

Guidelines and best practices for micro-, small and medium enterprises in Georgia in delivering energy-efficient products and in providing renewable energy equipment

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List of Acronyms

- EBRD European Bank for Reconstruction and Development
- **EE Energy Efficiency**
- EU European Union
- EUR Euro
- **GEFF-** Green Economy Financing Facility
- GEL Georgian Lari
- **GEOSTAT-** National Statistics Office of Georgia
- **GDP** Gross Domestic Product
- HPP Hydro Power Plant
- kWh Kilowatt-hour
- MSME Micro-, Small and Medium Enterprises
- MW Megawatt
- NGO Non-Governmental Organization
- OECD Organisation for Economic Co-operation and Development
- p.a. per annum
- PV Photovoltaic
- R&D Research and Development
- **RE Renewable Energy**
- **UN** United Nations
- **UNDA United Nations Development Account**
- **UNECE United Nations Economic Commission for Europe**
- UNIDO United Nations Industrial Development Organization
- UNCTAD United Nations Conference on Trade and Development
- USD United States Dollar
- WHO World Health Organization

EXECUTIVE SUMMARY

In the post-Covid-19 recovery period the role of micro-, small and medium enterprises (MSMEs) in delivering energy-efficient products and providing renewable energy equipment can become decisive if they are provided with necessary incentives.

This can make possible restarting MSMEs and even creating new ones when the employment opportunities are scarce. MSMEs can benefit from clear guidelines on access to financing, access to markets, access to advanced technologies, and a supportive environment created by effective governmental policies and measures. MSMEs can also benefit from actual examples of successful implementation of energy efficiency and renewable energy measures, including recovery that led to significant economic gains.

In Phase 1 of the project "Global Initiative towards post-COVID-19 resurgence of the MSME sector", UNECE has developed the Guidelines and Best Practices for Micro-, Small and Medium Enterprises in Delivering Energy-Efficient Products and in Providing Renewable Energy Equipment¹.

The publication presents examples of best practices in the energy efficiency sector and in the area of renewable energy relevant for MSMEs' response to the Covid-19 crisis and post-crisis recovery, as well as case studies on practical measures for MSMEs in getting access to markets, financing, and advanced technologies. It also contains recommendations to Governments for developing policy guidelines and establishing financial incentives schemes. Countries of the UNECE region can benefit from customization of the Guidelines and Best Practices.

Georgia is one of the pilot countries for such customization that takes into consideration specific conditions of the country. This study includes analysis of the environment in Georgia that MSMEs face as a result of the Covid-19 crisis; best practices in the area of energy efficiency (EE) and renewable energy (RE) implemented in Georgia that demonstrate how MSMEs can respond to the current challenge; measures that MSMEs in Georgia can undertake in delivering energy efficient products and in providing renewable energy equipment that would help them restore business confidence; and recommendations to the Government of Georgia in creating favourable environment for MSMEs to run the economic recovery more smoothly and effectively and in line with sustainable development goals.

In Georgia, the severe health crisis caused by COVID-19 has forced the Government to introduce drastic measures such as lockdown, quarantine, and restriction to mobility, which in turn affected the business environment. Most of the MSMEs had a significant impact from the pandemic and struggled to keep their operations. Immediate measures were necessary since the companies were not ready and were insecure about their response due to lack of prior knowledge of the virus and lack of certainty in the forecast.

¹ https://unece.org/sustainable-energy/publications/guidelines-and-best-practices-micro-small-and-medium-enterprises

MSMEs responded to the crisis with curtailing the production, switching to working remotely from home, and even stopping operations. After the outbreak of COVID-19 the majority of MSMEs (68%) faced decreased demand for their services and had to curtail their operations, which resulted in energy consumption decrease. Such decrease influenced the demand for RE and EE products and services among MSMEs on one hand, and decrease of public interest in investing in RE and EE products on the other hand, which was a result of the Government providing subsidies for the energy bills.

Due to the lack of means for most of the MSMEs to fight the pandemic, the Government introduced the anticrisis plan aiming at improving the social status of citizens and certain measures for business sector that would help businesses to maintain the economic stability during the pandemic and assist in the recovery. These measures include the income tax and property tax exemptions, VAT refund, increased co-financing for loan interest rates, allocation of additional financial resources like introduction of credit-guarantee scheme, expansion of existing micro- and small grants programme for businesses.

As survey among MSMEs demonstrates, such support was timely as 72 % of businesses applied to the state for financial assistance. The most widely used initiative used by the surveyed MSMEs was a subsidy for employees' salaries and personal income tax. These two initiatives were perceived as useful by 44% of surveyed companies.

Based on the findings of the study a set of recommendations for the Government and the MSMEs working in the energy efficiency and renewable energy sector has been elaborated that will increase their capabilities to overcome the crisis and facilitate a quick recovery.

I. INTRODUCTION

1.1. Background information

United Nations Economic Commission for Europe (UNECE) is one of the partners implementing United Nations Development Account (UNDA) project "Global Initiative towards post-COVID-19 resurgence of the MSME sector." The overall goal of the project is to strengthen the capacity and resilience of micro-, small and medium enterprises (MSMEs) in developing countries and economies in transition to mitigate the economic and social impact of the global COVID-19 crisis.

The covid-19 pandemic is one of the most significant social and economic events in our lifetime. It has impacted and continues to impact nations and citizens alike.

UNCTAD Secretary-General Mukhisa Kituyi said, "Moving rapidly across borders, along the principal arteries of the global economy, the spread of the virus has benefited from the underlying interconnectedness – and frailties – of globalization, catapulting a global health crisis into a global economic shock that has hit the most vulnerable the hardest."²

The coronavirus pandemic affects the economy, especially SMEs, on both the supply and demand sides.

On the supply side: companies experience a reduction in the supply of labour, as workers are unwell or need to look after children or other dependents while schools are closed and movements of people are restricted. Measures to contain the disease by lockdowns and quarantines lead to further and more severe drops in capacity utilisation. Furthermore, supply chains are interrupted leading to shortages of parts and intermediate goods.

On the demand side: a dramatic and sudden loss of demand and revenue for SMEs severely affects their ability to function, and/or causes severe liquidity shortages. Furthermore, consumers experience loss of income, fear of contagion and heightened uncertainty, which in turn reduces spending and consumption. These effects are compounded because workers are laid off and firms are not able to pay salaries. Some sectors, such as tourism and transportation, are particularly affected, also contributing to reduced business and consumer confidence. More generally, SMEs are likely to be more vulnerable to 'social distancing' than other companies.³

The impact of the virus could have potential spill-overs into financial markets, with further reduced confidence and a reduction of credit.

These various impacts are affecting both larger and smaller firms. However, the effect on SMEs is especially severe, particularly because of higher levels of vulnerability and lower resilience related to their size.

In all OECD countries, SMEs account for the vast majority of companies, value added and employment. However, in some regions and sectors that have particularly felt the impacts of the situation, the prevalence of SMEs is even higher. For example, in some of the most affected regions, like Northern Italy, the significance of SMEs within the economic structure is even more critically important. Likewise, SMEs are strongly represented in sectors such as tourism and transportation, which are significantly affected by the virus and the measures taken to contain it, as well as fashion and food where short delivery times are of essence."⁴

² <u>https://unctad.org/news/covid-19s-economic-fallout-will-long-outlive-health-crisis-report-warns</u>

https://nextcity.org/daily/entry/cities-starting-grapple-with-small-business-declines-due-to-virus-outbreak?utm_source=Next+ City+Newsletter&utm_campaign=5d645c1081-EMAIL_CAMPAIGN_2019_02_21_05_47_COPY_01&utm_medium=email&ut m_term=0_fcee5bf7a0-5d645c1081-43981729

⁴ <u>http://www.oecd.org/coronavirus/policy-responses/coronavirus-covid-19-sme-policy-responses-04440101/</u>

SMEs may have less resilience and flexibility in dealing with the costs for prevention as well as changes in work processes, such as the shift to distance working (such costs may be higher for SMEs given their smaller size), but also because of low level of digitalisation they face difficulties in accessing and adopting technologies. Given the limited resources of SMEs, and existing obstacles in accessing capital, the period over which SMEs can survive the shock is more restricted than for larger firms.

Increasingly, the COVID-19 crisis has sparked interest in reducing costs and increasing productivity in many businesses. The companies should consider improving resource efficiency by investments in energy efficiency and renewable energy, and adoption circular economy principles as well as achieve optimization of water and energy consumption through introduction of smart technologies and generation of energy from waste products. Careful monitoring of input use can help to reduce operational costs.

In Phase 1 of the project "Global Initiative towards post-COVID-19 resurgence of the MSME sector", UNECE has published Guidelines and Best Practices for Micro-, Small and Medium Enterprises in Delivering Energy-Efficient Products and in Providing Renewable Energy Equipment⁵. The study presents examples of best practices in the energy efficiency sector and in the area of renewable energy relevant for MSMEs' response to the Covid-19 crisis and post-crisis recovery, as well as case studies on practical measures for MSMEs in getting access to markets, financing, and advanced technologies. The report provides guidelines to MSMEs on access to financing, markets, and advanced technologies and recommendations to Governments for developing policy guidelines and establishing financial incentives schemes. Countries of the ECE region will benefit from customization of the Guidelines and Best Practices.

