

CASE STUDY

BULGARIA

10 YEARS OF EBRD SUSTAINABLE ENERGY FINANCING FACILITIES



EXECUTIVE SUMMARY

In 2004, three years from its long-awaited European Union (EU) accession, Bulgaria was already set to become the EU's most energy intensive economy. Compounding the problem of its energy inefficiency, before accession Bulgaria was obliged to decommission the oldest units of the Kozloduy Nuclear Power Plant. At the time, these four units produced 40 per cent of the country's electricity. In response to these challenges, the EBRD established a new financing model in 2004, providing targeted private sector credit lines to local banks. These aimed to 1) reduce energy demand by increasing energy efficiency in the industrial and residential sectors and 2) replace the lost capacity for power generation by financing an increase in renewable energy production.



Delta Textil (photo: BEERECL web site, www.beerecl.com)

Thus began the EBRD concept of sustainable energy financing facilities (SEFFs): credit lines offered to local partner banks in combination with intense technical cooperation and financial incentives for both partner banks and sub-borrowers. The model aimed to help overcome substantial barriers to market penetration for sustainable energy finance.

In Bulgaria, SEFFs have successfully demonstrated how they can support the creation of energy efficiency and renewable energy financing markets. In collaboration with nine commercial banks, more than €260 million¹ of related financing has been leveraged by approximately €65 million of concessional funding in the form of technical cooperation grants and incentives.

From its beginnings in Bulgaria 10 years ago, the SEFF model has now been rolled out across 20 of the countries where the EBRD invests. It has provided over €2.4 billion of finance for sustainable energy, ranging from loans of a few thousand euros to refurbish windows, to multi-million euro loans for large-scale renewable or energy efficiency projects. The SEFF model is recognised as a powerful tool for 'greening' local banking sectors in transition countries around the world.

Cover photo: VEZ Svoghe.

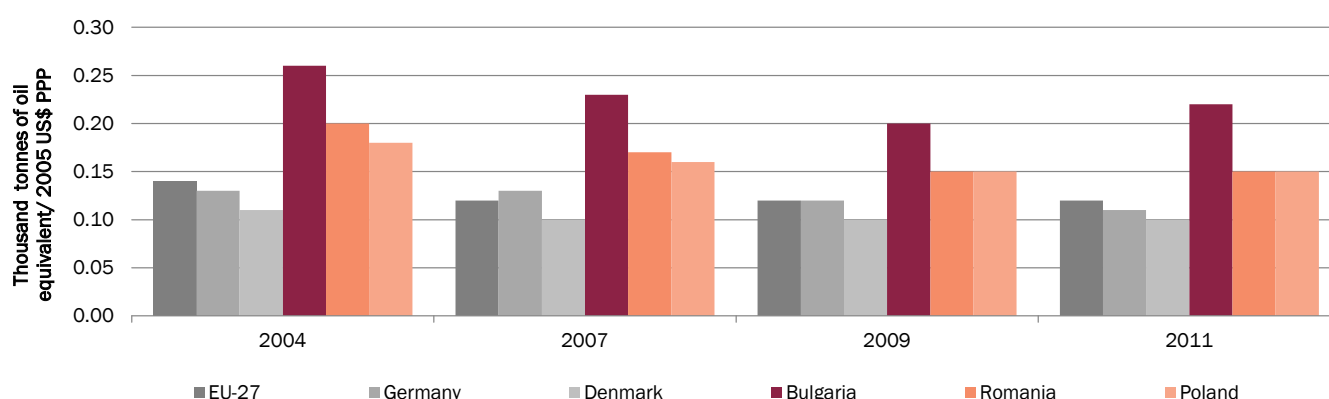
¹ The Bulgarian Energy Efficiency for Competitive Industry Finance Facility (BEECIFF) is not included in these figures.

BULGARIA'S ENERGY SECTOR BACKGROUND

In the early 2000s, reducing energy intensity was one of the main challenges for Bulgarian energy policy, for two reasons. First, the high energy intensity of the economy was detrimental to security of supply. Second, the sustainable development of the energy sector, in line with EU targets for 2020, was becoming a critical issue ahead of EU accession. The Bulgarian government therefore focused on promoting sustainable energy investments to address the following issues:

- **Energy intensity:** In 2004, the energy intensity of the Bulgarian economy was 2.4 times that of Denmark, the most energy-efficient country in the EU. By 2011, this figure had fallen to 2.2. In the interim, Denmark had improved its own energy intensity by about 10 per cent. Despite this significant improvement, today Bulgaria remains the most energy intensive economy in the EU (see Figure 1).
- **Security of supply:** As a condition for Bulgaria's accession to the EU, the oldest units of the Kozloduy Nuclear Power Plant had to be shut down. In 2004, these were providing 40 per cent of the country's electricity supply. The Kozloduy International Decommissioning Support Fund (KIDSF) was established to help the Bulgarian government cope with the closure. KIDSF also supported reform of the energy sector, to reduce the effects of the decommissioning on energy supply.² By the end of 2006, Bulgaria had closed four of the six generating nuclear units, leaving only the most modern ones on the grid.
- **Rising prices for end users:** EU market rules required ongoing price reforms to recover costs and reduce energy subsidies. These reforms and the increasing cost of imported energy meant higher energy prices and tariffs for Bulgarian businesses and households. Companies found it difficult to remain competitive and household energy bills became less affordable.
- **Cost of energy imports:** Bulgaria is heavily dependent on energy imports – gas, oil and nuclear energy. On a net import basis, they account for over 40 per cent of the country's primary energy supply, and their cost weighs on Bulgaria's current account. The only significant domestic energy source is low-quality lignite coal with a high sulphur content.

FIGURE 1: PRIMARY ENERGY SUPPLY PER UNIT OF GDP



Notes: GDP in 2005 US\$ at purchasing power parity.

Source: International Energy Agency.

BARRIERS TO INCREASING SUSTAINABLE ENERGY FINANCE

High energy intensity and rising energy prices would normally generate considerable appetite for investment in sustainable energy. But in Bulgaria, these market drivers were limited by both real and perceived barriers. The design of the Bulgarian SEFFs therefore needed to address these obstacles.

² In addition to specific nuclear safety and decommissioning activities KIDSF supports energy efficiency and renewable energy.

Real barriers

- **Weak business capacity for developing bankable energy efficiency projects:** Many businesses – small and medium-sized enterprises (SMEs) in particular – lacked formal business procedures and in-house technical expertise to secure financing and complete a full project cycle.
- **Low awareness of the potential benefits of energy efficiency:** In many enterprises, the benefits, availability and diversity of energy efficiency technologies were poorly understood.
- **Constraints on financial intermediaries:** Many banks lacked the technical expertise to appraise projects. Some had insufficient information about the technical risks and financial benefits of energy conservation projects.

Perceived barriers

- **Perception of high risk and low profitability:** Investors often saw energy efficiency projects as technically risky and/or unable to deliver worthwhile financial returns, particularly when compared to greenfield or expansion investments.
- **Business capital constraints:** Flawed analysis of the benefits of energy efficiency measures meant that capital allocation from internal sources for such ‘non-core’ projects faced strict budget constraints.

The SEFF Model

SEFFs are credit lines that the EBRD provides to local partner banks in eligible countries. The financing is complemented by grant funds to support technical cooperation (TC) – in many cases augmented by donor-funding – for partner banks and/or sub-borrowers. In addition, incentives are sometimes offered to the banks and sub-borrowers.

Partner banks on-lend the funds at commercial rates. Loans are based on a clearly defined ‘use of proceeds’, which is set out in formal policy statement underpinning the loan agreements between the EBRD and each bank. In all cases, sub-borrowers are required to use the funds for eligible energy efficiency or renewable energy projects in the private industrial and/or residential sectors. These transactions are all verified.

Alongside the credit line, SEFFs engage technical consultants to raise awareness of the facilities, build lending capacity among partner banks and help prospective sub-borrowers prepare projects.

Where they are available, financial incentives in support of SEFF investments take two forms. For local partner banks, the incentives are administration and performance fees that compensate them for the restricted use of proceeds and for the monitoring and reporting requirements. The fees are between 0.5 and 2 per cent of the loan volume undertaken by the participating bank. Incentives for sub-borrowers take the form of a one-off payment that is payable on project completion. This payment is normally in the range of 10-20 per cent of the related loan amount contracted under the programme. Figure 2 (page 4) depicts the process.

Advantages of the SEFF concept

SEFFs provide an effective financing mechanism for investments that are normally too small for direct financing. The model combines commercial loans with technical cooperation (TC) and performance-based incentive systems. This has been very successful in overcoming barriers to sustainable energy investments in Bulgaria, and in other countries where the EBRD invests. The advantages of the SEFF model are as follows.

- SEFFs are transparent, easy-to-access programmes that offer sub-borrowers a ‘one-stop-shop’ for energy efficiency and renewable energy investments. The combination of loans, grants and TC funding in a single facility with a standardised approach speeds up project processing and implementation.
- The use of local commercial banks as intermediaries makes use of their branch networks and project-processing expertise. This, in turn, ensures sufficient capacity to handle a large number of projects across the country, including small-scale applications.
- TC consultants – international and Bulgarian experts – provide:
 - project preparation assistance, which includes advance verification of compliance with eligibility criteria, energy audits, capital investment appraisals and development of rational energy utilisation plans – helping to target investments effectively
 - verification (by a separate consultant) that projects are completed to the agreed specifications.
- Grants are paid only once a consultant verifies that the project has been completed. This guarantees the correct use of funds and creates an incentive for timely implementation.

