GEFF Green Economy Financing Facility

European Bank for Reconstruction and Development

Where finance and green technologies meet

GEFF in Armenia Newsletter N14: Q2, 2022

Key results as of June 30, 2022

- *GEFF in Armenia has financed 334 projects worth EUR 28.91 million through four Partner Financial Institutions (PFIs), thus reducing primary energy usage by 132,372 MWh/year, saving 30,512 tonnes of CO_2 annually and 5,653 m^3/year of water savings.*
- *47.01 MW installed capacity of renewable energy projects makes it possible to avoid 26,501 tonnes of CO_2annually.*
- *1,322 EE and RE technologies provided by 177 vendors from 21 sites around Armenia are made accessible through the Green Technology Selector*

“Energy Efficiency for agribusiness” – a joint event with ACBA Leasing in the Vayots Dzor region

On 30 July, GEFF in Armenia held a joint event in the Vayots Dzor region with one of its partner financial institutions – ACBA Leasing. Regional agribusiness representatives, such as winemakers, cheesemakers, and dairy and canned food producers, had a chance to receive first-hand information from industry experts about the high-performance and energy-efficient technologies that can be accessed to support their businesses both in the short and long term.

Being SMEs, the agribusinesses in the Vayots Dzor region are more exposed to fluctuations in energy prices. According to international research, SMEs in developing countries are three times more vulnerable to energy price fluctuations than corporations, owing to their underdeveloped technological base. Furthermore, they are exposed to climate change risks, i.e., rising maximum and lowering minimum temperatures, seasonal flooding, and droughts.

Green technologies play a vital role in making regional SMEs more competitive. Considering the fact that from a workforce accessibility perspective, the Vayots Dzor region

is in one of the weakest positions in the country, it is crucial for regional companies to access high-performance technologies in order to gain a competitive advantage. For this reason, it is of great importance to make green technologies known to agribusinesses operating in Vayots Dzor and other regions.

At an average regional SME production site (considering seasonal overloads), bottling and bottle-cleaning equipment can help a business achieve up to 30% energy savings, wine production equipment up to 41%, air-cooled chillers up to 30%, high-performance boilers at least 20%, air compressors at least 35%, and building insulation 50-70%, etc. Industry experts presented all the above-mentioned technologies as well as how companies can access these through state subsidy schemes. All in all, the event was aimed at helping SMEs make informed decisions when it comes to improving their long-term efficiency through energy savings, but also contributing to their short-term competitiveness through operational gains that can be achieved.

“Agriculture is one of the most important sectors of the Armenian economy. Considering the growth rate in the sector, it is vital to make use of high-performance technologies to register dynamic growth and maintain the energy efficiency level of companies,” as highlighted by the technical expert of GEFF in Armenia, Vardan Khachatryan.

The Q&A session at the end of the event provided the attendees with insight into various financing schemes accessible through ACBA Leasing. The questions posed also highlighted the peculiarities of the technologies that can be accessed through the EBRD’s Green Technology Selector as well as other non-standard technologies available on demand through local vendors of internationally recognised technology suppliers.

First steps in the liberalisation of the electricity market of the Republic

On February 1, 2022, the gradual liberalisation of the Armenian electricity market started. The ultimate goal of liberalization is to shift the electricity market from a single supplier model to multiple suppliers, an open market model. The formation of a transparent and competitive market is expected to increase investments in the country's energy sector, as well as volumes of interstate electricity trade.

The following transitional provisions are currently in force to ensure step by step inclusion of prominent players in the new market regulation:

- The new market conditions are not applicable to households, and they continue buying electricity from the only Guaranteed Supplier (ENA).
- The same applies to non-household consumers in case they keep their contract for the electricity supply with ENA.
- From February 1, 2023, the largest electricity consumers with an annual consumption of 1 million kWh/year or more, connected to a 110 kV or 220 kV network (about 20 companies), will be required to buy electricity under the new market regulation. Otherwise, they will be forced to buy at the most expensive tariff established by the PSRC. With this respect, the "Settlement Centre" and the USAID

organised three training courses on new market rules and how to work with the relevant software[1] for employees of the above-mentioned large consumers, generating stations, and other interested consumers.

