



Food and Agriculture
Organization of the
United Nations

Manual for climate investments of the private sector

Strengthening country capacities for climate change adaptation and mitigation and finalization of country work programme for the Republic of North Macedonia



Republic of North Macedonia

Government of the Republic of North Macedonia



Green development
Republic of North Macedonia

Manual for climate investments of the private sector

Strengthening country capacities for climate change adaptation and mitigation and finalization of country work programme for the Republic of North Macedonia

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Abbreviations and acronyms

AE	Accredited entities
AmCham	American Chamber of Commerce in North Macedonia
BCM	Business Confederation of Macedonia
EA	Energy Agency
EBRD	European Bank for Reconstruction and Development
EIB	European Investment Bank
ERC	Energy and Water Services Regulatory Commission of the Republic of North Macedonia
FAO	Food and Agriculture Organization of the United Nations
FEZ	Free economic zones
FITD	Fund for Innovation and Technological Development
GCF	Green Climate Fund
GEF	Global Environment Facility
IPARD	Instrument for Pre-Accession Assistance for Rural Development
KfW	German Investment and Development Bank
MAFWE	Ministry of Agriculture, Forestry and Water Economy
MCC	Macedonian Chambers of Commerce
MF	Ministry of Finance
MoEPP	Ministry of Environment and Physical Planning
MTC	Ministry of Transport and Communications
NBRNM	National Bank of the Republic of North Macedonia
NCCC	National Committee on Climate Change
NDA	National Designated Authority
OEM	Organization of Employers of Macedonia
OGP	Open Government Partnership
PSF	Private Sector Fund
RES	Renewable Energy Sources
SBC	Small Business Chamber
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change

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The handbook aims to provide guidance to state institutions, business associations and organizations, international organizations, development and commercial banks and private companies on the involvement of the private sector in climate action and climate investment.

This manual contains a brief description of the relevance of climate change for companies and the need to involve the private sector in climate investment in the Macedonian economic context, mapping the relevant actors which create the climate investment ecosystem in North Macedonia, the activities undertaken by state institutions in view of climate action and investments, the climate technologies and climate finance for the private sector, the work and opportunities offered by the GCF, as well as the potential and recommendations for enhancing private sector climate investments.

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The document was reviewed by Igor Slavkoski, National Team Leader and Project Manager of the project and Sandra Andovska, Advisor in the Cabinet of the Deputy President of the Republic of North Macedonia, in charge of economic affairs, coordination with economic departments and investments/ National Designated Authority for the GCF and Technical Focal Point for the GCF.



1. Introduction



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1.1 Second Green Climate Fund Readiness and Preparatory Support Programme Project of the Republic of North Macedonia

“Strengthening Country Capacities for Climate Change Adaptation and Mitigation and Finalization of Country Work Programme for the Republic of North Macedonia” is the second Green Climate Fund (GCF) Readiness and Preparatory Support Programme project of the Republic of North Macedonia, implemented by the Food and Agriculture Organization of the United Nations (FAO) under the leadership of the Cabinet of the President of the Government of North Macedonia in Charge of Economic Affairs, Coordination of Economic Sectors and Investments, as Nationally Designated Authority (NDA) for the Green Climate Fund. This project takes forward several activities initiated under the first GCF Readiness Project implemented in 2019 by FAO under leadership of the NDA, in particular: discussions for developing the tracking, monitoring and streamlining climate financing system in North Macedonia; developing the National GCF Coordination Mechanism; and discussions on other climate finance related issues, including the Procedure for prioritising national climate action proposals to be funded by the Green Climate Fund.

More specifically, the main objective of the second GCF Readiness project was to finalise the GCF Country Work Programme for the Republic of North Macedonia, which can serve as a roadmap for full transformative climate action in the country, and include detailed ideas for projects/programmes in the nine priority sectors identified - energy, transport, agriculture, biodiversity, health, water resources, forestry, waste and cultural heritage. Furthermore, the GCF Second Readiness Project also aims to finalise the system for tracking, monitoring and streamlining the country's climate finances and particularly to harness the potential for private sector engagement in climate change investments that will allow the country to access the GCF resources directly through national and/or local entities.

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1.2 Objective of private sector engagement in the project and purpose of this manual

The objective of private sector engagement in this project, is to determine its awareness of climate change, climate finance and the use of technologies to help companies adapt to or mitigate climate change. At the same time, the project provides guidance to institutions and private entities on how to ensure greater involvement and contribution of the private sector to climate investment and how to enhance the cooperation between private and public sectors in this regard.

Climate change is primarily a threat for the private sector. There is data and evidence of rising global temperatures and negative climate change impact, which inevitably increases the private sector's awareness of the risks caused by climate change with regard to their work. Climate change affects revenues, cash flows and operating costs, value of resources and financing costs, and ultimately the competitiveness and profitability of companies and financial institutions.

As governments rapidly establish policies and incentives to achieve their ambitions for climate action and green growth, and in this way respond to climate challenges, the private sector should play a key role in creating prosperous climate markets, including clean energy,

sustainable transport, green infrastructure, climate-resistant agriculture, etc., while at the same time reducing the harmful impact of the climate on their operation and building resilience. As companies directly face climate risks, their rational response would be to create strategies and activities to adapt to and mitigate climate change.

Given the effects of climate change on the private sector, and the inevitable need for greater synergies and investments to address them, this Manual aims primarily to help the work of government institutions in their efforts and commitments to address climate change, by proactively and constantly engaging the private sector. The Manual finally aims to help relevant institutions view the private sector as a partner in their efforts to invest in climate action.

In continuation we shall present the institutional position on addressing climate change in the Republic of North Macedonia, the macroeconomic situation of the Macedonian economy, the structure of the private sector in the Republic of North Macedonia, the key climate change related risks for the private sector, the possibilities for addressing these risks, potential technologies for adapting to and mitigating climate change available for the private sector, as well as opportunities for joint action of the private and public sectors in order to address climate change more efficiently.

1.3 Climate management: institutional set-up

The Republic of North Macedonia ratified the United Nations Framework Convention on Climate Change (UNFCCC) on 4 December 1997 and the Kyoto Protocol in July 2004. [The Ministry of Environment and Physical Planning](#) is the institution responsible for developing climate change policies, and is also a national focal point for communication with the UNFCCC and a national body for implementing the Kyoto Protocol. The MEPP coordinates all activities related to the ratification of the Convention and the Kyoto Protocol, including awareness raising activities.

In January 2000, a climate change project unit was established in the MEPP. Furthermore, the National Committee on Climate Change (NCCC) was established, which is a coordinating body that provides high-level support and guidance on the country's general climate change policies. The NCCC is an inter-ministerial body consisting of representatives from all relevant government and academic institutions, as well as representatives from the civil sector. The NCCC is chaired by a representative of the Macedonian Academy of Science and Arts (MASA).

Although North Macedonia is a country that does not fall under [Annex I of the UNFCCC](#), it is an European Union candidate country, which is why it must adhere to the European Union Climate and Energy Policy. With this, it assumes the obligations of the countries falling under Annex I. The Republic of North Macedonia adheres voluntarily to the UNFCCC reporting principles applicable to Annex I countries. This confirms the Government's commitment to joining global efforts to tackle climate change by implementing greenhouse gas reduction activities, in order to limit the increase of global temperature by a maximum of 2 °C by the end of the century and to promote low-carbon growth and development.¹

The Assembly of North Macedonia ratified the Paris Agreement in November 2017 (Official Gazette of the Republic of Macedonia No. 161/17), confirming its commitment to join global

¹ Submission of the Republic of North Macedonia, 2015

efforts to mitigate climate change. Under the Paris Agreement, the country became the 23rd country in the world to submit its Intended Nationally Determined Contributions (INDCs) as per the Government Decision No. 42-17/91 of 28 July 2015. Finally, in 2015 the country adopted the 2030 Agenda for Sustainable Development under the leadership of the Deputy President of the Government in Charge of Economic Affairs, Coordination of Economic Resources and Investment, and established a process for including the 2030 Agenda in national and regional development frameworks. Key and relevant state institutions and bodies responsible for climate change related activities are:

Ministry of Environment and Physical Planning

The leading institution for climate action in North Macedonia is the Ministry of Environment and Physical Planning (MEPP), which has a Climate Change Unit within the Department for Sustainable Development and Investment. The MEPP is the main institution responsible for policies, preparation of legislation, planning, regulatory activities and for delivery of reports on the state of affairs with regard to the climate and climate activities. The Ministry has also been appointed as the main institution responsible for coordinating inter-institutional cooperation required for the preparation of national reports on climate change and climate action, including for the preparation of the national Greenhouse Gas Inventory and for the delivery of communications to the UNFCCC.

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The Paris Agreement requires all countries to be part of global efforts to achieve the goal of limiting the increase of global temperature to 1.5–2°C. As an European Union candidate, the Republic of North Macedonia is obliged to transpose the European Union *Acquis* into its national legal system, namely the 2030 Climate and Energy Framework and the 2050 Long-Term Strategy as well as the European Green Deal. Hence, the MEPP is developing a Law and Strategy for Climate Action under the project titled “Preparation of a Long-term Strategy and a Law on Climate Action” funded by the European Union and implemented by a consortium led by GFA Consulting Group. The project supports the Republic of North Macedonia in its efforts to be legally and institutionally prepared to reduce greenhouse gas emissions, in accordance with international obligations. In addition, the project helps national efforts to adapt to climate change by incorporating climate into sector policies. The project supports the country by preparing a long-term strategy for a prosperous and sustainable low-carbon economy.² The preparation of the Long-Term Climate Action Strategy and the Law on Climate Action began in March 2019, the preparation is on-going and is expected to be completed by the end of 2022. Namely, the Long-Term Climate Action Strategy was adopted at the beginning of 2022 and the Law on Climate Action is expected to be adopted also in 2022.

The Long-Term Climate Action Strategy aims to reduce national net greenhouse gas emissions (in forestry and other land use sectors without the emissions from aviation and electricity imports) by 72 percent in 2050 compared to 1990 levels (or to reduce greenhouse gas emissions by 42 percent in 2050 compared to 1990, excluding forestry and other land use sectors and MEMO emissions – imports and aviation). It also aims to increase the resilience of the society, the economy and ecosystems to the impacts of climate change.

² Long-term climate action strategy with Action Plan, 2021.

The implementation of policies and measures provided for in this Strategy requires comprehensive processes for planning, coordination and implementation. This must be made possible by providing a comprehensive legal basis and legally established coordination instruments to facilitate the design and implementation of cross-sector policies, as well as mechanisms for monitoring the implementation of policies and measures. The draft Law on Climate Action provides favourable conditions for comprehensive policy coordination processes and defines the legal mechanism for monitoring progress towards achieving the national goal of sustainable development. The draft Law on Climate Action, its by-laws and the Strategy should be seen as a package of instruments enabling climate action in North Macedonia.

Ministry of Economy

The Ministry of Economy, among other things, is responsible for the energy sector, and as such is closely involved in climate-related issues.³ It develops and oversees the implementation of the energy policy, including the measures to improve energy efficiency and to use renewable energy.

Two additional institutions supporting these initiatives are the Energy Agency (EA) and the Energy Regulatory Commission (ERC). EA is responsible for awareness campaigns, programme development, planning, training and coordination of funding to support clean energy initiatives. The ERC oversees prices and tariffs for electricity, gas, water and heating services.⁴

Under the leadership of the Ministry of Economy, the Energy Development Strategy of the Republic of North Macedonia until 2040 was developed, according to which the Government aims to modernize and transform the overall energy sector in line with the European Union energy trends, contributing to increased access, integration and availability of energy services, reduction of local and global pollution with greater involvement of the private sector. The main goal in the coming years is to reduce greenhouse gas emissions by strengthening the enforcement of environmental legislation. This entails implementation of energy efficiency measures in residential buildings and measures contributing to the reduction of pollution from vehicles. The Government plans to establish an Energy Efficiency Fund to save energy, create jobs, conserve natural resources and reduce environmental pollution. One of the Fund's main goals will be to invest in energy efficiency of public infrastructure, namely of schools, hospitals and municipal buildings in order to increase energy efficiency. It is estimated that 6 200 jobs will be created by 2035 in the construction sector by implementing energy efficiency measures.⁵

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Ministry of Agriculture, Forestry and Water Economy

The Ministry of Agriculture, Forestry and Water Economy (MAFWE) is responsible for setting and achieving objectives, and implementing policies and measures for agriculture and rural development, forestry and water economy in the Republic of North Macedonia. Agriculture is an important economic sector in North Macedonia, contributing 12 percent to the national GDP and accounting for about 22 percent of employment. About half of the country's territory is arable agricultural land, while 44 percent is forest land. Agriculture, forestry and water

³ Environmental Performance Reviews, United Nations, 2019 (p. 168).

⁴ Voluntary National Review of North Macedonia, 2020 (p. 46).

⁵ Voluntary National Review of North Macedonia, 2020 (p. 48).

resources are highly vulnerable to the negative impacts of climate change, leading to high adaptation and mitigation costs. MAFWE is the institution in charge of the management of agricultural land, soil, forests, fisheries and other natural resources. The MAFWE through the Forestry and Hunting Department implements policies and legislation and works on normative, administrative-legal and other issues related to the development of the forestry sector. MAFWE is responsible for the protection of animals and plants against diseases and pests. It also oversees the condition of water, maintenance and improvement of water regimes, hydromeliorative systems, as well as of meteorological, hydrological and biometeorological processes. Improving the competitiveness of the agricultural sector, the economic sustainability and income of agricultural holdings, applying environmental practices in production that lead to reducing the impact of and adapting to climate change as well as ensuring sustainable development of rural areas, are the main objectives of the most recent Strategy for Agriculture, Forestry and Water Economy 2021-2027.

Ministry of Transport and Communications

The Ministry of Transport and Communications (MTC) is responsible for overseeing municipal utility infrastructure, mostly water and sewerage networks. Consequently, MTC is significantly involved in the construction of water and sanitation networks, thus supporting certain municipalities in rural or less developed areas. Support for water and sewerage network projects is provided by granting state subsidies to municipalities applying for such assistance. The Ministry also manages several water network development programs, supported by international donors.⁶

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Ministry of Health

The Commission for Monitoring the Effects of Heat on Health has been established in 2007 in the Ministry of Health. Moreover the National Committee on Climate Change and Health has been in operation since 2009. The Ministry of Health has a representative in the National Committee on Climate Change. The National Committee on Climate Change and Health has developed a Strategy for Adapting the Health Sector to Climate Change with an Action Plan for 2011-2015. The overall objective of the strategy is to plan measures to adapt the health system to climate change in order to prevent and/or overcome existing and future risks and in due time to respond to the risks and problems related to the health and well-being of people expected as a result of climate change in North Macedonia.⁷

Ministry of Finance

The Ministry of Finance (MF) is responsible for preparing regulations for extended producer responsibility (packaging, waste from electrical and electronic equipment, batteries, etc.). The MF develops economic instruments and provides funds to encourage sustainable waste management, especially as regards compensation charges, asset management and compensation recovery mechanisms.⁸

⁶ Preparation of a long-term strategy and Law on Climate Action, 2021 (p. 23).

⁷ Health and climate change. Vulnerability assessment and adaptation recommendations, 2014.

⁸ Voluntary National Review of North Macedonia, 2020 (p. 70).

The Republic of North Macedonia is a member of the [Open Government Partnership](#) (OVP) and participates in the Open Climate Working Group, which includes many states and civil society Organizations. As a member of this working group, the state, in consultation with the civil sector, should produce clear, concrete and ambitious binding documents to address climate change. Furthermore, the Republic of North Macedonia is among the seven countries in the world that have their climate obligations embedded in the first OGP Action Plan 2016-2018, as well as in the two consecutive OGP plans (for 2019-2020 and 2021-2022). The state is committed to transparently drafting national climate policies with the participation of all parties concerned. To this end, free access to national databases on greenhouse gas emissions and sources is enabled, as well as to information and data on the effects of climate change, relevant climate scenarios and climate change mitigation data. The state has also committed to establishing an appropriate legal and regulatory framework that will allow the private sector to provide relevant data on climate change.

At the end of 2019, the Ministry of Finance also adopted the [Tax System Reform Strategy 2021-2025](#) where one of the key five priorities is the introduction of environmental ("green") tax, in order to stimulate taxpayers to change their behaviour and/or activities contributing to pollution. The main goal is to address pollution and protect natural resources in order to achieve sustainable economic development. In response to the COVID-19 pandemic and its impact on the Macedonian economy, the MF offered a Plan for Accelerated Economic Growth 2022-2026 with a particular focus on green and climate funding. This document is a platform for partnering and active involvement of the private sector in climate investments in the country.

Deputy President of the Government of the Republic of North Macedonia in Charge of Economic Affairs, Coordination with Economic Sectors and Investments

The Deputy President of the Government of the Republic of North Macedonia in Charge of Economic Affairs, Coordination of Economic Sectors and Investments is responsible for coordinating the implementation of the Agenda 2030 and the Sustainable Development Goals at national level, chairs the National Council for Sustainable Development and serves as the [National Designated Authority \(NDA\) for the Green Climate Fund \(GCF\)](#).

Under coordination of the Deputy President of the Government of the Republic of North Macedonia in Charge of Economic Affairs, a Methodology was developed in January 2021, and in March 2022 the development of the National Development Strategy 2022–2042 began. The primary focus of the National Development Strategy is to create opportunities, but also to create capacity and to increase the resilience of society in order to respond to the increased level of uncertainty and risks worldwide, as well as to focus on global trends such as climate change and digital transformation.

