

Where finance and green technologies meet

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Key results as of 30 June 2021

- GEFF in Armenia has financed 214 projects for a total of €19.17 million through four partner financial institutions (PFIs), thus reducing primary energy usage by 91,618 MWh/year and saving 21,552 tonnes of CO₂ and 5,171 m³ of water annually.
- Renewable energy projects with an installed capacity of 30.6 MW make it possible to avoid 18,324 tonnes of CO₂ annually.
- 1,581 high-performance technologies offered by 169 vendors from 21 locations across Armenia are made accessible through the Green Technology Selector (GTS) at <https://ts.ebrdgeff.com/armenia>

Greenhouses as a promising climate adaptation investment in Armenia



The agricultural sector is vital to the food security and safety of any country and is thus one of the key sectors of the economy in the Republic of Armenia. In the past, greenhouses were only a supporting measure for traditional agriculture, providing the market with fresh, high-quality vegetables, fruits, and flowers throughout the year. In the meantime, greenhouses have developed and have become a separate branch of business, which makes use of local resources to produce food and to carry out export activities. The new artificial systems designed for plant cultivation protect plants from abrupt weather changes, diseases and pests, and ensure high yields.

Modern technology of year-round cultivation in greenhouses is significantly different from traditional greenhouse methods, allowing an increase in yields of up to 2 to 3 times. From an agronomic point of view, growing on substrates eliminates accelerated soil erosion while using significantly less water for irrigation.

Currently, there are approximately 1,300 hectares of greenhouses in Armenia, of which only about 200 hectares are greenhouses equipped with modern

technologies for growing on substrates, according to the [Small and Medium Greenhouse Investment State Support Program](#).

Modern greenhouses are not only an effective climate adaptation (CA) measure, but also have several advantages from an investment point of view:

- Import of greenhouse technologies is not subject to VAT
- Export of products to countries within the Eurasian Economic Union (EAEU) are exempt from customs duties and the export process is carried out using a simplified procedure
- State subsidised interest rate for agricultural sector leasing or loans is applicable
- Access to the state programme for partial compensation of expenses for the construction of small greenhouses

With a proven track record for saving resources and energy, the greenhouse business in Armenia can benefit from CA, RE and EE high-performance measures financed through GEFF [partner financial institutions](#).

Potential of small biogas projects for growth in Armenia

Natural gas is not always available in some parts of Armenia, due to the lack of oil and gas reserves as well as the poor infrastructure owing to the mountainous landscape. However, even when available, people often still refuse to install gas line services in their homes simply because they cannot afford to do so. Instead, they attempt to find more accessible and affordable alternative energy sources. Over the past few years and in line with this approach, **first communities** (e.g. **Geghamasar**) have built greenhouses and have installed heating equipment that uses biogas produced from manure. Biogas can also be used to produce electricity when it is not being used to heat greenhouses or can be sold to the electric networks. This results in additional income to develop the project further and to make it even more profitable, thus allowing the communities to make a profit and create new jobs locally.

Does a model such as this only work for communities? Although the first commercial biogas plant in Armenia was built in 2008, the current number of biogas plants still remains low. According to the **Armenian Energy Agency**, the capability for biogas production in the country is approximately 135 million m³ per year – which represents significant po-

tential. Nevertheless, local livestock farms etc. are not in a hurry to build biogas plants. The reason for this is the high initial investment costs, the lack of local experience as well as professionals to help carry out the implementation.

Owing to the successful biogas projects recently implemented by GEFF partner institution **ArmSwissBank**, as well as international donor support and knowledge transfer, it has been possible to increase the number of small commercial biogas plants to several hundred in neighbouring Georgia in recent years. This is proof that such investments are feasible, promising, and profitable.

Specifically, the experiences gained carrying out local projects (community and ArmSwissBank projects) will significantly strengthen the knowledge of biogas plant construction and operation available and in this manner, enable the implementation of further plants in Armenia. Within this context, it should also be noted that biogas installations are eligible for a 20% investment incentive offered by GEFF in Armenia. If you are interested in tapping this market potential and in investing in a sustainable biogas project, please contact us directly and we will advise you.

How international frameworks support Armenia's climate action efforts

In 2017, Armenia ratified the Paris Agreement on climate change and committed to limiting its greenhouse gas emissions. This key green framework has already resulted in multiple actions, including country commitments through Nationally Determined Contributions (NDCs), the involvement of financial sector regulators through the **Network of Central Banks and Supervisors for Greening the Financial System (NGFS)** and Financial Stability Board's (FSB) **Task Force on Climate-Related Financial Disclosures (TCFD)**, the EU Green Deal with a commitment of US\$ 100 billion annual committed global green finance annually, and much more. In order to explain how international green frameworks work and create an impact in Armenia, the UNDP has prepared a brief video explain-

ing the Paris Agreement, its significance and the consequences for businesses in Armenia, as well as the results achieved to date, both in the regulatory area and in the industry. The video also presents the upcoming RE plans and the way forward.



https://www.youtube.com/watch?v=f04yPMTq8_Q&t=6s

100 PV plants to be placed on multi-apartment buildings in Yerevan

Within the “Covenant of Mayors” initiative, the Municipality of Yerevan has started the “EU4Yerevan: Solar Community” programme. With a grant programme for €1.25m co-financed by the Municipality of Yerevan, 100 preselected 9 to 14-storey buildings with flat side roofs facing the sun will benefit from solar photovoltaic panels. The programme stipulates energy savings in public areas.

