GEFF Green Economy Financing Facility

European Bank for Reconstruction and Development

Where finance and green technologies meet

GEFF in Armenia Newsletter N3: 10.2019

KEY RESULTS AS OF 1 October, 2019

- GEFF in Armenia has financed **€ 7,306,356** through **4** Partner Financial Institutions, thus reducing primary energy usage by **37,588** MWh/year, saving **8,911** tonnes of CO_2 annually
- **59** solar PV projects with **11.76** MW installed capacity make it possible to avoid **7,678** tonnes of CO_2 annually
- **1,722** EE and RE technologies of **157** vendors from **21** cities around Armenia are made accessible through Technology Selector at https://ts.ebrdgeff.com/armenia

Green investment opportunities for SMEs at a joint event hosted by GEFF and ACBA Leasing

15.08.2019

Business owners and managers from highly energy-dependent industries attended a joint business event at the Marriott Hotel in Yerevan on 15 August 2019.
The business event aimed to promote the use of clean energy through EE&RE technologies. GEFF experts provided more than 50 participants with detailed information about the benefits and advantages of green financing as well as the specifics of green investments. Furthermore, relevant projects and the various ways that these investments contribute to the overall competitiveness of businesses were discussed.
Find out more at
https://www.youtube.com/watch?v=5AwbyMeoA_A

GEFF Expert TV documentary about energy efficient buildings in Armenia

In a TV documentary, the GEFF Armenia team's Technical Adviser/Engineer, Vardan Khachatryan, explains the basic principles of energy efficient buildings. Besides information on the main causes of energy losses in buildings, he also shared valuable experience regarding the energy saving potential of apartments in Armenia. In addition, together with a local manufacturer of energy efficient windows, the GEFF expert informs viewers about new trends and developments, related investment costs and payback periods as well as shares practical suggestions and advice to apartment owners on how to save energy.

Here is the full programme: https://ebrdgeff.com/armenia/tv-documentary-about-energy-efficient-buildings-supported-geff-technical-expert/

Jürgen Rigterink: “There are high hopes of improving the business sector in Armenia”

23.09.2019

First Vice President of the European Bank for Reconstruction and Development (EBRD) Jürgen Rigterink recently paid a visit to Armenia. In an exclusive interview on September 23, to Banks.am Rigterink talks about the process of productive Armenia-EBRD cooperation and new plans. Here is an excerpt from the interview:

You have served as First Vice President at EBRD since 2018. How do you assess cooperation with Armenia in both public and private sectors over that period?

- As you might know, we have invested so far EUR 1.3 billion or a little bit over that in Armenia and this year, we actually will be adding again to that. We expect to sign up to maybe over EUR 100 million at the end of the year. Only this morning, I was very fortunate to sign two transactions. The first one is Amber Capital EU-Armenia SME Fund which is not only important for improving the private equity industry but also capital markets-related. The other one was on the energy side: we signed the third tranche with EA energy network of Armenia, so that shows that we continue to invest.

EBRD provides loans to certain Armenian banks for lending to small businesses with the purpose to increase energy efficiency in Armenia. Where is Armenia in terms of adherence to EBRD Green Economy Transition approach and what joint efforts still should be made in this area?

- It is a question we rarely get. The economy is going through certain phases. When you look at the general energy production, we’re just at the start of making Armenia a greener economy. This is also why it’s so important that before the end of this year we actually will sign and finance the largest solar project “Masrik 1”, a solar power plant with an installed capacity of 55 MWac. The investment is roughly USD 55 million in total and maybe 15 or 17 million or something like that we will allocate before the end of the year. - That's related to the first start of greening the economy. But for greening the economy you can not only produce greener electricity, you can reduce current electricity consumption. We do not have the networks and the clients and the contacts, so this is why we try to use banks for these kinds of programs.

Which areas of cooperation with Armenia will EBRD focus on in the next 5 years?

- We would like to continue to invest in the banking side, but also on the energy side, I mentioned. We would like to see more of the renewable energy side, also update energy efficiency, agriculture, ICT and manufacturing. And, as I mentioned, also try to engage more with the government on larger infrastructure projects.

The full article is accessible at
https://banks.am/en/news/interviews/17893

We need to rethink the way we heat ourselves. Here's why.