1.4 North Macedonia's main economic parameters - economy structure, key macroeconomic parameters

In order to exploit the private sector's potential for climate investment, it is necessary to understand the macro and micro economic environment of the country, which was facing a lot of challenges with the last global pandemic of 2020. During 2020, as in other countries around the world, the COVID-19 pandemic and the subsequent measures and safeguards had taken a strong toll on the domestic economy. Economic activity dropped by 4.5 percent, amid a decline in both domestic and export demand. The decline in economic activity was the most pronounced in the second quarter of the year when public health protection measures were introduced and the country faced deteriorating external environment, which adversely affected almost all economic activities.⁹

Table 1. Basic macroeconomic indicators

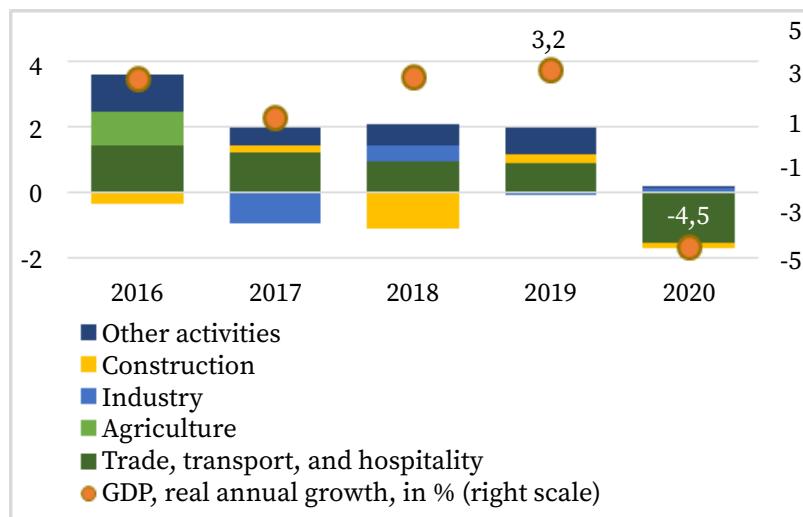
	2016	2017	2018	2019	2020
Real sector					
Gross domestic product					
Real growth rate (in percent)	2.8	1.1	2.9	3.2	-4.5
in millions MKD*	594 795	618 106	660 878	689 425	664 010
in million EUR*	9 657	10 038	10 744	11 209	10 766
in million USD	10 681	11 311	12 679	12 546	12 266
Gross domestic product per capita					
In MKD*	286 995	297 954	318 309	331 982	319 890
in EUR*	4 659	4 839	5 175	5 398	5 187
Gross investments (in percent of GDP)	32.5	32.3	32.3	34.5	29.6
Inflation (average, in percent)	-0.2	1.4	1.5	0.8	1.2

Source: National Bank of the Republic of North Macedonia

The service sector, construction and industry were particularly affected, as activities that are most exposed to physical distancing measures and disrupted production chains on a global scale. In the second half of the year, the decline in gross domestic product slowed significantly, with more favourable trends in export, personal demand and higher public consumption focused on public health protection and support for the economy.

⁹ Financial Stability Report for the Republic of North Macedonia in 2020, 2021.

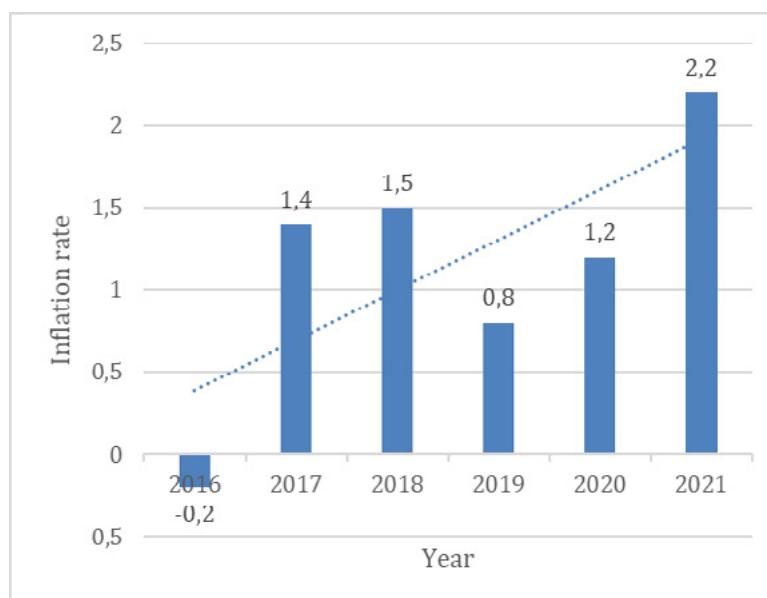
Figure 1. Contribution of individual sectors to real annual GDP growth by percentage and percentage points



Source: State Statistical Office and the National Bank on GDP projections

During 2020, the rise of the inflation rate moderately accelerated, but remained at a low level and averaged 1.2 percent (0.8 percent in 2019). The rise of prices in general in 2020 is primarily due to food price growth and, to a lesser extent to basic inflation, due to lower pressures from the import prices in conditions where the price of oil on global stock markets has significantly fallen. According to the National Bank, in 2021 the inflation rate in the Republic of North Macedonia was 3.2 percent as a temporary effect of the growth in the global prices of primary food products and oil. For 2022, the National Bank projects an inflation rate of 2.4 percent, although this rate can be further revised given the potential negative effects of prices and the situation in the global economy as a result of the military conflict between Russian Federation and Ukraine that began in March 2022.

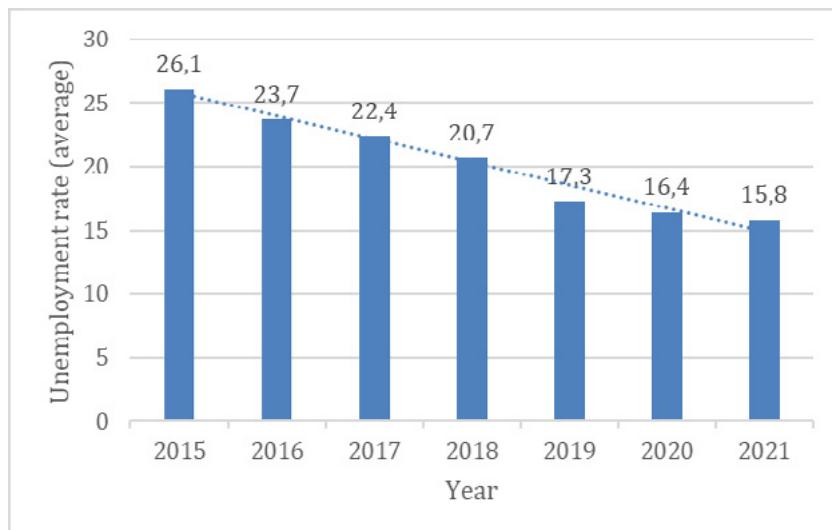
Figure 2. Inflation rate



Source: National Bank of the Republic of North Macedonia

The unemployment rate in 2020 was 16.4 percent (annual decrease by 0.9 percentage points). By age groups, the decrease in the total unemployment rate is explained by lower unemployment of persons aged 25 to 49 years, while unemployment in the category of young people from 15 to 24 years of age, was only slightly increased.

Figure 3. Unemployment rate



Source: National Bank of the Republic of North Macedonia

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1.5 Structure of the private sector in the Republic of North Macedonia

The structure of the economy in the Republic of North Macedonia, given the size of companies determined by the number of employees, comprises micro, small, medium and large companies. Micro companies with up to 9 employees are predominant.

Table 2. Total number of active companies in North Macedonia by number of employees

Year	Total	0-1	1-9	10-19	20-49	50-249	250 +
2015	70 139	7 329	56 261	3 032	1 947	1 339	231
2016	71 519	8 057	56 725	3 111	2 030	1 363	233
2017	71 419	7 888	56 658	3 188	2 067	1 382	236
2018	72 315	8 221	57 184	3 142	2 129	1 399	240
2019	75 914	7 565	61 265	3 211	2 237	1 404	232
2020	73 061	6 036	59 977	3 207	2 198	1 410	233

Source: State Statistical Office of North Macedonia, 2021

Small and medium-sized enterprises (SMEs) represent 99 percent of the total number of registered companies and employ 75 percent of the country's total workforce. In 2019, the total number of active companies in North Macedonia was 75 914, an increase of 4.7 percent compared to 2018, when their number was 72 315. In 2020, the total number of active companies in North Macedonia was 73 061, which is 3.8 percent less in comparison to 2019.

The structure of active companies according to the number of employees shows that the Macedonian economy mostly comprises companies with one to nine employees (82.1 percent). This number is followed by companies without employees or with an unspecified number of employees (no employee data) (8.3 percent), then companies with ten to 19 employees (4.4 percent), companies with 20 to 49 employees (3.0 percent), companies with 50 to 249 employees (1.9 percent) and only 0.3 percent of active business entities employing over 250 employees. In 2020, micro, small and medium-sized enterprises (MSMEs) prevailed in North Macedonia and represented 99.68 percent of all active companies.

The structure of active business entities by sector of activity shows that in 2020, the following sectors were prevalent: wholesale and retail trade; repair of motor vehicles and motorcycles with 30.4 percent and processing industry with 11 percent share. The least present were companies operating in electricity, gas, steam and air conditioning supply sector (0.3 percent), water supply sector; wastewater disposal sector, waste management and environmental sanitation activities (0.3 percent); mining and stone extraction (0.3 percent) and public administration, defence and compulsory social insurance (0.4 percent).

According to the above stated facts with regard to the companies' size and their prevailing activities, it can be concluded that micro and small companies operating in the services sector dominate the Macedonian economy.

1.6 Liquidity and borrowing capacity of the private sector in the Republic of North Macedonia

As the COVID-19 pandemic had significant consequences on the financial operation of the private sector, and thus on investments, data on the borrowing capacity of the private sector during the pandemic and projections for the coming period are taken from the analyses of the National Bank of the Republic of North Macedonia (NBRNM).

The private/corporate sector ended 2020 with stable liquidity (albeit traditionally low) and in solvent position, which together with the still moderate level of indebtedness contributed to relative resilience to shocks. However, the NBRNM predicts that delayed effects are possible, especially given the deteriorating financial result with implications for the sector's ability to regularly settle commitments. An additional risk is posed by the ending of anti-crisis measures, which contributed to the financial sustainability of the corporate sector in the previous period, the possible continuation of the health crisis, which would slow the dynamics of economic recovery as well as the military conflict between Russian Federation and Ukraine, which has a serious impact on global economic flows, and especially on prices of energy, food and fertilisers. Such situations highlight the vulnerability of the corporate sector in the upcoming period, and if all the risks come true the financial stability would be at risk.¹⁰ On the other hand,

¹⁰ Financial Stability Report for the Republic of North Macedonia in 2020. 2021 (p.46).

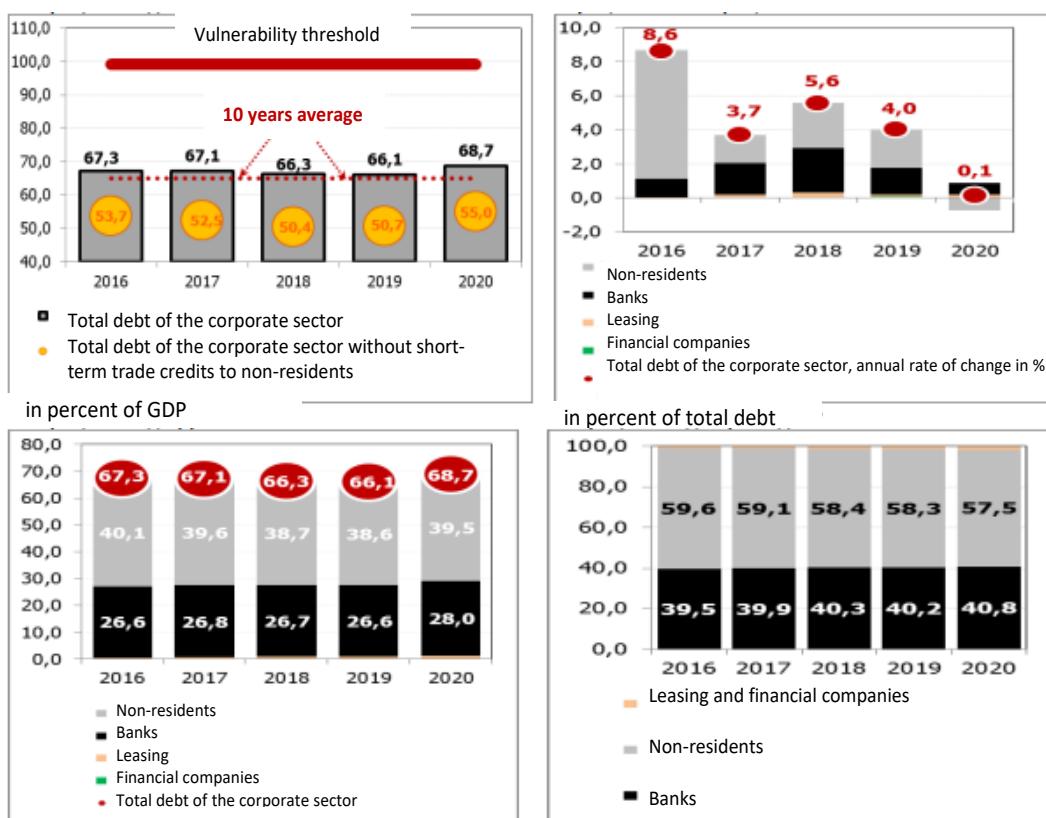
the pandemic and the military conflict between Ukraine and Russian Federation create two key opportunities for the development of the private sector in the Republic of North Macedonia. First, domestic companies have the opportunity to increase exports to European markets that experience shortages of goods and services. Secondly, the state can become a favourable destination for the so-called nearshoring process – the approximation and relocation of foreign direct investments previously made to farther global destinations such as South-East Asia, closer to their base, in this case to the European countries.

The net profit from the companies' operations in 2020 decreased (by 18.9 percent), which worsened the sector's profitability indicators. The return on assets (ROA) achieved in 2020 was 3.2 percent, while the return on equity and reserves (ROE) was 6.2 percent, below the historical average of the previous ten years. However, the measures adopted by the National Bank and the Government in response to the crisis alleviated the initial liquidity shock of the pandemic.

In terms of the private sector borrowing capacity, the total debt in 2020 remained at a relatively stable level and was 48 percent (47.2 percent in the previous year), while interest rate debt was low at 20 percent. The total debt of the domestic corporate sector in gross domestic product is lower and is 55 percent. In 2020, the main reason for the rise in the total corporate debt was the debt to domestic banks, while the external debt decreased, for the first time in ten years.

Non-banking financial institutions continue to play a modest role in financing the domestic corporate sector, and there is no significant debt financing through the domestic capital market.¹¹

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Source: National Bank, Ministry of Finance and State Statistical Office 2020

¹¹ Financial Stability Report for the Republic of North Macedonia in 2020. 2021 (p.53).

Importantly, even in the year of the pandemic, the corporate sector increased the level of capital, which supported debt financing growth without increasing the level of debt (financial leverage). In the face of a deteriorating financial result, indicators on the ability of the corporate sector to settle commitments have moderately deteriorated, but they continue to be maintained at an acceptable level, above the ten-year average. Reducing uncertainty and starting the economic recovery process can give positive impetus to financially healthy companies to pay their debt, which would have positive effects on the overall financial health of the corporate sector.

According to reports from the National Bank, the largest source of funding for the private sector in the Republic of North Macedonia are the loans from domestic banks. This year companies' total debt to the banking sector increased by 1.7 percent and was 28 percent of the Gross Domestic Product (GDP) (26.6 percent of GDP in the previous year). Small and medium-sized enterprises remained the most numerous group of borrowers, with almost 60 percent of the total number of active small and medium-sized enterprises having accessed funding from domestic banks. Small and medium-sized enterprises have a slightly higher level of indebtedness compared to the corporate sector as a whole, but still have solid level of liquidity and profitability in operation. The micro companies have the lowest level of coverage with financing from domestic banks, because they have highest level of risk for their operation and were most affected by the pandemic.

Based on this data from the NBRNM, the private sector in the Republic of North Macedonia has generally stable albeit low liquidity, but is also facing challenges for regularly paying its liabilities. The support from state institutions during crises such as the COVID-19 pandemic is very much necessary to support the vulnerability of the private sector, however it is a challenge because the assistance is limited in time. State aid is also present in other segments outside COVID-19 measures and they will be covered further on in this report. In conclusion we could say, that the private sector in the Republic of North Macedonia is traditionally financed through domestic commercial banks, while alternative sources of capital are little developed.

To strengthen the private sector's role in climate investment, it is crucial to understand the urgency to act on climate change, and to access capital that would support those investments. The borrowing capacity of the private sector is also an indicator of the private sector's ability to invest in climate mitigation and climate adaptation. Encouraging is the fact that the pandemic has nevertheless served as both a catalyst for both institutions and for companies to take climate change more seriously, aware of the risks if economies are unprepared for new economic shocks such as global pandemics and climate change. This approach is a so-called double approach or double pronged approach where organizations use the crisis as an opportunity to address problems that were otherwise not prioritized, by using the same investments.