These measures are designed to ensure a smooth transition to the new market regulation.
According to the PSRC, following the initiation of the electricity market liberalization, over the recent six months, more than 20 companies have applied for a license to operate under the new market rules, 10 of which have already received an electricity supplier license, and another seven companies have received a wholesale electricity trade license, while several more applications are currently under consideration.

According to the Deputy General Director of the "Settlement Centre" Norayr Harutyunyan[2], two newly certified energy supplier companies are currently active in the market - they already have both energy consumers and generation plants. There are also generating stations, mainly SHPPs, which independently sell their electricity through the new market mechanism. Also, a number of consumers (13 companies) are currently buying electricity through the new market mechanism.
Thus, at the moment, 35 generating stations and more than 13 consumers are already trading under the new market mechanism. At the same time, the electricity trading volume based on the latest market mechanism is about 5 % of the entire market. Considering that their transition to the new market was voluntary, this is a positive signal for all other participants in the energy market.

Perhaps at a first glance, it may seem that the new market trading rules are complicated and challenging for commercial clients. But first, they are built on the simple principle of a fair market price. Second, the system is quite flexible due to various optional features. In addition, "Settlement Centre" in every possible way assists companies that decide to move from the previous scheme of paying for electricity by the meter to new market mechanisms for planning electricity consumption and purchasing at a more favourable tariff.

The new electricity trading market mechanism is built on the principle of an hourly generation and consumption schedule. For any consumer, accurate consumption planning is the key to reducing electricity costs by optimising the operation of generating power plants. On the other hand, a planned production schedule is the key to selling the generated electricity at the best price for a generating station.

Finally, the new market mechanism with all other benefits also opens opportunities for the further development of RE plants with commercial purposes, as well as expansion and diversification of RE sources usage.

[1] https://aex.setcenter.am/

[2] https://www.setcenter.am/

GEFF sub-borrower awarded for "Climate Change - Women in Armenia"

On 5 April, about 200 attendees gathered at an official ceremony, “Climate Change and Women in Armenia Award”, including speakers from the UNDP, high-ranking government officials, ambassadors, and many other respected guests from around the country. The goals of the awards were to recognise the contribution and leadership of Armenian women in mitigating and adapting to climate change, create a platform for sharing best practices, stimulate the cooperation of stakeholders, and draw attention to the uneven impact of climate

Ameriabank wins the first sustainable finance award in Armenia

For the first time in the region, Ameriabank – a Partner Financial Institution of GEFF in Armenia, wins the Global Finance “Sustainable Finance award”. The awards recognise global, regional, and local leadership in Sustainable Finance funding for initiatives designed to mitigate the negative impacts of climate change and help build a more sustainable future for humanity. Criteria for evaluation include governance policies, goals, and measurable achievements in environmental and social sustainability financing.

change on women and men.

As part of the EBRD's engagement in supporting green investments in the country, gender finance activities are carried out continuously. Therefore, EBRD GEFF in Armenia did not hesitate to nominate the Director of Radio Hay, renowned architect Anahit Tarkhanyan. The company was among 100 nominees for 170 nominations. It was honoured with one of the event's six awards, presented for its engagement in climate change awareness-raising in Armenia in recent years through its radio coverage. The company's activities are powered by renewable energy investments made with the help of GEFF in Armenia financing and GTS high-performance technologies, thus making its radio transmissions more sustainable and greener.

GEFF nominee Radio Hay invested in five solar power stations installed at the company's head office in Yerevan and four radio towers in the Yerevan, Gegharkunik, Lori, and Syunik regions, thus enabling the company to produce 57.48 MWh of green energy annually. As a result of these investments, the awardee has successfully reduced its CO_2 emissions by 25 tonnes a year. The GTS vendor of the power stations has granted a 15-year warranty on the German-made solar

Ameriabank started on its way to green finance in 2009, financing more than USD 200 million in renewable energy and energy efficiency projects with the support of various international financial institutions and impact investors.