Georgia is one of the pilot countries for such customization that takes into consideration specific conditions of the country. This report presents an analysis of the environment in Georgia that MSMEs face as a result of the Covid-19 crisis; best practices in the area of energy efficiency and renewable energy implemented in Georgia that show how MSMEs may respond to the current challenge or similar challenges in the past; measures that MSMEs in Georgia can undertake in delivering energy efficient products and in providing renewable energy equipment that would help them restore business confidence; and recommendations to the Government of Georgia in creating enabling environment for MSMEs to facilitate an economic recovery that would be in line with sustainable development goals.

The report "Guidelines and Best Practices for MSMEs in delivering energy efficient products and in providing renewable energy equipment" developed by UNECE was partially used as a basis and a reference when developing this study.

⁵ <u>https://unece.org/sustainable-energy/publications/guidelines-and-best-practices-micro-small-and-medium-enterprises</u>

1.2. MSMEs in Georgia

1.2.1. Definition of MSMEs in Georgia

In Georgia, there is no universally accepted definition of SMEs. The definitions of SMEs differ in the National Statistics Office of Georgia, in the Law of Georgia on Accounting, Reporting, and Audit⁶, and in the Tax Code of Georgia.

TABLE 1. Category of Enterprises by Number of Employees and Annual Turnover

Category	Number of employees	Average annual turnover (GEL ⁷)
Micro	<10	<1 000 000
Small	<50	1 000 000 - 12 000 000
Medium	51-249	12 000 000-60 000 000
Large	>250	>60 000 000 8

Meanwhile, the size of enterprises according to the Law of Georgia on Accounting, Reporting, and Audit is determined as follows:⁹

- Microenterprise (category IV) an entity whose indicators, at the end of the reporting period, meet at least two of the following three criteria: (1) The total value of assets does not exceed GEL 1 million; (2) The revenue does not exceed GEL 2 million; and (3) The average number of persons employed during the reporting period does not exceed 10;
- Small enterprise (category III) an entity that is not an enterprise falling under the fourth category and whose indicators, at the end of the reporting period, meet at least two of the following three criteria: (1) The total value of assets does not exceed GEL 12 million; (2) The revenue does not exceed GEL 20 million ; and (3) The average number of persons employed during the reporting period does not exceed 50;
- Medium enterprise (category II) an entity that is not an enterprise falling under the third or fourth categories, and whose indicators meet, at the end of the reporting period, at least two of the following three criteria: (1) The total value of assets does not exceed GEL 60 million; (2) The revenue does not exceed GEL 100 million; and (3) The average number of persons employed during the reporting period does not exceed 250;

Large enterprise (category I) – an entity whose indicators, at the end of the reporting period, meet at least two of the following three criteria: (1) The total value of assets exceeds 60 million GEL (\$20 million); (2) The revenue exceeds GEL 100 million; and (3) The average number of persons employed during the reporting period exceeds 250.

⁶ <u>https://matsne.gov.ge/en/document/view/3311504?publication=4.</u>

⁷_USD 1 = GEL 3.3169 - annual nominal exchange rate according to the National Bank of Georgia.

https://www.nbg.gov.ge/index.php?m=582&Ing=eng (24.02.2021)

⁸ <u>https://www.oecd-ilibrary.org//sites/4a217b07-en/index.html?itemId=/content/component/4a217b07-en#tablegrp-d1e1420</u>

⁹ <u>https://saras.gov.ge/en/Home/ReportSupervision</u>

In the Tax Code of Georgia¹⁰, another set of definitions for enterprise types are provided for which a preferential tax regime is in force. The size of enterprises is determined by the Tax Code of Georgia as follows:

- Microbusiness status entrepreneurs (natural persons) who do not use hired labor, conduct economic activity independently, and have an annual gross income of up to GEL 30,000;
- Small enterprise status entrepreneurs whose gross income from economic activity during a calendar year does not exceed GEL 500,000¹¹.

Moreover, financial institutions in Georgia also have different ways of determining an enterprise's size. For this document, the definition and methodology given by the National Statistics Office of Georgia is used when analyzing the statistical data.

¹⁰ <u>https://matsne.gov.ge/en/document/view/3311504?publication=4</u>

¹¹ The annual nominal exchange rates GEL/USD (3.11GEL/1USD). The data were taken from the National Bank of Georgia.

II. Analysis of the environment that MSMEs working in the area of energy efficient products and services and renewable energy in Georgia face as a result of the Covid-19 crisis

2.1. Methodology used for the study

The overall objective of the study is to analyze the situation in Georgia that MSMEs face as a result of the COVID-19 crisis as well as best practices in the area of energy efficiency and renewable energy implemented in Georgia. The aim of the sturdy is also to demonstrate how MSMEs respond to the current challenges caused by COVID 18 pandemic. The paper is also intended to analyze the measures that MSMEs in Georgia can undertake in delivering energy efficient products and in providing renewable energy equipment, that would help them restore business confidence. The study will also provide recommendations to the Government of Georgia in creating enabling environment for MSMEs to facilitate an economic recovery that would be in line with sustainable development goals.

The methodology used for this study included collection and analysis of information from various sources, including governmental bodies, reports developed by various agencies and organizations, questionnaires filled during online interviews with MSMEs working in RE &EE field, and case studies - clean energy projects demonstrating application of RE & EE technologies by local MSMEs in Georgia throughout 2020.

General data on MSMEs sizes, impact of COVID-19 on the turnover, production of MSMEs was obtained from National Statistics Office of Georgia, while information on government response and support to businesses was obtained from Governmental sources.

For the analysis of the environment in Georgia that MSMEs face as a result of the Covid-19 crisis the results of surveys conducted by PricewaterhouseCoopers (PwC) Georgia LLC, in particular "Georgian Business in the face of COVID-19 pandemic" May 2020 and "Follow-up Survey of Georgian Business in the face of COVID-19 pandemic" October 2020 among 774 various size companies were used. The latter survey answers such questions as: current COVID-19 related difficulties, actions undertaken related to combating the effects of the virus, financial liquidity, businesses' predictions regarding the development of the situation in their companies, utilization of the government initiatives and supply chain-related problems.

In addition to the review and analysis of the obtained information, fifteen in-depth interviews with enterprises working in RE & EE field were conducted to explain better the causes of the issues identified during the analysis of the information on pandemic impact on MSMEs. For the selection of MSMEs working in energy efficiency and renewable energy field to be interviewed various sources of information were used and initial list of companies working in RE/EE field was narrowed (some companies ceased functioning or are temporarily closed, could not be reached, refused to be interviewed) and ended up with 15 companies ready to participate in the current study and be interviewed.

COVID-19 restrictions imposed in the country made face-to-face meetings impossible. Therefore, in-depth interviews were conducted online. The interviewees received the questions in advance. The questionnaire used during the interviews with the companies working in RE & EE field alongside with the general questions about company contained questions related to the COVID-19 impact on company's business activities, operations,

financial stability, employees, perspectives, etc. Some interviewees spoke very frankly about problems faced, provided deep understanding of the problems and their vision and motivation. The filled questionnaires were then processed, analysed and results presented as charts in various chapters of this study. The questionnaire for MSMEs working in the target sectors is provided in Annex 2.

2.2. General impact of COVID-19 crisis on MSMEs

The effects that the COVID-19 pandemic has on the economic and productivity growth of the MSMEs was clearly outlined in the general study by the UNECE "Guidelines and best practices for micro-, small and medium enterprises in delivering energy-efficient products and in providing renewable energy equipment". It showed how MSMEs respond to the different measures and uncertainties that arise from the mix of restrictions, government measures, and the behavior of the people. Investment cycles are broken for some of the MSMEs and substituted by emergency measures to keep the businesses afloat while some of the MSMEs are seeing how the markets change and try to adapt their business model to face a new reality. Within this study, these effects are analyzed in a local context.

2.2.1. Georgia's Gross Domestic Product¹²

In the 3rd quarter of 2020, the volume of GDP (figure 1) at current prices equaled to GEL 13,331.2 million, while the decline in real GDP was 5.6 percent compared to the same period of previous year.



¹² <u>https://www.geostat.ge/en/modules/categories/23/gross-domestic-product-gdp</u>

¹³ MSMEs working in the energy efficiency and renewable energy sphere are redistributed among such sectors as manufacturing, construction and wholesale and retail trade

2.2.2. Turnover by Economic Activity

As revealed by the surveys conducted since the COVID-19 outbreak, the top four most problematic issues for Georgian companies are: decrease in demand, the currency rate fluctuations, closure of external borders, and late payments from clients. As could be seen from the charts below the production and the turnover of SMEs during the II quarter of 2020 have decreased by about 24% in comparison with the same period in 2019.





Source: GEOSTAT





Source: GEOSTAT





Source: GEOSTAT

C-Manufacturing Industry; F-construction; G- Wholesale and retail trade, repair of motor vehicles and motorcycles¹⁴

2.2.3 The Impact of the COVID-19 Crisis on Enterprise Registration

The crisis period was reflected in the registration of enterprise. The number of registered enterprises decreased significantly during the crisis.

Compared to the same period in 2019, the number of business registrations has decreased by 24.67%. The smallest number of businesses was registered in March 2020 (318) which is 13.9 times less than in March 2019 (4,429).

It should also be noted that in the period of June-August 2020, the downward trend of registered businesses is again observed with a decrease of 25.55%.

¹⁴ Note: MSMEs working in the energy efficiency and renewable energy sphere are redistributed among manufacturing, construction, wholesale and retail trade

Figure 5. Number of Registered Businesses in 2019

Source: GEOSTAT

■IE ■JLC ■C ■LLC ■JSC ■LP ■BFELE ■NCLY ■BFNPLE ■LEUPL





Source: GEOSTAT

- Limited Liability Company (LLC);
- Joint-stock Company (JSC);
- Joint Liability Company (JLC);
- Limited Partnership (LP);
- Cooperative (C);

- Individual entrepreneur (IE)
- Non-commercial legal entity (NCLE)
- Branch of a foreign non-profit legal entity (BFNPLE)
- Legal entity under public law (LEUPL)
- Branch of a foreign entrepreneurial legal entity (BFELE)

Number of registered businesses:

- In the first eight months of 2019 (January-August): 34,250;
- In the first eight months of 2020 (January-August): 25,796.

To some extent this may also be due to the restrictions imposed. Due to the severe epidemiological situation, the government introduced certain restrictions, which concerned the mobility as well as the functioning of certain public or private institutions. Thus the Covid-19 crisis and resulting restrictions were the main reasons for the decrease in the number of registered businesses.

2.2.4. The impact of crisis on Human Resources

Suspension of business activity as the response to COVID-19 related difficulties resulted in employment decrease. According to Geostat data (see chart below) number of employees in SMEs during quarter 2 of 2020 has decreased by about 15% in comparison with the same period in 2019.

The Government has taken some measures under the anti-crisis plan to keep employees in the workplace. The measures were aimed at alleviating the financial situation of the company so as not to be forced to lay off employees due to their difficult financial situation. The Government Anti-Crisis Plan envisages the measures to be taken by the State to prevent the problem.



Figure 7. Number of Employees in SMEs in 2019-2020 (quarters 1-2)

Figure 8. Staff Reductions or Unpaid Leave since the beginning of the COVID-19 crisis



Source: "Georgian Business in the face of COVID-19 pandemic" May 2020 and "Follow-up Survey of Georgian Business in the face of COVID-19 pandemic" October 2020. PricewaterhouseCoopers Georgia LLC

Some of the surveyed enterprises were forced to fire their employees or offer unpaid leave for undefined period. It should be noted that the number of employees laid off in September or on permanent leave is 2.4 times higher than the number of those laid off in April. This may be due to the fact that the first wave of the crisis has already

Source: GEOSTAT

caused significant damage to business, and they can no longer meet the second wave with the same financial stability as the first one.

According to the survey conducted in September, 56% of companies have not cut their workforce since the start of the pandemic.

Compared to the survey conducted in April 2020, fewer companies report 100% headcount reductions. According to some respondents, most of the layoffs were for part-time employees. This may indicate that the layoffs are mainly related to flexible employees.

As MSMEs working in the energy efficiency and renewable energy sphere are redistributed among such sectors as manufacturing, construction and wholesale and retail trade below chart provides information on staff reductions and unpaid leaves in these sectors.

Figure 9. Staff Reductions or Unpaid Leave since COVID-19 Start (Manufacturing, construction and wholesale & retail trade).



Source: "Follow-up Survey of Georgian Business in the face of COVID-19 pandemic" Oct.2020. PricewaterhouseCoopers Georgia LLC

- Nobody was fired 67.3% of respondents
- Fired 0-15% 10.6% of respondents
- Fired 15%-25% 4.6% of respondents
- Fired 25%-50% 6.6% of respondents
- Fired 50%-75% 3% of respondents
- Fired 75%-100% 2.6% of respondents
- Fired everyone 5% of respondents

Figure 10. Impact of COVID-19 on Human Resources in MSMEs working in RE & EE field



Source: In-depth interviews with enterprises working in RE & EE field

While the figures above reflect situation with COVID-19 crisis impact on human resources – employees working in manufacturing, construction and wholesale and retail trade sectors, Fig. 10 reflects the situation with human resources among MSMEs working in the RE & EE sector, in particular the companies in this sector managed to avoid the staff dismissal and only 13% of them had employees on unpaid leave. Even more, in 20% of the MSMEs working in the RE &EE sector the employees resumed the work with the companies after the government allowed the businesses to resume the work under the strict guidelines. What is notable, 20% of companies are optimistic for the future and will be considering hiring more employees which means production and sales increase.

2.2.5. COVID-19 crisis and working remotely

Most companies did not work remotely before, some of them have partially worked. It should be noted that a switch to use remote working mode was detrimental to a number of companies. The main factors are:

- Part of the offices, where employees worked in the pre-crisis period were closed. Companies that rented offices were forced to stop paying rent and consequently lost them or were forced to continue to pay.
- The companies, that partially switched to remote working mode found themselves in the most difficult situation. They had to provide staff transportation.

Delivery service has benefited the most from switching to remote working mode. Due to the fact that a large part of the population switched to working remotely (from home), demand for delivery services increased, which caused increase in the number of delivery personnel. According to the PwC study only about 22% of employees of SMEs were working remotely, while as reflected by questionnaires and interviews conducted, among the companies working in RE and EE field, 67% of these SMEs had to arrange that their employees work remotely. Though a significant majority of them (73%) consider such mode of work not profitable, 40% would provide the staff with necessary resources. Shift to remote mode of work had impact on established working regime in 13% of companies in target sectors and 7 % pointed out that they had to increase staffing for delivery services.

Figure 11. Impact of working remotely on enterprises working in RE & EE Field.



Source: In-depth interviews with enterprises working in RE & EE field

2.2.6. COVID-19 crisis impact on the energy sector

Electricity demand in January-November 2020 (11,414 million kWh) decreased by 6.18% compared to the period January-November 2019 (12,166.8 million kWh) period.

Economic obstacles have also created problems for the construction of power generation facilities. In particular, construction of several small hydropower plants (HPPs) – the most common and ecologically clean electricity source in Georgia –has been suspended. The crisis affected small capacity (up to 15 MW) HPPs.

The reasons for the impediment to the construction of strategically important generation facilities are complex and despite the subsidies and financial assistance received from the Georgian government, import-related issues have become a major obstacle for the facilities under construction. The main reason for the latter is the restrictions imposed on companies in Georgia and their suppliers abroad. In particular, from 61 small HPPs with a total installed capacity of 297 MW and a total output of 1,720 million kWh ((from which 42 small MW HPPs were impacted by Covid 19 pandemic, that caused some obstacles in carrying out feasibility studies, which is on further construction commitment and 19 of them are also paused due to the pandemic and at present is on technical economic research stage).

Most of the survey respondents noted that the crisis did not have a significant impact on the number of employees, stating that those who could work remotely continued working. It should also be noted that several companies have expressed readiness that if there is a complete freeze on construction and the entire staff is temporarily laid off, they will be willing to pay employees for at least two months. It is notable, that the construction companies had forecasted stoppage in works during the winter for several months due to severe climatic conditions on construction sites.

The crisis has not affected the wind power plant. In particular, electricity generated by the Gori wind power plant¹⁵ (88 million kWh) during the same period in 2019 and 2020 is almost the same.

The crisis has also had some impact on the energy generation from renewable energy sources as well as on operation of RE & EE equipment producer companies. in Georgia, the demand for electricity decreased by an average of 6.23%. this is reflected in the working capacity of power plants and the consequences will be a smaller amount of electricity. deviation from the electricity supply plan extends the self-redemption period. Also, in production of renewable energy sources PV modules manufacturing company (EI-Solar¹⁶) mentioned the problems with the supply of raw materials caused by the closure of borders as a major obstacle to the production. The company suffered significant losses as the obstacles to the import of raw materials caused problems in the production process. The implementation of the production plan for 2020 has failed, however the company hopes to be able to fully restore production in 2021. Based on gained experience in future the company plans to reduce its dependence on imported raw materials.

In the similar way the crisis affected the company engaged in the construction of electric car charging stations (E-space¹⁷), stating that the installation of charging stations was delayed due to late import of equipment from abroad. Nevertheless, the respondents anticipate that the restoring their production capacity will take no more than 1.5 years.

¹⁵ <u>https://www.euneighbours.eu/en/east/eu-in-action/stories/wind-farm-gori-successfully-generates-renewable-energy-georgia</u>

¹⁶ <u>https://www.energyintelligence.it/en/digital-energy/ei-solar/</u>

¹⁷ <u>http://e-space.ge/?lang=GE</u>

2.3. Summary of Problems Faced by MSMEs

To ensure stability, some companies have shifted their attention towards government projects (e.g., construction). Most businesses, however, were forced to transition to online sales and, to compensate for their losses, were either forced to attract additional financial sources or restructure their debts.

According to the desk study performed the MSMEs face a wide array of problems:

- 1. Unpredictable conditions it became increasingly difficult for companies to plan operations or forecast inventory;
- 2. In spite of the fact that some companies were permitted to continue operating during quarantine, many of their suppliers were not and as a result they were forced to close down after running out of stock/reserves;
- 3. Raw material shortages due to restrictions and delays in delivery of supplies caused by COVID-19 crisis in exporting countries;
- 4. In some cases, companies had to find new suppliers to substitute those small size suppliers which were forced to close down due to COVID-19;
- 5. Increased costs for raw materials caused by currency exchange rate fluctuations (as most contracts with foreign suppliers are negotiated in USD or EUR);
- 6. According to surveyed companies, despite a sharp drop in oil price internationally, transportation costs have increased. This can partially be explained by reduction of transport operations;
- 7. Problems with internal transportation were caused by limited time to find proper solution and obtain necessary permit for transportation of employees living outside Tbilisi as during the lockdown the intercity transportation was banned. Many companies failed to obtain such permits for transportation of their personnel.
- 8. The process of obtaining work permits from inspection companies monitoring health and safety conditions was complex, mainly due to additional effort required to understand procedures and ensure a timely reaction for companies. In some cases, receiving an official response from the government regarding permits was complicated and lengthy.
- 9. Problems related to the invitation of foreign specialists for repair works of machinery/equipment.
- 10. Increased operational costs related to the solution of problems described above.

2.4. Government Anti-Crisis Plan¹⁸

On 24 April 2020, the Prime Minister of Georgia presented the Anti-crisis Economic Plan, covering already implemented activities, as well as the future measures, which in some instances required several legal changes. The anti-crisis plan included three phases aiming at improving the social status of citizens and certain measures for business sector that would help business to maintain the economic stability during the pandemic.

The anti-crisis plan consisted of three phases:

The first phase was the emergency measures taken in response to the early spread of virus in the country, both in health and socio-economic spheres, which was largely dictated by the necessity and less based on impact calculations.

The First Phase: Measures for Citizens and Businesses

 Utility fees (electricity, water, garbage disposal, and natural gas) of households were financed by the state. The first phase of the financial support started in March-May. Under the programme, the Government was financing consumption of electricity up to 200 kWh and natural gas up to 200 m³ per month. According to the Anti-crisis Economic Plan, 150 million GEL was allocated for this purpose;

¹⁸ https://www2.deloitte.com/ge/en/pages/legal/articles/anti-crisis-economic-plan.html

- The payment deadline for declared income and property tax was extended to 1 November 2020 for persons employed in the tourism sector;
- The custom clearance term for vehicles imported before 1 April 2020 was extended to 1 September 2020 for car importers;
- The government introduced the State Programme for Maintaining Prices of Basic Consumption Food Products. The program envisaged subsidies for certain imported products for the period from 15 March to 15 May 2020. The budget for this program was 15 million GEL;
- Insuring price increase for building materials 200 million GEL;
- From 1 March to 31 August 2020, Enterprise Georgia (an agency of the Ministry of Economy and Sustainable Development of Georgia) co-financed up to 80 per cent of the annual interest rate on loans issued to small and medium-sized hotels within the framework of a new programme "Co-financing Mechanism for Supporting Family-owned, Small and Medium-sized Hotel Industries". The budget allocated for this purpose was 10 million GEL.

The Second phase is a set of economic and social actions for the crises period based on existing forecasts and economic parameters and therefore is more targeted and result oriented. According to the projections of international financial institutions, Georgia's economic growth in 2020 will be minus 4%, which means the decrease of 1.8 billion GEL in Budget revenues.

In total, due to increased costs and reduced revenues, the budget will have 3.9 Billion GEL deficit for the fiscal year 2020. To address this shortcoming and to minimize economic losses and to stimulate economic activity in post-crisis period, the Georgian government has reached an agreement with IMF to mobilize 3 billion USD (approximately 9.5 billion GEL). Of that 3 billion USD, 1.5 billion USD (4.75 billion GEL) will be earmarked for budgetary resources, and remaining 1.5 billion USD will be available for private and banking sector upon the request.

The Third phase: Provision of targeted social assistance for citizens for the period May-October 2020

- Officially employed persons who lost their job or were placed on an unpaid leave following the spread of the coronavirus pandemic received 1,200 GEL over the course of 6 months¹⁹ (200 GEL per month);
- Over 6 months period, an average of GEL 600 was provided to the socially vulnerable and large families and individuals with severe disabilities and disabled children;
- Regardless of inflation and economic growth, pensions will increase by at least GEL 20, and for pensioners over the age of 70 by GEL 25.
- Contracted employees who have retained their jobs and salaries, will receive income tax exemptions. Salaries up to 750 GEL will be totally exempt from income tax, salaries up to 1,500 GEL will have tax break on 750 GEL and the rest will be taxed usually. Such exemptions will not apply to the salaries more than 1,500 GEL (approx. 470 USD). The cost of this program is 250 million GEL. The taxes will be returned to the employers²⁰ and not to the employees and therefore the companies will decide how to use it.
- The self-employed people will get one-time assistance of 300 GEL (93 USD) in case they can prove that they have lost the income. A total of 75 million GEL was allocated for this purpose, which means that maximum 250 thousand citizens will be able to benefit from this programme. It was not specified what it means to prove the loss of income. According to Georgian regulations, a person is self-employed if he/she engages in any kind of economic activity (e.g. rural workers, janitors, street traders etc.) but

¹⁹ From the introduction of lockdown

²⁰ Regular practice in Georgia is that employer deducts income tax amount from the gross salary of employee and transfers it to the revenue service.

their revenue is not officially declared, and they do not pay taxes. Also, person is self-employed when they work for legal entities but receive non-declared remuneration (so called hand/cash payment). It is expected that no company will risk a fine of several thousand GEL to give the self-employed people the reference about working with them or losing income.

Assistance plan for enterprises:

- Commercial banks will be given long-term resources of GEL 600 million;
- Additional GEL 500 million was allocated to support businesses, including a credit-guarantee scheme It means entering the state in the process of loaning as a guarantor for the businesses. 2 billion GEL loan portfolio will be issued with a state guarantee. The amount of the guarantee will be up to 90% for new loans and up to 30% for the restructuring of existing ones. Changes in the co-funding conditions of the program Enterprise Georgia: co-funding period on loan/leasing will increase from 24 months to 36 months; Amendment of the interest co-funding mechanisms; Enlarged list of activities; Lowered minimum range of loan/leasing; Increase of working capital funding;
- Assistance to agriculture:
 - Increase the upper limit of agricultural grants from 20,000 GEL to 30,000 GEL;

- Agri-loans for one-year crops. Involves full subsidizing of loan interest rates. Estimated total volume of loans is 50 million. About 5,000 farmers will benefit from the programme;

- Supporting reclamation activities- complete exemptions from reclamation taxes for 2020 and complete write-offs of the debts accumulated before 2020;

- The systematic registration of 1.2 million hectares of land will be completed within the 3 years period, which will end the legal disputes related to land ownership and sizes.

Following the announcement of new COVID-related restrictions on 26 November 2020, which came into power on 28 November 2020 and are described by the officials as a 'compromise option', the Georgian government **announced the Fourth phase of an anti-crisis plan**. According to Georgian Prime Minister the newly adopted restrictions will cause an additional decrease in the country's GDP by 0.7-0.8%, therefore, the new anti-crisis financial measures are aimed to stimulate the economy and ease the consequences of those restrictions.

Announced supportive measures to ease the burdens for businesses and the public:

- Government will extend the benefits for businesses for another six months as those announced six months ago expired on 1 November 2020.
- Government will again support employers to maintain jobs during the coronavirus crisis.
- Monthly salaries up to 1,500 GEL will be exempt from personal income tax for the portion of 750 GEL for the next 6 months. The state will pay this tax. Estimated number of beneficiaries 33,000 businesses and 425,000 employees. During the previous wave of coronavirus this support benefited 33,000 companies and reached 260 million GEL.
- Property tax for employees in the tourism sector will be abolished by 2021.
- In May 2020, when the government announced support for the tourism sector property and personal income taxes were deferred for four months for businesses operating in the sector. Now the deferred income tax will be written off in full.

- The hospitality business like small and medium size hotels will be receiving support in the form of subsidies for the interest rates of the loans for six months. Estimated number of beneficiaries - 3,700 businesses.
- Governmental anti-crisis plan and subsidies include social assistance program for citizens and support plan for enterprises. For this purpose, 1.10 billion GEL has been allocated.
- To decrease burden of increased tariff for electricity for commercial entities at the end of 2020 at the decision of the Government, for the local food producing companies the state will subsidize throughout 2021,50% of the difference between the previous and increased tariffs.

2.4.1. Enterprise Georgia²¹

Enterprise Georgia (Produce in Georgia is one of the first government agencies in Georgia, whose main goal is to improve the business environment, develop the private sector, popularize Georgia's investment climate and promote exports. To ensure dynamic economic development, the agency combines three components, three interrelated layers of economic development: business (local production), exports and investments. The credit guarantee scheme is an important component of the multi-country economic support package (supports Georgian companies against the coronavirus, as the Credit Guarantee Scheme is used as a counter-cyclical mechanism to improve access to finance and liquidity management and ensure adequate risk distribution between government, commercial banks and organizations. Under the scheme, conditions for the private sector will be significantly improved, including an increase in the level of guarantee repayment at both the individual loan and portfolio levels, reducing the loan guarantee fee, increasing the upper limit of the loan amount and the possibility of using the guarantee to increase the working capital. The amount of guarantees allocated under the scheme in 2020 for commercial banks and microfinance organizations is 330 million GEL.

In times of crisis, the urgency of small and micro entrepreneurship incentives is growing significantly, especially for small and micro entrepreneurs living in rural and mountainous areas. An important support mechanism in this regard is the micro and small grants programme. The budget of this programme has increased four times during the crisis period and was set at 40 million GEL in 2020. At the same time, the parameters of the programme have been significantly improved, in particular, the maximum amount of the grant will be increased from 20,000 GEL to 30,000 GEL, and the amount of co-participation by the entrepreneur has been reduced from 20% to 10% (up to 5% in mountainous regions). In order to maintain the jobs, the state provided a subsidy for each retained job, namely GEL 750 was fully exempt from income tax, while salaries up to GEL 1,500 were exempt from income tax in the amount of GEL 750. A sectoral support package was developed for the tourism, agriculture and construction / development sectors. The main part of the measures developed within the framework of these packages is aimed at promoting small and medium-sized enterprises and improving their competitiveness and liquidity management. The Agriculture Support Package provides direct assistance to farmers and cooperatives through grants and vouchers, subsidies for agricultural works and production of agricultural products (including primary and processing agriculture), co-financing of bank credit and leasing interest, support for the arrangement of the irrigation system, co-financing of agro-insurance standards and international assistance. Tourism support measures envisage full exemption of the tourism sector from property tax in 2020 and 2021 and write-off of income tax in 2020. Also, the government subsidizes 80% of the loan interest for 6 months for hotels with less than 20 million GEL turnover, which is the largest part of the Georgian hotel industry. Restaurants are included in the credit guarantee scheme, which will enable them to solve

²¹ <u>http://www.enterprisegeorgia.gov.ge/en/home/about</u>

liquidity problems and finance operating expenses. For travel companies / tour operators, the government also subsidizes interest on bank guarantees for 6 months.

The Support Plan of the development / construction Sector consists of both demand-side and supply-side supporting measures and ensures the overcome of the challenges in the sector which, in turn, include: reducing the sales of the residential apartments, increasing the risks of construction completion, price fluctuations and access to the finance.

The supporting package of the development sector considers the subsidies of the mortgage interest, issuance of the State guarantees on mortgages, insurance for completion of ongoing construction, purchase of apartments for internally displaced persons/refugees and a commitment of realization at least 20% of residential area under the construction project.

2.4.2. Debt Restructuring

Enterprises were given an opportunity to restructure their debts. Regulations implemented by the National Bank of Georgia provided commercial banks with more possibilities for restructuring companies' debt.

To restore competitiveness in the private sector, new programmes were implemented and existing ones were significantly altered. Government support programmes are oriented towards overcoming existing challenges, increasing financing and creating more favorable conditions for businesses to mitigate liquidity problems.

For this goal, new types of business activities were included in the programme "Enterprise Georgia", and the programme itself became more business-oriented, in particular: co-financing for loan interest rates was increased, credit/leasing object cost interest co-financing for 36 months was implemented, threshold for credit/leasing was reduced to 50,000 GEL and limits were reduced for cash flow financing activities.

- Statistics for companies that turn to financial institutes deviate by size: less than 63% of micro businesses have not yet used services provided by financial institutions, while in medium-sized businesses this figure is less than 50%;
- Applications for additional financing were mostly refused to medium-sized businesses (14%), micro businesses (12%), and small businesses (11%);
- Applications for additional financing were mostly approved to large (22%) and medium-sized businesses (22%), 7% of large and 9% of medium-sized businesses currently are waiting for the decision;
- The share of companies that do not require additional financing have been reduced from 37% to 22%, while the share of companies that have yet to request additional financing increased from 30 to 48%.

2.4.3. Financial Assistance

According to a survey conducted among MSMEs, approximately one fourth of respodents stated that they did not need financial assistance from the state. 28% of business respondents did not apply to the state for financial assistance at all, and 72% applied.





Source: "Follow-up Survey of Georgian Business in the face of COVID-19 pandemic" October 2020, p.23 ; PricewaterhouseCoopers Georgia LLC

Statistics of companies who have approached financial institutions vary by company sizes. 63% of microbusinesses have not yet approached the financial institutions, while among medium-sized companies this figure is less than 50%.

• The highest rejection rate of requests for additional financing is among medium-size companies (14%), microcompanies (12%) and small companies (11%).

• The highest success rate in obtaining additional financing (22%) was among medium-size companies. Also, 9% of medium-size companies are waiting for the decision.



Figure 13. Additional Financing Attracted by MSMEs since COVID-19 outbreak

Source: "Follow-up Survey of Georgian Business in the face of COVID-19 pandemic" October 2020. PricewaterhouseCoopers Georgia LLC

The companies also clarified, what the assistance received from the government was used for. The major benefit of government initiatives for companies was related to continuing business activity (40%), while 38% of companies have used it to maintain employees.



Figure 14. Government Initiatives and their Relevance to Business Needs

Source: "Follow-up Survey of Georgian

Business in the face of COVID-19 pandemic" October 2020. PricewaterhouseCoopers Georgia LLC



Figure 15. Government Initiatives and Business Needs

Source: "Follow-up Survey of Georgian Business in the face of COVID-19 pandemic" October 2020. PricewaterhouseCoopers Georgia LLC

The most widely used initiative for all surveyed respondents is the subsidy of employee wages and personal income tax. These two initiatives were perceived by respondents as most useful (44%). As for the VAT refund, this initiative was used only by 17% of companies, while such initiative wasn't relevant to the majority of companies.

While above information reflects results of survey conducted among MSMEs in general, below chart represents the impact MSMEs from the RE & EE sector have on their production and financial soundness.

Figure 16. Finances and Production - RE & EE field MSMEs



Source: In-depth interviews with enterprises working in RE & EE field

As it can be seen in Fig. 16, 60% of respondents realize the weaknesses within their companies, and almost all of them (up to 60%) are planning to create backup financial & physical resources. Only 29% of the RE &EE sector companies are thinking on changing field of activity, but all of them admitted that they did not have resources to add any production facilities or products. The notable is that, only 13% of companies had to take extra loans to support their businesses. and to sell part of their property to improve the financial situation.

Due to COVID-19 pandemic 30% of target sector companies had to break off relations with partners from Red Zone countries, but in spite of this 40% are thinking of finding new foreign partners.

Fig. 17 Rating of 10 main problems RE&EE MSME's might face due to COVID-19 pandemic.

The companies have been asked to rate the listed problems (issues) on a 10-point scale and give the following scores: 0-5-10

(0 points or an empty cell will be considered that the issue is not relevant to your company).

		0	5	10
1	Quantity of products produced	No change	Halved	Stopped
2	Competitiveness: of the company	Stable	Average	Competitive
3	Have any changes occurred in manufacturing process?	No change	Became complicated	Stopped
4	Changes in employee salaries	No change	Decreased slightly	Temporarily suspended
5	Company real estate	No change	Decreased on average	Was completely lost
6	How liabilities to banks have changed?	No change	increased on average	Exceeds the budget
7	Financial / subsidized assistance provided by the state	Helped to full extent	Partially helped	Did not help
8	Sales in the country	No change /increased	Halved	Stopped
9	Export	No change	Halved	Stopped
10	Import	No change	Partially Stopped	Stopped

Table 2. Questions containing quantitative data.

As could be seen from the chart only for 23% of companies working in RE & EE field the production did not change, while for 69% volume of production has reduced almost twice and 43% pointed out that manufacturing process did not change while another 43% consider that manufacturing process became more complicated. While majority of companies working in RE & EE field are mentioning that situation with their property does not change, 14% of companies have lost part of their property. Salaries for the employees remained unchanged in 73% of companies, while 20% of companies had to reduce salaries. As a temporary measure, suspension of salary payments was reported in 7% of companies. As for the liabilities to the banks for 93% of companies from the working in RE & EE field the situation did not change, while 7% of companies stated that the liabilities to the banks have increased. As for the state assistance 80 % of companies received such assistance, while 13% of companies state that the provided assistance helped them to a certain extent and only 7% reported that the provided assistance did not help. The situation with the sales remained either unchanged or slightly increased for 53% of companies, while 47% reported 2 times decrease of sales. More than 50% of companies mentioned that export-import operations did not change and only for 13% such activities had stopped.



Figure 17. Production & Sales - RE & EE field MSMEs

Source: In-depth interviews with enterprises working in RE & EE field

2.5. Measures taken by MSMEs to reduce the impact from COVID-19

Reduction of demand remains the largest indicator of the negative impact of COVID-19 on companies. Largest losses were experienced by the tourism sector. Even with Government strategies and subsidies, some companies have implemented both internal and external measures to adapt to the crisis.

Internal measures implemented by companies are:

- Dismissal of employees;
- Sending employees on unpaid leave;
- In some cases, transitioning business on a partial or a completely online model, which in turn required increased expenses;
- Some businesses were forced to either completely close down or partially reduce production;
- Some entrepreneurs transformed their businesses to better adapt to the crisis.

III. Best practices in the area of energy efficiency relevant to MSMEs response to the Covid-19 crisis and post-crisis recovery in Georgia

3.1. Energy Efficient Equipment to Double Asphalt-Concrete Production

Lagodekhautogza Ltd – a Georgian construction company, established in 2000 located in Lagodekhi municipality, village Phona. The company specializes in road construction and production of cement-concrete and asphalt-concrete.

In 2020, the company decided to increase its asphalt-concrete production capacity, however it faced a challenge: their production machine was outdated, and it could not support increased production volumes. In addition, Lagodekhautogza was looking for ways to decrease their manufacturing costs.

Taking such important decision on the modernization of the production in the conditions of pandemic and uncertainty was very courageous, but the company had strong understanding that the implementation of the project will make their products more competitive in the market with increasing demand for high quality products and importance of roads construction/rehabilitation for the economic recovery of the country.

The company applied for GEFF (Green Economy Financing Facility)²² funding and received free technical assessment for the project. Green Economy Financing Facility (GEFF) in Georgia is a credit line facility of up to USD 54 million to participating financing institutions in Georgia to on-lend to residential and commercial clients investing in energy efficiency and renewable energy projects. GEFF consultants evaluated the project, conducted financial and technical analysis and gave recommendations that helped Lagodekhautogza achieve their goals.

An investment of € 254,000 allowed the company to upgrade its production machines to new energy efficient ones and to increase production by 55% compared to previous years.

Furthermore, Lagodekhautogza can now save up to 160 MWh per year, which translates to \leq 10,000 in energy cost savings each year. Through this investment, the CO₂ emissions from production were decreased by 62 tonnes per year.

This project²³ is a good example of how a single investment can help businesses achieve their goals and lessen their impact on the environment.

3.2. New Energy Efficient Hotel in Zugdidi

COVID-19's impact on the hospitality and tourism industry has been devastating and unprecedented.

Brief recovery in the summer months of 2020 especially at the expense of domestic travel inspired the hopes of a quick recovery for the tourism sector, but the fall/winter wave of the pandemic crashed those hopes. The Government support to the sector, lift of restrictions to travel, requirements of testing and vaccination certificates from travelers create grounds for the recovery of the sector.

Angelteri, a young up-and-coming company, established in February 2020 is determined to contribute to the development of the tourism industry in Zugdidi by building an energy-efficient hotel.

²² https://ebrdgeff.com/georgia/

²³ <u>https://ebrdgeff.com/georgia/en/projects/building-a-better-future/</u>

From the start of the project, the company paid close attention to the topic of sustainability. The hotel's management aims for their operations to have as little impact on the environment as possible. Therefore, energy-efficient measures were considered, and it was decided that the 31-room hotel would be powered using renewable energy sources.

To meet these requirements, Angelteri applied for GEFF financing²⁴ through one of the programme's partner financial institutions. A team of GEFF experts performed a technical and financial analysis of the project. Among other things, GEFF consultants calculated expected energy and potential CO₂ savings.

As a result of the USD 166,968 investment, the new hotel in Zugdidi will be able to save up to 300 MWh per year, which amounts to USD 8.474 in energy bills.

Thanks to energy-efficient technologies, such as heating, cooling and lighting systems, the building will have a lower carbon footprint and emit 58.28 tons less CO₂ per year.

With the world facing the problem of climate change, projects like these are vital to decreasing carbon emissions in the building industry, which account for 39% of the world's energy-related CO2 emissions. Angelteri Ltd is a good example of how building-owners can take an active role in creating healthy and comfortable environments for work, life and play.

3.3. Energy efficiency multifunctional building in central Tbilisi

Vake Hill Ltd, which has been operating in Tbilisi since 2009, decided to construct a multifunctional building of about 9,000 m² dedicated to offices, restaurants and a spacious car parking area (the latter been an issue in the city).

Like other sectors of economy, COVID-19 pandemic influenced the construction sector. According to the TBC Capital research²⁵, Tbilisi's residential sales declined by 22% in 2020, though construction permit issuance remained solid in Tbilisi, suggesting the supply will remain strong in the coming years. In 2020, 208 new apartment block permits were issued in Tbilisi, accounting for up to 1.1 Mln Sqm residential space and 83 permits for construction of administrative buildings²⁶ accounting for about 75,000 sq.m.

Considering the demand for high-class office spaces in Tbilisi, the company decided to ensure that future users are provided with all the necessary comfort to facilitate productive work. According to the company, the groundwork for this level of comfort has to start during the earliest stages of planning and construction.

Equipped with the architectural design for the future building, the company applied for GEFF financing through one of its partner financial institutions. GEFF experts conducted a thorough technical and financial analysis of the project²⁷ and recommended high-performing technologies that use electricity as a power source as opposed to technologies using natural gas.

The investment of USD 2,255,660 in new energy-efficient heating and cooling systems along with thermal insulation of building envelope, high-performance windows & doors, LED lighting system and high-performance elevators will minimize the building's energy demands, will reduce energy losses in both winter and summer. The annual energy saving which are estimated at 1,950 MW/h per year will allow the company save up to USD 54,000 annually on energy bills and what is very important improved working conditions for building occupants and enhanced environmental protection – reduction of CO_2 emissions by 350 tons per year.

²⁴ https://ebrdgeff.com/georgia/en/projects/building-a-better-future/

²⁵ https://tbccapital.ge/publications/Tbilisi-Residential-Market--Monthly-Watch-4

²⁶ https://www.geostat.ge/en/modules/categories/621/information-about-permissions-granted-for-construction-and-completed-objects

²⁷ https://ebrdgeff.com/georgia/en/projects/healthy-work-environment/

3.4. Energy Efficient Building for Walnuts' Production

Anigozi LTD started out in the Georgian agricultural industry by planting and harvesting walnuts, which the company supplied to local markets, in addition to exporting to various countries.

After years of working in the field, the company decided to upgrade their operations completely, in order to ensure the high quality of their product. The first step of their strategic plan was to build a facility to store their produce as well as house their operations.

Seeking out new opportunities, the company applied for green financing. As part of the application process, Anigozi LTD received a detailed assessment of the project's technical and financial parameters from GEFF consultants²⁸.

An investment of \in 225,395 will make it possible for the company to construct in 2021 an energy-efficient building, that will lead to annual energy savings of 3.5 MWh per year and energy bill savings of \in 3,000 annually. Decreased energy consumption will result in better environmental performance of the company - annual reduction of CO₂ emissions by 3.8 tons per year.

With the construction of the new energy efficient building all the walnuts and almonds harvested by Anigozi LTD will be processed and stored in a facility which offers the necessary conditions essential for maintaining the quality of the company's product. The implementation of the project will create employment opportunities to local population, which is very important under the pandemic as at the end of 2020 the unemployment in Georgia reached 20.4%²⁹. In addition to creation of employment opportunities the project implementation will contribute to the increase of the competitiveness and the export potential of the company.

3.5. Energy Efficient Furnace to Reduce Energy Costs for Metal Processor

AMB Alloys Ltd, located in the industrial city of Rustavi, is a producer and supplier of various types of ferroalloys. Due to the high demand for silicomanganese, ferromanganese, ferrosilicon and other ferroalloys in nearby countries, the founding partners of AMB Alloys decided to build a ferroalloy plant. The project required a large investment, however, the company was determined to pay it back in a relatively short amount of time. The implementation of the project is very important for the country's post-Covid economy recovery and increase of exports.

AMB Alloys applied for GEFF financing through a partner financial institution and requested a free technical assessment of their future project³⁰. The GEFF team in Georgia performed project analyses and assessed the potential for energy savings, as well as the financial-technical parameters and risks.

The \in 842,000 investment allows the company to reduce its energy consumption by 4.3 MWh per year, which translates into annual savings of \in 220,000. This helps the company achieve its goal and will repay the investment out of energy savings in just four years. The new ferroalloy furnace will also mean a reduction in CO₂ emissions by 1,7 tons per year, reducing the negative impact on the environment.

²⁸ https://ebrdgeff.com/georgia/en/projects/efficiency-in-a-nutshell/

²⁹ https://www.geostat.ge/en/modules/categories/683/Employment-Unemployment

³⁰ https://ebrdgeff.com/georgia/en/projects/english-metal-processor-invests-in-furnace-to-upgrade-production/

IV. Best practices in the area of renewable energy relevant to MSMEs response to the Covid-19 crisis and post-crisis recovery in

4.1. Renewable biomass replaces natural gas in asphalt production

Location-Khashuri municipality, village Agarebi

Asphalt producing company "Mshenebeli 2019" located in Khashuri municipality village Agarebi implemented resource and energy efficient measure which envisaged replacement of a 3,000 kW natural gas burner on a rotating furnace with a solid fuel heat generator assembled at the Georgian Technical University (installed device is patented).

As a solid fuel agricultural waste- grape cake is used.

The installed heat generator consumes 600 kg of grape cake in an hour and replaces 300 m3 of natural gas.

According to the plant operational plan the installed solid fuel generator will work 1600 hours a year consuming 960 tons of grape cake and substitute 480,000 m³ of gas.



As the grape cake is by product (waste) in wine making, currently the wineries happily give grape cake for free and asphalt plant has only to transport the free grape cake to the site.

As calculated 1 ton of dry grape cake will cost to the plant about 35 USD. The annual expenditures for biomass fuel will amount to 33,600 USD while the annual expenditures on the natural gas would have been-about 160,000 USD.

Investments of up to 7,000 USD in locally produced heat generator will accomplish in economic and environmental benefits.

As a result of installation of solid fuel heat generator utilizing renewable biomass (grape cake) instead of imported natural gas the annual savings for the plant will be 126,400 USD. The implementation of the project, especially during the pandemic with increased tariffs for energy carriers is very important as it resulted not only in the economic savings for the company, but also preservation of jobs and increased competitiveness in the market of construction materials.

As for the environmental performance of the company, the reduction of CO_2 emissions will amount to more than 900 tons per year.

4.2. Establishment of renewable energy (biomass) supply chain in pilot Georgian CoM municipality

Location - Telavi Municipality

Establishment of biomass (vine prunings) supply chain in Telavi municipality is carried out in the framework of EU funded project "Biomass Energy and Energy Efficient Technologies as a Sustainable Energy Solutions for Georgian CoM signatories"³¹. Opposite to removal of vine prunings from the vineyard and burning them (widespread practice of handling prunings in Georgia) causing air pollution with carbon dioxide and other gaseous emissions, the project demonstrated a new sustainable and economical use of prunings- their collection, bailing and - after drying - use for combustion purposes. 1 ton of dried vine prunings can substitute about 550 m³ of natural gas or 3 m³ of fuelwood which is currently used in many village schools and kindergartens. In addition to savings on imported natural gas the utilization of biomass (vine prunings) has environmental benefits in terms of reduced emissions of GHGs into atmosphere.

When as a result of the economic crisis caused by COVID-19 pandemic, up to 100 thousand³² Georgians lost their jobs, the establishment of the new company which provided employment to 5 persons is though small but very important contribution to the post-crisis recovery in the country.

The main components of biomass supply chain in Telavi municipality are:

- Vineyards and vineyards pruning residues;
- Necessary equipment for collection and processing vineyard prunings - round-baler and trimmings and bale chipper produced by Italian company "CAEB International", tractors and truck;
- Warehouse for vine pruning bales' storage and drying;
- Processing dry bales with bale chipper;
- Transportation of chipped biomass to the municipal buildings as fuel to be burnt in modern autonomous heating systems- at project pilot phase kindergartens.

Investments for the establishment of the biomass supply chain amounted to 111,916 EUR. In the pilot stage, for the provision of

heating for two kindergartens annually 500 MWh energy received from burning fossil fuels will be saved, which will result in annual reduction of CO₂ emission of 170 tons. Annual monetary savings for two municipal kindergartens will be up to 16,000 EUR.

Recovery of vine prunings for energy is one of the most significant innovations in the agricultural sector: apart from relieving producers of disposal costs, introduction of new agricultural technology and machinery the process has economic return resulting from the conversion of biomass into energy and the related commercialization on the national market.

Total volume of biomass in the Telavi municipality can be estimated at about 17,400 tons, which provides for application of gained experience throughout municipality and other CoM signatories from viniculture region of Kakheti.





³¹ <u>COMDEP - Projects - EEC Georgia</u>

³² Deputy Minister of Finance, Giorgi Kakauridze statement during the parliamentary hearing.

4.3. ProCredit Bank Head Office in the list of green buildings

Location - Tbilisi, ProCredit Bank Head Office

The Head Office of ProCredit Bank Georgia in Tbilisi has been entered into the list of green buildings around the world. It is the first building in Georgia to have its resource efficiency confirmed with an EDGE international certification³³. The large glazed façade frontage and atrium provide natural daylight along with an energy-efficient building envelope as well as low-E coated windows.

The whole building is lit by LED lighting with occupancy sensors and lighting controls. The energy efficient equipment for heating and cooling ensures a comfortable ambient air while saving energy at the same time.



In the case of green buildings, it is not only the building itself that is important but also the consumption of resources, which is why ProCredit Bank Georgia has installed one of the first rainwater harvesting systems in the country.

On top of this, ProCredit is the only bank in the country to operate its own two grid connected solar power plants – with the system being used not only to generate electricity for internal use but also to charge its fleet of electric vehicles. The solar modules installed represent the latest technology glass-glass, bifacial frameless solar modules. One of the two solar micro systems is installed on the roof of the building, to supply the building with the electricity and provides partial shading from the direct sunlight coming through glass. The second solar power plant which provides electricity to the charging terminal of electric vehicles is installed next to the building, on the roof of a small parking type construction.

The total area under both solar PV system is 500 square meters and total peak power is up to 100 kW. As estimated by the "Sun House" Ltd³⁴, designer and installer of the solar plants, the annual electricity generation by the solar systems will amount to 135,000 kWh, with payback period about 6 years. In the period 19 June 2020 – 9 February 2021, the two solar micro plants have generated 68030 kWh of electricity and contributed to the reduction of CO2 emissions by 5.58 tons.



By implementing various energy efficiency and renewable energy measures, applying resource efficiency especially in the time of pandemic is a good example to follow by the developers in charge of construction of residential and public buildings, especially with the consideration of the fact that during the pandemic the works in the construction sector continued almost at the same pace. Moreover, the bank offers new financing opportunities to SMEs that are planning investments in energy efficient, renewable electric power and environmentally friendly initiatives under the Green Economy Financing Facility (GEFF) program.

³³ <u>https://www.procreditbank.ge/en/news/first-green-office-building-georgia-resource-efficiency-confirmed-edge-international</u>

³⁴ https://bit.ly/36Y7DjP

4.4. Solar Power Plant in Waldorf School

Location-Tbilisi

The company "Thermoindustria" is one of the major importers of heating-cooling, water supply, air conditioning, pumping stations and Helio systems in Georgia. From 2012, the company supplies its customers with high quality products from Italy, Germany, Belgium, Hungary, Slovenia and Turkey.

UAB EST LT together with its partner Thermoindustria LLC³⁵ from Georgia implemented the Development Cooperation Project "Installation of a Solar Power Plant in Waldorf School, Georgia", financed by the Ministry of Environment of the Republic of Lithuania Climate Change Special Program.

The aim of the project was to reduce energy intensity at the Waldorf Free School-Kindergarten in Tbilisi by increasing RES production and consumption. The implementation of the project in the times of the pandemic in the country is very important as local company was engaged in on-jobs trainings on the installation of the solar PVs, preserved its workforce and became compatative in the local market. The project implementation is very important for the school, as in the conditions of



the increased tariff for the electricity the school will cover partially its needs in electricity from free solar power. Funding of EUR 30,047.50 from the Climate Change Special Program of the Ministry of Environment of the Republic of Lithuania has been allocated for the implementation of the project.

The outcome of the project – the installation of a 20-kW grid connected solar power plant.

The beneficiary of the project – the community of the Free Waldorf School-Kindergarten in Tbilisi.

A 20-kW solar power plant installed during the project implementation will allow to achieve the following environmental impact:

- Grid Electricity consumption will be reduced bringing down the electricity bill for the school-kindergarten community;

- CO₂ emissions will be reduced by 17,400 tons per year. CO₂ emissions will be reduced by 347,840 t over the entire 20-year project evaluation period.

Indirect benefits of the project – during the project implementation, the expertise of Lithuanian companies in the design, installation and commissioning of a solar power plant in Georgia was shared with the Georgian partner Thermoindustria LLC.

Project implementation started in April 2020, and the solar plant was commissioned on 30 December 2020. In the period 1 January 2021 – 21 March 2021 the solar plant generated 3,197 kWh of electricity.

The project was administered by the Environmental Project Management Agency of the Ministry of Environment of the Republic of Lithuania. The installed solar PV system has an online monitoring system, which can be reached at: <u>http://bit.ly/waldorfpv</u>

³⁵ <u>https://thermoindustria.com/en/installation-of-a-solar-power-plant-in-waldorf-school-georgia/</u>

V. Conclusions

Main findings based on the desk study, identified and analyzed information that are relevant to the MSMEs working in RE and EE field:

All businesses experienced decrease in demand/revenue due to the following reasons:

1. Lockdown – businesses that relied on direct sales to customers encountered significant decrease in revenues due to the closure of business activities during the lockdown period. Moreover, even after lockdown ended, customer flow to retailers has reduced due to safety concerns of the population.

2. Closed borders and reduced number of tourists have predominantly affected hospitality industry (HORECA) and their suppliers (food and beverage) and the construction sector (reduced residential sales to foreigners, viability of new hotels construction).

3. Shift in consumption behavior – local consumer habits have shifted to cheaper products and increased spending on basic needs (e.g. food) and reduced spending on luxury goods or long-term investments;

4. Tension in the export markets – some of the sectors in other countries were directly affected by the pandemic. Accordingly, many foreign customers reduced or cancelled/delayed their orders, while others had to request discounts due to the exchange rate fluctuations in their own countries. Certain exports that rely on intermediary agents encountered significant reductions. This was mainly due to the currency exchange rate fluctuations and lack of predictability.

5. Uncertainty of the situation made it hard for companies to plan their operations and forecast inventory needs.

6. Although certain companies were granted permits to work during the quarantine, their suppliers were not (e.g. construction materials). As a consequence, they were not able to continue operations once they ran out of supplies.

7. Since all contracts with suppliers outside Georgia are in foreign currency (mainly USD and EUR), companies faced increase of raw material/input costs due to the exchange rate fluctuations.

8. Increased costs due to COVID-19-related safety measures that were partially offset by other costs (e.g. travel costs).

Main findings based on the interviews conducted among representatives of MSMEs working in RE & EE field:

- Limited availability of funding programmes, which could have been used to financially stabilize MSMEs. No tailored support to MSMEs working in renewable energy and energy efficiency sector.
- Most MSMEs have been forced to adjust to the remote working conditions and social distancing. Although remote working mode decreased some utility costs for MSMEs, it required additional efforts and resources and had caused decrease in labour (workforce) productivity.
- Not all MSMEs were able to provide/compensate/reimburse extra expenses of the staff working remotely (e.g., electricity/telecommunication cost) and just 40% were ready to provide required equipment to the staff necessary for such working arrangements.
- Most MSMEs have been pushed to start or activate new, innovative marketing actions such as using social media and direct communication with the potential consumers.
- In spite of additional efforts to continue operations and decreased income, none of interviewed MSMEs working in RE and EE field declared bankruptcy or cut the number of employees. Such solution is not

favourable for employees as being on unpaid leave means that they are technically employed, and the person is not eligible for the state support as according to government anti-crisis plan. officially employed persons who lost their jobs following the spread of the coronavirus pandemic received 1,200 GEL over the course of 6 months (200 GEL per month);

- After the outbreak of COVID-19 the majority of MSMEs (68%) faced decreased demand for their services and had to curtail their operations, which resulted in energy consumption decrease. Such decrease influenced the demand for RE and EE products and services among MSMEs on one hand, and on another hand the decrease of public interest to invest in RE and EE products which was provoked by the state subsidizing the energy bills. At the same time with the consideration of the fact that subsidies for utilities are temporary and the tariff increase for energy (electricity, gas) and water introduced on 31 December 2020 by GNERC may serve as an incentive for revitalization of the market for EE and RE products and services.
- Though about 60% of interviewed companies working in RE and EE field are going to create backup resources for their business operations, only 13% percent of these companies had to approach bank for additional financial resources, while another 13% preferred to sell property to cover necessary needs.