The next part of the manual presents the main actors supporting the private sector in climate action and climate investment.

The background image shows a large concrete dam with a waterfall cascading over its edge. In the background, there are several industrial buildings, one of which is blue and yellow, and another has a stone facade. The foreground is filled with lush green grass.

2. Ecosystem for climate investments of the private sector



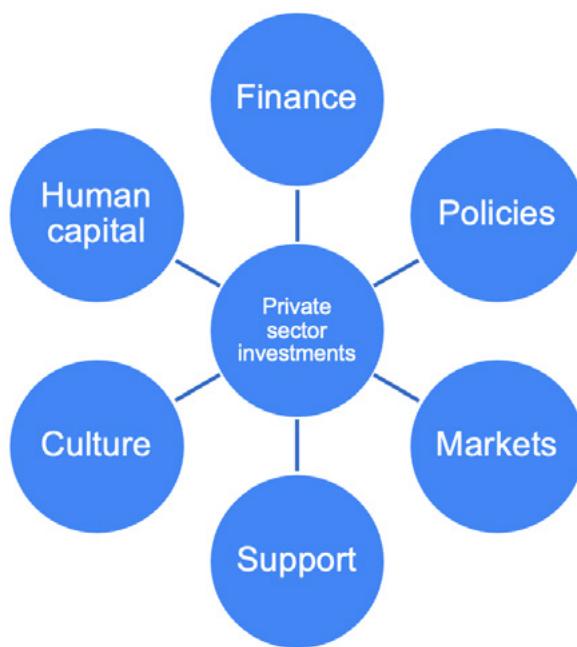
© FAO/Steve Terrill

2.1 Private sector ecosystem

The private sector business ecosystem is an economic, social and political environment that supports the investment process, i.e. provides support and resources that enable the growth and development of companies.¹²

The development of the business ecosystem is an important link in the chain of ensuring long-term economic growth and development at national, regional and local level. Therefore, the development and synchronized operation of the business ecosystem is necessary and it can be initiated, encouraged and supported by a variety of stakeholders: the Government, ministries, development agencies, banks, universities, municipalities, development centres, CSOs, funds, capital lenders and others. It will encourage the private sector's competitiveness and innovation in climate investment, given that it is the private sector that plays a leading role in the design and development of such an ecosystem. Of course it is more than necessary for all ecosystem actors to stay active and support their activities.¹³

Figure 4. Private Sector Ecosystem



Source: Trino Interreg Europe. 2016

Availability of finance. Availability of finance is considered one of the key challenges for the business environment in the Republic of North Macedonia. Availability and easy access to finance, especially for innovative and fast-growing companies, is at a low level both nationally and regionally in all regions across the Republic of North Macedonia. Alternative sources of finance such as risk capital and business angels practically do not exist, i.e. are at the very early stage of development. According to the 2019 World Economic Forum Competitiveness Report and its "Financial Market Development Index", North Macedonia ranks 82nd out of 141

¹² The entrepreneurial ecosystem in the Republic of North Macedonia, 2017.

¹³ Trinno Business Ecosystem Support - Component Report, 2016.

countries. The risk capital index and private equity index is low, putting the country at the 89th place out of 125 countries in 2021.¹⁴ One of the reasons for the country's still underdeveloped risk capital system is the weak flow of innovative ideas that would translate into innovative start-ups and low level of innovation in existing companies. On the other hand, some regions are taking measures in this regard by organizing informative events introducing the Innovation and Technological Development Fund to the private sector, which ensures more opportunities to support innovative ideas compared to previous programmes based on business plans and competitions. There are also enough banks offering loans, but high collateral and credit history are usually the main obstacles to getting loans. In addition to banks, micro, small and medium-sized companies can also use networks of micro-financial institutions, but they offer limited funds and focus more on the citizens as clients.

Policies. The legislative framework and regulation at national level has largely improved the conditions for starting and doing business, however, one of the problems highlighted is the slow exchange of information between institutions at national, regional and local level as a result of too many bureaucratic procedures. Strategic planning and translating national strategies into regional strategies is not sufficiently present, although most national strategic documents have goals that can be implemented through appropriate measures at regional and local level.

Markets. The private sector's business investment ecosystem requires a strong open market and in which competitiveness is the main criterion for success. In addition, innovative entrepreneurs need so-called "early" buyers who would accept their product or service and test the concept of their product or service. Furthermore, the growth and development of these companies will depend on the possibility for local companies to quickly become global or rapidly transition from local to regional, while regional companies become national and national global. Developing adequate infrastructure (increasing the number of industrial zones and foreign direct investment) can allow them quickly to access international markets by connecting with multinational companies working in those industrial zones.

Culture. In the last few years, huge efforts have been made nationally to raise the level of corporate culture in society. Events and promotional campaigns are being organised to share successful stories and raise social norms when it comes to starting and managing a new business. However, there are still opportunities for improvement, especially in providing a systemic approach to sharing success stories, fostering creativity, inventiveness, innovation, and individual ambitions.

Human capital. Human capital is a challenge for any corporate ecosystem, not only in the Republic of North Macedonia, but also globally. In developed countries, too, there are discussions of improving the education system that will provide increased creativity, innovation and ambition. The 2015 Entrepreneurial Learning Strategy completely amended the curricula for the subject Innovation for the 9th grade, as well as the curricula for the subjects Innovation and Entrepreneurship for all four years of secondary education. In the country, starting at central level (through the Employment Agency), as well as at regional and municipal level various trainings are carried out to strengthen human capital. A number of Organizations conduct training through various donor programmes to strengthen capacity both of administration, and of potential entrepreneurs, as well as of small, medium and large companies.

¹⁴ The Venture Capital & Private Equity Country Attractiveness Index, 2020.

Support. In terms of infrastructure in the Republic of North Macedonia (telecommunications, transport and logistics, energy, industrial zones, incubators, accelerators, clusters) there are some activities in the planning regions as to provide such infrastructure for investors. Such is the Guide for Investors and maps of foreign direct investment zones. Business models of incubators are more complicated than the business model of accelerators that require much less funds to ensure sustainability. When it comes to support professions (law, accounting, investment, technical experts, advisers, mentors), the majority have already been developed in all regions except those related to investment, mentoring and specific technical expertise. In some municipalities and planning regions, activities are underway to create an electronic regional database of institutions and companies that offer private sector development services (non-profit, educational, local agencies and units of government agencies, consulting companies, lawyers, notaries, accountants, etc.).

When it comes to NGOs and associations for entrepreneurship (working on promotion of entrepreneurship by organizing competitions for the best business plan and/or model, conferences), nationally there are several organizations that successfully organise and implement such events. On the other hand, it is clear that such events at regional and local level are needed. Additional problem is that such centres are seen as competition for the private sector (professional service providers for the business sector) and of the nongovernmental organizations. A partnership between the civil society, the consulting companies and the state administration in charge of local economic development (at the level of a city or municipality or planning region) needs to be created. All these entities should not be seen in the ecosystem as competitors to each other, but as partners that will provide support and who will work together to develop the business ecosystem and ensure economic growth and development.

2.2 Mapping the potential channels for government cooperation with the private sector in climate investments in the Republic of North Macedonia

Given the above characteristics of the country's economy as well as the business environment in which private investment takes place, it is necessary to map the mechanisms that present a platform for dialogue between government institutions and the private sector, and are important for establishing consistent mechanisms for engaging the private sector in climate activities and in climate finance. Actors involved in this continuous dialogue are the chambers of commerce, public institutions and universities that provide training and expertise in relation to economic development. Such cooperation is known in European Union countries as "triple helix".

Figure 5. Sources of funding for climate investment

Source: Authors' own elaboration

Specifically, the ecosystem that can support climate investment and mobilisation of capital and motivate action by the private sector in the Republic of North Macedonia consists of:

1. key institutions: policy makers and policy implementers;
2. secondary institutions: institutions that implement climate investment and climate action support activities in the private sector, but are not direct climate policymakers;
3. mechanisms for private sector involvement in partnership, climate action and for financing climate investments – business chambers and dialogues between the private and public sectors;
4. universities – knowledge creators;
5. financial institutions and mechanisms constituting sources of funding for these institutions.

2.2.1 Key institutions enabling cooperation with the private sector in climate investment

- Ministry of Environment and Physical Planning;
- Cabinet of the Deputy President in charge of Economic Affairs, Coordination of Economic Sectors and Investments as NDA for the GCF.

2.2.2 Secondary institutions enabling cooperation with the private sector in climate investment

- Ministry of Finance;
- Ministry of Agriculture, Forestry and Water Economy;
- Ministry of Health;
- Ministry of Economy;
- Ministry of Transport and Communications;
- Energy and Water Services Regulatory Commission;
- Energy Agency.

2.2.3 Mechanisms for engaging and dialogue with the private sector on climate action and climate investment

In addition to state institutions, there are additional mechanisms that serve for dialogue, development of draft policies and measures for support and development of the private sector, which can be further used as mechanisms for designing and implementing measures to support climate action and climate investments by the private sector.

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The Economic Chamber of North Macedonia (ECNM) is a leading business association in the Republic of North Macedonia, a member of numerous international organizations and institutions, founder of mixed chambers, business councils, which contributes to more successful representation and advocacy for the interests of its members in the country and abroad. Assistance in concluding international contacts, participation in numerous international business forums, fairs, educational and promotional events etc., are all carried out in order to support the promotion of the business activities of the members of the Chamber. The Chamber comprises ten unions and 15 associations which are organized by sectors (according to economic branches). Under the Chamber there are Club of Managers - Entrepreneurs, Centre for Education of Human Resources and Development, Business Centre for Coaching and Training, etc. It also serves as a social resource on many important issues for its members, including labour legislation, foreign trade, tax and customs system, financial system and vocational training. The Economic Chamber of North Macedonia pays special attention to improving the quality of production and implementation of quality standards (especially environmental and food quality standards) so that Macedonian products can better compete on regional and international markets. The ECNM as a business association on the one hand can be a forum for generating project ideas for climate investments, for requesting support from the state for climate investments, for networking of companies for joint climate investments, as well as for training, coaching and preparing the private sector for accepting climate technologies. At the same time, as part of the Public-Private Dialogue, the ECNM can strengthen the dialogue with state institutions regarding regulations and measures that can support climate investments. The other chambers of commerce have the same potential as the ECNM to support the private sector in implementing climate action and climate investment.

Macedonian Chambers of Commerce (MCC) is the largest independent business organization in our country. Established as a non-governmental and non-profit organization, the MCC promotes and represents the business interests of thousands of member companies and connects them with over 1 000 national, regional and international institutions and organizations. The main objective of the MCC is to increase the competitiveness of the member companies and organizations, to enhance the Macedonian business environment and increase the sales of its members' products on the global market. MCC enables access to information, databases, entrepreneurial education, legal advice, helps find business partners, informs about domestic and international calls for offers, supports participation at fairs, and provides information on sources of funding.

Economic Chamber of North-west Macedonia. The Economic Chamber of North-West Macedonia (ECNWM), as a legitimate representative of the interests of the business community. It aims to organize, advance, promote and protect businesses both within the Republic of North Macedonia and abroad, facing the challenges of competition at different levels, whether in the country or internationally (Economic Chamber of North-west Macedonia, 2022). Based on professionalism, high working standards, determination, flexibility, transparency, consistency and equal access, ECNWM significantly and reliably helps to promote businesses and society itself in line with European values. Over the past decade, ECNWM has managed to organize 70 workshops, 82 round tables, to implement several projects funded by the European Union, organize 120 business mediation meetings for its members with foreign partners, which have resulted in 50 partnerships and collaborations with ECNWM member companies, over 800 bilateral meetings and useful, comprehensive and educational workshops, involving around 3 000 active businesses, which have been able to obtain basic information directly from experts in relevant fields.

The Employers' Organization (EOM) is an organization representing over 15 sectors (industrial branches), employing nearly 70 000 employees in 1 012 private companies in the Republic of North Macedonia. EOM's is mostly involved in topics that are of interest for the employers, such as education, infrastructure, social responsibility, occupational health and safety, labour and social legislation, taxation, investment, penal policy, lending. EOM has the legitimacy to negotiate and conclude a General Collective Agreement for the private sector. It may participate in tripartite social partnership bodies (employers, trade unions and the Government, such as the Economic and Social Council). With this, the OEM is an equal partner in the creation of economic and social policy in North Macedonia, namely of all policies which relate to European Union regulations and directives related to labour relations, occupational health and safety, as well as other laws concerning the business climate and policy. The EOM in particular can contribute to targeting, awareness-raising and training of companies as well as provide additional training and retraining of employees in order to respond to the increasing needs for using new technologies that contribute to climate action and climate investment.

Business Confederation of North Macedonia (BCM) Today, BCM has 8 500 member companies, affiliated in 13 business associations, with three regional offices in Prilep, Tetovo and Gevgelija and a headquarters in Skopje (Business Confederation of North Macedonia, 2022). The mission of the Business Confederation of North Macedonia is to help foster and improve the business

environment in the Republic of North Macedonia, further build partnerships, develop tripartite dialogue, foster the competitiveness of the Macedonian economy and develop businesses based on transparency and business ethics. The focus of the confederation's work is on supporting and promoting socially responsible enterprises. In 2016 they were part of the team for that selected the best fast-growing companies in the Republic of North Macedonia.

Small Business Chamber (SBC). The Small Business Chamber was founded by several business entities in accordance with the Law on Chambers of Commerce and is a non-profit organization that was founded to carry out activities with the public and private sectors that go hand in hand with the preparation of the country for association in the EU, in order to enable greater competitiveness of SMEs. SBC members are mostly micro, small and medium-sized companies that in the past transitional period did not become the key pillars of economic activities in the country. SBC organizes and supports services for its members (Small Businesses Chamber of North Macedonia, 2022).

Chamber of Commerce for Information and Communication Technologies (ICTCC). The Information and Communication Technologies Chamber of Commerce represents the Macedonian ICT industry and promotes and represents the business interests of ICT companies in order to promote and develop the industry and the business environment (Chamber of Commerce for Information and Communication Technologies, 2022). The Chamber represents companies operating with a wide range of ICT products and services in the Republic of North Macedonia and since its establishment in 2000, as a non-profit and volunteer institution, its member companies have been granted access to information, education, legal advice, cooperation, networking and promotion at the domestic, regional and international events, in order to promote and develop the ICT industry.

Macedonia 2025 is an international, independent, non-partisan, non-profit “think-tank” (think and act) organization formed in 2007 by Macedonian expatriates who with their proactive actions contribute to the economic and democratic development of North Macedonia (Macedonia 2025, 2022). Headquartered in Skopje and having supporters everywhere around the globe, the organization implements numerous programs that allow expatriates to give back to their homeland knowledge, experience, contacts with international companies, capital, etc. For two years now, Macedonia 2025 has been supporting the competition for selecting the best business concept in secondary schools in the Republic of North Macedonia, and since 2016, it has supported competitions for start-up companies, such as “Get in the Ring” and “European Start-up Awards”. Macedonia 2025, together with the Small Enterprise Assistance Funds (SEAF), are part of the “SEAF Macedonia II Investment Fund”. Given the key mission of the organization, which is to connect domestic companies with companies and individuals active in the diaspora, Macedonia 2025 can support the transfer of knowledge in relation to climate investment from other advanced economies, develop partnerships between domestic and foreign companies that will encourage climate investment of domestic companies, as well as promote climate technologies and standards for sustainable conduct of business, such as the ESG (Economic, Social, Governance) standards.

The American Chamber in North Macedonia (AmCham) is a business community made up of over 130 member companies, with a diverse range of businesses, from small enterprises to large foreign investors. AmCham North Macedonia serves as an umbrella where business people volunteer their time and expertise to jointly create a better business environment in the country. AmCham's mission is to strengthen the voice of international businesses in the Republic of North Macedonia, to promote a sustainable, predictable and competitive business environment through advocacy, events and sharing of best practices (AmCham North Macedonia, 2022).

Clusters. Clusters are today recognized as an important instrument for promoting industrial development, innovation, competitiveness and economic growth. However, their emergence, progress and development in the Republic of North Macedonia was not easy, although worldwide the evolution of this concept is present for more than a century. In the country, 30 clusters are registered, and the most active are:

- Vegetable and Fruit Processing Cluster (MAP);
- Cluster for Textiles (TTA-KT);
- "Tikvesh Wine Route, Wine Cluster" Foundation;
- Automotive Cluster of North Macedonia;
- Agro Helix – Veles, Snail Cluster.

Such clusters have the potential to work specifically with companies in individual sectors, to transfer technologies, support companies to leverage state and international financial assistance that will enhance their sustainable operations and climate investments, and will create concrete requirements for government institutions in various sectors in order to contribute to sustainability and climate investments in a specific industry sector. In European Union countries clusters most often establish specific laboratories and hubs to support the transfer of technologies for companies, which is not the case here, but it can be developed in order to support climate action.

In 2018, a **Public - Private Dialogue** was established between the Government of the Republic of North Macedonia and the four chambers of commerce representing the business community (Economic Chamber of North-West Macedonia, The Economic Chamber of North Macedonia, ICTCC and the Macedonian Chambers of Commerce), which is a significant step in the process of building institutional co-operation between the public and private sectors in the country. Through this dialogue the chambers can directly express their views by submitting documents on position of the private sector in relation to government policies affecting the business community. Public-private dialogue is a continuous process, where regular monthly meetings between the government and chambers of commerce lead to a series of measures to mitigate the pandemic's impact on private sector investment, create the best possible solutions and create conditions for faster and sustainable economic development. This dialogue is a platform to encourage regular dialogue on climate technology, measures and investment and potential synergies between the private and public sectors for climate action and investment. In particular, this dialogue can be a platform for continuous sharing of information by government institutions on climate-related measures and policies, for obtaining proposals from the private sector, but also for the private sector sharing information on their plans and challenges they face.