In 2019 it became a Partner Financial Institution (PFI) of the EBRD's GEFF in Armenia, receiving not only funds for green finance but also technical support and knowledge transfer that supported its growth in green finance practices and portfolio development.

In 2020, Ameriabank became the first Bank in Armenia to issue Green Bonds. It is committed to creating a sustainable environment and supporting its customers' transition towards a carbon-neutral economy. The Green Bond Framework, under which it issues bonds and uses the proceeds to finance and refinance existing and future projects that support Armenia's transition to a low-carbon economy, has set eligibility criteria in nine areas:

- Renewable Energy
- Energy Transmission, Distribution and Storage
- Sustainable Transport
- Water
- Sustainable Buildings
- Land Use and Aquatic Resources
- Energy and Resource Efficiency in

panels and a five-year warranty on the other parts. After the seven-year repayment period, the solar power station will provide stable coverage for the company's energy costs for about 20 years.

The UNDP organised the contest in the framework of the "Armenia's National Adaptation Plan" project financed by GCF, the RA Ministry of Environment, in cooperation with the RA Ministry of Labour and Social Affairs and the Council on Women's Affairs; it was coordinated by the "Women in Climate and Energy" NGO. Many guests expressed the hope that the Awards will take place on an annual basis, thus bringing into focus and contributing to the development of a more resilient and sustainable future for the country.

Industry
- Waste Management
- IT Solutions

According to Sustainalytics, a leading independent ESG and corporate governance research, ratings and analytics firm, Ameriabank's Green Bond Framework is credible and impactful. It is consistent with the International Capital Market Association's Green Bond Principles and is in alignment with the UN Sustainable Development Goals. Advancing further, in February 2022, Ameriabank announced the public placement of nominal, coupon, and book-entry bonds with a total volume of USD 8 million and AMD 3 billion from February to April 2022, which was the first-ever placement of green bonds via a public offering in Armenia.

Sustainable Finance Forum in spring 2022

The 4th edition of the Sustainable Finance Forum took place at the beginning of April and concentrated on Eastern Europe, Caucasus, and Central Asia (EECCA) markets. The virtual two-day forum, held on 7 and 8 April, explored various topics ranging from ESG to

renewable energy, agriculture, and climate risks. Along with seasoned professionals from multiple institutions, such as the EBRD, IFC, investment funds and governmental organisations, regional GEFF experts had the opportunity to join the discussion on ways to advance the development of sustainable financing in the region.

The Forum started with a discussion on how recent regional and geopolitical developments have impacted operations and the financial sector in the region. “Build greener” was the message delivered by Sergiy Maslichenko, founding partner of the Green Trio Fund, signifying that there are opportunities to embrace technologies and strategic approaches that underpin sustainable finance.

Of course, there has to be close cooperation between governments, central banks and financial institutions to realise the broader goal of transitioning to a greener financing system. As Louise Gardiner, coordinator at the Sustainable Banking and Finance Network (SBFN) at IFC, emphasised, central banks should be working towards creating an enabling environment and guiding the market. The National Bank of Georgia was one of the first to join the SBFN network and is well on its way to realising its Sustainable Finance Roadmap. Kyrgyzstan has also made commendable strides in developing its framework, which stands on the four pillars of policymaking and regulations, building institutional capacity, ensuring environmental safety, and creating knowledge-sharing platforms.

Accelerating sustainable finance in the regions is a priority for many international institutions and investors. However, along with providing capital, it is also necessary to support regional partners in their day-to-day operations with technical assistance and advisory services. Sharing knowledge is also helpful in developing other financial instruments in the market, such as green or sustainability bonds. Despite their popularity in Europe, these have yet to become a standard tool in non-EU markets. With taxonomy alignment and rigorous verification standards, the EECCA region might become an attractive market for them.