According to the national expert of the group supporting the programme, with 360 W panels produced in Armenia and installed on the roofs of these buildings, each building will achieve approximately 50% savings on elevator operation expenses. Furthermore, with the energy generated, all the entrances and stairwells will be illuminated using LED lighting fixtures. The LED lamps will be equipped with sound and movement sensors. The solar energy will also be used for night-time illumination. After being installed, the solar panels become the residents' property and have a useful life of 15 to 20 years.

The programme also has a social component. Families in need will be provided with energy-saving lamps to reduce energy consumption in their apartments. The first results will be noticeable in the autumn of 2021, when the installations will be completed in the preselected buildings and the systems are put into operation.



Prior to this project, there was no experience in installing PV stations on the roofs of privately-owned apartment buildings. Thus, the experience gained in the successful implementation of the above-mentioned project will enable the scaling up of the concept, as there are more than 19,000 apartment buildings in Armenia and thus great potential for installing PV plants on the roofs of these buildings.

In the future, this can serve as a basis for successful cooperation between apartment residents, vendors, and PFIs for setting up ESCO schemes. The developments in the ESCO field will be presented in the next edition of our quarterly newsletter.

J.P. Morgan recognises the EBRD's Green TFP and GTS as ways to promote sustainable trade operations



J.P. Morgan, a leading financial institution with US\$ 2.7 trillion total assets under management (AUM), has recognised the EBRD's GTS as a universal and convenient tool for green investments. This recognition came from a case of using the GTS for trade finance transactions financed by JP Morgan and backed by the EBRD Green Trade Facilitation Programme (Green TFP).

The case argues that by using the GTS and the Green TFP, global banks stimulate the supply of high-performance technologies and materials. These tools also enable local banks across the EBRD regions to finance exports, imports and the local distribution of imported energy efficiency, renewable energy, and climate technologies.

Moreover, firms that sell green technologies can register their technologies in the GTS, thus creating more opportunities for them to grow their green business and further opportunities for environmentally minded businesses to access better technologies for our planet.

The GTS facilitates the application for GEFF financing available in Armenia at [Partner Financial Institutions \(PFI\)](#). It is available in over ten languages in over 26 countries, including [Armenia](#). From over 30,000 high-performance technologies accessi-

ble through the GTS, about 1,600 technologies are available from local vendors in Armenia. It helps businesses invest in best-in-class technologies with the aim of adopting green practices in their day-to-day operations.

You can also check in your bank what kind of trade support services it provides to Armenian exporters and importers under the EBRD's Trade Facilitation Programme (TFP). All GEFF in Armenia Partner Financial Institutions are partners of the [TFP](#).

Featured GTS technology

Combined heat and power (CHP) TEDOM CENTO T160 SP

CHP is an energy efficient technology that generates electricity and heat at the same time. The advantage of CHP technology is that it captures heat that would otherwise be lost and uses this heat to generate useful heat energy such as steam or hot water. CHP plants are usually located in facilities where there is a need for both electricity and thermal energy. Thermal energy can be used for heating, cooling, hot water supply or industrial processes. A CHP plant can be located at a separate facility or within the building it heats and powers and if desired, can be accessed as a source of centralised energy supply.



Type of CHP	Internal combustion engine
Thermal efficiency	50.9 %
Electric efficiency	37.8 %
Type of fuel	Natural gas
Electric capacity	164 kW
Thermal capacity	221 kW
Total efficiency	88.7 %

Browse our [GTS](#) to view more cogeneration technologies.

Success Stories

Kataro LLC – In order to set-up a new production location in the Ararat valley, the premium Armenian winemaker Kataro invested in energy-efficient wine production equipment from Italy. The high-performing equipment will decrease energy use by 41%. The investments financed by GEFF have been combined with the state subsidy programme of the Republic of Armenia.



Investor	Kataro LLC
Location	Yerevan, Armenia
Investment	Wine production equipment
Investment size	US\$ 162,000
Energy savings	12 MWh per year
CO ₂ savings	3 tonnes per year
Impact	High quality production, increased cost-efficiency
Donor	GCF, CIF

Evrika Group LLC - The company, which owns a chain of supermarkets, is building a new branch in Yerevan. For this purpose, refrigerated cabinets and counters are required. With the new Ukrainian equipment, the supermarket will decrease energy use by 59% and contribute to the overall operational efficiency of the group.



Investor	Evrika Group LLC
Location	Yerevan, Armenia
Investment	Refrigerated cabinets and counters
Investment size	US\$ 96,500
Energy savings	123 MWh per year
CO ₂ savings	20 tonnes per year
Impact	High quality service, low operational costs
Donor	GCF, CIF

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