2.2.4 Universities – knowledge creators

Universities are key in supporting the private sector, especially in innovation and technology development, as well as in assuring access to qualified individuals and talent for companies. North Macedonia has 20 universities, but only a few of them seriously co-operate with the companies:

- University “St. Cyril and Methodius” - Skopje;
- University “St. Clement of Ohrid” - Bitola;
- University Goce Delchev - Shtip;
- University “St. Apostle Paul” - Ohrid;
- Mother Teresa University – Skopje;
- Tetovo University;
- American College University – Skopje.

These universities have scientific research centres, laboratories, are involved in European Union research and innovation programmes, own offices for scientific co-operation and projects, technology transfer centres, accelerators, incubators, technology parks and other mechanisms through which private sector investments are supported.

However, one of the biggest challenges for private sector development in the Republic of North Macedonia, unlike in developed economies, is the weak cooperation and links between companies and universities, which is particularly important in the context of developing and applying climate technology. Universities do not have specific programs, laboratories and climate technology development programmes, and do not provide support to companies for application and introduction of climate technologies into existing or new production processes. Furthermore, the support the state offers for research and development is generally divided as support to academic institutions or to private companies, and there is no support that will foster synergies between the two. So, universities and companies can improve their co-operation in relation to innovation and patenting of climate technology, establishment of dedicated climate technology laboratories and test centres for piloting and calibration of products, as well as in relation to introduction of educational programmes and subjects related to climate technology, climate finance and climate investment. On the other hand, companies can more actively seek out university practitioners, finance PhD candidates from the industry and develop talent development programs that will further meet their needs for new skilled practitioners.

2.2.5 Financial institutions and mechanisms as sources of finance for the private sector

There are domestic and foreign financial institutions and mechanisms that can serve as sources of finance for the private sector. They include:

- The Global Environment Facility (GEF);
- The Green Climate Fund (GCF);
- The European Investment Bank (EIB);
- The European Bank for Reconstruction and Development (EBRD);
- The World Bank (WB);

- The German Investment and Development Bank (KfW);
- The Instrument for Pre-Accession Assistance for Rural Development (IPARD);
- The Research and Innovation Programme “Horizon”;
- The Fund for Innovation and Technological Development of North Macedonia (FITD);
- The Free economic zones (FEZ);
- The Development Bank of the Republic of North Macedonia;
- Investment Agency “Invest in Macedonia”;
- Support for small and medium-sized enterprises;
- The “Green Fund” of the Directorate of Technological Industrial Development Zones (DTIDZ);
- The “Green Fund” of FITD.

International financial institutions and Organizations over the past five years have been actively working on supporting green, climate investment and strengthening the capacities of both public and private entities in the country for climate action and climate investments. They can also address the reasons for the low use of climate investment measures, and further address the reasons for companies' low capacities for using and financing climate technology. Domestic funds and agencies, on the other hand, can proactively work to design and promote measures that will generate private sector climate investment, which will be understandable and accessible to the private sector.

Synchronized action by all stakeholders in the private sector business ecosystem will inevitably support its contribution to climate action and climate investment.

3. Government response in relation to climate action in the Republic of North Macedonia





3.1 Nationally determined contributions

The Republic of North Macedonia, as a country does not fall under Annex I to the UN Framework Convention on Climate Change (UNFCCC), ratified the Paris Agreement in November 2017, and proposed the following contribution to the global efforts for reducing greenhouse gas emissions (Nationally Determined Contribution (NDC) to the Paris Agreement, delivered in 2015): “In 2030 to achieve a 30 percent reduction in emissions, 36 percent at a higher level of ambition, in comparison to the reference scenario.” The focus of the Macedonian national contribution is on climate change mitigation, more specifically on reducing CO₂ emissions from fossil fuel combustion, which represent almost 80 percent of the total greenhouse gas emissions in the country. Most of these emissions are from the energy supply, buildings and transport sectors.

Globally, if fully implemented, the first round of national contributions will make it possible to keep global warming between 2.9 and 3.4 degrees Celsius by the end of the century. More ambitious activities are therefore needed to mitigate climate change and achieve the objective of the Paris Agreement (to limit the temperature increase below 2 and 1.5 degrees Celsius). The agreement also provides for a mechanism to increase the ambition of climate action over time, i.e. it requires every country every 5 years to prepare and submit a national contribution with the highest possible level of ambition.

In view of that, the Government of the Republic of North Macedonia adopted the Revised National Contribution to the Paris Climate Agreement, proposed by the Ministry of Environment and Physical Planning in April 2021, which sets a more ambitious national objective: “In 2030 to achieve a 51 percent reduction in greenhouse gas emissions compared to 1990 emissions, or expressed in net emissions, an 82 percent reduction of emissions in 2030 compared to 1990”.

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This strategic document stipulates a new, more ambitious contribution to global efforts to reduce greenhouse gas emissions and is focused on climate change mitigation. The positive aspect of the adoption of this ambitious Revised National Contribution is reinforced by the fact that it also determines the country’s contribution to the implementation of the European Union Green Agenda and the European Union Western Balkans Investment Plan and can serve as an instrument for enhanced investments.

The revised NDC incorporates the results of analyses on the potential for reducing greenhouse gas emissions, and contains a total of 63 mitigation policies and measures analysed in the following sectors:

- energy (including energy supply, residential sector, unspecified sectors, industry and transport);
- agriculture;
- forestry and other land use;
- waste;
- additional measures (allowing for the implementation of mitigation measures).

The Revised National Contribution to the Paris Agreement is aligned with the some sector specific targets for 2030 that are not related to GHGs, but are foreseen in the draft National Energy and Climate Plan (NECP):

- Renewable Energy Sources (RES)
 - 38 percent share in the gross final energy consumption;
 - 66 percent share in the gross electricity production;
 - 45 percent share in the gross final energy consumed for cooling and heating;
 - 38 percent share in the gross final energy consumption in transport.
- Energy Efficiency (EE)
 - 20.8 percent lower final energy consumption compared to the reference scenario;
 - 34.5 percent lower primary energy consumption compared to the reference scenario.

The Revised Nationally Determined Contribution to the Paris Agreement is aligned with the Green Scenario of the 2040 Energy Development Strategy and is fully aligned with the National Energy and Climate Plan. It is also aligned with the following long-term objectives (for 2040):

- 61.5 percent reduction in greenhouse gas emissions compared to 2005;
- 45 percent share of RES in the gross final energy consumption;
- 51.8 percent and 27.5 percent reduction of primary and final energy consumption in comparison to the reference scenario.

The policies and measures for climate change mitigation provided for in the Revised National Contribution to the Paris Agreement also take into account sustainable development, thus quantifying the relationship between sustainable development and climate change mitigation.

The social impacts of policies and measures are determined by 1) calculating new jobs, 2) introducing gender indicators in some policies and measures in order to take into account gender differences, and 3) organizing a virtual consultation with young people in order to hear the voice of young people and have their views expressed, thus achieving broad acceptance of the objectives set in the Revised NDC to the Paris Agreement.

The benefits of circular economy for reduction of greenhouse gas emissions have also been analysed in order to identify opportunities and challenges for mitigation by improving circular practices in waste management, in line with the European Green Deal and the European Union Circular Economy Action Plan.

As far as investments are concerned, the private sector has a dominant role because it accounts for 85 percent of the total investments required for the implementation of policies and measures in the industry sector. So far, 110 companies supported by feed-in tariffs have invested in 140 MW capacities of renewable energy sources (mostly solar systems and small hydro plants). According to the official data of the State Statistical Office of North Macedonia, the number of companies in the sector “Supply of electricity, gas, steam and air conditioning” in 2018 has doubled compared to 2017 (224 vs. 107 companies), which is mainly the result of companies that have invested in renewable energy sources. Considering that more than 2 000 MW (solar, wind, small hydropower, biomass and biogas) are projected to be installed by 2040, it is expected that this significant role of the private sector will be maintained and even strengthened.

The Revised NDC also has a regional dimension. Its contributions to regional development are seen in the five measures from the Energy sector which are envisaged in draft Regional Development Strategy 2019-2029, and they are as follows: (1) Ensuring a just transition (Pelagonija and Southwest region); (2) Increasing the production of renewable electricity (Southeast, East and Northeast region); (3) Improving energy efficiency in industry (Skopje,

Polog and Vardar region); (4) Improving energy efficiency in households (Eastern, Pelagonija, Vardar and Skopje region) and (5) Mitigating climate change by burning landfill gas (in all regions in which regional landfills with mechanical and biological waste treatment will be built).

These are related to the relevant PIM (policies and measures) of the Revised NDC.

The Revised NDC to the Paris Agreement is closely related to the activities implemented under the EU-funded project “Preparation of Long-term Strategy and Law on Climate Action” under which a Long-term Climate Action Strategy and a Law on Climate Action is being developed, which are due to be adopted by the end of 2022.

The NDC of the Republic of North Macedonia can serve as a roadmap for the private sector, in order to identify how their actions can contribute to these goals and initiate synergies and public-private partnerships in order to meet the national goals. On the other hand, the NDCs is a roadmap for government institutions to create appropriate policies for economic development and to support the private sector, in line with the national contributions.

3.2 European Green Deal – Europe Union’s common axis for climate action

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On 11 December 2019, the European Commission launched its own European Green Deal, a short document outlining the radical efforts with the ultimate goal of making the European Union carbon-neutral by 2050.

In response to this deal, the Government of the Republic of North Macedonia is designing a Macedonian “Green Deal”, which among other areas will also address decarbonisation, decentralization and renewal of the energy system. It is also planned to protect and restore ecosystems by protecting their natural resources, but also to clean the air, water and soil. The “Green Deal” also envisages social justice and access to decent work, as well as building skills in art, culture, education etc.

North Macedonia’s Green Deal is currently built around nine thematic areas (or outlines):¹⁵

1. participatory governance and decision making;
2. sustainable food cultivation and distribution systems and rural areas;
3. decarbonisation, decentralization and renewing the energy system;
4. natural capital: protecting and restoring ecosystems;
5. public health and cleaning the air, water and soil;
6. social justice and access to decent work;
7. arts, culture, education and building skills and knowledge;
8. circular economy: sustainable production, consumption and trade;
9. transition financing.

¹⁵ People’s Green Agreement for North Macedonia, 2020.

3.3 Priority sectors for climate action in North Macedonia

In addition to the NDC, the Republic of North Macedonia is actively working on financing climate mitigation and adaptation efforts through the Green Climate Fund. Hence, key priority sectors for cooperation with the GCF have been identified, representing also specific sectors where institutions should work to involve the private sector in climate investments.

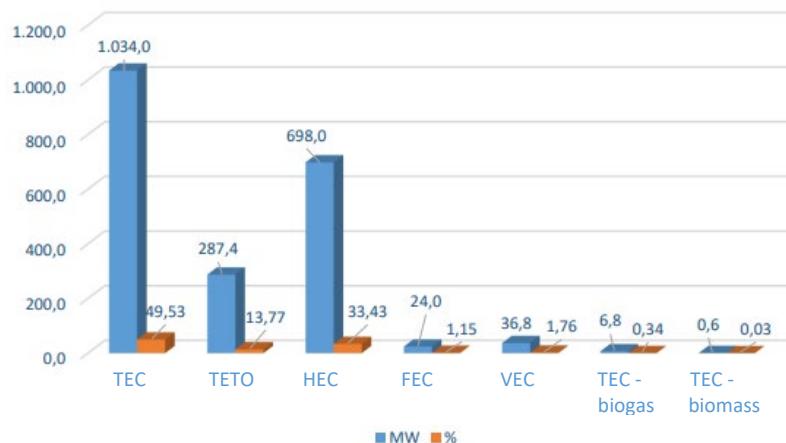
Below we present the individual priority sectors for climate action in the Republic of North Macedonia, which may include different stakeholders. They have the potential for greater involvement of the private sector. The private sector on one hand can implement the measures proposed at micro level by investing in individual companies, and use loans and grants dedicated for climate investments of the private sector or of the industry. Companies can also invest in partnership with public institutions, by playing the role of contractors, suppliers, participants in public private partnership (PPP), project managers, consultants, project implementers etc.

Energy

The Republic of North Macedonia in February 2020 adopted the Law on Energy Efficiency and in 2019 the Energy Strategy 2040. The Strategy and the Law elaborate on the possibilities for climate finance aimed at fostering the transition to renewable energy sources in the coming years. Energy efficiency has also been identified as one of the sectors where the country has a competitive advantage. The strategy aims to strengthen North Macedonia's integration into Europe's energy markets while maintaining energy dependence at today's level and allowing the necessary flexibility for greater integration of Renewable Energy Sources (RES). Besides the Ministry of Economy, [the Energy Agency](#), is also responsible for the implementation of the national energy efficiency policy and for monitoring energy savings, analysing municipal energy efficiency programs and plans, certifying energy auditors, developing national programs etc.

The Republic of North Macedonia mainly relies on fossil fuels (low-quality lignite and gas) and hydropower and depends on imports of electricity. Electricity generation takes place in thermal power plants that use lignite, fuel oil and natural gas as their primary energy source, as well as in power plants that use renewable energy sources such as water, wind, solar, biomass and biogas. The total nominal capacity of the power plants in 2019 was 2 087.8 MW, which is 10.9 MW more than the nominal capacity available in 2018.

Figure 6. Nominal capacity and share of power generation technologies in 2019 (in MW and percent)



Source: Regulatory Energy Commission of North Macedonia, 2019

From the total nominal capacity, thermal power plants have the biggest share with 49.53 percent, then hydro power plants with 33.43 percent, co-generation plants for electricity and heat production with 13.77 percent and all others with 3.27 percent.

The Energy Development Strategy of the Republic of North Macedonia until 2040 paves the way for a reliable, efficient, environmentally friendly and competitive energy system capable of supporting the sustainable economic growth of the country. In order to achieve the vision, the strategy looks into three scenarios: Reference (baseline) scenario, Moderate Transition and Green Scenario.

The Moderate Transition and the Green Scenario envision phasing out coal by 2025, making North Macedonia the first country in the Western Balkans setting concrete options for phasing out coal before 2030. The Green Scenario was chosen as a basis for the development of the Revised NDC and for the preparation of the draft version of the National Energy and Climate Plan.

Although the legal framework regulating renewable energy sources in North Macedonia is under development, several renewable energy projects have been launched in recent years, which have contributed to an increase in the share of renewable energy. For example, a wind farm of 36.8 MW was built near Bogdanci and it is the first of its kind on the territory of the Western Balkans. Under the Strategy, two more wind farms are also planned to be built in the next five years, which should raise North Macedonia's total capacity to 86 MW.¹⁶

The country's first private wind energy project is "Bogoslovec", launched in 2021 and is planned to be finalised in early 2023. It is the second project after Bogdanci, which was launched in 2015 by the state-owned company ESM. "Bogoslovec" is the most recent wind power plant in North Macedonia, with a total capacity of 36 MW and it makes an important contribution to the ambitious goals of North Macedonia to redirect its national electricity production, still dominated by coal (lignite), to green sources.

¹⁶ Basics of wind energy. 2021 Skopje.

The private sector may be included in the following areas:

- boosting the domestic economy with local energy efficiency related employment opportunities;
- investing in constantly reducing losses in the energy distribution network;
- introducing new energy efficiency (EE) measures for households and for business;
- investing in EE measures in the transport and industrial sectors as the biggest contributors to energy consumption, especially after 2025;
- systematic reconstructions of the energy distribution network;
- implementing socially responsible transition programmes to mitigate the negative effects associated with loss of jobs;
- increasing availability of infrastructure to store energy reserves;
- heating, ventilation and air conditioning (HVAC);
- energy efficient insulation, windows and doors;
- research, innovation and competitiveness;
- developing and introducing energy-related curricula at all educational levels, as well as stimulating the geographical and intersectoral mobility of researchers;
- proper maintenance and use of existing engines;
- replacement of engines;
- replacement of air compressors;
- pump replacement;
- steam systems;
- solar roofs;
- construction of new hydropower plants;
- construction of new small hydropower plants and introduction of flexible feed in tariffs to encourage construction;
- construction of wind power plants and introduction of flexible feed in tariffs to encourage construction;
- construction of biogas power plants and the introduction of flexible feed in tariffs to encourage construction;
- phasing out resistant heaters and replacing them with heat pumps in accordance with the European Union climate and energy policy;
- energy efficiency related reconstruction of apartment buildings;
- energy efficient reconstruction of business facilities;
- construction of new buildings in accordance with the Energy Performance of buildings Directive;
- obtaining sanitary hot water by combining central heating with solar collectors.

In terms of solar photovoltaic capacity, it remained the same in the last five years, as annual production remains the same with about 23 GWh. However, the Government is working to increase solar energy production through a public private partnership between the state-owned power company “Elektrani na Severna Makedonia” (ESM) and a company offering to build two 50-megawatt solar parks in Oslomey. The project is worth EUR 80 million, and will be

implemented over a 35-year period. Another project to build a 10 MW photovoltaic power plant in Oslomej was awarded to the Turkish contractor “Girishim Electric” in 2019 (with a budget of EUR 7 million).¹⁷ This plant has already been put into service.

