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Where finance and green technologies meet

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საქართველოს ეროვნული ბანკი
National Bank of Georgia

Sustainable Finance Taxonomy: Georgian Experience

On 29 November, the Sustainable Finance Platform hosted a webinar entitled “**Sustainable Finance Taxonomy: Georgian Experience**” led by Salome Tvalodze, Head of Sustainable Finance at the National Bank of Georgia (NBG). The NBG approved the Sustainable Finance Taxonomy (SFT) and the Regulation on Loan Classification and Reporting in accordance with the SFT. It was developed with the active involvement of local and international experts and stakeholders. Financial institutions were

also actively involved in the process.

The goal behind the development of the SFT in Georgia was to have consistent and standardised regulation on loan classification, screening, and reporting for commercial banks and other financial institutions, as well as to establish common definitions.

The Georgia taxonomy was tailored to Georgian specifics and development priorities, while being in line with international best practices. It incorporates both green and social taxonomies and allows for continuous review and development.

As part of the green taxonomy, loans in specific categories, such as solar PV projects or electric vehicles, can automatically be classified as green; however, for other categories, there are technical requirements and specifications which must first be checked, in order for the loan to be classified as green according to the approved taxonomy.

The main users of the SFT are financial institutions and capital market participants, including public entities, certifiers, verifiers, and other actors. The main players continue to be commercial banks.

According to SFT Regulation, there are three types of loans: green loans, social loans, and sustainable loans. Banks are not permitted to use these three terms when classifying loans unless they are aligned to the SFT. A “green loan” must be used exclusively for economic activities listed in the green taxonomy, a “social loan” refers solely to activities listed in the social taxonomy, and a “sustainable loan” finances economic activities that simultaneously meet the requirements of green and social taxonomies.

At commercial banks, loans can only be assigned to the green loan category if they are in line with SFT Regulation. As of January 2023, this regulation also requires commercial banks to submit monthly reports on green loans.

Additional information about the SFT and downloadable documents describing in detail the green and social taxonomies are available on the NBG website: <https://nbg.gov.ge/en/page/sustainable-finance-taxonomy>

Gender events held in the Caucasus region by the EBRD GEF

The EBRD's GEF conducted eight training sessions in Armenia and Georgia focused on gender inclusivity and climate change in the last quarter of 2022.

Two sessions held for GEF's partner financial institutions (PFIs) focused on presenting the results of the baseline assessments conducted by GEF as well as on showcasing the main discussion points of the first GEF gender event held in 2021. GEF experts outlined the main barriers to obtaining green financing for MSMEs and presented possible solutions and measures to accelerate the development of green finance in the region.

Four sessions held for Georgian and Armenian female entrepreneurs were attended by owners, founders, and managers of various businesses. At these sessions, participants were given information about GEF and provided with expert advice on how to make their businesses more sustainable. After attending the workshop, female entrepreneurs operating in the hospitality and textile industries, as well as wineries, had obtained knowledge on how to use energy more efficiently and thus reduce their energy costs. The workshop also presented the challenges posed by climate change in addition to ways of mitigating climate change using high-performing technologies. The useful tips on behavioural changes aided the businesswomen in becoming more conscious of their day-to-day operations. The session wrapped up with a showcase of real investments financed by GEF and highlighted their success in developing more energy-efficient businesses.

The two sessions held in November focused on a broader business segment. The session entitled "**Workshop for SME entrepreneurs**" was open to both male and female SME business owners. Participants listened as GEF experts presented cases for (1) empowering women to take more action and utilise their economic potential as well as accessing the financing opportunities available to them; (2) using energy-efficient technologies in business. Understanding that the cost of *not* investing in newer and more efficient technologies is much higher than the cost of investment was one of the main takeaways of the session.

In total, more than 100 business owners were in attendance. The unexpectedly high attendance rate highlights how eager both female and male entrepreneurs are to receive information on how to move their businesses onto a greener path. Most

SMEs now understand that “green” does not only mean being environmentally-friendly, but also being business friendly, as these technologies help reduce costs, increase productivity and thus utilise resources to the fullest.

More workshop sessions are planned to be held in both countries by GEF in January 2023.



More on solar PVs and the right way to implement these project

Installing a solar PV plant is a long-term investment that makes it possible for those investing to profit from the significant and tangible benefits of using renewable energy for the entire lifetime of the PV plant, which is estimated to be at least 20 years. The correct implementation, equipment certification standards, and manufacturer guarantees can help to ensure the durability of the equipment and its stable operation over time.

Keep in mind that the construction of a solar PV station is a technologically complex task and even a small miscalculation made with regard to the project design and/or implementation may bring significant consequences that negatively affect power generation, operational costs, profitability, safety and even creditworthiness.

What are the potential mistakes and risks related to project implementation?

1. Focusing on cost saving only and ignoring expert involvement

It is legitimate to consider the price of the investment – but remember that the cost of the project per capacity should not be the main decision-making criteria.

A PV station consists of many components, each of which is important in its own way. A high price per capacity does not necessarily mean better quality and vice versa. Therefore, look for the optimal price/quality ratio. Do not compromise at the expense of quality, as this can lead to lower power generation or equipment failure.

While the price of equipment is fixed, the installation costs depend on various factors, such as location, form and structure of the roof, etc. Request a detailed breakdown of the proposed equipment and materials to be used from a local supplier. Do not automatically dismiss a supplier based only on their high quotes. Furthermore, do not disregard expert involvement and professional advice at the investment planning stage and most importantly, do not assume that you can replace professional service to save on the investment cost (e.g., do not attempt to build a structure for solar panels yourself).

2. Unfavourable framework conditions (location/surrounding environment)

You might believe that a space that gets sufficient sunlight is the best place for a solar power station to be installed: however, there are number of other important factors to consider, such as the angle of the panels, shading, the strength of the bearing structure, etc. A reliable and experienced supplier will provide you with a detailed plan for the optimal set-up of a station, taking into consideration all of the important factors as well as calculating the station's expected performance and benefits.

Five most frequent mistakes made during PV project implementation

Improper design of the plant – A properly designed plant will consider factors such as climate, panel orientation, distance between the panels, shading, and naturally occurring drops in efficiency. Some implicit nuances related to security, for example, are also considered at the design stage. Remember, improper design has a direct negative impact on power generation.



Low quality components – Always opt for an experienced producer. Do not purchase any equipment yourself without proper research or an expert consultation. Low quality equipment is characterised by low efficiency and electricity output, early degradation, and frequent failures. Due to the specific operating conditions of a PV station, such as a wide operating temperature range, exposure to weather conditions, etc., special requirements are placed on many components of the system.

Ignoring construction and electrical norms – Incorrect wiring can lead to power shortages and cause fires that can not only damage the equipment and jeopardise power generation, but that can also cause harm to human life. An experienced supplier will follow the required general construction and electricity safety norms per component as well as international best practices.



Mounting and installation quality – Every solar PV panel comes with manufacturer guidelines on the placement and mounting of panels, and their interconnection. Incompliance and self-installation make the PV plant susceptible to strong winds, and heavy snowfall. Damage to the panels or your rooftop can make the installation unsalvageable.

Bearing structure and foundation – Make sure that the roof can bear the weight of the

panels and the supporting structure. The same can be said for solar PV plants mounted on the ground; however, in this case, the geography of the area must be properly analysed.



How to avoid risks

1. Involve experts in the planning stage (before selecting a vendor)

Inquire whether vendors offer free on-site consultations or look for research programmes that offer their professional expertise and advice. It is important to get as much information at the initial stage as possible.

2. Select qualified vendors

The company/supplier you hire plays a crucial role in the future operation of the solar power plant, as they provide you with their professional advice and recommend the equipment required as well as design and install your solar PV station. A reputable vendor/installer will have more than a handful of successful projects in their portfolio. Always select an experienced supplier who offers you quality equipment and remember to ask for a commercial offer that includes design, a detailed list of costs and materials, as well as a calculation of projected output.

3. Services and guarantees

Inquire about the range of services the vendor offers. It is very important to know who is going to install your station, i.e., the vendor's qualified staff, or a sub-contractor. Ask about guarantees and their duration. Give preference to vendors who offer guarantees not only for the equipment, but also for the quality of the installation and/or station performance with a clear compensation mechanism.

4. Define roles and responsibilities

Have a designated person that will monitor plant performance and who will report to you on a regular basis. All works must be implemented in compliance with construction and electricity safety norms such as a solid foundation, the quality of the mounting, grounding, surge and lightning protection, etc.

5. Monitoring of operations

Know the key performance indicators and what to look for when monitoring the operation of the plant. Inquire about peak performance months and when power generation plummets, in order to have realistic expectations. The vendor should inform you of common trends with regard to the local climate as well as provide you with remote monitoring to track progress and identify potential issues.


[Watch](#) the video on the best practices for maximising small-scale solar PV plant performance.

World Energy Outlook 2022 – Key findings

The WEO (World Energy Outlook) is the most reliable source of analysis and projections in the energy sector. Since 1998, this IEA (International Energy Agency) flagship publication has been released annually. Its impartial analysis and objective data offer crucial insights into the world's energy demand and supply under various scenarios, as well as the implications for energy security, climatic goals, and economic growth.

This year's WEO investigates important questions regarding the crisis based on the most recent energy data and market developments: Will the WEO be a setback for the transition to clean energy or a motivator for more action? What impact could government actions have on the energy market? Which risks to energy security exist on the way to net zero emissions?

Here are some of the key findings:

- Governments are being forced to take immediate action in response to the global energy crisis sparked by the current events in the world as well as engage in a more in-depth discussion on how to promote energy security and reduce the risk of future disruptions. Natural gas is in the spotlight during the current crisis.
 - High energy costs are resulting in a significant transfer of wealth from consumers to producers, thus returning oil prices to levels last seen in 2014, but completely unheard of for natural gas. 90% of the increase in the average cost of generating electricity around the world is attributed to rising fuel prices, with natural gas alone accounting for more than 50%. Costs associated with renewable energy and carbon dioxide have only had a minor impact, highlighting the fact that energy transitions are the answer to this crisis rather than its cause.
 - For the first time in a decade, the number of people without access to modern forms of energy is increasing due to price and economic pressures. 100 million people may revert to using traditional biomass for cooking, and approximately 75 million people who just recently gained access to electricity are likely to lose their ability to pay for it.
 - As consumers look for alternatives to expensive gas, the crisis temporarily boosts demand for oil and coal. However, the long-term benefits of the crisis go to low-emissions sources, primarily renewable but occasionally also nuclear energy, along with more rapid advancements in efficiency and electrification, such as electric vehicles.
 - The Inflation Reduction Act in the United States, Europe's increased push for clean energy, and other significant new policies all contribute to the cost advantages of established clean energy technologies and the prospects for new forms of energy, such as low-emissions hydrogen. As a result, the developing global clean energy economy is experiencing a major boost.
 - Increases in clean energy production capacity around the world are anticipated, and they serve as a precursor to potential increases in deployment speed.
 - The energy system is much more vulnerable to the kinds of shocks seen in 2022, which were a result of the world's recent underinvestment in energy. A significant increase in clean energy investment flows is necessary for a secure and smooth energy transition.
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Featured technology:

Rainwater harvesting tanks

We never really think about water or the possibility of its scarcity in the world. Much like any other resource, water needs to be consumed consciously and with efficiency in mind.

Entrepreneurs should start thinking about saving and reusing water for purposes that serve their business activities. For instance, developers can make their buildings more efficient by harvesting rainwater and in this manner reduce their main water consumption.

The harvested water can be used to irrigate landscaping, outdoor taps, etc. Companies operating large headquarters can install RHTs to save on their utility costs and use the greywater to carry out car park maintenance, flush toilets, etc.

See which energy efficient technology suppliers are available on the Georgian market in the [Green Technology Selector](#)

Success story



Herbia is a grower, packer, and shipper of Global Gap-certified culinary herbs and vegetables cultivated using no chemical

Investor

Herbia

Location

fertilisers or insecticides.

Since commencing production in early 2006, Herbia has quickly become one of Georgia's leading producers of premium-quality, greenhouse-grown culinary herbs and vegetables and a pioneer in the field of packaged herbs offered to local consumers.

In 2022, Herbia decided to fulfil its business goal of generating its own electricity and used GEF financing to implement a solar PV plant.

View more success stories on our [website](#).

Tskaltubo, Georgia

Investment

Solar power station

Investment size

US\$ 110,000

Energy savings

321 MWh per year

CO₂ savings

124 tonnes per year

Payback period

5 years

Impact

Growing green with green energy and mitigating climate change

Donor

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