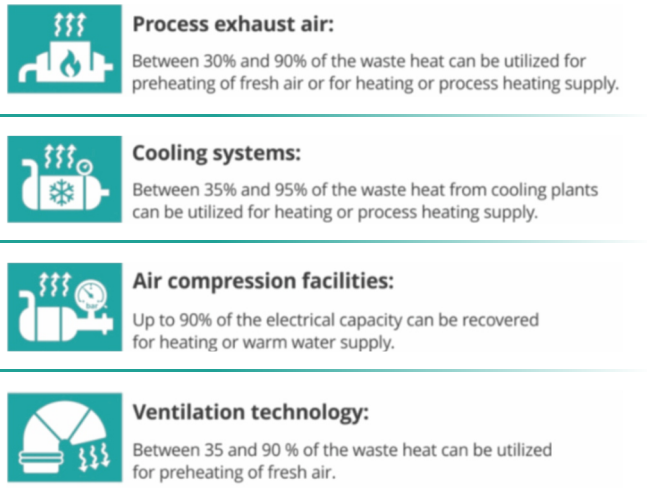
20.08.2019

Half of our total energy consumption globally is used for the production of heat – for our homes, industrial purposes other applications. Most of this heat comes from the burning of fossil fuels such as coal, and is responsible for a significant proportion of world pollution.

Heat's complexities begin with its physics. Heat is all about the flow of energy and works in three different ways: by convection, by conduction and by radiation. Heat is also governed by two important scientific laws; the first and second laws of thermodynamics.

The first law states that energy cannot be created or destroyed but just goes from one form to another; the second law states that it is impossible to convert one form of energy to another without some form of heat loss. Some of the greatest losses occur when oil and gas are converted from chemical to heat energy to power an internal combustion engine or a turbine. It is thus critical to either reduce the level of waste heat or to capture that heat for other purposes.

There are many ways to reduce waste heat such as building better-insulated buildings or increasing the efficiency of engines. Another way is to capture and use the waste heat for other purposes such as heating hot water, which can then be used locally in a district heating system. Such systems are costly and take time to build – however, the digitalization of our world is providing us with a massive opportunity to rethink heat, and where we get it from.



The biggest step change in heating would be in moving away from traditional domestic heating systems – in which most of the heat is lost through the chimney – towards electrical heating systems such as infrared, which are three to four times more efficient. Combine such an electrical heating system with a heat pump and you have an almost perfect system that can also be used to provide cooling in summer.

The full article by World Economic Forum is at https://www.weforum.org/agenda/2019/08/we-need-to-rethink-the-way-we-heat-ourselves-heres-why/

Corporate Energy Savings through Energy Productivity Improvements

27.07.2019

According to a new report, a leading group of major companies – including Hilton, H&M, and Ultratech Cement – have saved $131 million and cumulatively averted the carbon dioxide emissions equivalent of running 134 coal-fired power plants for a year by improving their energy productivity.

EP100 is a global corporate initiative led by The Climate Group in partnership with the Alliance to Save Energy that aims to augment the business case for increasing energy productivity – achieving higher economic output per each unit of energy consumed. Alongside the deployment of renewable power and electric vehicles, making smarter use of energy is a practical step companies can take to lower their operating costs and emissions, future-proof their business, and demonstrate climate leadership.

The report, Smarter Energy Use: Businesses Doing More with Less, found that the companies that submitted financial data generated $131 billion USD in collective financial savings from energy efficiency measures and avoided more than 522 million metric tons of carbon equivalent in total since their respective baseline years.

Helen Clarkson, CEO of The Climate Group, said the progress demonstrated by EP100 companies to date is a proof point of energy productivity's role in decarbonisation.

"Doing more with less energy can unlock faster decarbonisation of the global economy – and the private sector holds the key. From the boiler room to the boardroom, smarter energy use benefits a business at every level, helping to meet the growing expectations of shareholders, customers and employees while generating capital that can be reinvested in clean growth."

The full data is available at https://www.theclimategroup.org/sites/default/files/ep100_annual_report_final.pdf

Small hydro power plant doubles its output through energy efficient investment

From 2015 to 2018, Energodzor's electricity production was approximately half of the designed level. Because of this, the company decided to invest in a modern turbine generator with 75% higher efficiency. Thus, without making any changes to the hydro-technical part including the water flow, the electricity generation increases.

Location:	Syunik region, Armenia
Investment:	HPP turbine
Investment size:	US$ 25,276
Financial results:	Payback in 1 year
Electricity savings:	553 MWh per year (increase of generation)
Co_2 savings:	242 tonnes per year

Full case is available at https://ebrdgeff.com/projects/small-hydro-power-plant-doubles-its-output-through-energy-efficient-investment/

An 'A-rated' new flat in Romania is just the beginning...

The Energy Performance Certificate shows that the new flat falls into Category 'A', with an annual average specific energy consumption of 124.21 kWh/m2. As a result, energy consumption for heating, hot water and lighting is likely to be 46% lower than that of a typical Romanian dwelling.

Location:	Timișoara, Romania
Investment:	New-build apartment
Investment size:	€77,500
Energy savings:	105 kWh/m/year (as compared to a typical Romanian apartment)
Impact:	High level of comfort, energy cost savings

Full case is available at https://ebrdgeff.com/projects/an-a-rated-new-flat-in-romania-is-just-the-beginning/

+374 10 542721
armenia@ebrdgeff.com
ebrdgeff.com/armenia