As for renewable energy, EECCA offers the most exciting opportunities. The private and the public sectors are keen on developing wind and solar projects. As observed from the GEFF operations in the region, more and more businesses from various industries are interested in exploiting renewable energy. This is mainly due to the rising electricity prices. The benefits of utilising the potential of renewable energies are clear: they provide gains for the government, are a very competitive resource, increase the security of supply and

contribute to energy independence. Most technologies in the renewable energy space are equally bankable since technology risks are not particularly prevalent; however, the financial market needs to develop substantially to ensure it can support renewable energy development.

Climate risk was also discussed at length at the Forum, primarily in the context of agriculture. As Leah Soroka, Programme Manager for Europe Climate and Agri-Financial Services at the IFC, outlined, agriculture remains one of the most vulnerable to climate change. However, several regional conflicts, pandemics, and the rise in commodity prices have all caused disruptions in the agricultural value chain. Ms Soroka stressed the importance of adopting technologies and sustainable practices to prevent hunger and poor nutrition. Financial institutions need to understand the specificities of the agricultural business to devise instruments that support and empower local farmers. This is especially true for small-scale farmers: sharing knowledge, creating pricing policies, and investing in infrastructure are crucial for including smallholders in the agricultural value chain.

The Forum ended with an extensive masterclass on ESG Management and Climate Risk. Climate Risk Services CEO Gerhard Mulder and Project Manager Nathalie Lockton defined climate risk and its effects on the environment and institutions. The masterclass looked in depth at the risks associated with climate change and outlined priorities for institutions that want to mitigate, adapt or prevent the crisis. First and foremost, institutions must clearly define climate change and how it affects their organisation. They should then consider how climate-related risks and opportunities may evolve, and they need to understand how the potential implications may play out under different circumstances (scenario analysis). All participants had a chance to see the benefits of scenario analyses and accurate climate-risk assessments with the help of the many case studies presented by the Climate Risk Services trainers.

Featured technology: Air-cooled chiller

Air-cooled chillers are an integral part of a building's HVAC system and many industrial processes but are among the most energy-consuming devices an enterprise operates. Although all chillers of this type use the classic vapour compression cycle, the efficiency of different models can vary significantly. The most efficient chillers use high-performance centrifugal (medium to high capacity) and screw (low to medium capacity) compressors. Partial load efficiency solutions such as multi-circuit refrigerant systems, electronically controlled expansion valves (EEVs), EC fans, and variable flow pump hydronics also play a role in achieving high efficiency. Some chillers have a heat recovery option, where the energy from superheated steam at the compressor outlet is used to heat domestic water. Also, for systems operating in conditions of low outside temperature, there is a natural cooling option, where the coolant can be directly cooled by cold outside air without using a compressor.

Please browse through our Green Technology Selector to view the full selection of cooling systems.

Success stories

Artiki PHK

Variant Group

Artiki PHK LLC is a unique recycling business established in Armenia in 2008. Its primary function is to recycle textiles, importing leftovers from large foreign textile manufacturers and transforming them into microfibres to be used in pure form or processed into yarn. In 2021 the management decided to use its property to generate energy from the most prevalent renewable source in the region.

Location
Shirak
Investment
Solar photovoltaic system
Investment size
US$ 288,500
Financial results
Payback in 6 years
Energy savings
701 MWh per year
CO_2 savings
173 tonnes per year
Impact
Increased cost efficiency
Donor
GCF, CIF

Variant Group LLC is a medium-sized egg producer from the Ararat region of Armenia which supplies the local market. Taking advantage of green finance in combination with the "State assistance of leasing for financial lending of agri-food equipment in the Republic of Armenia" programme, the company decided to invest in a multifunctional, completely automated layer cage system with feed loading and egg collection as well as an integrated drinking system and manure cleaning component, among others.

Location
Ararat
Investment
Layer cage system
Investment size
US$ 209,000
Energy savings
159 MWh per year
CO_2 savings
36 tonnes per year
Impact
Operating reliability
Donor
GCF, CIF

View more success stories on our website.

Supported by: