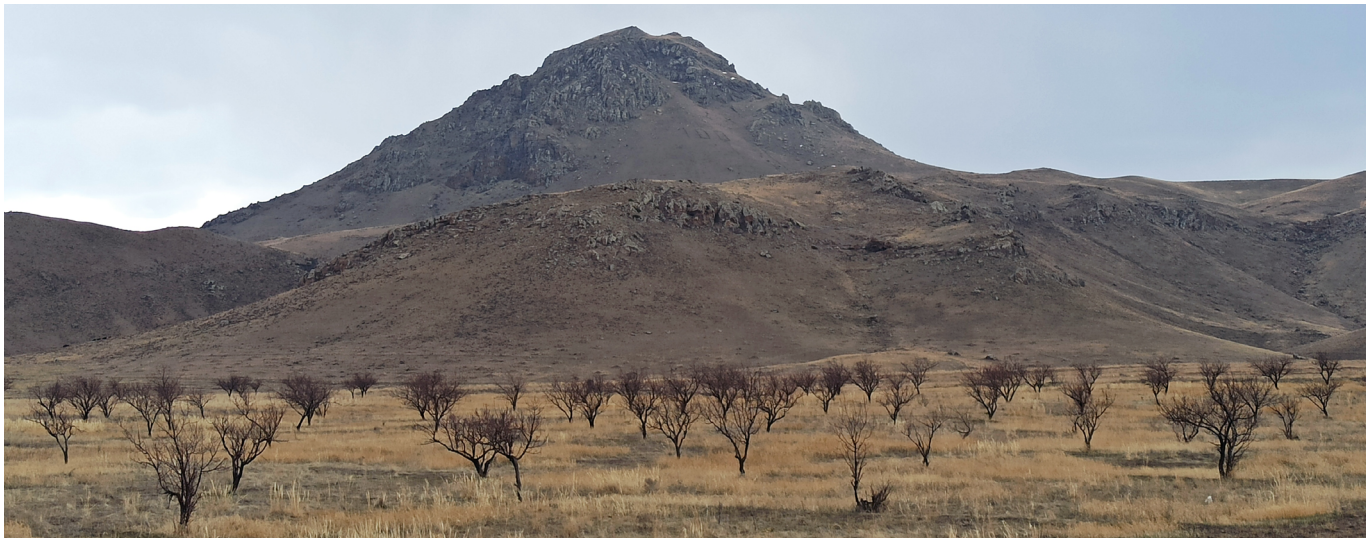
GEFF Green Economy Financing Facility

European Bank for Reconstruction and Development

Where finance and green technologies meet

GEFF in Armenia Newsletter N9, Q1 2021



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Key results as of 31 March 2021

- GEFF in Armenia has financed 201 projects worth EUR 17.7 million through four Partner Financial Institutions (PFIs), thus reducing primary energy use by 84,188 MWh/year, saving 20,099 tonnes of CO2 annually and 5,171 m3/year of water.
- 27.5 MW installed capacity of renewable energy projects makes it possible to avoid 16,894 tonnes of CO2 annually.
- 1,806 EE and RE technologies offered by 165 vendors from 21 sites around Armenia are made accessible through the Green Technology Selector (GTS) at https://ts.ebrdgeff.com/armenia

Announcement of second phase launch

INECOBANK

After the successful completion of the first phase of the GEFF in Armenia facility, the second phase was launched at the beginning of April 2021. GEFF continues to provide financing, advice and incentives to help businesses become more competitive by investing in high-performance technologies, adopting energy efficiency practices and implementing climate adaptation and mitigation measures. GEFF provides the financing through local PFIs.

The Facility extension is a product of the EBRD, supported by the Green Climate Fund (GCF) and the Scaling-up Renewable Energy Program (SREP) of the Climate Investment Funds (CIF).

The Facility will continue to provide investment incentives to borrowers of GEFF PFIs upon successful completion and verification of small-scale renewable energy projects. Technologies eligible for the incentive include: commercial rooftop or building-integrated PV power generation, solar thermal heating installations, biogas installations, and geothermal heat pump installations.

The first PFI to take advantage of the extended GEFF facility in Armenia is Inecobank. During this second Programme phase, Inecobank received USD 6 million for the purpose of financing green investment projects. The bank had already disbursed USD 2.5 million during the first phase of the Programme, which started in January 2019, contributing to 4.9 GWh/year of clean energy production and a reduction in GHG emissions by 3,125 tonnes/year.

Including Armenia, the GEFF programme operates through a network of more than 155 local financial institutions across 27 countries, supported by more than EUR 5 billion of EBRD finance. More than 202,000 investments have led to a reduction of over 9 million tonnes of CO2 emissions per year.

Source: EBRD

Increased tariffs for electricity

The new tariffs on electricity issued by Armenia's Public Services Regulatory Commission (PSRC) have been in force since 1 February 2021.

Daytime electricity tariffs increased by 6.2%, from AMD 44.98 to AMD 47.98 per kWh; night-time tariffs increased by about 7.9%, from AMD 35.00 to AMD 37.98 per kWh (including VAT).

While the increase is not substantial, it could still put a strain on businesses and might result in higher prices for final consumer goods. The importance of energy efficiency will continue to grow with increasingly stringent environmental regulations. Therefore, the necessity for high-performing energy-efficient technologies and renewable energy will become ever more pressing.

According to Bloomberg's New Energy Outlook, wind and solar PV will generate 56% of global electricity by 2050. With innovation and scale driving the cost of renewable energy down and increasing the quality of technology, renewables are now the cheapest new electricity, becoming even more affordable than coal and gas in five years.

Armenia has significant solar energy potential. The average annual amount of solar energy flow per square metre of the surface area is about 1,720 kWh (the average for European countries is 1,000 kWh). A solar power plant's financial benefits are very attractive in Armenia: an investment of USD 65,000 could offer annual electricity savings of up to USD 11,600.

By financing solar PV through GEFF, businesses can also obtain an additional investment incentive of 20% upon completing the project.

What is climate adaptation, and why is it important?

Climate change is not new – the climate has always been changing – but the recent industrial human activities of the 20th-21st centuries have resulted in far more dramatic changes within a much shorter timeframe than forecasted. As a consequence, the Earth is warming, and this leads to other important climatic changes: increased frequency and duration of heat waves, changes in precipitation patterns, desertification of arable land, more floods, and other disruptions all becoming more frequent. These impacts damage the infrastructure, disrupt trade and supply chains, affect business performance and threaten people's livelihoods and wealth.

The pace of these changes depends on our lifestyle and economic activity. We should certainly **act to reduce greenhouse gases emissions** (through climate mitigation measures), but since the Earth won't stop warming immediately, our best bet is to **adapt to the inevitable climate changes**. There are certain things we can do differently that can help us adapt to shifts in climate.

First of all, it is absolutely necessary to plan for the future with climate change in mind. Government policies, as well as public and private investment projects, need to incorporate the changing climate into decisions and business models. On the national level, Armenia is a party to numerous international treaties and conventions, such as the United Nations Framework Convention on Climate Change (UNFCCC), the Kyoto Protocol to the UNFCCC, the Convention on Biological Diversity (CBD) and the United Nations Convention to Combat Desertification (UNCCD), along with the Network of Central Banks and Supervisors for Greening the Financial System (NGFS). These conventions compel the country to work on the issues related to climate change, which affect the most common industries in the country, such as tourism, power generation, production, construction, mining, etc. In fact, there are few, if any, industries that are not affected by climate change, directly or indirectly. One of the most vulnerable industries is agriculture, which is one of the key economic sectors in Armenia, employing more than 24% of the population.

According to Food and Agriculture Organization (FAO) of the UN, climate change is threatening over 15% of Armenia's higher plant species with extinction. Semi-desert and desert areas are projected to expand by 30%, accelerating desertification. More frequent summer droughts and water stress reduce the growth rate of trees and make them more susceptible to pests and diseases; at the same time, the frequency and intensity of wildfires may increase, leading to an estimated 14,000 to 17,000 ha of forest loss by 2030.

Switching to a cleaner energy source can help a business significantly decrease its costs and reduce CO2 emissions by hundreds of tonnes per year. In addition, energy-efficient storage facilities sustain indoor temperature better and need less energy when in use.

Given the dramatic impact of climate change on water availability (farming is the biggest water consumer worldwide), it has become vital to adopt water-efficient measures in farming. One such measure is drip irrigation. Traditional irrigation mechanisms, such as flooding fields or using imprecise sprinklers, offer low efficiency and can contribute to soil erosion and desalination. In addition, they use excessive amounts of water, resulting in high agricultural runoffs that carry fertilisers and pesticides to rivers and lakes, leading to water pollution. Drip irrigation systems, which are financed under the GEFF Programme, offer up to 95% efficiency compared to traditional methods. Depending on the conditions, they can reduce water use between 20-60%. Furthermore, each system can be designed to accommodate specific crop needs, elevations, distances to be covered, etc. They can also be used to minimise the amount of fertilisers and pesticides used in farming.

There are many other technologies available to ensure sustainable land management practices. For example, a promising way to reduce soil erosion is to use no-tillage seeders that are designed to seed in mulch layers, cover crops or stubbles. They help increase the organic matter in soil, leading to better harvests, which in turn brings in more profits. The GTS offers types of various equipment that can further contribute to better farming, reduced costs (both monetary and environmental) and higher profitability, such as sub-soilers, mulchers, or roller crimpers.

These adaptation options illustrate that caring for the environment will not only increase our standard of living, but also bring immediate benefits to businesses and individuals alike. They are a good start towards combating both the current and the predicted impact of climate change.

Pilot floating solar PV plant to be built in Armenia

The first solar PV floating plant development project was launched in Armenia on 1 March 2021 in cooperation with the Armenia Renewable Resources and Energy Efficiency Fund (R2E2 Fund) and the French company Transenergie.

The project framework calls for researching the existing reservoirs in Armenia and conducting technical and financial feasibility studies of the reservoirs for the construction and operation of floating solar power plants. Based on the research outcomes, a pilot floating solar PV plant with a capacity of about 150 kW will be built in Armenia.

The EBRD recently supported a similar project initiated in Albania by financing a 12.9 MW floating solar PV farm with a EUR 9.1 million loan. The farm will be the first floating solar plant of this size in Albania and the Western Balkans. The plant will be built on the Vau i Dejës hydropower plant reservoir managed by Korporata Elektroenergjitike Shqiptare (KESH) of Albania's biggest state-owned utilities. It represents a breakthrough in innovative green technology, using Albania's rich solar resources while avoiding the use of scarce land.

Provided that the pilot project works out in Armenia, this could be another opportunity for financing new ways of developing solar energy projects in the country.

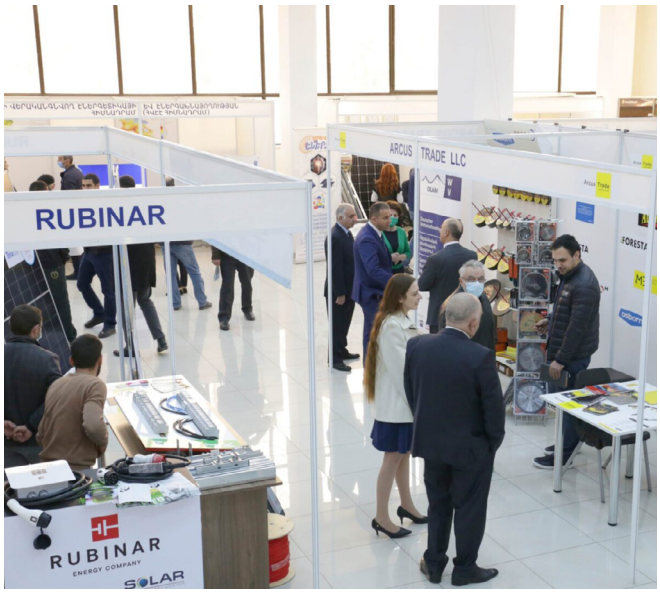
National Energy Development Strategic Plan 2040

In January 2021, the Government of Armenia approved the Energy Development Strategic Plan until 2040.

One facet of the strategic programme is the provision of new tenders for the construction of seven solar PV plants with a total installed capacity of about 520 MW, of which two will have a capacity of 200 MW each. The government aims to increase the share of solar energy production by at least 15% or 1.8 billion kWh in total by 2030. For this purpose, about 1,000 MW of solar power plants will be built, including autonomous ones.

On behalf of the Government of Armenia, the R2E2 Fund will hold tenders for solar projects.

No shortage of market development opportunities for green technology vendors in Armenia

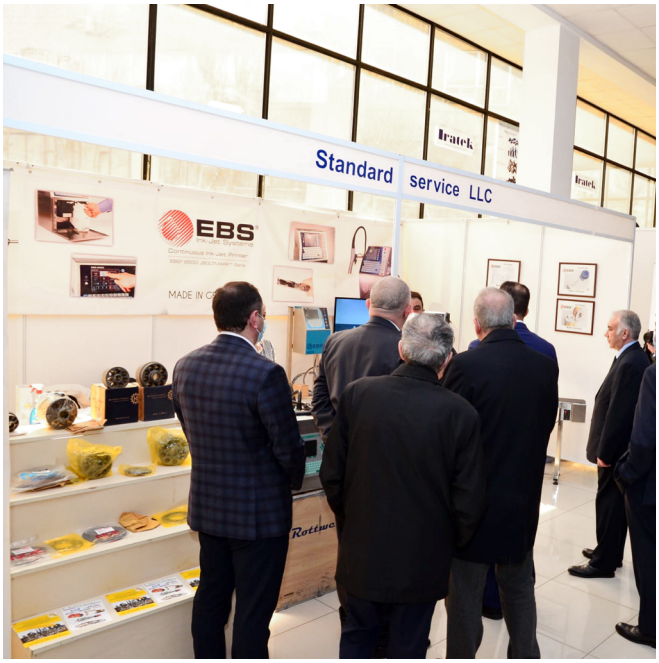


In the first quarter, the GEFF team made sure that the GTS suppliers were duly prepared to start the year with new skills and opportunities to pave their way in these challenging times.

Online webinars and training for solar PV vendors were conducted with emphasis on **quality assurance practices**. The best international practices and lessons learned from solar PV project implementations in Armenia over the past couple of years were presented to interested suppliers. Based on requests, new training will be offered during the second and third quarters.

Suppliers with the potential to cooperate internationally with other GTS suppliers were invited to attend the **"ACCESS GREEN FINANCE AND TECHNOLOGIES"** international webinar on 18 March, organised by the EBRD. The webinar touched upon the EBRD's approach to scaling up investment in green technologies in partnership with PFIs and covered the GEFFs, Trade Finance Programme (TFP) and GTS. The vendors were also given the opportunity to have one-on-one meetings with international suppliers right after the webinar upon request.

Numerous **GEFF** suppliers attended the **"CAUCASUS: BUILDING AND RECONSTRUCTION EXPO 2021"** from 25-27 March in Yerevan. This was the 17th international specialised building exhibition by the Union of Manufacturers and Businessmen of Armenia. About 100 construction companies from Armenia, Russia, Belarus and Iran presented their technologies to about 5,000 potential customers from Armenia and abroad.



Success Stories

ArmPlast LLC – One of the leading suppliers of PVC and PE pipes as well as plastic door and window frames in the Armenian construction materials market, ArmPlast LLC decided to optimise the use of its space to decrease costs and contribute to its long-term profitability.

Investor	ArmPlast LLC
Location	Armavir, Armenia
Investment	Installation of photovoltaic panels
Investment size	USD 277,000
Financial results	Payback 6 years
Natural gas savings	378 MWh per year
Energy savings	632 MWh per year
CO_2 savings	276 tonnes per year
Impact	Increased cost efficiency
Donor	GCF, CIF

Bonilat LLC - One of leading dairy brands in the market, Bonilat invested in solar energy to make its production even more energy- and cost-efficient.

Investor	Bonilat LLC
Location	Yerevan, Armenia
Investment	Installation of photovoltaic panels
Investment size	USD 98,900
Financial results	Payback 9 years
Energy savings	138 MWh per year
CO_2 savings	60 tonnes per year
Impact	Increased cost efficiency
Donor	GCF, CIF

Read more Success Stories.

GEFF | Green Economy Financing Facility
armenia@ebrdgeff.com
+374 10 542721
www.ebrdgeff.com/armenia

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