BULGARIA'S SEFF PORTFOLIO

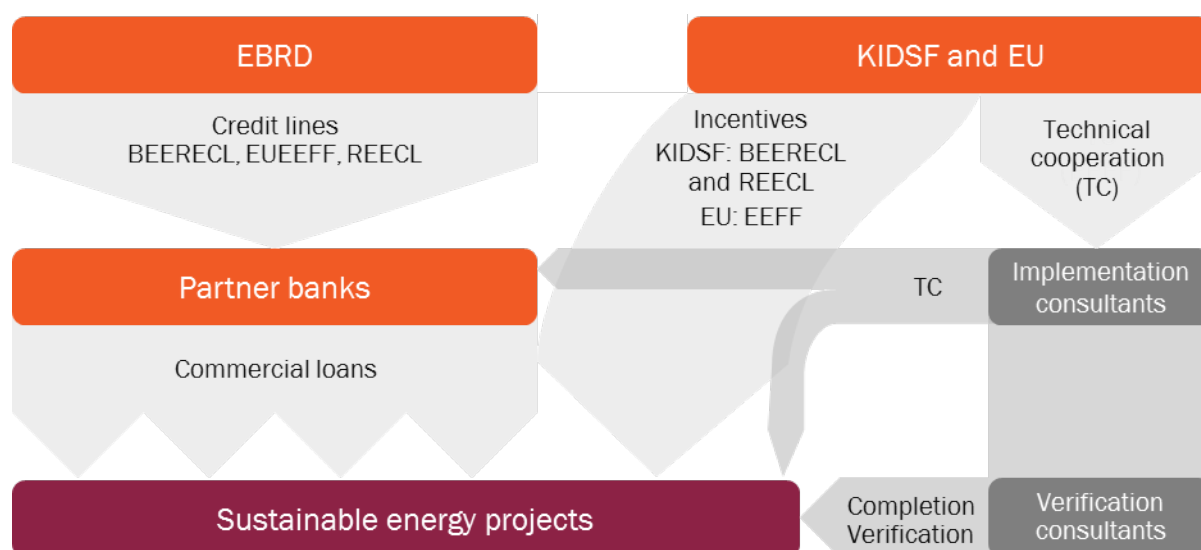
To help the Bulgarian government address market barriers, the EBRD developed and launched its first SEFF in 2004. Since then, a number of extensions and additional facilities have followed.

By 2009, three SEFFs had been launched as joint initiatives of the Bulgarian government, the EBRD, the EU and KIDSF. Total funding of €260 million had been committed by the EBRD and €64.3 million from KIDSF. A fourth facility was introduced in 2012, with support from EU Structural Funds. Table 1 summarises these facilities, which are described in more detail in Annex 1.

TABLE 1: BULGARIAN SEFFS

Bulgarian Energy Efficiency and Renewable Energy Credit Line (BEERECL)	EU-EBRD Energy Efficiency Finance Facility (EUEEFF)
€155 million credit line for industrial energy efficiency and small scale renewables, complemented by €35.2 million from KIDSF	€20 million credit line for industrial energy efficiency, complemented by €4.5 million in EU grant funding
Residential Energy Efficiency Credit Line (REECL)	Bulgarian Energy Efficiency for Competitive Industry Finance Facility (BEECIFF)
€84.3 million credit line complemented by €24.6 million from KIDSF	€75 million credit line, supported by parallel grant co-financing from EU Structural Funds

FIGURE 2: TYPICAL STRUCTURE OF BULGARIAN SEFFS



RESULTS AND IMPACTS

Companies that have implemented projects financed through SEFFs have become more competitive. In addition, through residential energy efficiency projects many Bulgarian households have been able to lower their energy bills. These investments have had important demonstration effects and have helped avoid significant amounts of greenhouse gas emissions (GHG). Overall, Bulgaria's energy intensity has fallen since 2004 and SEFFs have contributed to this development. Table 2 below summarises results of the Bulgarian SEFFs.

TABLE 2: RESULTS OF THE BULGARIAN SEFFS

Performance indicator	Volume	Comparator
Energy savings	132,300 toe ³ /year	1.4% of final energy demand in 2011 (9.61 million toe)
Renewable energy	113 MWe and 111 MWth of renewable capacity installed	6% of the lost capacity of the Kozloduy Nuclear Power Plant
GHG emission reductions	1 million tonnes of CO ₂ e	2.1% of 49 million tonnes of CO ₂ emitted by fuel combustion in 2011

Implementation of the Bulgarian SEFFS has built new capacity to undertake energy efficiency and sustainable energy investments in Bulgaria, by ensuring that local experts can identify investment opportunities and local financial institutions are familiar with appraising and financing these projects. This is generating long-term local capacity and contributing to the establishment of a self-supporting market.

Implementation challenges and lessons learned

While the Bulgarian SEFFs were designed to address market barriers identified earlier, their implementation also provided important lessons for the development of future financing facilities.

TABLE 3: IMPLEMENTATION CHALLENGES

Performance indicator	Volume	Comparator
1. Disbursement slower than expected	<p>The disbursement of sub-loans to companies was often slower than predicted. This was due to the difficulties of developing a new financing instrument and building capacity within partner banks.</p> <p>For example, BEERECL required the development of a whole new infrastructure in partner banks, to handle preparation of instructions, training, reporting tools and channels for loan officers.</p>	<p>In new markets, a SEFF needs to be in operation for at least three years before partner banks fully understand the product. This period also allows sufficient momentum to build up in the market, enabling full disbursement of loans within the planned period.</p>
2. Management of technical cooperation for banks and sub-borrowers	<p>Implementation of SEFFs includes complex technical cooperation (TC) packages. Extensive EBRD in-house capacity is required to develop and manage the TC plus the expectations and performance of partner banks. This was particularly true in the case of BEERECL, when the Bank was still learning how best to implement and manage SEFFs.</p>	<p>Complex and long-term TC support during the full programme lifetime is essential to the successful implementation of SEFFs. For partner banks with limited experience in sustainable energy financing, such TC is particularly important.</p> <p>SEFF TC packages for new programmes need design flexibility to enable continuous improvement and adaptation to changing market conditions.</p> <p>An inception period is important for a successful launch, permitting the establishment of successful working partnerships between the local banks and the TC consultants.</p>

³ toe = Tonnes of oil equivalent.

3. Increased environmental safeguards	<p>Although the EBRD expected that national environmental legislation would ensure high-quality sub-projects for BEERECL, initial monitoring visits by the Bank's Environment and Sustainability Department showed a need for more stringent environmental standards.</p> <p>A new set of procedures and eligibility criteria for mini-hydro projects were introduced, which partner banks had to apply. Additional support from environmental specialists was also provided as required.</p>	<p>National standards do not necessarily match the stringent requirements for projects that are funded by international financial institutions.</p> <p>Recognising this, the EBRD now has its own measures for assessing the environmental and social standards of sub-projects funded under SEFFs. Where no national standards exist, sub-projects must meet international standards.</p>
4. Effective marketing channels	<p>The EBRD initially anticipated that marketing would be conducted by the TA-funded consultants. However, marketing a mass product in a fragmented sector requires significant budget resources, for which donor support alone may be insufficient.</p>	<p>Consultants should not conduct marketing activities on their own, but rather link all relevant stakeholders and mobilise them to promote the product. Effective marketing channels for residential energy efficiency include:</p> <ul style="list-style-type: none"> (a) partner banks, if they are made to feel ownership and responsibility for the product (b) suppliers of eligible technologies, who have reason to increase sales (c) retailers, who can expand their client base by working closely with suppliers and linking a financing product with equipment sales (d) the media, to which topics such as energy security or home energy improvements would be of interest.

Conclusions

Over the past decade, Bulgarian SEFFs have had a significant transformative impact in the local financing market for sustainable energy. Through a process of continuous improvement, the facilities have become core EBRD and regional financing mechanisms. They are instrumental in shaping and building the sustainable energy market, enabling it to become self-sustaining.

A significant volume of EBRD commercial funding, coupled with TA from grants, cuts transaction costs, lowering barriers to market development. Capacity-building TA supports the development of project developers and local financial institutions. Working with multiple partner banks encourages competition and builds the market, which gradually overcomes any lack of familiarity with the sustainable energy sector.

As the market matures, and prices begin to incorporate the principle of 'polluter pays', fewer incentives will be provided. Nonetheless, in some sub-sectors – such as residential energy refurbishments – substantial incentives may still be required for many years to come, due to high transaction costs and the microeconomics of these markets.

ANNEX 1: OVERVIEW OF BULGARIAN SEFFS

1. BEERECL: First steps in the industrial energy efficiency and renewables sector

The Bulgarian Energy Efficiency and Renewable Energy Credit Line (BEERECL) was the first EBRD SEFF, targeting industrial and commercial sub-borrowers. Launched in 2004 and subsequently extended in 2006 and 2008, BEERECL became a 'one-stop-shop' financing model that successfully opened the market for local lending to sustainable energy.

In total, BEERECL provided €155 million of EBRD funds, which were on-lent to eight participating banks with a €35.2 million grant fund from the Kozloduy International Decommissioning Support Fund (KIDSF). With sustainable energy lending increasingly seen as a core business line, competitive pressure led nine Bulgarian banks to sign up for the facility⁴. Financing was provided to these banks on market terms, with a medium-term tenor. The grant funding was dedicated to project preparation and incentives for banks and sub-borrowers, to overcome barriers to sustainable energy investments.

TABLE 4: BEERECL – PARTICIPATING BANKS AND LOAN VOLUMES, 2004-13

Participating banks	Total EBRD Loan (€)
Allianz Bank Bulgaria	7,500,000
DSK Bank	20,000,000
Eurobank Bulgaria	15,000,000
Piraeus Bank Bulgaria	5,000,000
Raiffeisenbank (Bulgaria)	27,500,000
UniCredit Bulbank	32,000,000
Unionbank	8,000,000
United Bulgarian Bank	40,000,000
Total loan amounts committed	155,000,000

TABLE 5: BEERECL – USE OF DONOR FUNDS, 2004-13

Use of donor funds	Volume (€)	Grant intensity (compared to loan volume)
Technical cooperation for project preparation and verification	5,920,000	3.8%
Grant incentives	29,280,000	18.9%
Total grant funds committed	35,200,000	22.7%

⁴ A merger between two banks later reduced the number of participating banks from nine to eight.

Evolution of incentives

At its launch, BEERECL was a new and highly innovative financial product in sustainable energy finance for the region. The facility used a straightforward approach for awarding grants, in the form of a fixed-rate payment to sub-borrowers on completion of the investment, calculated as a percentage of the sub-loan amount⁵. Partner banks were also entitled to incentives⁶ to cover part of their costs for managing these facilities and incentivise them to do sustainable energy lending. The incentives enabled banks to structure a marketable product for BEERECL and helped their staff and sub-borrowers to clearly understand the value of the lending product. The intent was also to provide a valuation for the environmental 'good' that would result from the investments, but which was not priced into the market cost of energy. Without this simple approach, it would have been impossible to achieve meaningful market penetration and demonstration effects with a bank-intermediated approach.

However, as the market evolved, so did the SEFF model, which has adapted to the increasing sophistication of the sector. In recent extensions of BEERECL, as potential sub-borrowers have become more aware of the benefits of investing in sustainable energy, the Bank has introduced a more performance-oriented methodology for awarding grants. Under the new methodology, grant volume is more clearly linked to the environmental improvements that the investment brings. At the same time, the Bank is gradually phasing out incentives provided to banks⁷ and sub-borrowers. It has also raised the loan eligibility criteria for sub-projects.

Results

After 10 years of successful work, BEERECL concluded its operations at the end of February 2014. While at first the credit line had served the renewables market almost exclusively, increased marketing efforts later enabled significant expansion of the energy efficiency lending portfolio. By the conclusion of BEERECL in 2014, almost 300 projects had been signed with a total investment value of €230 million. These received more than €150 million in financing through the facility. 195 projects focused on energy efficiency and a further 98 projects on renewable generation.

Energy efficiency loans ranged from €11,000 to €2.5 million, with an average sub-loan of €310,000. Eligible projects identified by the consultants included upgrades or replacements for machinery, co-generation of heat and power, and thermal insulation of production halls in industries such as pulp and paper plants, sugar mills, chemical plants, bakeries, farms, parts manufacturers and metals processors.

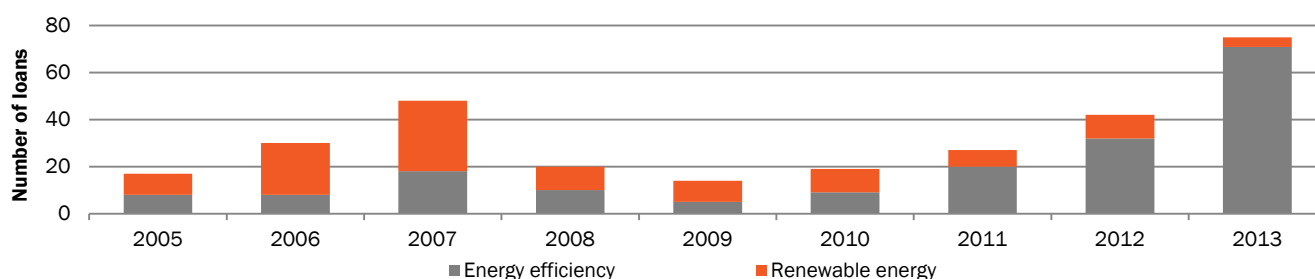
Renewable energy loans varied from €30,000 to €2.5 million, with an average size of €877,000. Investments included biogas, biomass, hydropower, solar electric, solar heat and wind projects.

The portfolio of BEERECL projects achieved the following estimated results:

- annual electricity savings of 1,078,502 MWh (equivalent to the residential electricity use of 893,600 Bulgarians)
- annual CO₂ emission reductions of 710,000 tonnes (comparable to the emissions from 390,275 cars).

These savings are equivalent to the generation capacity of a 165MWe power plant, or 9.5 per cent of the capacity that had been shut down at the Kozloduy Nuclear Power Plant.

FIGURE 3: BEERECL – NUMBER OF LOANS PER YEAR, BY TYPE OF LOAN



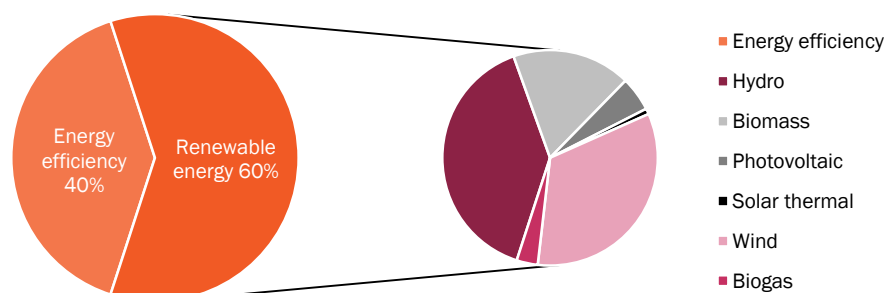
Source: BEERECL project consultant final report.

⁵ Incentive payments to sub-borrowers were 15 per cent for energy efficiency investments and 20 per cent for renewable energy investments.

⁶ An administrative fee of 1 per cent per annum was calculated on the basis of the outstanding portfolio of verified loans, and a completion fee of 2 per cent on the size of the sub-loan financed under the facility (after successful verification of the sub-project).

⁷ As Bulgarian partner banks have grown more experienced at implementing SEFFs, their incentives have gradually been reduced. The extensions of REECL and BEECIFF offered no incentives.

FIGURE 4: BEERECL – LOAN AMOUNTS, BY TYPE OF TECHNOLOGY



Source: BEERECL project consultant final report.

2. REECL: Expanding a successful model into the residential sector

In 2005, following the successful launch of BEERECL, the EBRD, in cooperation with the government of Bulgaria and KIDSF, launched another €50 million credit line for the residential sector – the Residential Energy Efficiency Credit Line, or REECL. Through this facility €46 million in loans have been signed with six Bulgarian banks.

An extension of REECL, with a volume of €40 million, was launched in July 2011 and signed with six Bulgarian banks: four repeat clients from the first REECL facility and two new banks. Following the introduction of legislation allowing associations of apartment owners to undertake building investments, the REECL extension contained an amended incentive mechanism for sub-borrowers. This allowed them to focus on comprehensive building improvements, energy-efficient technologies and the introduction of first-loss insurance cover for registered associations.

Results

At the end of 2013, the combined REECL portfolio exceeded €73 million, with 47,184 sub-loans financed. The majority of these loans are for individual dwelling measures, with an average sub-loan size of €1,550. More than 100 loans for whole-building refurbishments have been made available under REECL. Bulgarian housing stock is often characterised by poor insulation of the building envelope, so whole-building refurbishments have great potential for energy savings and CO₂ emission reductions.

REECL projects financed to date are estimated to have:

- saved 220,501 MWh of electricity per year, equivalent to the residential electricity consumption of 180,000 Bulgarians
- reduced CO₂ emissions by 321,000 tonnes per year – the amount of CO₂ that a forest of 11 million trees would absorb annually.

3. EUEEFF: Targeting industrial projects

In response to demand from banks for further funding, in 2007 the EBRD launched the regional Bulgarian EU-EBRD Energy Efficiency Finance Facility (EUEEFF). The facility was supported by the European Union and involved two Bulgarian partner banks: UniCredit Bulbank (UCB) and United Bulgarian Bank (UBB), with credit lines of €15 million and €5 million respectively. EUEEFF provided loans to private sector companies for industrial energy efficiency sub-projects. The new facility ran in parallel to the second phase of BEERECL. It focused exclusively on industrial energy efficiency, but with higher technical and financial requirements for the eligibility of sub-projects.

Results

By the end of 2012, when the facility was closed, EUEEFF had successfully financed 39 companies with loans totalling €19.8 million. EUEEFF sub-projects are estimated to save the energy equivalent of 95,205 MWh per year and avoid GHG emissions equivalent to almost 48,000 tonnes of CO₂ per year.

TABLE 6: DISTRIBUTION OF EUEEFF LOAN AMOUNTS BY SECTOR

Indicator	Total loan amount (€)	Percentage of total loans
Cement	6,586,783	33
Chemical	1,313,560	7
Electric equipment	3,717,599	19
Farming	3,066,927	15
Food processing	1,593,939	8
Fuels and mining	1,736,467	9
Paper	6,586,783	33
Textiles	1,313,560	7
Total	19,985,069	100