In terms of hydropower, the Energy Development Strategy recommends that a total of 998 MW of new hydro capacity be added by 2040 in all scenarios. About 80 small hydropower plants have been operating since 2010, eight of which were commissioned in 2017 and additional four in 2018, while a new call for 21 sites was announced in 2019.

Finally, electricity losses in the grid range from 14 percent to 16 percent of the gross national electricity consumption, and practices such as heating with electricity have contributed to higher energy costs for many households.

Transport

The Republic of North Macedonia is vulnerable to climate change and its economic growth depends on climate-sensitive natural resources such as land/soil, forests and water. According to data from the National Greenhouse Gas Inventory Report, which was part of the Third Biennial Report on Climate Change, greenhouse gas emissions in North Macedonia have been in constant decline for the last 6 years, from 12 430 Gg CO₂-eq in 2011, to 10 111 Gg CO₂-eq in 2016. Most of these emissions (73.7 percent) come from the energy sector, which includes the transport sector as well.

The annual increase in energy consumption in the transport sector in the Republic of North Macedonia from 2010 to 2020, estimated at 3.6 percent, is higher than the annual increase in the country's total energy consumption (3.1 percent), and much higher than the corresponding figure for developed countries (2 percent). The use of motor vehicles in the country follows the “S” curve. In the initial period, slow growth in the use of motor vehicles (beginning of motorization of the population) can be observed, followed by a period of intense growth, and in the last part of the curve we again have slower growth, due to the saturation of the market. Saturation levels vary between countries and are between 500 and 800 vehicles per 1 000 inhabitants. In North Macedonia, the number of vehicles per 1 000 inhabitants in 2020 is 260 and the expected number of vehicles in 2030 is 400¹⁸. The increase in the use of motor vehicles is due to several factors, increased purchasing power of citizens, the use of private and official vehicles, low quality of public transport and irregular lines, lack of public transport in major cities outside the capital of Skopje, and low frequency and availability of intercity transport.

Measures that can be applied to reduce greenhouse gas emissions in the transport sector include:

- increasing the use of the railway;
- renewal of the car fleet;
- increasing the use of bicycles, walking and introducing a parking policy;
- green mobility and logistics focused on environmental efficiency of the transport sector;
- establishing a reliable and safe transport system for all modes of transport and for urban transport;

¹⁷ Power plants of North Macedonia. 2017

¹⁸ Potential for mitigation of climate change in the national transport sector, 2012.

- use of low-carbon fuels and improvement of travel behaviour;
- public-Private Partnership (PPP) for improving transport and infrastructure.

Water resources

Water resources are extremely sensitive to the impacts of climate change, both in terms of quantity, quality and duration, with total average rainfall expected to decrease in the country. Rural areas often lack access to clean fresh water, and the condition can be exacerbated as a consequence of climate change. Negative impacts will be particularly acute in agricultural areas where water is not available for irrigation, possibly resulting in reduced yield. Analyses prepared for the [Third National Report on Climate Change](#) show that the country's total water availability is expected to decrease by 18 percent by 2100. A reduction in all water resources, such as surface water, groundwater recharge and precipitation in the period 2025-2100, is also expected. Specifically, the total average rainfall will decrease by 8 percent and 13 percent until 2025 and 2100, respectively.

Climate change also has the potential to increase the frequency and severity of floods. The Republic of North Macedonia has defined erosion areas and regions, which are under threat of climate change. Namely, because of the steep slopes and unfavourable soil properties, 44 percent of the country is exposed to serious risk of erosion. Poor agricultural practices further adversely affect erosive areas, polluting waterways and groundwater as well as other irrigation and drainage infrastructure. In addition to environmental risks, lack of availability of clean water can adversely affect human health.¹⁹

The water resources sector is considered one of the most vulnerable to climate change in many countries of the world.²⁰ The water sector in North Macedonia is particularly vulnerable to climate change, mainly due to increased water demand, insufficient capacity of water management systems to respond adequately to changes in rainfall and leakages.²¹

Finally, drinking water supply and wastewater services are mostly provided by public companies founded by municipalities. For now, there is no involvement of the private sector in the provision of water and wastewater services.

Areas for private sector involvement include:

- construction/modification of physical water infrastructure;
- construction of waste water treatment plants;
- water-saving measures;
- investments in irrigation systems;
- development of irrigation technology.

¹⁹ World Bank Group, 2013.

²⁰ United Nations, 2021.

²¹ Ministry of Environment and Physical Planning, 2014c.

Agriculture

Agriculture is an important sector because it significantly contributes to the GDP, employment, trade and the rural economy. Agriculture is the third largest sector, after services and industry, contributing for about 10 percent of the GDP and for 20 percent of employment in North Macedonia. The sector is highly vulnerable to the impacts of climate change, especially to flooding. Out of the total area of about 2.5 million hectares, 1.13 million hectares are agricultural land. More than 0.5 million hectares are arable agricultural land and the rest – more than 0.6 million hectares are pastures. Forests and forest land are the main sinks of CO₂ emissions; they cover approximately 1.3 million hectares and are of various types, but are also of low quality and low annual growth. Total wood reserves are estimated at approximately 70 million m³ and total annual growth is about 1.7 million m³. The total area under forests increased by more than 100 000 hectares from 2010 to 2015, and the total area of grassland increased by more than 150 000 hectares from 2009.²²

The private sector may be involved in the following areas:

- agricultural crops - agronomy/water management/nutrient management/agroforestry;
- bioenergy - energy crops, solid, liquid, biogas and residues (biofuel production from agriculture);
- organic farming and adaptation measures to protect against natural disasters and sustainable resource management;
- enteric fermentation of dairy cows;
- manure management in the production of dairy cows;
- reduction in the number and extent of forest fires;
- changing the quality of forests through afforestation of land;
- changing land use methods for crops on a slope over 15 percent;
- contour treatment of land under crops on sloping terrains (5 to 15 percent);
- multi-year grass in orchards and in viticulture on sloping terrains (> 5 percent).

Waste

The Waste sector is the second largest source of greenhouse gases in the country. Greenhouse gas emissions are caused by the following activities: (unregulated) landfills of solid waste, biological treatment of solid waste, incineration and open incineration of waste and waste water treatment and discharge. According to the National Waste Management Plan 2020–2030, solid waste generated in our country is mainly disposed of in landfills. On the territory of our country there are 43 active municipal non-standard landfills without any permit, while the Drisla landfill, which serves the Skopje region, is the only landfill in the Republic of North Macedonia that is relatively well managed.

According to the data from the State Statistical Office, the total amount of municipal waste generated in the Republic of North Macedonia in 2019 was 915 943 tonnes (t), while the total amount of municipal waste collected in the Republic of North Macedonia in 2019 was 632 484 t. Compared to 2018, the total amount of municipal waste collected in 2019 increased by 1.1

²² Ministry of Environment and Physical Planning, 2017.

percent. The largest amount of collected municipal waste was recorded in the Skopje region – 164 971 t or 26.1 percent of the total amount collected in the Republic of North Macedonia. Of the total amount of municipal waste collected, 522 983 tonnes or 83 percent were collected from households and the remaining 17 percent from legal and natural persons (commercial waste).

According to the types of waste, the largest amount of collected waste is mixed municipal waste – 542 664 tonnes or 85.8 percent, and the smallest amount is rubber waste – 778 tonnes or 0.1 percent of the total amount of collected municipal waste. The annual amount of municipal waste generated per inhabitant in 2019 was 456 kg per inhabitant, which is 10.7 percent more than the same amount in 2018. Of the total municipal waste generated, 90 percent goes to solid waste landfills, which also include non-categorised landfills. The remaining 10 percent of waste are disposed of by open waste incineration.²³

The category Biological treatment of solid waste also includes emissions from composting of solid waste. In 2014, a total of 1 945 t of waste was composted, while 2 807 t and 2 239 t were composted in 2015 and 2016, respectively. Methane (CH_4) emissions represent 58 percent of the total emissions from the biological treatment of solid waste, while the remainder are emissions of Di-nitrogen oxide N_2O .

In the waste sector, the baseline scenario predicts that emissions will grow until 2030, due to population and economic growth.²⁴

The private sector may participate in the following activities:

- waste management;
- use of methane combustion and waste sorting;
- improving the collection and management of data on waste generated during their operation.

Biodiversity

The Republic of North Macedonia has a specific geographical location on the Balkan Peninsula and some parts of the country have various climate types (continental and mediterranean). Combined with other environmental and historical factors, they lead to the development of a specific and very rich biodiversity.²⁵

Climate change poses a major threat to natural ecosystems and the country's overall biodiversity, because increasing temperatures and reducing precipitation have negative impacts on environmental conditions in the habitats of rare and endangered species of plants and communities, and reduce the potential for recovery of vegetation. [The Third National Plan on Climate Change](#) identified a total of 18 habitats that may be affected by climate change, 58 vulnerable plant species as well as 224 animal species vulnerable to climate change. It is therefore of great importance to develop economic activity with a focus on preserving biodiversity.

²³ Third biennial report on climate change - report on the national greenhouse gas inventory, 2020.

²⁴ Third National Climate Change Plan, 2013.

²⁵ Project report: Vulnerability of the biodiversity sector to climate change, 2013.

With regard to the Biodiversity sector, the country has adopted the following three documents: the National Biodiversity Strategy and Action Plan (2018-2023) the National Nature Protection Strategy (2017-2023) and the Nature Protection Strategy. Similarly to the national communications on climate change to the UNFCCC, these documents include measures that specifically promote adaptation to climate change.

The impact of climate change combined with human impact will have irreversible consequences on the functioning of these ecosystems. One of the most impressive features of biodiversity in North Macedonia is the existence of refuges (areas that today serve as shelters for specific communities of plants and animals that are the remnants of previous periods), considered susceptible and highly vulnerable to the impacts of climate change.

Private sector can become involved in the following activities:

- developing tourism through biodiversity protection;
- exploiting biodiversity for the production of environmental products.

Health

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Between 2025 and 2100, the temperatures in the country are expected to continuously rise.²⁶ Summers will be warmer with extremely high temperatures. The effects of climate change in terms of floods and droughts and health impacts should be further investigated. Over the years, the health implications of floods are more and more understood, especially the impacts on mental health and the impacts of interruptions in the supply of important utilities such as electricity and water. However, there are still gaps in knowledge. The cold will contribute to the majority of health consequences caused by temperature over the coming decades. An analysis of the number of calls to emergency medical care confirmed that older citizens are more vulnerable to extreme heat and cold than young people, so the future health burden will be higher for the older population.

Climate change can affect the incidence of certain diseases that are transmitted by water and food, which show seasonal variations. Climate change can also lead to a decrease in the supply of certain food groups, which can lead to a decline in dietary quality in some groups of the population.

Communicable diseases are heavily influenced by climate as well as by changes in people's land use and activities, and it is therefore difficult to provide quantitative predictions of future changes caused by climate change. Hospitals, health centres and care homes may be negatively affected by high temperatures during heat waves and flooding. Chronically ill individuals, especially the elderly, are under additional health risks in excessively cold and excessively warm weather.

The Republic of North Macedonia, in 2007 was the country most affected by disasters in Europe (488 out of 1 000 inhabitants were somehow affected), and almost half of the population was somehow affected by forest fires. During heat waves, a temperature increase of only 1°C from the reference value of 30.8°C led to a 4.8 percent increase in mortality.

²⁶ Health and Climate Change/Third National Climate Change Plan, 2014.

About 10 percent of the population still does not have access to clean and safe drinking water and cannot meet basic needs. In addition, year after year, certain groups of infectious diseases occur more often, especially those transmitted through food and water (salmonella, food poisoning). The latest studies on food-borne diseases show that diseases caused by the Salmonella bacterium increase by 5 to 10 percent at each degree Celsius increase in temperature.²⁷

High-priority health issues in the Republic of North Macedonia are: access to safe drinking water in rural areas, access to sanitary conditions in almost the whole country; inadequate waste and wastewater management at the state level; uncontrolled use of chemicals and pesticides; and inadequate indoor and home air quality (especially related to poverty and children's exposure to environmental tobacco smoke).

The Ministry of Health (MoH) and the Institute for Public Health (IPH) are in charge of aspects related to the impacts of climate change on human health. The Ministry of Health and the Institute of Public Health are preparing an annual public health programme where one of the chapters is dedicated to climate change and health, funded by the Government. Institutions collaborate with national and international partners on climate change activities. The Ministry of Health is also working with the Energy Department in the Ministry of Economy to implement the recommendations of Article 10 from the Law on Energy Efficiency in relation to energy efficiency improvements of public buildings.

Private sector can become involved in the following activities:

- strengthening preparedness, private health services and health security;
- monitoring and offering private health services or PPPs for adaptation: heat stress, natural disaster, drinking water supply, food chain.

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Forestry

The forestry sector in the Republic of North Macedonia is expected to suffer significant impacts from climate change, especially boreal forests, on which the impacts can be truly dramatic. Climate change has already been documented in the country, as temperatures rise, precipitation decreases, and changes in seasons occur. All these changes have a major impact on forests. Although the impact of climate change is becoming clearer in many other sectors, there is still no conceptual framework for determining vulnerability in the forestry sector.

The forests in the Republic of North Macedonia cover about 1 095 000 ha of forest land, of which about 940 000 ha are recognized as forests ([State Statistical Office, 2009](#)). The total forest fund is estimated at about 75 000 000 m³ and the total annual growth is about 1 830 000 m³. The most dominant species are beech (*Fagus moesiaca*) and several species of oak (*Quercus spp.*), which make up about 90 percent of all domestic forest species. Forests are mostly covered with deciduous tree species, while evergreen forests represent about 11 percent of all forests. About 550 000 ha are categorized as low tree and low-quality forests and about 390 000 ha are categorized as high tree forests, of which 140 000 ha are plantations (artificially forested) generally with coniferous species (*Pinus nigra*, *Cupressus arizonica* and others).²⁸

²⁷ Health and Climate Change/Third National Climate Change Plan, 2014.

²⁸ Ministry of Environment and Physical Planning, 2013c.

At the regional level, the richest forest region is the Southwest part of North Macedonia, with about 180 000 ha, and the poorest is the Skopje region, with about 125 000 ha. The distribution of forests across the country is uneven in terms of quantity and quality. High forests of good quality are located along state borders, away from industrial and residential developments and from human influence. Low-tree, poor-quality forests are found in the central parts of the country. About 90 percent of the forests are state-owned, and state forests of commercial value are managed by a separate public company, National Forests. Protected state-owned forests are managed by national parks (public companies) or local government. The remaining 10 percent of the forests are privately owned or are under other forms of ownership (e.g. church land).

The private sector can be involved in the following activities:

- generation of renewable energy from forest and agricultural biomass;
- introduction of technologies for efficient use of biomass in forestry;
- forestation of new forest areas;
- forestation of areas damaged by fire.

Cultural Heritage

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Cultural heritage²⁹ is an additional segment that will suffer due to impacts from climate change. While other elements of ecosystems can be regenerated, the impacts of climate change on cultural heritage are expected to cause (unless preventive actions are taken) irreversible consequences and even terminal loss. For example, historic buildings have been built in and for a specific local climate that has often been different from current and future climatic conditions. The building structure is in danger due to heavier precipitation and water ingress into the structure, which increases the risks of moisture, condensation, decay and fungal growth.

These changes may not only affect the structural safety of buildings, but also their decorative elements (for example, historic buildings are made of more porous materials, which extract water from the soil and evaporate it through the surface; increasing moisture can mean greater salt intake and, as a result, crystallization of decorated or plaster surfaces through evaporation occurs). Because of this, cultural heritage needs to be protected and preserved with the implementation of adaptation measures.

We should underline that there are no serious studies that will detail the risks of the impact of climate change on cultural heritage and research that will provide concrete data for policy making and actions for mitigation and adaptation of cultural heritage to the impacts of climate change. So far, only one report on this issue has been prepared titled “[Protection of Cultural Heritage and Climate Change](#)” prepared in 2013 by the Institute for Cultural Heritage of Germany, in close cooperation with all relevant national institutions (Ministry of Culture, Office for Protection of Cultural Heritage, National Conservation Centre Skopje, Stobi National Institution and the Office for Protection of Cultural Monuments and Museum - Ohrid). This Report is an integral part of the Third National Climate Change Plan submitted to the United Nations Framework Convention on Climate Change (UNFCCC) prepared by the Ministry of Environment and Spatial Planning and the GEF. The report was prepared on the

²⁹ Third National Communication. Protecting cultural heritage from climate change, 2014.

basis of the results of the rapid vulnerability assessment carried out on three important sites from the country's cultural heritage: Skopje Aqueduct; Stobi Archaeological Site and Plaošnik Archaeological Site in Ohrid. During the preparation of the Report, a rapid vulnerability assessment was conducted, using criteria aimed at identifying the specific possible impacts of climate change on each site. The report assesses the impact associated with potential extreme weather events, such as heavy rainfall, storms and floods. The report confirms that additional research and prevention activities are needed to protect cultural heritage from the effects of climate change. Without research and intervention, there is a risk that cultural monuments will be destroyed and thus entire cultural sites will disappear.

In continuation of this Manual, the specific challenges and risks for the private sector caused by climate change are presented.



