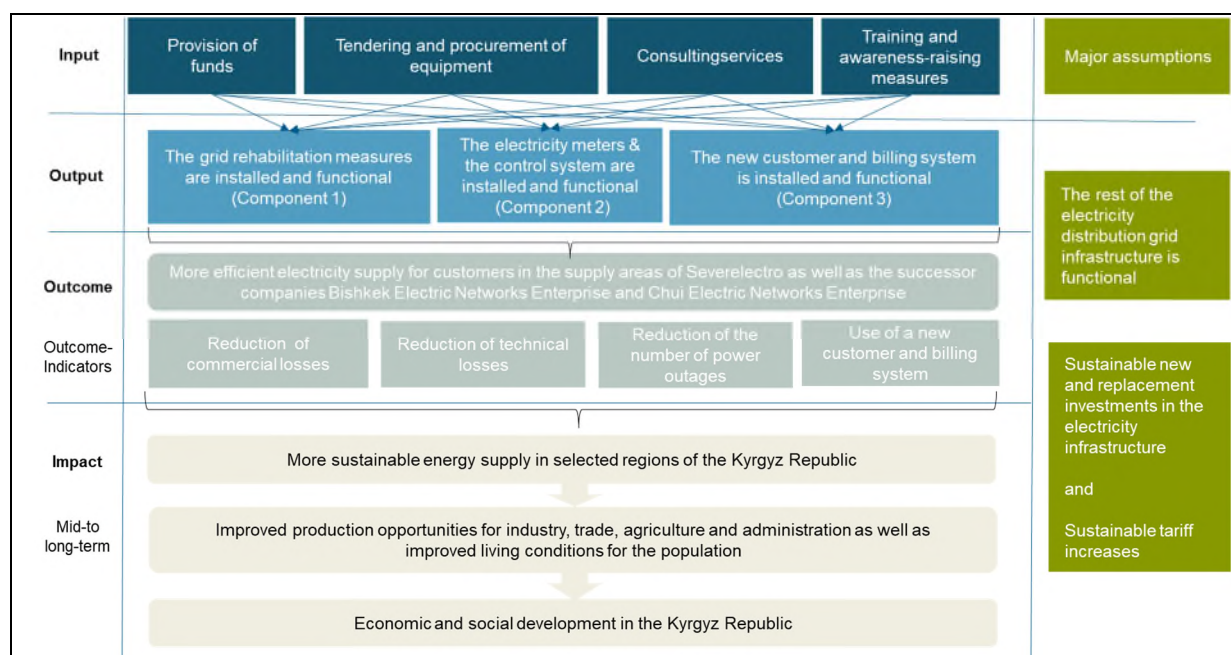
A log-frame matrix was drawn up as part of the project design, but no explicit impact logic was formulated for the project. The formulation of the objectives at impact level focused heavily on positive effects for the project executing agency and its privatisation that was planned at the time, and not so much on positive impact on the target group. The selected indicators and their value allocation only proved to be appropriate in part (see also sections "Effectiveness" and "Impact"). Figure 2 shows the Theory of Change developed as part of the evaluation, which contains the updated target formulations compared to the original impact matrices.

The project was designed to provide funds for the financing of various capital goods to be procured within the scope of competitive bidding as well as consulting and training measures (input). After a successful implementation, the project executing agency will have access to a (partially) rehabilitated, functional electricity distribution network (component 1), modern electricity meters including a control system (component 2) and a new customer and billing system (component 3) (output). Assuming that the other technical facilities of the electricity distribution network also function, the project executing agency will be able to provide the electricity to the customers in its supply area more efficiently (outcome). If sufficient electricity is available in the distribution network (i.e., sustainable new and replacement investments are made in the Kyrgyz electricity infrastructure as a whole and there are sustainable tariff increases with regard to the covering of the costs and financing of these investments), this will a) contribute to making the energy supply in selected regions of Kyrgyzstan more sustainable (impact) and b) support other positive medium to long-term development effects, e.g. in the form of improved production opportunities for companies and public administration. It should be emphasised that the effects at impact level can only be achieved gradually and are very much at the mercy of external risks, for example the further development of the Kyrgyz economy.

¹³ UK Department for International Development (DFID): "Tariff Policy and Utility Reform Project".

¹⁴ For the general state of women's rights in the Kyrgyz Republic, see the [Country Fact Sheet | UN Women Data Hub](#).

Figure 2: Theory of change for the project



Source: Own illustration.

An environmental and social impact identifier was not assigned during the project appraisal. As part of a preliminary assessment, only minor and locally limited environmental impacts were expected for the replacement of old oil paper-insulated cables, whereby an implementation agreement was concluded for proper disposal. An in-depth assessment of climate action and adaptation, as well as an environmental and social impact assessment, were considered unnecessary. At the time of the evaluation, an explicit environmental and social impact assessment would be required. A classification in category B therefore seems appropriate at present. The intention was to contribute to digitalisation by installing the digital electricity meters, in particular the smart electricity meters and the corresponding data collection system, as well as by introducing a new customer and billing system.

4. Reaction to changes/adaptability

The project's main framework conditions did not change during the course of implementation. The U-turn away from Severelectro's privatisation efforts did not necessitate any adjustment of the planned measures, as the objective of improving the efficiency of electricity provision is relevant regardless of the executing agency's nature of ownership. The restructuring of the Kyrgyz electricity market took place after completion of the main investment measures (components 1 and 2) and had no impact on project implementation. However, the outbreak of the Covid-19 pandemic significantly delayed the introduction of the planned customer and billing system, and officially led to its discontinuation.

Rating summary

The project was of high relevance at the time of design due to the defective electricity supply, particularly in Severelectro's supply area. Due to the current power supply situation, the relevance is still given at the time of the evaluation. The basic project concept was based on the core problem and overall was suitable for contributing to its solution. In light of the fact that the executing agency has not been privatised, ex post adjustments to the target formulation and indicators also appeared to be necessary. Overall, the project can therefore be rated as successful.

Relevance: 2 (both phases)

Coherence

5. Internal coherence

The project was reprogrammed in 2004 and 2007 outside the direct focus area¹⁵ of the German-Kyrgyz cooperation.¹⁶ An independent objective was formulated for the project at impact level. As a result, it is not possible to assess its contribution to an overarching programme objective. Thematically, the project's design and implementation aligned with the corresponding BMZ guidelines and the basic orientation of German DC (see "Relevance" section). German TC was and is not active in the Kyrgyz electricity sector. There was also no meaningful conceptual synergy potential with other DC projects.

At the time of project planning, there was neither a binding human rights concept nor the corresponding Federal Ministry for Economic Cooperation and Development (BMZ) guidelines. Both of these were issued in 2011 and 2013 respectively. As part of the evaluation, no further information about inconsistencies with these or other international norms and standards to which German DC is committed became known.

6. External coherence

The Kyrgyz government was supporting (and continues to do so) the domestic electricity sector with public funds. This is due to the fact that the tariffs still fail to cover costs, which makes external financing necessary. The Kyrgyz government was (and still is) highly dependent on external funds from the private sector and the donor community for building a sustainable electricity supply sector. The Kyrgyz government provided own funds as part of the implementation agreement for phases I and II of the project. Overall, the subsidiarity principle has been adhered to, as the project effectively supported the Kyrgyz government's activities.

The measures' design and implementation were planned and coordinated closely, in particular with parallel activities carried out by the World Bank.¹⁷ The World Bank projects were partially co-financed within the scope of the Swiss cooperation via SECO. Selected contractual conditions of the project were based on World Bank conditions. In addition, there was a joint project steering group at Severelectro. As part of the World Bank projects, additional components of Severelectro's electricity distribution network were rehabilitated, and network components and new meters were also financed in other parts of the country. The project was also based on pilot measures by USAID, as part of which the first modern meters were installed. At the same time, DFID provided the Kyrgyz government with support for its tariff policy.

Donor coordination took place via the Development Partners Coordination Committee, in which there is a working party for the energy sector. This includes the current main donors in the energy sector. Germany is no longer participating as the bilateral cooperation is ending and there is no longer an ongoing portfolio in the energy sector.

Rating summary:

Although the project was designed and implemented outside the focus area of the German-Kyrgyz cooperation at the time, it fit very well into Germany's sectoral focus area during planning and continues to do so today. The existing internal coherence is complemented by good external coherence due to the close coordination with the World Bank in particular. In summary, it can be stated that the coherence can be assessed as successful.

Coherence: 2 (both phases)

¹⁵ The cooperation's focus area at the time was the area of "Economic reform and support for the development of the market economy", with four action areas: private sector promotion, vocational training, financial system development, and local and regional economic development.

¹⁶ Initial commitments for phase II were made between 1993 and 1999.

¹⁷ The project was closely linked to the World Bank's "Power and District Heating Rehabilitation Project" and "Consolidation Structural Adjustment Credit". The World Bank is currently implementing the "[ELECTRICITY SECTOR MODERNIZATION AND SUSTAINABILITY PROJECT](#)" as part of its support for the Kyrgyz electricity distribution sector.

Effectiveness

7. Achievement of (intended) goals

The goal adjusted as part of the evaluation was a more efficient electricity supply for customers in the supply areas of Severelectro as well as the successor companies Bishkek Electric Networks Enterprise and Chui Electric Networks Enterprise. The number and formulation of the original indicators selected during the project appraisal were partially adapted and aligned as part of the evaluation. The target achievement at outcome level is summarised in Table 2 below.

Table 2: Achievement of the objective at outcome level:

Indicator	Status at PA	Target value at PA/EPE	Actual value at PCR	Actual value at EPE
(1) Commercial (non-technical) losses by Severelectro and Bishkek and Chui Electric Networks Enterprises respectively (measured by the ratio of unpaid for energy to supplied energy).	Around 26 % (2003) and around 23 % (2006, in the Bishkek supply area)	PA: ≤ 20 % EPE: ≤ 5 % p.a. One year after implementation of the meter component	0.56 % (2019/2020, Severelectro supply area) 0.15 % (2019/2020, Bishkek supply area)	~ 0 % (according to BENE/CENE) The indicator is <u>achieved</u> .
(2) Technical losses in the supply areas of Severelectro and Bishkek and Chui Electric Networks Enterprises respectively.	Around 14 % (2003) and 14.4 % (2006, in the Bishkek supply area)	PA: Phase 1: Reduction of 30 GWh p.a. in the area of selective grid measures Phase 2: Reduction of 5 GWh p.a. in the area of selective grid measures EPE: 35 GWh p.a. (corresponding to around 1.9 % of electricity output in the amount of around 1,845 GWh in 2006).	9.23 % (2019), data from Severelectro	12.2 % (2018) / 11.7 % (2019) / 11.5 % (2020) Losses compared to 2006 were reduced by around 2.7 percentage points by 2019. The indicator is <u>achieved</u> .
(3) Number of power outages (SAIFI) in the supply areas of Severelectro and Bishkek and Chui Electric Networks Enterprises respectively.	900	EPE: 600 One year after implementation of the network component	1,324 (2020)	1,448 (2020 according to World Bank); 1,324 (2020 according to BENE/CENE). The indicator is <u>not achieved</u> .
(4) Use of the new billing system developed as part of the project.	0	PA/EPE: 1 (the new system is used)	0 The new system is not used.	0 The indicator is <u>not achieved</u> .

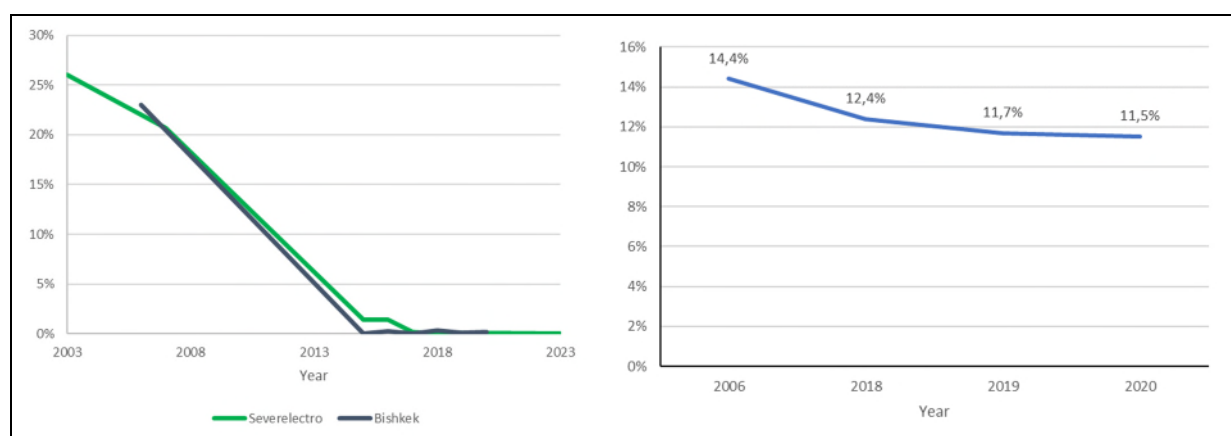
8. Contribution to goal achievement

Indicator 1

The commercial, non-technical losses were to be reduced in particular through the installation of electronic (phase I) and smart electricity meters (phase II).¹⁸ A total of around 60,000 electronic electricity meters were delivered in phase I in Sokuluk and Alamedin. As part of phase II, around 116,000 smart electricity meters¹⁹ and around 7,000 decentralised data communication devices were delivered and installed in Bishkek. Training measures for installation, operation and maintenance were carried out. As part of the complementary measure for phase I, a temporary organisational unit was set up at the executing agency to reduce unauthorised power connections. Consequently, the meter component achieved its planned output.

No specific data on the development of commercial losses was provided as part of the evaluation. According to the Kyrgyz project partners, neither CENE nor BENE incurred commercial losses at the time of the evaluation. It remained unclear as to whether the information relates exclusively to the customers equipped with new meters. According to the executing agency, the majority of customers have been provided with new meters, which measure the majority of the total consumption. Data from comparable projects (World Bank) show that the commercial losses incurred by other utility service providers and in other supply areas could be significantly reduced by installing modern meters. Various interviews during the evaluation confirmed that overall payment morale among consumers had increased. Taking into account the data collected during the final inspection, it can be plausibly assumed that the target value of the indicator has been achieved. The development of commercial losses has displayed a positive trend since the implementation of the meter component (Figure 3 left).

Figure 3: Development of commercial losses in the Severelectro/Bishkek supply area (left) and technical losses in the Severelectro supply area (right)



Sources: Data: commercial losses: Severelectro/BENE/CENE; technical losses: 2006: KfW; 2018–2020: World Bank; own illustration.

Indicator 2

As part of the project's grid component, obsolete cables, circuit breakers, and medium and low-voltage overhead lines were replaced at different voltage levels. The component's targeted FC-financed outputs were achieved. According to the PCR, the measures to be financed through the executing agency's counterpart contribution were not fully implemented at the time of the final inspection. No newer findings could be obtained during the evaluation.

The selective rehabilitation of the distribution network(s) was intended to reduce the technical losses (indicator 2) in the supply areas of Severelectro and Bishkek as well as Chui Electric Networks Enterprises by a total of 35 GWh (phase I: 30 GWh, phase II: 5 GWh). This equated to around 1.9 % in relation to an electricity amount of around 1,845 GWh (2006). The evaluation did not provide accurate data on technical losses. Various external

¹⁸ Electronic electricity meters allow one-way communication for reading consumption data, while smart electricity meters allow two-way communication, in which the electricity supply can be switched off in the event of non-payment of bills, among other things.

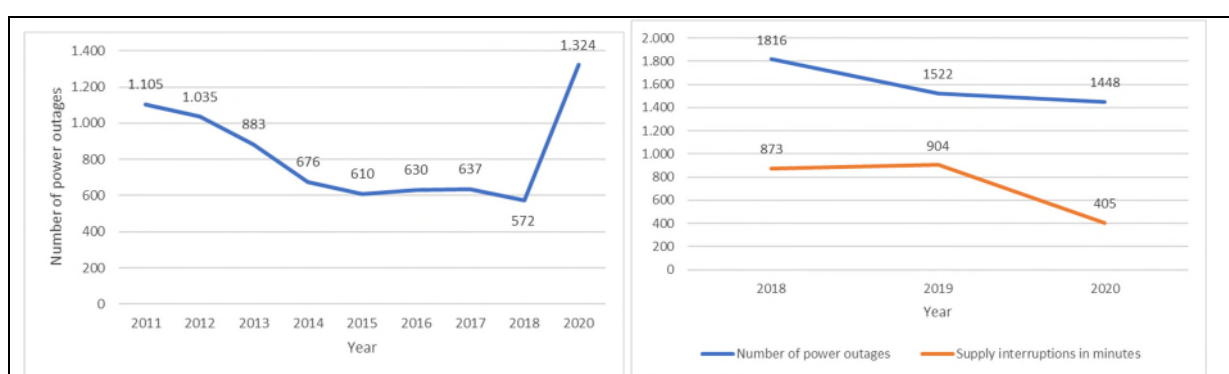
¹⁹ Around 3 % of the meters are planned as reserves.

sources are therefore used.²⁰ Compared to the base value of around 14.4 % in 2006, Severelectro's technical losses fell to 12.4 % (2018), 11.7 % (2019) and 11.5 % (2020) based on data published by the World Bank. This equates to a loss reduction of 2.7 percentage points between 2006 and 2019 (Figure 3). The loss reduction targeted by the project in the absolute amount of 35 GWh corresponds to 1.9 % relative to the electricity amount of 1,845 GWh (2006). The loss reduction actually achieved was 2.7 percentage points and it can be plausibly assumed that the loss reductions generated by the project's measures contributed to achieving the overall loss reduction. Even if the data basis is subject to uncertainty, it can be plausibly deduced that the target value for the indicator has been achieved.

Indicator 3

The selective rehabilitation of the distribution network(s) was also intended to reduce the power outages in the supply areas of Severelectro and Bishkek as well as Chui Electric Networks Enterprises (indicator 3).

Figure 4: Number of power outages in the Severelectro supply area (left: BENE/CENE information, right: World Bank information)



Sources: Data: left: Severelectro/BENE/CENE; right: World Bank; own illustration.

Figures vary considerably depending on the data source. Based on the information provided by BENE/CENE as part of the evaluation, the number of power outages initially decreased, but the value rose back to a high level by 2020 (Figure 4). The World Bank has published significantly higher figures for Severelectro. Interviews during the evaluation confirmed that the number of planned and unplanned outages has increased again in recent years. There are many reasons for this, i.e., one of them being the lack of sufficient generation capacity in the Kyrgyz electricity sector. As a result, peak loads cannot be compensated for by imports. Overall, the indicator is considered not achieved.

Indicator 4

As part of the complementary measure for phase II of the project, a customer and billing system was to be installed. Significant delays occurred both during the tendering phase and after the respective contract was signed in October 2015. According to the executing agency, the system that was delivered initially was tested over a period of one year as part of a pilot phase. However, the system proved unstable and it was not possible for Severelectro to implement the delivered system in a functional manner and to the required and desired extent. The supplier discontinued the further development, maintenance and support of the delivered system, and thereby use of the system stopped as well.

After the outbreak of the Covid-19-pandemic, the contract with the supplier of the system was ultimately terminated at the beginning of 2023. Despite the pilot implementation that was carried out, the new system has not been implemented. At the time of the evaluation, the delivered hardware was also not being used effectively. Nevertheless, there are several positive aspects of the billing system component: (i) the Severelectro personnel involved in the complementary measure confirmed that they had significantly grown in expertise, (ii) this expertise significantly improved the system (which was developed at Severelectro due to the urgent need) – in particular with regard to the receipt of automated consumption data and the introduction of a mobile payment option, and (iii) the option of automatically cutting off customers who fail to pay bills and reconnecting them when these bills

²⁰ It must be taken into account that data from different sources is not always consistent.

are settled could be integrated into the old system. Despite these positive aspects, the target value of the indicator is not achieved.

Overall, it can be stated that the measures financed by the project led to an improvement in the electricity supply in the supply areas of Severelectro and its successor companies, and resolved the key issues that were causing the unsatisfactory electricity supply that fell within the project's scope (see also Theory of Change, Figure 2). The interviews conducted as part of the evaluation confirmed these assessments. The deterioration in electricity supply at the time of the evaluation was mainly due to external factors (such as a lack of electricity generation capacity and imports).

9. Quality of implementation

Supported by international consultants Severelectro was responsible for the implementation of the investment measures within the framework of the various components. The cooperation between Severelectro and the consultants was described as very good by the parties involved. Despite significant delays (cf. "Efficiency" section), Severelectro managed the project properly. With the exception of the billing system component (component 3), the meter and network components could be implemented approximately within the originally scheduled time according to the PCR. In the opinion of the evaluation mission, a closer follow-up of the billing component could have been carried out by the project-managing unit at KfW. This also applies to the international consultant associated with the component. An earlier decision on the termination of component 3 subsequently seems expedient.

As part of the evaluation, an inspection of selected investments was carried out. No serious shortcomings were found in the network component or in the meter component.²¹ Exceptions to this are some non-functioning modems for data transmission that were reported by the executing agency. The equipment installed as part of the project is after several years of operation still largely functional after project completion. The financed distribution network components are properly operated and maintained.

As part of the final inspection in January 2021, an audit of the use of funds was carried out in order to ensure that the FC funds were used appropriately, which involved both random audits of the books and random on-site inspections. No anomalies were found, nor was there any suspicion of improper use of the funds. During the evaluation, the mission was not aware of any indications of possible misuse of funds.

10. Unintended effects (positive or negative)

Neither positive nor negative material unintended effects occurred. However, it can be assumed that not all electricity customers who had obtained illegal access to an electricity supply up to the time that new meters were installed were satisfied with the measures. However, no information on (official) complaints could be obtained as part of the evaluation. According to the executing agency, complaints are occasionally received following deliberate power-cut-offs, e.g. as a result of non-payment of bills. However, these complaints are usually handled within a short period of time and electricity supply is resumed after bills have been settled or payment terms agreed.

Rating summary

The evaluation of the effectiveness of the project is limited due to the limited availability of up-to-date data. At the same time, data from various sources sometimes exhibits significant discrepancies. In summary, according to the information available, the main objectives with regard to the reduction of commercial losses were achieved. It was not possible to improve the electricity supply as measured by the reduction of technical losses and the number of power outages. This is largely due to factors that were outside of the project's scope. The introduction of a new billing system had positive effects but failed to meet its goal. The project's effectiveness is therefore assessed as moderately successful.

Effectiveness: 3 (both phases)

²¹ For the risks, see the "Sustainability" section.

Efficiency

11. Production efficiency

The total costs of the project (both phases, including the two complementary measures of around EUR 1.3 million) amounted to EUR 35.5 million. EUR 32.9 million was financed through FC-funds and around EUR 2.6 million was made available by the partner (see Table 1). The costs of the complementary measure for the implementation of the customer and billing system amounted to around EUR 1.13 million. The originally planned cost framework of EUR 1.8 million was not exhausted.

The share of investment costs (around EUR 30.5 million) was around 92.6 % (based on the FC financing contribution including the complementary measures). Around EUR 2.4 million, corresponding to around 7.4 % of the FC financing contribution, was attributable to consulting costs (including complementary measures). The division of the funds between the individual components seems expedient. The ratio of consulting costs to investment costs, excluding complementary measures, is below the level of comparable projects.

The investment components were procured through international public competitive biddings. Due to the competitive nature of these biddings, procurement costs for the components stayed reasonable. The specific investment costs of the network component and meter components also appear to be reasonable in the context of comparable projects.

The complementary measures of the two phases were initially expected to amount to EUR 2.0 million. The establishment of a department for dealing with illegal connections as part of the complementary measure in phase I provided for EUR 0.2 million in consulting costs, which were spent in full. Due to the discontinuation of the customer and billing component (component 3), only around EUR 0.7 million in investment costs and around EUR 0.4 million in consulting costs were incurred, as opposed to the EUR 1.8 million that was initially estimated for this.

The implementation of the network and meter components was subject to usual delays. Due to the delay in the implementation of component 3, it was necessary to extend the consulting contract. The hardware and software supplied as part of the accompanying measure was not in use by the project executing agency at the time of the evaluation. Together with the associated consulting services, around EUR 0.75 million was spent (of which EUR 0.7 million was invested) without any significant benefit at outcome level (see section Effectiveness). If the measure was discontinued earlier, consulting costs could also have been saved.

12. Allocation efficiency

The project aimed to reduce technical and commercial losses in order to improve the electricity supply in the Severelectro supply area. This was the right approach at the time that the measure was designed and remains so. The operational appraisal criteria (OPC), which were binding for FC energy projects at the time, have been discussed in the module proposals. The analysis concluded that the OPCs were only partially met. According to the evaluation, this is still true. The cost recovery ratio at the time (nationwide) stood at between 40 % and 50 % (2004) and 65 % (2007), respectively, as tariffs were very low.

Based on the *long-run marginal costs* (around 2.3 cents_{US}/kWh at project design, around 5.8 cents_{US}/kWh according to calculations by the World Bank in 2022), it can be assumed that the cost recovery ratio has not increased significantly at the current tariff level. Consequently, the expansion of new generation capacities has not been sufficient to cover costs. The main challenges were related to the system losses, which at the time were above the specified limit value. The project's implementation was appropriate because it had a precise approach to reducing losses. It is also considered appropriate and efficient today. The selection of the project region still seems to be appropriate, on the one hand due to the coordination with other donor projects and on the other hand due to the relatively high consumer density in Bishkek and the surrounding area, which led to high loss reduction potentials (e.g., compared to more rural supply areas).

An alternative approach to achieving similar savings or improving electricity supply through pure demand-side energy efficiency measures or increasing electricity supply through the construction of a new power plant appears less cost-effective even in the absence of concrete calculations, as system losses were around 40 %. In addition, the rehabilitation measures have resulted in a more reliable energy supply. This effect could not have been achieved to the same extent through purely demand-side energy efficiency measures.

Severelectro made a counterpart contribution.²² Given Severelectro's limited financial position and the fact that the Kyrgyz Republic was classified as a transition country at the time, the use of public funds to achieve the desired effects seems appropriate. BENE and CENE are able to cover operating costs and make the necessary (minimum) replacement investments on the basis of (non-cost-covering) tariff revenues, in particular through cross-subsidisation from public budget funds.

Rating summary

The specific costs of the project are at the expected level; the proportion of respective consulting costs is significantly lower than average. The measures were implemented with reasonable delays. A serious exception is component 3 of the project. The project chose the right approach with regard to allocation efficiency. The funds spent on the planned new billing system were associated with an almost total failure with respect to achieving the desired output. As a result, the associated consulting costs also seem too high. This means that the efficiency of the project as a whole is rated as moderately successful despite the high allocation efficiency.

Efficiency: 3 (both phases)

Impact

13. Overarching (intended) developmental changes

The project was designed and implemented outside the scope of a DC programme, and such a programme did neither exist at the time of the evaluation. The objective at impact level was adjusted in comparison to the formulations of phases I and II as part of the evaluation and consisted of a more sustainable energy supply in selected regions of the Kyrgyz Republic. The achievement of the objective at the impact level can be summarised as presented in Table 3

Table 3: Achievement of the objective at impact level

Indicator	Status at PA	Target value at PA	Actual value at final inspection	Actual value at EPE
(1) CO ₂ emissions (in t p.a.)	0	N/A Target value at EPE: Reduction of 3,700 t p.a. taking into account the FC financing share.	N/A	5,514 t p.a. The indicator is <u>achieved</u> .

14. Contribution to overarching (intended) developmental changes

The increased sustainability at impact level is measured by the quantity of CO₂ emissions saved as part of the ecological component of sustainability. This is a quantity derived directly from the reduction in electricity loss. The reduction of technical losses was the objective of the network rehabilitation component in particular. The determination and calculation of the CO₂ reduction by the project is based on the information regarding the targeted loss reductions of both phases of a total of 35 GWh. It is plausible to assume that the loss reduction was achieved (see "Effectiveness" section, indicator 2). Since the emission factor increased only slightly at the time of the evaluation (0.170 t CO₂/MWh)²³ compared to the time of the project's design (0.114 t CO₂/MWh),²⁴ the CO₂ emissions saved have also increased as a result. Therefore, the indicator's target value has been exceeded.

²² See also notes in footnote 5.

²³ The grid emission factor is determined in the same way as the World Bank calculation, see Kyrgyz Republic - [Electricity Sector Modernization and Sustainability Project \(English\)](#), Washington, D.C.: World Bank Group The World Bank bases its calculations on a weighted average between the consumption of hydroelectricity in summer with a lower emission factor and thermal electricity generation in winter with a higher emission factor. This is very low in an international comparison, which is due to the high proportion of hydropower in the Kyrgyz electricity grid.

²⁴ See [EBRD: Electricity Emission Factors Review](#), November 2009.

In the medium term, a more sustainable energy supply should provide an element of improved production opportunities for industry, trade, agriculture and administration as well as improved living conditions for the population in Bishkek and the surrounding area, which will contribute to the economic and social development of the Kyrgyz Republic in the long term. The evaluation of the objective's achievement with regard to the medium to long-term effects at impact level is only qualitatively possible as part of the evaluation. Concrete data on the monetarisation of loss reductions (as measured by the value of lost load) could not be determined as part of the evaluation. Based on World Bank data, the value of the loss reduction can be estimated at around USD 2.8 million.²⁵ Even though a contribution to macroeconomic development cannot be directly attributed to the project or reliably quantified, a relationship between electricity supply and economic development is plausible.^{26,27} An efficient and reliable electricity supply that is secured over the long term, as well as sufficient generation, is an important prerequisite for economic development. However, due to the lack of improvement in the quality of the electricity supply, the project also made little contribution to development in the region.

The meter component of the project served as a pilot in connection with previous activities of USAID and parallel measures of the World Bank. According to the executing agency, this was the basis for a nationwide roll-out of the installation of smart meters.

15. Contribution to overarching (unintended) developmental changes

During the evaluation, it became known that some old cables insulated with oil paper remained in the ground and new cable systems were laid. It was unclear as to whether there were concrete, unintended environmental impacts as a result of this or the financed infrastructure measures.

Rating summary

The target value for reducing greenhouse gas emissions was not fully achieved. This is mainly due to the failure to meet the objective of reducing technical losses (see "Effectiveness" section). It seems plausible that positive developmental effects have arisen, but these could not be quantified in the evaluation. Taking into account the pilot function of the meter component, the project's overarching developmental impact as a whole is also rated as moderately successful.

Impact: 3 (both phases)

Sustainability

16. Capacities of persons concerned

As legal successors, BENE and CENE are responsible for the operation and maintenance of their respective electricity distribution networks. The evaluation mission got the impression that both companies are willing to carry out the technical management of their respective networks as well as the billing and collection processes properly. The employees interviewed as part of the evaluation gave the impression that they were motivated and able to take ownership. It was not possible to determine whether the companies have sufficient staff numbers as part of the evaluation.

Neither company is financially independent, nor are the two companies able to decide independently on the implementation of necessary investments. Decision-making powers for budget issues were transferred via the organisational integration into the parent company National Electricity Grid Kyrgyzstan (NEGK). As a result, both companies are at the mercy of higher-level decisions. Revenue from the sale of electricity goes straight to the parent company. After completion of the project, Severelectro as well as BENE and CENE properly maintained the installed equipment; no information is available on any major replacement investments that may be necessary. Information on maintenance budgets was not provided as part of the evaluation. The impression remains

²⁵ The World Bank estimates the value of the willingness to pay at household level to be around 8 cents_{US}/kWh.

²⁶ A detailed collection of socio-economic data in the supply areas of BENE and CENE was deliberately left out of the evaluation. The consideration of general economic indicators seems unsuitable for determining the project's (direct) contribution, as these depend on a wide range of influencing factors.

²⁷ Cf. Stern, D. I., Burkes, P. J., and Bruns, S. B. (2017). *The Impact of Electricity on Economic Development: A Macroeconomic Perspective*. UC Berkeley: Center for Effective Global Action.

that the financial scope of BENE and CENE is also very limited due to the financial situation in the sector as a whole (significant need for investment in the entire value chain, from electricity generation to supply and billing). These financial restrictions entail high risks for the sustainability of the impacts, especially in view of the fact that covering of the costs is not to be expected in the medium term despite planned further tariff increases. As the Kyrgyzstan national budget continues to provide financial support to state-owned companies in the electricity sector, a certain degree of financial resilience can still be assumed.

17. Contribution to support for sustainable capacities

Training and advanced training measures for Severelectro employees were planned as part of the project. These included, in particular, training on the use of the new meters and the associated software. In addition, Severelectro was supported by the implementation consultant in the award of contracts for the services carried out within the scope of the project. Despite the fact that the new invoicing system was not introduced in the end, employees were trained in this process. Interview partners confirmed that a high level of knowledge transfer took place as part of this component (see also “Effectiveness” section). The use of consulting contributed to sustainable capacity development in this respect.

18. Durability of effects over time

The project’s design provided for a prioritisation of the rehabilitation of many, geographically dispersed and highly flawed technical weaknesses in the network. At the time of the evaluation, this seems appropriate in terms of “emergency measures” compared to a focused, complete rehabilitation of a few systems. However, the chosen approach means that the financed equipment is subject to a risk of the two overall electricity distribution systems of BENE and CENE failing. This risk of failure is to be classified as high, as the electricity distribution systems have not been further or fully rehabilitated due to insufficient replacement or expansion investments. The context to this is under-financing in the entire electricity sector, the main cause of which is the tariffs that do not cover costs. The systemic shortfalls are only compensated for by state subsidies.

Rating summary

The outputs generated are properly operated and maintained. The financial situation of Severelectro’s successors is assessed as weak. The possibilities for forward-looking replacement and expansion investments are severely limited and entail high risks of failure for the electricity distribution systems. Overall, the impacts have so far been sustainable, but are subject to a high sustainability risk. As a result, sustainability is rated as moderately successful.

Sustainability: 3 (both phases)

Overall rating: 3

The project has a high level of relevance, as it aims to reduce commercial and technical losses. This represented a significant weakness in the entire Kyrgyz electricity sector when the project was designed and is a weakness that can still be observed today. The close coordination with the World Bank’s projects and embedding in the activities of other donors led to a successful coherence. Lack of data provision limited the evaluation of the achievement of the project’s objectives and based on the available information, the project was not able to fully achieve the set objectives. While it is plausible that the commercial and technical losses have been reduced, the targets for improving the quality of the electricity supply (measured by the number of power outages) were largely missed. The planned new customer and billing system could not be implemented. The effectiveness can therefore only be assessed as being moderately successful. Regarding the moderately successful efficiency, the objective was only partially achieved at impact level, which is essentially due to the limited achievement of the objective at outcome level. Nevertheless, positive overarching developmental effects were evident. Therefore, this criterion can still be assessed as being moderately successful. The project is moderately successful in terms of sustainability, and the impacts are subject to significant sustainability risks. The project is rated as moderately successful overall.

Contributions to Agenda 2030

The global community has agreed on the Sustainable Development Goals (SDGs) of Agenda 2030 (UN, 2015) and the implementation of the Paris Agreement (UNFCCC, 2015). SDG 13 on climate action includes measures to combat climate change, and SDG 7 includes measures that ensure access to affordable, reliable, sustainable and modern energy for all. The goal of the Paris Agreement and its subsequent agreements is to limit global warming to well below 2°C compared to the pre-industrial era, if possible below 1.5°C. Increasing efficiency in electricity distribution through loss reduction reduces energy-related CO₂ emissions. The project therefore contributes to the SDGs mentioned above.

Project specific strengths/weaknesses and general conclusions/lessons learned

Strengths and weaknesses of the project included:

- a) The project addressed one of the main weaknesses in the Kyrgyz electricity sector, in that it was designed to reduce the technical and commercial losses incurred by the country's largest distribution company.
- b) The measures were well embedded in the activities of other donors.
- c) The meter component, in which modern, smart electricity meters were introduced, served as a model for a national roll-out of a meter programme.
- d) The project's objectives at outcome level were largely achieved. The targets for reducing commercial and technical losses were achieved. Nevertheless, the quality of the electricity supply in the supply area of Severelectro and its successor companies did not improve as expected, as the number of power outages did not decrease as planned, instead had increased at the time of the evaluation. The reasons for this largely lie outside the project's sphere of influence and include a strong increase in demand and lack of electricity generation in addition to tariff increases and the associated financial weakness of the executing agency. This has led to a significant backlog in the necessary investments in the electricity grid.
- e) The handling of old oil-based cables that are no longer required could not be fully assessed as part of the evaluation; failures resulting in negative consequences on a local level cannot be completely ruled out.

General conclusions and lessons learned:

- Approaches to achieving electricity loss reduction, particularly at the level of electricity distribution, often address the core problem in the entire electricity sector of a given country very adequately.
- The financing of several emergency measures in a supply network, as opposed to the complete rehabilitation of only one system component, seems appropriate for improving the electricity supply.
- Precarious financial situations at the implementing agency and/or in the sector as a whole, in particular due to tariffs that fail to cover costs, entail a high risk for the sustainability of the impacts achieved.

Evaluation approach and methodology

Ex post evaluation methodology

Ex post evaluations follow the approach of a rapid appraisal, i.e. a data-supported, qualitative contribution analysis resulting in an expert opinion. Effects are attributed to the project considering plausibilities, based on thorough analysis of documents, facts and impressions. This includes – if possible – the use of advanced technology (e.g. satellite imagery, online interviews, geocoding). There is a follow-up on possible conflicting information, attempting to eliminate inconsistencies and to base the rating on information that – to the extent possible – has been confirmed through different sources (triangulation).

Documents:

Internal project documents (module proposals, reports, project completion report, etc.), project reports from other donors (World Bank), secondary specialist literature, strategy papers, context, country and sector analyses.

Data sources and tools for analysis:

World Bank, International Energy Agency (IEA) and other databases, data collection on site, interviews (see below).

Interview partners:

Representatives of the executing agency, the target group, other donors, the Ministry of Energy and various consultants.

The analysis of project effects is based on the theory of change defined at project appraisal and documented within the impact matrix, which may be updated for the purposes of the evaluation. The evaluation report argues which factors contributed to the observed effects and why – as well as the probable extent of the project's contribution (contribution analysis). The context of the project is taken into account concerning its influence on the results. The conclusions are put into perspective regarding the availability and accuracy of the available data. The framework of the evaluation is established by the evaluation conception.

This method provides a balance between cost and usefulness, generating evaluation findings with appropriate effort and expense. Also, it allows for a systematic success rating across the FC projects. Thus, an isolated ex post evaluation cannot fulfil the requirements of a scientific assessment in the sense of a strict causality analysis.

The evaluation was limited by the low data availability and insufficient data provision.

Rating methodology

Projects are rated on a six-point scale for each of the OECD DAC criteria. The scale is as follows:

- Level 1** very successful: result that clearly exceeds expectations
- Level 2** successful: fully in line with expectations and without any significant shortcomings
- Level 3** moderately successful: project falls short of expectations, but the positive results dominate
- Level 4** moderately unsuccessful: significantly below expectations, with negative results dominating despite discernible positive results
- Level 5** unsuccessful: despite some positive partial results, the negative results clearly dominate
- Level 6** highly unsuccessful: the project has no impact or the situation has actually deteriorated

The overall rating on the six-point-scale is compiled by weighting all six individual criteria as appropriate to the project in question. Rating levels 1–3 of the overall rating denote a "successful" project while rating levels 4–6 denote an "unsuccessful" project. It should be noted that a project can generally be considered developmentally "successful" only if the achievement of the project objective ("Effectiveness"), the impact on the overall objective ("Impact") and the sustainability are rated at least "moderately successful" (level 3).

The annex to this report is available upon request

About this publication

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