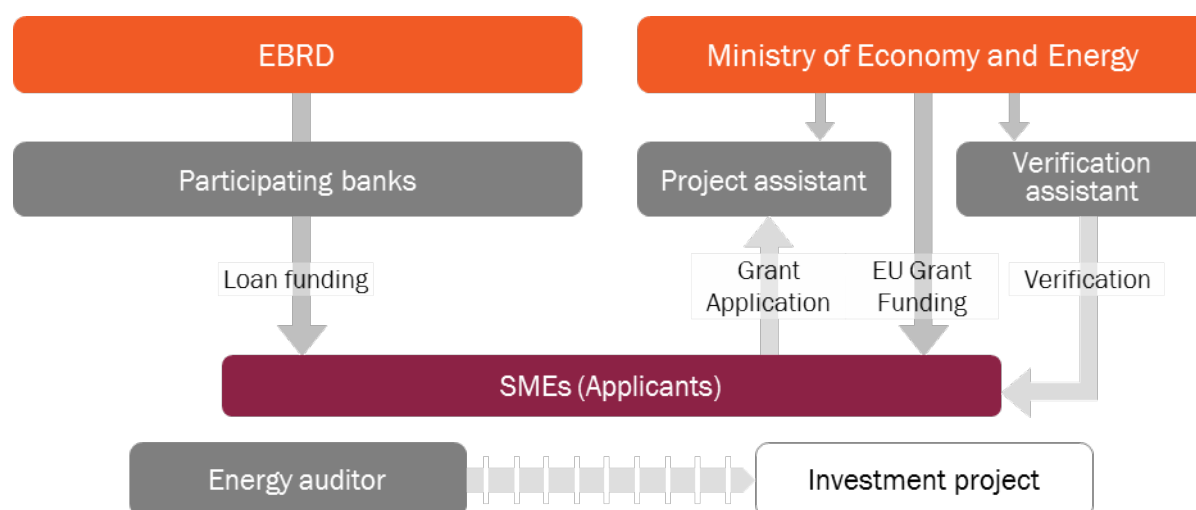
4. BEECIFF: promoting sustainable energy investment solutions for SMEs

The Bulgarian government launched its Energy Efficiency and Green Economy Programme in 2012. The Programme aims to (1) improve the efficiency and productivity of environmentally friendly technologies used by SMEs and (2) reduce energy intensity and adverse environmental impacts by promoting environmentally friendly, low-waste, energy-saving production technologies. It has two main components:

- a grant component provided by the Ministry of Economy and Energy (as the managing authority of the operational programme “Development of the Competitiveness of the Bulgarian Economy” 2007-13)
- a loan component managed by the EBRD and provided under BEECIFF.

In contrast to the classic SEFF model, in which the EBRD manages integrated instruments providing loans, grants and technical cooperation under one umbrella, BEECIFF was a joint instrument that used parallel co-financing.

FIGURE 5: STRUCTURE OF BEECIFF



Source: BEECIFF web site, www.beeciff.org

Under BEECIFF, up to €150 million of financing may be provided to local commercial banks with a track record in sustainable energy lending, for on-lending to SMEs. The funding can be used for pre-financing and co-financing projects that are eligible under the Programme. The Programme also includes a technical cooperation package to help the Ministry screen projects for eligibility. SMEs can use accredited and certified energy auditors to help them with project preparation and can receive partial reimbursement for the cost of their energy audit.

Results

To date, the EBRD has signed BEECIFF credit lines with eight banks for €74.5 million. More than 700 applications were received under the Programme and technical advisors are currently screening pipeline projects for eligibility. By the end of December 2013, partner banks had reported 35 sub-loans signed with eligible companies for a total loan amount of €12.7 million. The Programme is still being implemented and results will be available at a later stage.

ANNEX 2: CASE STUDIES

BEERECL: IHB Electric JSC – Introduction of energy efficiency measures



IHB Electric JSC (formerly Elprom ZEM Co) is the sole Bulgarian manufacturer of large electrical machines for hydropower plants, pumping stations and irrigation systems. A BEERECL loan was used to upgrade their production equipment.

Location	Sofia
Type of project	Industrial energy efficiency
Project results	Reduced production and energy costs and cash savings; increased output; enhanced competitiveness; improved work environment; simple payback period of 1.5 years; internal rate of return over 84%
Total project cost	€59,900
Total loan	€48,000
KIDSF grant	€7,200
Cost savings	Energy: €5,600, or 73%; Operations and maintenance: €33,600; Total cash savings: €39,000
CO ₂ emission reductions	Approximately 81 tonnes per year

BEERECL: Eco Energy Dospat – Installation of renewable energy system



Eco Energy Dospat EAD is located in the Blagoevgrad region of Bulgaria. The company used a BEERECL loan to finance the construction of a biomass installation for combined heat and electricity production. The electricity produced covers the company's own needs, while any surplus is sold to the National Electric Company. 12,900 tonnes of wood waste are used by the installation each year.

Location	Blagoevgrad region
Type of project	Biomass
Project results	Reduced energy costs; simple payback period of 3.8 years; internal rate of return 28.36%
Total project cost	€1,870,795
Total loan	€1,209,200
KIDSF grant	€181,380
Cost savings	Approximately 8,625 MWe and 2,400 MWh per year
CO ₂ emission reductions	Approximately 7,223 tonnes per year

EUEEFF: Hlebni Izdeliya-Poduyane JSC

Introduction of energy efficiency equipment



Hlebni Izdeliya produces bread and pastry products. Motivated by high energy costs, the company took the opportunity to receive free consulting advice and financing, using the EU-EBRD Energy Efficiency Facility (EUEEFF). After an energy audit, the bakery chose to make the following sustainable energy investments.

1. Replace six old ovens with four new, energy-efficient ovens
2. Upgrade the heat distribution system.

In addition to the savings shown below, the company saw annual electricity use decrease by 30 MWh and cut its use of natural gas by 310 K Nm³. Furthermore, as a result of introducing the new ovens, Hlebni Izdeliya reduced annual bread waste by 411,260 pieces of bread.

Location	Sofia
Type of project	Commercial energy efficiency
Project results	Energy savings ratio: 45%; simple payback period with EU grant: 4.5 years; internal rate of return with EU grant: 22%
Total project cost	€567,073
Total loan	€567,073
EU grant	€85,061
Cost savings	Total annual savings: €213,680; operations and maintenance: €16,000; Total cash savings: €39,000
CO ₂ emission reductions	564 tonnes per year

REECL: Sofia apartment buildings

Residential energy efficiency project



Before



After

18, K. Bojikov Str in Sofia is a residential building of 15 apartments. The occupants were able to reduce energy consumption from 159 kWh/m² per year to 132 kWh/m² by insulating external walls and reducing heat loss. These measures brought energy savings and enhanced comfort for residents of the building.

Location	Sofia
Type of project	Residential energy efficiency
Project results	Reduction of energy use and heating bills; internal rate of return: 12%
Total project cost / loan	€33,000
Energy savings	48.6 MWh per year
Energy bill savings	Total building savings of €3,200, or €200 per family per year
CO ₂ emission reductions	33 tonnes per year

ANNEX 3 – CLIENT TESTIMONIALS

Representatives of partner banks comment on their organisation's experience of the BEERECL programme:

MARINELA KOEVA, BUSINESS DEVELOPMENT MANAGER, UNITED BULGARIAN BANK



Q. *Would you describe briefly the advantages of the BEERECL programme to your bank and your clients?*

A. "United Bulgarian Bank (UBB) has worked with the BEERECL programme for ten years since it began in Bulgaria. The biggest advantages for our bank were the experience we gained, the innovation, the opportunity for new business orientation and the development of green projects. For our clients, free technical cooperation was most significant, and incentives also boosted their investment plans. One of the most interesting consequences of BEERECL for UBB was the implementation of the so-called 'carbon projects' in cooperation with the EBRD. Three of these financed projects for renewable energy benefited from the monetisation of carbon emission reductions. The experience and good business practices give us confidence to finance energy efficiency and renewable energy projects in the future, even beyond the BEERECL framework."

MICHELE AMADEI, HEAD OF CORPORATE AND INVESTMENT AND PRIVATE BANKING DIVISION, AND MEMBER OF MANAGEMENT BOARD, UNICREDIT BULBANK



Q. *How will your bank continue its involvement in sustainable energy lending?*

A. "In the forthcoming programming period for EU Funds (2014-20) the bank intends to participate in operational programmes oriented to energy efficiency and renewable energy by issuing loans to borrowers who need funding to complete their projects. The experience we have acquired in this area will be used to improve the time and financial resources available to SMEs for implementing their investment or expansion plans. The credit appetite for BEERECL-type programmes is substantial, even in the current economic situation, which shows the attractiveness of the programme."

DOBROMIR DOBREV, MEMBER OF MANAGEMENT BOARD, RAIFFEISENBANK (BULGARIA)



Q. *What was the most effective tool or channel you used to promote this credit line? What was useful about the role of the project consultant?*

A. "The most effective tool of Raiffeisenbank (Bulgaria) has always been direct contact with clients. The relationship managers of the bank promote the programme to our existing and potential customers. Each of them knows the advantages of the programme, and how to find eligible projects or measures designed to improve energy efficiency. Raiffeisenbank (Bulgaria) has worked closely with the programme's project consultant. The key advantage of the project consultant's role was the close cooperation maintained not only with us but also with potential customers. Some customers have been directed to us by the consultant. Working in the field, the consultant could promote the programme and raise awareness of such investments."

DORCHO ILCHEV, EXECUTIVE DIRECTOR, ALLIANZ BANK, BULGARIA



Q. *Would you describe briefly the advantages of the BEERECL programme to your bank and clients?*

A. "BEERECL provided both us as a bank and our clients with the unique opportunity to support sustainable energy projects in a difficult market environment. We joined the second extension of BEERECL in 2010, at a time of full-scale economic crisis. Despite the market situation we managed the facility quite well and I would say that we had the fastest absorption rate among all Bulgarian banks working under BEERECL. We were able to on-lend 80 per cent of the funds to final beneficiaries within the first anniversary of the loan agreement."

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