4. Why is climate change relevant to the private sector?



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4.1 Climate change implications on sectors (the impact on companies is not considered)

Climate change presents a major challenge for countries, communities, companies and citizens. The United Nations Framework Convention on Climate Change (UNFCCC) defines “climate change” as a change in the climate attributable directly or indirectly to human activities that alter the composition of the global atmosphere, which is an additional change in natural climate variability that has been observed in comparative periods of time.³⁰ From changing weather conditions that threaten food production, to rising water levels that increase flood risk, climate change impacts are global and of large scale. Without radical measures today, adapting to these impacts in the future will be more difficult and costly.

Although the Republic of North Macedonia is geographically small, it has a diverse climate. The northern and western regions are dominated by an alpine climate, while the sub-Mediterranean climate predominates in the south. Usually, there are cold winters, warm summers and very variable amounts of precipitation. The main problem with the trend of precipitation is not its decrease, but the amplification of unevenness and especially the frequency of intense and torrential rain on the one hand and of drought periods on the other. This already has an effect on the occurrence of meteorological-hydrological natural disasters (flooding, erosion, landslides, droughts, etc.). The increased intensity of precipitation shown by the frequent one-day extremes, which have reached over 100 mm, fits into the already set climate change scenarios for North Macedonia, which predict a 5°C increase in average temperatures and a 25 percent drop in precipitation by the end of the century.³¹ As a result of climate change, experts predict the weather to become warmer and drier, with more frequent and serious heat waves, droughts and floods. In general, the northern mountainous part of the country is expected to warm up faster than the southeast and central regions. In fact, the effect of climate change has been observed for a long period of time and in continuity. The Republic of North Macedonia has been experiencing deviations from the annual average air temperatures for years. The highest deviations in temperatures in urban settlements were recorded in 2019.³²

Climate change also contributes to major oscillations in the water levels of natural lakes, reservoirs, rivers, springs, etc. (for example, Vevchanski springs, springs at St. Naum *et al.*), then to the drying up of most small natural lakes (mountain-glacial, marsh, karst) and frequent minima of the natural and artificial lakes (for example, the extreme minimum of Prespa Lake). Consequence of climate change was the extremely long heat wave we witnessed in 2021, which was one of the reasons for the occurrence of numerous catastrophic fires in our country and even in the whole of southern Europe. In fact, global warming will cause more frequent “hellish” summers and more severe fires in the years to come. It is a fact that forests are a very important resource for every country and their destruction will impact many spheres of our lives. At the same time, the loss of forests in this way will contribute to an increased number of torrential floods, landslides, reduced water resources and other negative environmental changes.³³

Between 2010 and 2016, the Republic of North Macedonia experienced a drop in greenhouse gas emissions. Greenhouse gas emissions in 2016 decreased by 34.6 percent compared to 1990. It is the result of reduced electricity production from lignite, replacement of fuels (crude oil for

³⁰ United Nations Framework Convention on Climate Change, Article 1, United Nations, 1992

³¹ United Nations Framework Convention on Climate Change, Article 1, United Nations, 1992

³² Meta.mk, 2021

³³ Doma.mk, 2021

electricity and heat production was replaced by natural gas) and smaller industrial production which is decreasing since 2012.

Table 3. Greenhouse gas emissions and reductions by sector (in Gg CO₂-eq)

Sector	1990	2000	2005	2014	2015	2016
Energetics	9.648,9	9.757,9	9.251,1	8.051,3	7.701,3	7.449,3
Industrial processes and using of products	932,2	888,4	861,7	886,2	790,5	858,0
Agriculture (without Forest and other using of land)	1.490,4	1.249,6	1.204,1	1.131,5	1.159,4	1.193,2
Forest and other using of land	- 207,0	10.441,4	- 1.522,1	- 3.597,4	- 1.625,4	- 2.090,1
Waste	406,7	412,7	435,2	574,3	596,7	610,2
Total (with Forest and other using of land) - net emission	12.271,2	22.749,9	10.230,0	7.045,9	8.622,6	8.020,6
Total (without Forest and other using of land)	12.478,2	12.308,6	11.752,1	10.643,3	10.247,9	10.110,8

Source: National Greenhouse Gas Inventory Report, 2020

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By ratifying the Paris Agreement on Climate Change signed in 2015, the signatories to the UN Framework Convention on Climate Change, among which is North Macedonia undertook an obligation to keep the global average temperature increase below 2 °C above pre-industrial levels, seeking to limit the increase to 1.5 °C. Hence, climate change poses a general risk to the Macedonian economy and development, and especially to the functioning of the private sector.

4.2 Climate change as a business risk for the private sector

Climate change poses a business risk. Climate risks will have increasing implications for most sectors of the economy. Climate change already affects revenues, cash flows and operating costs, value of resources and operational costs, and ultimately will affect the competitiveness and profitability of companies and financial institutions. The physical effects of climate risk tend to materially affect industries that own physical resources in risky areas (e.g. real estate in coastal areas or fire-prone areas); industries where infrastructure and business continuity are related to social needs (e.g. health care, telecommunications/internet, utilities) and industries dependent on natural resources (e.g. those that rely on availability of productive land and water, such as agriculture, meat, poultry and dairy products). The risks and challenges depend largely

on the size of companies, as well as on the sector in which they operate. Since businesses face these risks, their own interest should be the main driver for implementing adaptation measures.

The climate risk to the private sector may be direct and indirect risk, physical risk, risk of responsibility, transitional risk, financial risk and risk of insufficient awareness of the effects of climate change:³⁴

- **Direct risks** are related to funds and processes outside companies' control. E.g. for agribusiness, the three main direct risks would include negative impacts on physical assets, such as crop and warehouse damage from floods; impacts on processing such as workshop flooding that halts production; and impacts on natural resources, such as flooding that reduces soil quality.
- **Indirect risks** include infrastructure disruption, availability of finance, economic and political stability, policy risk and supply chain risk. Indirect risks are particularly difficult for micro, small and medium-sized enterprises (MSME) because they cannot influence or avoid them on their own. The benefits arising from these risks are, by nature, indirect, as they are distributed between the companies taking the action and other stakeholders.
- **Physical risks** are risks for companies and insurance companies for compensation of damages to property (e.g. companies in vulnerable areas) and disruption to trade (e.g. inelastic value chains). Risks of responsibility are risks to large carbon emitters if they are made to compensate in the future for emissions made today or for companies that have failed to adapt to the physical risks that threaten to disrupt their supply chain.
- **Transition risks** are risks arising from policy changes and regulations as a result of a transition to a greener economy that can affect the profitability of high-carbon industries.
- **Financial risks** are risks associated with a lack of access to finance or the risk of financial losses that hinder the private sector's efforts to invest in clean technologies and environmental solutions. Traditionally, private sector investment is financed by bank loans, and the situation in the financial sector in the Republic of North Macedonia is not sufficiently developed.
- **Insufficient awareness among companies** is a risk, especially among small businesses that are often not sufficiently aware of the impacts of climate change, and do not have the knowledge and capacity to deal with them.

The identified climate change risks for the private sector can be addressed by a set of measures and technologies, presented by sectors in continuation of this Manual, and are divided according to whether the measures are helping adaptation to or mitigation of climate change.

4.3 Reducing climate change risks for basic business activities of the private sector - adaptation – by sector

The private sector is adapting to climate change primarily to ensure its survival. However, measures to adapt business models to climate change are also an opportunity for companies to become more shock-resistant compared to their competition and allow them to reach new

³⁴ Involvement of the private sector, 2022.

markets by adapting products and services. Hence, the adaptation to climate change is also an engine for business growth.

In addition, the adaptation of the private sector has broader effects for societies and economies. The private sector is a key contributor to job creation, economic growth and poverty reduction. By investing in its own adaptation, the private sector can increase the resilience of the related stakeholders, including its employees, customers, surrounding communities, local self-governments and institutions.

The adaptation of the private sector requires implementation of adaptation mechanisms and technologies appropriate for the sector in which companies operate.

5. Private sector climate technologies





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5.1 Key climate technologies by sector

The United Nations Framework Convention on Climate Change, as an international environmental agreement, strives to find answers for the impacts of climate change. In this context, the term “climate technology” is more and more used and it refers to technologies used to address climate change. They include all technologies, policies and procedures that will contribute to reducing greenhouse gas emissions or contribute to reducing the effects of the climate change.

A Draft Catalogue of Climate Technologies was developed under the second GCF Readiness Project in North Macedonia “Strengthening Country Capacities for Climate Change Adaptation and Mitigation and Finalization of Country Work Programme for the Republic of North Macedonia”, which identifies technologies applicable in the Republic of North Macedonia in priority sectors based on national strategic documents and international experience. Below are the general types of climate technology.

The main types of climate technology are:

- climate change mitigation technologies (Clean Tech);
- climate change adaptation technologies (Climate Tech).

Climate change mitigation technologies refer to technologies aiming at reducing or preventing the generation of greenhouse gas emissions, thus contributing to low-carbon growth. Climate change mitigation might be in the form of applying new technologies for use of renewable energy sources, making older equipment more energy efficient, or changing management practices or consumer behavior. It can be as complex as a plan for a greener city, or as simple as improvements to a cook stove design. Efforts underway globally range from high-tech subway systems to bicycling paths and walkways. Typical sectors where mitigation measures can be implemented are: energy, transport, industry.

Climate change adaptation technologies refer to technologies aiming at adjusting and/or reducing the negative effects of actual or expected future climate change impacts. This means, countries and communities, including their ecological, social and economic systems, need to develop adaptation solutions to be able to respond to extreme weather events and other climate change impacts that are already happening, as well as to prepare for future climate impacts. Typical sectors where adaptation measures can be implemented are: health, agriculture, forestry, biodiversity and cultural heritage.

Through a detailed analysis of the key national strategic documents of the Republic of North Macedonia related to climate change, conducted under the first project from the [Green Climate Fund Readiness and Preparatory Support Programme](#) in 2019, nine priority sectors for climate action were identified including Energy, Transport, Water Resources, Agriculture, Waste, Biodiversity, Health, Forestry and Cultural Heritage, where concrete climate change adaptation and mitigation actions should be applied to enhance the country's low-carbon resilient development and compliance with international climate change commitments.

Based on the national strategic priorities and best international practices on climate change adaptation and mitigation, a list of climate technology solutions applicable in the priority sectors for climate action in North Macedonia was developed, as part of the Green Climate Fund Country Work Programme Development in 2021-2022. The current list does not cover all

available climate technologies. It will be regularly reviewed and updated to incorporate new climate technology solutions.

Table 4. Climate technologies proposed by sector

Energy	Transport
<ul style="list-style-type: none"> - Modernisation of central heating - Introduction of central heating in major cities - Use of waste heat from thermal plants - Transformation of the Negotino TPP into natural gas PP - Use of solar energy in households - Replacing all street lamps with more efficient lights - Opportunities for direct use of geothermal resources - Developing energy efficiency projects in industries and services - Energy efficiency in the public sector - Existing insulation/temperature in homes - Approval of devices with highest efficiency - Fiscal transport policies - Public transport and low-energy modes of transport - Standards and labelling of fuel consumption in heavy vehicles and off-road machinery. Standards for fuel consumption and labelling - Phasing out chlorofluorocarbons (HCFCs) - Waste incineration - Energy production from biomass 	<ul style="list-style-type: none"> - Pay tolls and parking prices in urban areas - Traffic management - Rapid bus transfer - Managing transport demand - Support for cycling - Managing private vehicle demand - Improving standards for private vehicle operation - Optimization of freight transport - Promoting rail transport - Fiscal transport policies - Public low energy transport - Standards and labelling of fuel consumption in heavy duty vehicles and off-road machinery

Water	Agriculture
<ul style="list-style-type: none"> - Collecting rainwater - Assessing and mapping drought risk - Improved irrigation efficiency - Public water-saving campaigns - Optimization of urban drainage systems - Reducing water losses and leaks from the system - Increased use of water-saving devices - Assessing disaster risk with updated topographic maps - Assessing and mapping the risk of flooding - Water increase - Water storage - Alternative water supply sources - Drop by drop irrigation 	<ul style="list-style-type: none"> - Diversification of crops and new varieties - Biotechnology for crop adaptation - Ex situ seed conservation banks - Nutrient management: nitrogen fertilizers - Construction of a fire protection belt - Agricultural schools - Rotating the crops - Drop by drop irrigation - Techniques for preserving soil moisture - Conservatory soil treatment - Plants using biogas obtained from biomass
Waste	Biodiversity
<ul style="list-style-type: none"> - Landfill composting - Waste Reduction Model (WARM) - Reducing inorganic waste - Fees and restrictions for landfilling and combustion of waste - Pay-as-you-throw (PAYT) waste reduction program - Fiscal incentives for donating products, especially food - Valuing waste and putting an end to plastic pollution - Disposal of medical waste by bio-digestion - Waste data management - Reducing waste generation - Waste collection systems - Citizens' engagement - Waste education - Strengthening the value chain for recycling 	<ul style="list-style-type: none"> - Protecting economically important species that are vulnerable to climate change - Distribution of species vulnerable to climate change - Biodiversity to be part of economic development - Reducing pressure on biodiversity - Improving practice in forestry, agronomy, fisheries and hunting - Defining possible bio-corridors for migration of plants and animals species endangered due to climate change - Assessing the impact of periodic natural and induced hydrological fluctuations on the biodiversity of the three natural lakes in the context of climate change - Creating a sustainable database on climate change and biodiversity - Implementing fire protection and early warning systems - Integration of climate change adaptation and mitigation measures

Health	Forestry
<ul style="list-style-type: none"> - Assessing health hazard from floods - Disposal of medical waste by bio-digestion - Creating a data base with information on the impact of climate change on human health - Creating an early warning and monitoring system for the health information system - Establishing an effective food safety control system - Improving the emergency call system - Improving the quality and quantity of drinking water, especially in rural areas 	<ul style="list-style-type: none"> - Conservatory soil treatment - Nutrient management: nitrogen fertilizers - Drop by drop irrigation - Windscreens - Techniques for preserving soil moisture - Reducing fires - Biotechnology for crop adaptation - Diversification of crops and new varieties - Ex situ seed conservation banks - Livestock banks - General agro-forestry
Cultural Heritage	
<ul style="list-style-type: none"> - Reducing the impact of rainfall, flooding - Protecting heritage from extreme weather events, including strong winds - Mitigating the impact of dramatic temperature changes and increased humidity - Reducing the impact of pests and diseases - The impact of changes to the water level - Loss of traditional socio-economic life 	

5.2 Capacity and challenges for private sector technology adoption

Every stakeholder in the community, individual or a company, should be encouraged and contribute with their own climate action, as well as with the development or application of climate and clean technologies to the global commitment to address the effects of climate change. On the other hand, the use the technology transfer instrument is extremely useful in the application of climate technologies as it enables take over of technology between different stakeholders and implementation of technologies and actions to support mitigation and adaptation. The Technology Transfer Mechanism does not offer direct funding but provides technical support for obtaining financial support.

An outstanding opportunity to support the transfer of climate technologies to developing countries is offered by the United Nations [Technology Mechanism](#). As a climate technology platform (ClimateTech and CleanTech), the Technology Mechanism through the Climate Technology Centre and Network enables connections and transfer of climate technology solutions and technology projects from all over the world.

Developing countries need to nominate a National Designated Authority (NDA) to represent the country within the Technology Mechanism, so that they can use the incentives it offers for

development, application and transfer of climate technologies for mitigation and adaptation. This is a challenge for our country, although it receives support provided under the project “Fourth National Communication and Biennial Report on Climate Change for the UNFCCC”. The goal of the project is to analyse the situation, identify and recommend the most suitable institution to be the NDA.

The capacities for applying the UNFCCC Technology Mechanism can be analysed at three levels, macro, meso and micro. Namely, the **macro dimension** refers to the global level, covered directly by the Technology Mechanism; the **meso dimension** refers to the country level and defines the institutional capacities to ensure continuous transfer of climate technologies in support of development and innovation, and the **micro dimension** refers to the level of stakeholders and encompasses stakeholders, companies and end-users, their networking and partnerships in applying climate technologies and actions to address climate change.

In our country, at the micro level, it will be extremely useful if the NDA comes up with mechanisms and develops a **stakeholder networking instrument** for implementing activities such as innovation, development and transfer of climate technologies, and finds a way to support companies, start-ups and stakeholders in their efforts to develop and apply CleanTech and ClimateTech. The development of such a networking instrument will strengthen partnerships among stakeholders, promote taking climate change mitigation and adaptation actions, as well as promote transfer of clean climate technologies, between already established businesses and start-ups in the specified sectors.

The Macedonian government has not yet nominated an NDA to represent the country in the Technology Mechanism. North Macedonia may nominate the National Designated Authority as a national contact point to the Convention’s Technology Mechanism through the national focal point to the UNFCCC. Furthermore, the Macedonian Government may work actively to structure and develop its participation in the NNS partially through future GCF Readiness and Preparatory Support Programmes activities. At this point, an assessment conducted within the framework of the Third Biennial Report on Climate Change identified the Fund for Innovation and Technological Development (FITR) as the most appropriate institution to be nominated as a national designated authority in the country.

5.3 Opportunities for climate innovation in the private sector

Issues related to the objectives of the policy for innovation and technology transfer (TT) in the Republic of North Macedonia are regulated by the following legal acts:³⁵

- Law on Innovative Activity of the Republic of North Macedonia;
- Innovation Strategy of the Republic of North Macedonia;
- Industrial Policy of the Republic of North Macedonia;
- Policy on Small and Medium-Sized Enterprises of the Republic of North Macedonia;
- Regional Strategy for Innovation, Research and Development in the Western Balkans.