VI. Recommendations

Recommendations are formulated based on the desk study and feedbacks received from interviewed MSMEs, analysis of the Government programme aimed at enabling secure development environment through appropriate policies and legislation for MSMEs affected by COVID-19 crisis, to encourage delivery of energy-efficient products and provision of renewable energy equipment.

6. 1 Recommendations to the Government

- The Government should prepare a clear guidance for companies on the available support provided, such as how to access various financial instruments, whom to contact for questions, who are the national bodies involved in funds disbursement, what is the role of commercial banks and what are their obligations, etc.
- The Government and the National Bank of Georgia should introduce regulations and guidance for commercial banks including mechanism for protecting of businesses for the 500 million GEL assistance to private sector-credit guaranteeing mechanism.
- The Government should introduce temporary tax waivers for MSMEs at the national, regional or local level to free businesses from any tax obligations for a temporary period.
- The Government should include RE and EE enterprises in existing national programmes (e.g., Enterprise Georgia) to support MSMEs though grants, loans, and loan guarantees;
- The Government should support the establishment of EE and RE MSME Clusters. For small and start-up businesses, being in a cluster near competitors and related industries may provide with opportunities for faster growth, recognition, and status within the market, establishment of supply chain networks, better access to information, increased possibilities to address common problems and jointly develop strategy and plans on how to overcome them.

- The Government should provide financial support not only to those who lost their jobs but also to those who are placed on unpaid leave and self-employed bringing more clarity on what is required to prove income loss, so that many people get the one-time benefit. Especially, when the economic situation of self-employed people is mostly much worse than that of contracted people.
- The Government should provide specific flexible package for parents of young children attending kindergartens or primary schools who require particular care while pre-school institutions and schools are either closed or work remotely.
- The Government should avoid providing the same resources or opportunities to everyone regardless of their needs by developing support policies and programmes that guarantee equity approach through treating people/companies differently depending on their needs (i.e. avoid situations when business receives financial support while downsizing workforce).
- The Government should provide information and support services addressing the specific challenges to businesses (e.g., hotlines).
- The Government should create a guidance on available measures and solutions that the companies can
 implement to overcome the crisis and both short-term and long-term impact of pandemic. The guidance
 should also include government offered measures and support instruments of international donors,
 private initiatives, etc.
- The Government should monitor the process of providing financial assistance by partnering with major banks/financial institutions.
- Rather than subsidizing energy bills for households and food producers for a short period of time, the Government should promote and subsidize investments in EE and RE products and services, which will result in energy and cost savings in a long-term perspective.
- The Government should review and adjust public procurement procedures and encourage procurement of EE and RE products from local suppliers/manufacturers.
- The Government should provide funding support through grants and low- or no-interest loans to MSMEs working on low-carbon technologies in the clean energy sector to facilitate green economic recovery. It can be difficult for companies to initiate clean energy transition as they have to cover other expenses.
- In available programmes for MSMEs, the Government should draw special attention to EE and RE products and services as application of these technologies and products can have positive impact on post-Covid-19 recovery, strengthening and competitiveness of MSMEs working in various spheres.

6.2. Recommendations to MSMEs working in RE and EE field

- Explore and start immediate process of association /clustering in order to increase competitiveness and become more attractive for the end-users of EE and RE products and services;
- Develop socially oriented financial strategy for the crisis and post-crisis period that guarantees longterm sustainability of the business operation and also leverages company profit and allocates some additional funds to the employees. E.g., savings on utility bills could be allocated to employees to cover increased bills related to organization of remote working mode.
- Develop and offer government-subsidized vocational education for EE and RE installers and inspectors as well as RE and EE support schemes as prescribed by the laws on EE and RE.

- All aspects of distance working should be explored further and such options as outsourcing and/or joint utilization (i.e. clustering) of some basic services (i.e. financial/marketing/product delivery/ installation) should be considered by MSMEs.
- Explore possibilities on focusing on public (state) contracts as stable and financially backed projects (e.g. construction).
- Develop the procurement strategy for the company and/or for the cluster to ensure having necessary stock in advance to ensure smooth operations.
- Introduce Circular Economy and Resource Efficiency principles in their production processes to optimize operational costs.

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Annex I

Table 1: Questionnaire for MSMEs working in RE &EE Sector

Code	Question	Answers range	Meaning of answers		
Q01	Number of employees before COVID-19 crisis	number			
002	Number of sale facilities	number			
003	Number of offices	number			
004	Number of warehouses	number			
005	Number of vehicles	number			
405	Number of owned land	number			
Q06	plots	number			
	Leased premises				
	(warehouse, office, sale				
Q07	facility, land plot, etc.)				
Q08	Other resource -1				
Q09	Other resource -2				
Q10	Other resource -3				
	Do you have COVID-				
Q11	infected employees?	Y/N	Yes	No	
	Do you have any				
	employees who returned				
012	to work after COVID-19	V /NI	Vee	No	
Q12	Dismissed employees due	Y/N	res	INO	
	to temporary incanacity				
	for work due to COVID-19				
Q13	infection?	Y/N	Yes	No	
	Did you fire employees	· ·			
	because of the financial				
	situation created in the				
Q14	company?	Y/N	Yes	No	
	Did the fired employee				
	receive trade				
015	compensation from the	V/N	Vos	No	
015	Have employees left their	1710	165		
	iobs for reasons of COVID-				
Q16	19 (health issues, etc.)	Y/N	Yes	No	
	Do you have employees				
Q17	who are on unpaid leave?	Y/N	Yes	No	
Q18	Did you work remotely?	Y/N	Yes	No	
	Did you have to switch to				
Q19	remote mode?	Y/N	Yes	No	
	Is it profitable for the				
	company to work				
Q20	remotely?	Y/N	Yes	No	

	the star staffing of sources				
	Has the staffing of courier				
	/ service providers				
	increased since switching				
Q21	to remote mode?	Y/N	Yes	No	
	If there was a need for				
	this, would you provide				
	the staff with the				
	resources needed to work				
	remotely? (Internet,				
Q22	computer, etc.)	Y/N	Yes	No	
	Have additional products				
	services or other added				
022	to your business?	V/N	Voc	No	
Q25	Was the remete mode	1/11	165	INO	-
	was the remote mode				
	reflected in the				
0.2.4	company s work				
Q24	schedule?	Y/N	Yes	NO	
	Did you have to take out				
Q25	an extra loan?	Y/N	Yes	No	
Q26	Do you pay rent?	Y/N	Yes	No	
	Did you have to sell part				
	of the property you				
	owned to improve your				
Q27	financial situation?	Y/N	Yes	No	
	Is the fixed assets and				
	movable property owned				
	by the company in				
Q28	working condition?	Y/N	Yes	No	
	Have you added a				
	production line /				
Q29	workshop, etc.?	Y/N	Yes	No	
	Are you going to increase				
	the staff in the near				
030	future?	Y/N	Yes	No	
400	Do you have partners	.,			
	from the Red Zone				
	countries with whom you				
031	had to cut ties?	V/N	Vec	No	
Q31	Are you looking for or	1710	105		
	planning to find now				
022	partners abroad?	V/N	Voc	No	
452			No change		
	Quantity of products	0-3-10	No change		
Q33	produced			Halved	Stopped
	Competitiveness: of the	0-5-10	Stable		
Q34	company			Average	Competitive
	Have any changes	0-5-10	No change		
	occurred in			become	
Q35	manufacturing pprocess?			complicated	Stopped
	Changes in employee		No change	Decreased	Temporarily
Q36	salaries	0-5-10		slightly	suspended

			No change		Was
027	Company roal actata	0 5 10		Decreased on	completely
<u>U</u> 57	How liabilities to banks	0-5-10	No change	increased on	Exceeds the
038	have changed?	0-5-10	No change	average	hudget
	Financial / subsidized	0010	Helped to full		
	assistance provided by		extent	Partially	Did not
Q39	the state	0-5-10		helped	help
			No		
Q40	Sales in the country	0-5-10	change/increased	Halved	Stopped
Q41	Export	0-5-10	No change	Halved	Stopped
			No change	Partially	
Q42	Import	0-5-10		Stopped	Stopped
	Are you planning to revise				
042	the company's financial	V /NI	Vec	Ne	
Q43	Strategy?	Y/N	Yes	INO	
044	company's weaknesses?	V/N	Ves	No	
<u> </u>	What would you advise	1/1	103	110	
	the government to do to				
Q45	help the business?	Text			
	What subsidy / assistance				
	would you like to receive				
	besides the one offered				
Q46	by the government?	Text			
	How long do you think it				
	will take to restore your				
0.47	business to a pre-crisis	Taut			
Q47	State?	Text			
	change / transform your				
048	field of activity?	Y/N	Yes	No	
	Are you going to create a				
	backup resource (financial				
Q49	or physical)?	Y/N	Yes	No	
	Indicate the subsidy /				
	financial aid used, its pros				
Q50	and cons	Text			