³⁵ Third biennial report on climate change, 2020.

Because innovation is considered a key driver of the economy, especially when it results in competitive advantage or higher productivity, it is in the interest of the state to determine the innovation policy at the national level. Research institutions are seen as key bodies introducing innovation, with the private sector taking over the application and commercialisation of innovative ideas in the form of products. The private sector in the Republic of North Macedonia is dominated by SMEs (more than 99 percent).

The Fund for Innovation and Technological Development in the Republic of North Macedonia is a national public institution responsible for supporting innovation, encouraging and financing private micro, small and medium-sized enterprises to achieve accelerated technological development. The aim of the FITR is to foster and support innovation activity in the country, based on knowledge transfer and research and development, which contributes to the creation of new jobs and economic growth, while improving the business environment for the development of competitive capabilities of companies.³⁶ The Fund for Innovations and Technology Development links its activities and public calls to the Government's policies and closely cooperates with various ministries, agencies and chambers of commerce.

The funds are provided from domestic and international sources of financing, including the state budget, international financial institutions, European Union funds and development banks. Partner organizations in developing and carrying out public calls for financing are: USAID, UNDP, UNICEF, British Embassy, Israel, Swiss Entrepreneurship Program, Macedonia 2025, etc.

The Fund for Innovations and Technology Development cooperates with the private sector in a number of ways:

1. Co-finances micro, small and medium-sized enterprises (MSME) registered in the Republic of North Macedonia, in order to encourage innovation, implement innovative solutions and processes, introduce innovation and technology transfer between companies, as well as support companies with high growth potential.
2. By financing newly established MSME registered in the Republic of North Macedonia, as well as foundations and accelerators, in order to encourage innovation among companies and transfer of scientific research results into applicable commercial activities by establishing spin-off companies.
3. By fostering a positive long-term contribution to the development of the national economy, improving competitiveness through technological and operational improvements and by opening new jobs; by supporting the establishment of business and technological accelerators; and entities for giving infrastructural support to innovative activities in order to accelerate entrepreneurship through support of start-up enterprises.
4. By providing advocacy and fostering cooperation with national commercial banks to streamline finance for innovation and technological development.
5. Finally, FITR actively communicates its calls for financing with four major chambers of commerce in the country: the Economic Chamber of North Macedonia, Macedonian Chambers of Commerce, Economic Chamber of Northwest Macedonia and ICTCC. Also, FITD actively interacts with the universities in the country.

The Fund for Innovation and Technological Development implements the measures of the Government's Economic Growth Plan, Pillar 3: financial support (co-financed grants) for

³⁶ Annual work program of the Fund for Innovation and Technological Development for 2021, 2020.

micro, small and medium-sized enterprises for innovation and technological development (Government of the Republic of North Macedonia, 2018). These include:

1. co-financed grants for technology development;
2. special financial support (co-financed grants) for MSME;
3. financial support for improving technology and innovation;
4. financial support for professional development and practice of newly employed young persons;
5. creating an environment and elaborating legal bases for the development of venture capital.

Another significant FITD product is the World Bank-funded Skills and Innovation Development Project, providing financial support through four instruments to support micro, small and medium-sized enterprises:

1. co-financed grants for newly founded start-ups and spin-offs;
2. co-financed grants for the commercialization of innovation;
3. establishment, operation and investment in business-technology accelerators;
4. co-financed technological extension grants.

FITD also publishes other thematic calls, such as a call for digitization of municipal services, digitization of agriculture, a call for research projects for high school students, COVID-19 support for start-ups and a so called "O₂ Climate Change Challenge".

The potential of the private sector to play its important role in climate adaptation and mitigation certainly depends on the private sector financing and access to capital for these purposes. Hence, including criteria for developing and using climate technologies of FITD users is a key mechanism for fostering partnerships and mobilizing private capital for climate investment.

In continuation this Manual will present the Green Climate Fund, as well as other funds that are a potential source of climate finance for the private sector.



6. Climate finance for the private sector

6.1 Climate finance – definition

Climate finance refers to local, national or transnational funding from public, private and alternative financial sources, which is aimed at supporting climate change mitigation and adaptation. The UNFCCC Standing Committee on Finance provides a definition covering both adaptation and mitigation activities: “Climate finance aims to reduce emissions, increase greenhouse gas storage that aims to reduce vulnerability and to maintain and increase the resilience of human and environmental systems to the adverse effects of climate change.”

6.2 Climate finance stipulated in international conventions and agreements

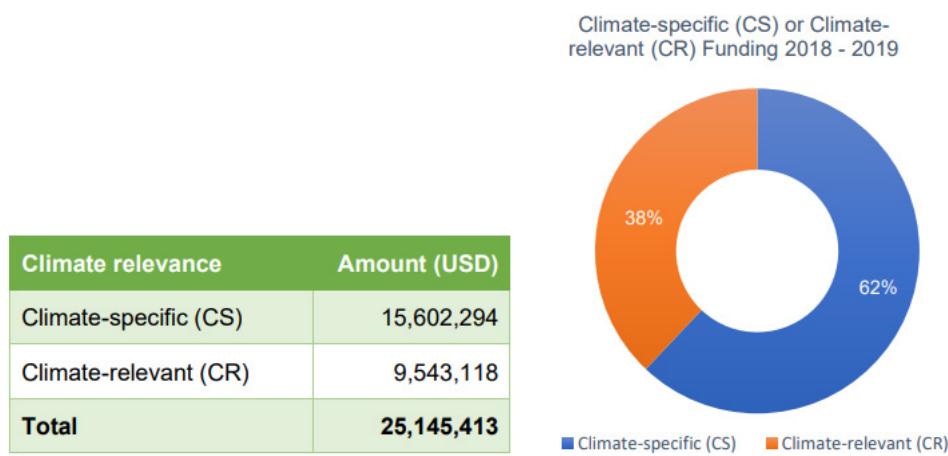
The Republic of North Macedonia is a country that does not fall under Annex I to the UNFCCC (since it is a developing country), without quantified commitments to reduce greenhouse gas emissions. At the same time, it has the status of an European Union candidate country and it should adhere to the EU's climate and energy policy, which actually assumes the obligations of Annex I countries. The Republic of North Macedonia, on a voluntary basis, seeks to integrate as much as possible the two aspects (UNFCCC and the European Union) in its national reports on climate change.

The UNFCCC, the Kyoto Protocol and the Paris Agreement stipulate financial support to be given by Parties with more resources to those who are poorer and vulnerable. This means that developed countries (Annex II Parties) provide financial resources to assist developing countries in implementing the Convention. To facilitate this, the Convention has established a financial mechanism to provide funds to developing countries.

Summary data on financial, technological, technical and capacity-building support received from international sources show that, between 2018 and 2019, there were a total of 38 climate-related projects funded with international support. The support which the Republic of North Macedonia was promised / received in the two-year period 2018 – 2019 is estimated at USD 25.14 million. Of these, 21 are climate change-specific projects which have received as much as USD 15.6 million, which is 62 percent of the total amount. The other 17 projects whose amount is USD 9.5 million or 38 percent are relevant to climate change.³⁷ Climate change specific projects (SP) are those that specifically address climate change. CC relevant projects (RP) are projects that are not only related to climate projects, but that will also lead, among other things, to climate mitigation or adaptation benefits.

³⁷ Ministry of Environment and Physical Planning, 2020c.

Figure 7. Climate Change Specific Projects (CCSPs) and Climate Change Relevant Projects (CCRPs) 2018–2019

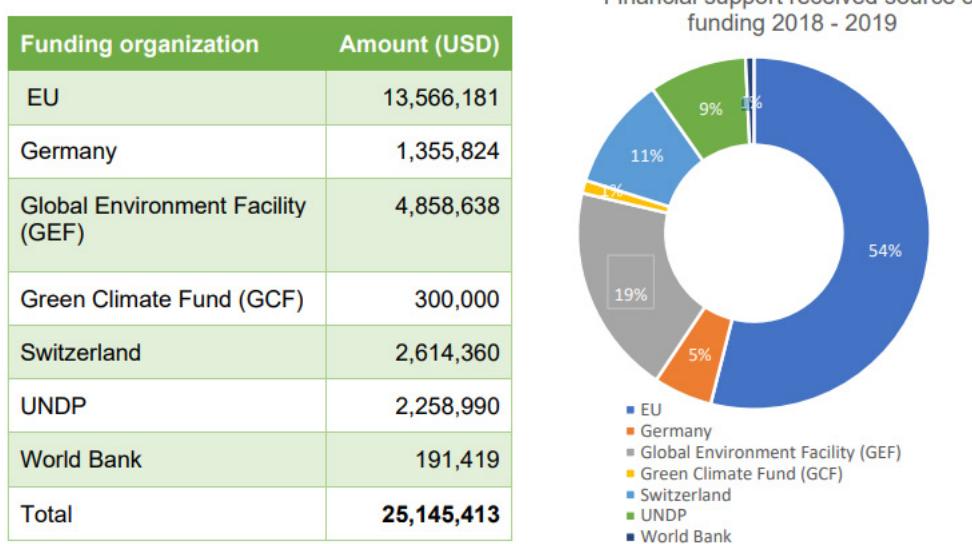


Source: Macedonian Third Biennial Update Report on Climate Change, 2020

Most of the support comes from the European Union, and the bulk of this funding (54 percent according to sources) is support received from IPA's cross-border co-operation funds. The second largest donor is the Global Environment Facility (GEF), with 19 percent. Almost all of the above support (98.8 percent) is in the form of a grant, and only 1.2 percent (USD 0.3 million) is in the form of a loan.

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Figure 8. Financial support received by source of funding for the period 2018 – 2019



Source: Macedonian Third Biennial Update Report on Climate Change, 2020

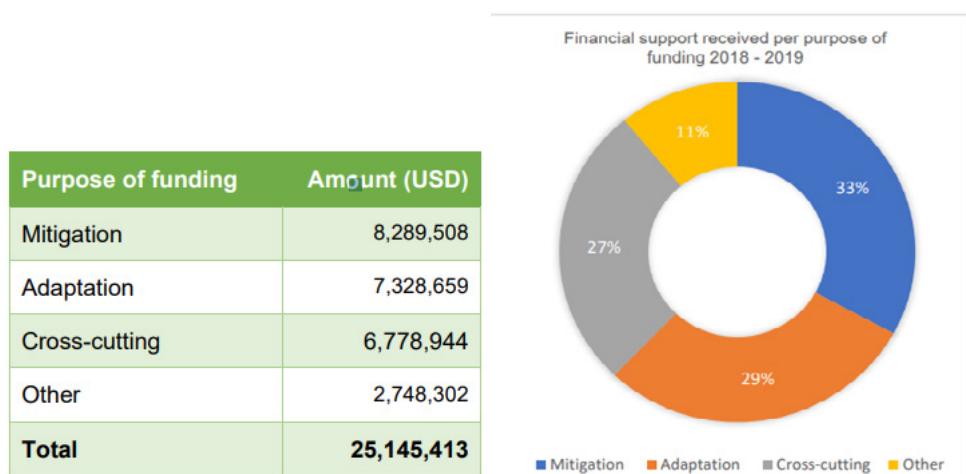
However, support in the form of a loan for specific and relevant climate change projects is gradually increasing. Recently, AD Elektrani na Severna Makedonia received two large loans from the German Development Bank (KfW). The funds are intended to finance two major

energy projects for climate change mitigation: the first for district heating in Bitola, Mogila and Novatsi (EUR 39 million from the German Development Bank and EUR 7.3 million from the company itself); and the second is for the expansion of the wind park in Bogdanci (EUR 18 million from the German Development Bank and EUR 3 million from the company).³⁸ Additionally, in 2021, a project for the construction of a photovoltaic power plant with a nominal capacity of 10 MW in REC Oslomej started, worth EUR 7 million, of which EUR 5.9 million were financed by a loan from the European Bank for Reconstruction and Development (EBRD) and the rest are funds of AD ESM (Government of the Republic of North Macedonia, 2019). The Oslomej photovoltaic power plant project was developed in accordance with the Government Strategy for Energy Development until 2040, based on the European Green Deal, in order to transform the electricity production in the country, and to use more renewable energy sources at the expense of fossil fuels. The ultimate goal of the Oslomej project is to replace the mining and energy plant that has a nominal capacity of 120 MW with solar power plants with an equal nominal capacity of 120 MW.³⁹

According to the purpose of the funding (mitigation, adaptation or for both), there is an almost equal division between them. One third of the support received is for mitigation actions that have a global impact.

Figure 9. Climate Finance Allocation for Climate Change Mitigation and Adaptation in the period 2018 – 2019

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Source: Macedonian Third Biennial Update Report on Climate Change, 2020

6.3 Global Climate Funds

North Macedonia as a developing country with major economic problems has a significant shortage of domestic resources for climate activities, which is why the scale of climate activities is smaller than necessary. Major is the role of the support sourced from bilateral and multilateral

³⁸ Ministry of Environment and Physical Planning. 2020a

³⁹ Power plants of North Macedonia. 2017

international sources. Also available are funds from the financial mechanism of the Global Environment Facility (GEF), the Green Climate Fund (GCF) and their associated entities, but these unfortunately are underutilized by North Macedonia. Namely, greater advocacy efforts are needed, especially for developing climate initiatives of public sector entities (municipalities and ministries) and for applying to calls with projects and obtaining finance from these main financial mechanisms of the Convention.

The Global Environment Facility was established in October 1991 to globally support the protection of the global environment and promote sustainable environmental development by providing financial and technical support to eligible countries in order to implement projects beneficial to the global environment.

In the Republic of North Macedonia, during the period 2014-2020, the GEF has implemented five national, three regional and one global project approved by GEF-6 (2014-2018), under the leadership of UNDP, UNEP and EBRD and one regional project by GEF-7 (2018-2022), approved as a project concept, to be implemented by EBRD. The list of approved and on-going projects supported by the GEF includes four climate change projects, including two on biodiversity, two on land degradation, one on chemicals and waste and one encompassing several sectors.

In the current replenishment period, through GEF-6 and GEF-7, North Macedonia received USD 6 110 487 for implementation of projects, in several areas, including USD 1 500 000 for biodiversity projects, USD 2 000 000 for climate change and USD 2 610 487 for land degradation projects. Total GEF funding for projects, includes grants in the amount of USD 39 511 943 and co-financing in the amount of USD 322 459 795.⁴⁰

The GEF Small Grants Programme is also active In the Republic of North Macedonia, which provides financial and technical support with small grants for environment preservation and restoration and sustainable development.

6.4 Opportunities for financing private sector climate activities in the Republic of North Macedonia

6.4.1 State-aid

The Republic of North Macedonia actively uses state aid as a mechanism for providing financial and technical support in order to ensure competitiveness of domestic companies and of foreign investments. One of the most developed modalities for granting state aid in the Republic of North Macedonia is by financing innovation and technological development of companies through the Fund for Innovation and Technological Development. Furthermore, state aid is also provided by the Ministry of Economy through the support for small and medium enterprises, through the Law on Financing Investments, and with concessional (preferential) loans placed through the Development Bank of the Republic of North Macedonia.

State aid is normally granted to facilitate investment and to support companies to develop and expand their business activities. The main logic is that by improving the competitiveness

⁴⁰ Gechevski, V, 2020.

of companies, the private sector will become stronger and the state budget will also grow because companies will be paying taxes and other fees and levies. State aid packages are part of the country's fiscal policy. Furthermore, state aid is usually a tool by which the Government supports a particular strategy, sector or policy, thus enabling the achievement of its long-term goals. In general, state aid should be controlled and supervised considering the fact that tax payers' money is used to support the corporate sector and to create competitive advantage for a limited number of companies.

The Republic of North Macedonia as signatory of the Stabilisation and Association Agreement with the European Union, should maintain the same level of transparency as European Union member states, i.e. it should fully respect all rules and criteria arising from the European regulation on state aid.

According to European Union regulations (Finance Think, 2020), there are three types of state-aid:

1. Horizontal – aimed at mitigating market failures caused by externalities – including support for research and development, employment measures, improving the environment and supporting micro, small and medium-sized enterprises.
2. Regional - addressing economic and geographical disparities – support for new investments, operational assistance.
3. Sector focused – provided to targeted sectors undergoing transformation, adaptation, conversion.

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In the European Union, only regions with 75 percent less GDP than the European Union average are eligible for state aid. Furthermore, the larger the companies the lower the state aid provided.

According to the Law on State Aid Control in the Republic of North Macedonia ("Official Gazette of the Republic of Macedonia" No. 145/2010), state aid is any expenditure and any reduced income of the state, in any form, which distorts or has the potential to distort free competition on the market and trade in the Republic of North Macedonia, as well as trade between the Republic of North Macedonia and the European Union member states, "by allowing economic advantage to a particular company that could not be achieved without the state aid granted or by favouring the production of certain goods or the provision of certain services" (Article 5 and Article 3, paragraph 1). The Law also lists the most common forms in which it can be granted:

- subsidies;
- writing off or taking on debts;
- abandoning, reducing or delaying the payment of public levies;
- granting loans on favourable terms;
- granting guarantees from state aid providers under favourable conditions;
- investments by state aid providers with a rate of return lower than the rate of return that can be expected when investing under normal market conditions;
- lowering prices of goods and/or services below market prices, especially in the case of sale of shares, buildings or land owned by state aid providers (Article 5, paragraph 2).

Hence, criteria can be introduced in the existing state aid structure in the Republic of North Macedonia to support introduction of climate technologies and climate action of companies applying for state aid. These criteria should primarily be included and further be given more weight when scoring applicants for state aid.

6.4.2 Development Bank of North Macedonia

The Development Bank of North Macedonia in the last decade provided resources – concessional (subsidized) loans to companies that want to invest in climate-related topics. Looking at the schemes offered by banks, we identify 12 support schemes for SMEs, including working capital loans, investments, export and factoring (Development Bank of North Macedonia AD Skopje, 2022).

In particular, two schemes are directly linked to climate finance.

Financing sustainable energy sources, energy efficiency and renewable energy sources:

- use of renewable energy sources (sun, wind, water, biogas, etc.);
- efficient use of energy;
- environmental protection;
- improving the energy climate in the Republic of North Macedonia.

Financing small and medium-sized enterprises – Priority project - EIB 5, provides loans for procurement of fixed assets, but also provides support in the field of knowledge economy, environmental protection, industry, tourism, health services, education, services, etc.⁴¹

Other development loans offered by the Macedonian Development Bank do not mention specific climate-related financing, however, they can certainly be used for private sector investment in climate-related projects.

6.4.3 International financial institutions and development banks

In addition to the domestic capital available for climate investments of companies, **the European Bank for Reconstruction and Development** is very active in providing companies with climate finance opportunities. Currently, the SME competitiveness support programme is active for companies that want to invest in their competitiveness, including by improving products and processes, procuring equipment and improving energy efficiency. For investments of up to 1 million euros, the EBRD offers a 15 percent grant after determining a successful performance. These programmes emphasise that SMEs can use a loan for lowering energy consumption and should use technology that will contribute to a greener economy by reducing pollutants such as greenhouse gas emissions.⁴² Beyond this programme, the EBRD can also directly support the private sector for investments above EUR 3 million.

It is important to know that EBRD is a development bank that clearly states that its portfolio focuses on transition to green economy (TGE) from 2021 to 2025. This is a new approach of the bank to help the countries in building green, low-carbon and resilient economies. Through

⁴¹ Halkbank, 2022.

⁴² EBRD SME Competitiveness Facility, 2022

the new TGE approach, the EBRD will increase green financing to more than 50 percent of the annual volume of operations by 2025. It also aims to achieve a net annual greenhouse gas emission reduction of at least 25 million tonnes over a five-year period.⁴³ This ambition, announced at the annual meeting in London, in October 2020, clearly shows that the EBRD is becoming an even more relevant creditor for the public and private sector in North Macedonia.

The Instrument for Pre-accession Assistance for Rural Development – Program IPARD II (2014-2020) for the Republic of North Macedonia provides access to European Union funds earmarked for financial assistance for sustainable agriculture and rural development with a focus on the implementation of European Community legislation in relation to the common agricultural policy, policies for competitive sustainable agriculture, strong and sustainable rural communities and a diverse and sustainable rural environment.

The IPARD program is managed by [the Agency for Financial Support of Agriculture and Rural Development](#) and provides support in the form of grants for natural and legal entities from the Republic of North Macedonia (Agency for Financial Support of Agriculture and Rural Development, 2022). Natural and legal entities can submit an application for the use of funds from the IPARD program 2014-2020 for the following measures: investments in tangible assets of agricultural holdings, investments in tangible assets for processing and marketing of agricultural and fishery products, farm diversification and business development, technical assistance and investments in rural infrastructure. The general precondition for the use of such assistance is the applicant to be located in a rural area, while each measure is adapted to a specific purpose.

Since the measures cover energy efficiency investment costs, optimisation of production resources and environmental technologies, this is an important source of climate finance for the private sector, which has shown greater interest in the past two years.

6.4.4 Commercial banks

As for the banking sector in the Republic of North Macedonia, commercial banks have offered 35 loans and credit lines for green investments in the last decade.⁴⁴ Twelve of these lines are for individuals, 24 types of credit lines are for legal entities, and one credit line is for both. Of the nine banks in the country, Silk Road Bank offers three types of support for green investments, Halk Bank offers three, Sparkasse Bank offers three, Komercijalna Banka AD Skopje offers six types of support, NLB Tutunska Banka offers four, Ohridska Bank offers four, Procredit Bank offers six, TTK Bank offers five and UNI Bank offers one type of support for green investments. Most of these credit lines were offered in 2014.

Of the 35 loans and credit lines, eight types of support had a grace period of up to 12 months, eight types of support had a grace period of up to 24 months, one type of support had a grace period of up to three months, two types of support had a grace period of up to 6 months and 16 types of support were without a grace period.

Of the total number of supported projects, seven types of support do not have a specified maximum loan amount per person / company / household; ten types of support have a maximum loan amount per person / company / household lower than EUR 50 000; three types of support have a maximum loan amount per person / company / household between EUR

⁴³ What is the EBRD's Green Economy Transition approach, 2022

⁴⁴ Research conducted on publicly available data on commercial banks websites

50 000 – 100 000; six types of support have a maximum loan amount per person / company / household between EUR 100 000 – 500 000; five types of support have a maximum loan amount per person / company / household between EUR 500 000–1 000 000; six types of support have a maximum loan amount per person / company / household between EUR 1–10 million and two types of support have a maximum loan amount per person / company / household over EUR 10 million.

The highest maximum loan amount per person / company / household is EUR 25 million offered by Komercijalna Banka AD Skopje. The lowest loan amount per person / company / household is EUR 4 861 and is offered by TTK Bank. Of the 35 types of support, nine types have no interest rate; 12 types have a 5 percent interest rate; 14 types have an interest rate between 5 to 10 percent.



7. Green Climate Fund – climate and green investment opportunities

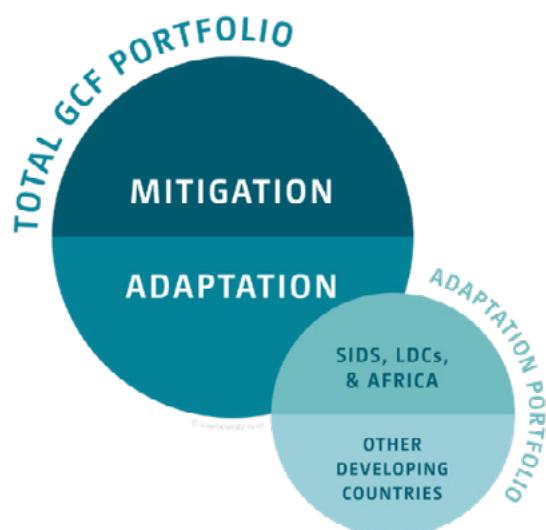


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7.1 What is the Green Climate Fund?

The Green Climate Fund (GCF) is a new global fund established by the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) to support the efforts of developing countries to respond to the challenges posed by climate change. The GCF aims to support a paradigm shift towards low-emission development and climate resilience, taking into account the needs of countries that are particularly vulnerable to the impacts of climate change. The GCF helps developing countries implement measures to limit or reduce greenhouse gas emissions and adapt to climate change, implement national climate action priorities and meet the investment criteria of the Green Climate Fund⁴⁵. The GCF uses public investment to encourage private sector investment that will positively impact the climate in order to achieve low-emission development and climate resilience. By January 2019, USD 10.3 billion had been pledged to the GCF, and the mobilization of funds continues. The resources of the GCF will be equally allocated for both mitigation and adaptation.

Figure 10. GCF Resource Allocation



Source: GCF, 2019

At least half of the adaptation funds will be allocated to least developed countries (LDCs), Small Island Developing States (SIDS) and African countries. The GCF will maintain a geographical balance and allocate a reasonable and fair amount in a number of countries, while maximizing the scale and transformational impact of mitigation and adaptation activities.

The Fund offers grants, concessional loans, guarantees and equity to finance projects. It also provides additional grants for the preparation of project proposals for funding, as well as for readiness and preparatory support of states to access the resources of the GCF.⁴⁶

Green Climate Fund channels its resources through accredited entities - international, regional, national and sub-national. They may be public institutions, private entities or NGOs.

⁴⁵ GCF investment criteria, 2019

⁴⁶ Green Climate Fund Handbook, 2019.

“Accredited” means that these entities have undergone the GCF accreditation process and meet the standards of the Fund.

Accredited Entities (AE) develop and submit project proposals to the GCF. They work together with national and sub-national partner institutions in the preparation of project proposals and in their implementation. They are responsible for managing and monitoring projects. Accredited entities should coordinate closely with the National Designated Authority regarding the project pipeline, acceptance of funding proposals and implementation of projects.

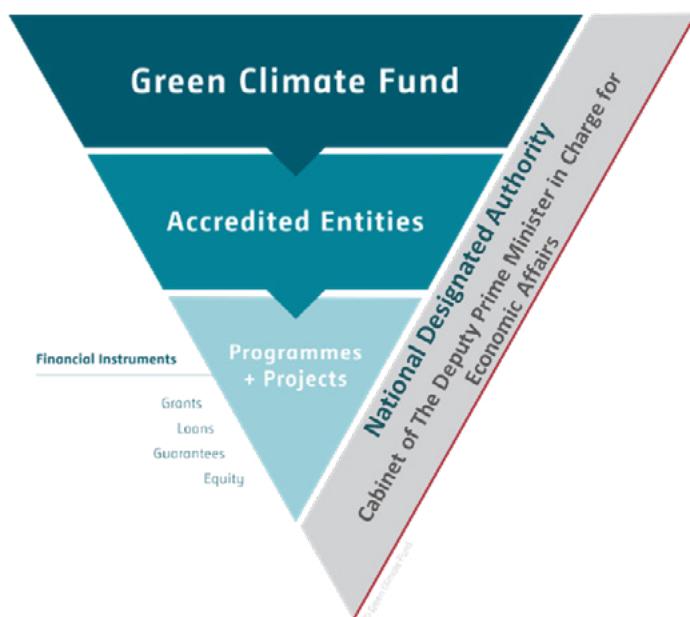
There are **two types** of accredited entities:

- **Direct Access Entities:** include sub-national, national and regional entities (e.g. ministries, government agencies, climate funds, commercial banks, private foundations, NGOs, etc.). These entities should obtain permission from the country NDA with a letter of nomination and can receive preparatory support from the GCF if they meet the GCF accreditation criteria.
- **International Access Entities:** are entities that act through multiple regions/countries and include United Nations agencies, multilateral development banks, international financial institutions. These entities need not be nominated by the NDA.

When this document is being prepared, North Macedonia is in the process of accrediting a national direct access entity. Until a national direct access entity is accredited, activities related to the GCF shall be carried out in cooperation with international accredited entities such as United Nations agencies, multilateral development banks, public and private international or regional organizations.

National and sub-national stakeholders from the public, private or civil sector that are not accredited to the GCF can be involved in several ways:

- Can support the NDA in defining national priorities and the project portfolio for GCF funding by participating in the coordination mechanism and in the consultations with the stakeholders.
- Identify project ideas and cooperate with the AE in the preparation of concept notes and project proposals for funding, as well as in the implementation of project activities if approved by the GCF. Relevant stakeholders may also engage as partners in the implementation of projects subject to cooperation with the AE and the approved project proposal.
- They can notify the NDA for their interest to accredit themselves as direct access entities. Nominated by NDA, entities can apply for accreditation and access funds from the GCF directly.
- Public entities may also submit their opinion to the NDA as part of the “No Objection” Procedure regarding the acceptance of the project proposals for funding.
- Relevant stakeholders also supervise and provide feedback on project proposals and on the implementation of the Fund’s activities in North Macedonia.

Figure 11. GCF Architecture

Source: GCF, 2019

7.2 Engagement of North Macedonia with the Green Climate Fund: summary of Readiness projects

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In order to improve the countries' capacities with regard to climate finance, the GCF allocated resources under the GCF Readiness and Preparatory Support Programme (the Readiness Programme), which will help countries improve knowledge, develop capacities and engage all relevant stakeholders at the national/ local level.

The GCF Readiness Programme aims to improve national capacities to access funds from the GCF and implement national adaptation and mitigation measures led by the country itself. The overall goal is for the country to be fully prepared to meet its commitments under the Paris Agreement on Climate Change, as well as its climate action commitments under the European Union accession process, while enhancing climate action in priority sectors, including agriculture, energy, transport, health, forestry, water resources, waste, biodiversity and cultural heritage.

In order to set the foundations for successful strategic engagement with the Green Climate Fund, including a strong institutional framework, effective involvement and coordination mechanism among key stakeholders at national level, the Republic of North Macedonia has accessed funds from the GCF Readiness and Preparatory Support Programme. **Two national GCF readiness and preparatory support projects** have been implemented by the Food and Agriculture Organization of the United Nations (FAO) under the leadership of the Cabinet of the Deputy Prime Minister of the Government of North Macedonia in charge of Economic Affairs, Coordination with Economic Sectors and Investments, as the National Designated Authority (NDA) for the GCF.

The project “Support for the Management of an Effective National Coordinative Mechanism Regarding the Green Climate Fund” was the first project of the Republic of North Macedonia

under the GCF Readiness and Preparatory Support Programme (with a budget of USD 300 000).⁴⁷ The project was implemented by FAO under the leadership of the Cabinet of the Deputy President of the Republic of North Macedonia in charge of Economic Sectors and Investments, as NDA for the GCF. The project focused on strengthening the institutional capacities of the NDA in order to effectively fulfil its role and responsibilities with regard to the GCF, helped to create the necessary participatory processes involving all national stakeholders, as well as to start the preparation of the North Macedonia GCF Work Programme aligned with the national priorities for climate change adaptation and mitigation, with the Sustainable Development Goals and with the GCF investment criteria. The project followed the GCF guiding principles on gender issues, minorities and vulnerable groups in order to ensure that these principles are a priority in North Macedonia's co-operation with the GCF.

The project supported North Macedonia to establish the national coordination mechanism, develop institutional framework and procedures necessary for effective access to and deployment of GCF funds for investments in low-emission and climate resilience development, and in particular resulted in the validation of the “No Objection” Procedure for evaluating project proposals for funding by the GCF. This was carried out in a participatory process through the organization of numerous activities, consultations and dialogues and by engaging all relevant stakeholders.

“Strengthening National Capacities for Climate Change Mitigation and Adaptation and Finalization of the Country Work Programme for the Republic of North Macedonia” is the second project of the Republic of North Macedonia under the GCF Readiness and Preparatory Support Programme (with a budget of USD 663 245), implemented in the period December 2019 - June 2022. Building on the results of the First GCF Readiness project completed in 2019, under the Second project, the Government and FAO worked together on further strengthening the knowledge and capacity of the National Designated Authority and relevant partners on accessing the Green Climate Fund.

FAO supported the Government to develop and submit its first GCF Country Work Programme⁴⁸, addressing key climate change priorities in priority sectors – energy, transport, water resources, agriculture, waste, biodiversity, health, forestry, and cultural heritage – and scoping potential investments that could be translated into full-funding projects for the GCF, aligned with national development and climate priorities, as well as the SDGs and GCF investment criteria. Furthermore, the Second Readiness Project supported drafting and piloting a Procedure for Tracking, Monitoring and Streamlining of Public Climate Finance as proposed mid-term solution, until a national climate budget tagging is introduced. Recognizing the pivotal role of the private sector in low-emission and climate-resilient development, through this second readiness project, the Government and FAO put particular emphasis on unlocking the potential of local private companies in climate investments, through educating them on climate change issues, climate finance, and the use of technologies and innovation for climate change adaptation and mitigation.

In February 2022, the GCF approved the third GCF Readiness Project for North Macedonia, entitled **“Building capacity towards sustainable human capital development in North Macedonia”**. It will be implemented by the German Society for International Co-operation (GiZ), under the guidance and leadership of the Cabinet of the Deputy President of the Government

⁴⁷ Project Information Leaflet, 2021

⁴⁸ Preparation of the GCF Country Work Programme of the Republic of North Macedonia begins, 2020.

in Charge of Economic Affairs, Coordination of Economic Sectors and Investments, as National Designated Authority for the GCF. This Readiness project aims to complement the previous and ongoing readiness efforts by targeting human capital development through a sectoral approach. More specifically, the project will support building the capacities and creating an evidence-based and enabling environment in the health, education, and labor and social protection sectors, which deal with the socially vulnerable and marginalized groups that are often overlooked in climate change agenda and finance, aiming to address lack of consistent and transparent data and low levels of climate change mainstreaming into the three specified sectors.

The GCF Readiness Programme has envisaged funds to be annually allocated to different developing countries, including the Republic of North Macedonia which is to receive up to USD 1 million for preparatory activities; and additional allocation of a maximum of USD 3 million to prepare national adaptation plans (NAPs) and/or implement other processes for planning adaptation measures.⁴⁹

Additionally, within the GCF Readiness Programme, the Republic of North Macedonia with the support of UNDP has developed a project proposal for the development of a National Plan for Adaptation to Climate Change, that requires a maximum funding of USD 3 million and shall be implemented in the course of 24 months. The project aims to improve climate change adaptation planning and strengthen institutional coordination; generate evidence for designing solutions for adaptation to climate change, as well as involve the private sector in the implementation of national adaptation measures⁵⁰.

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Additionally, the Republic of North Macedonia participates in several regional projects funded through the GCF⁵¹, including the “[Green Cities](#)” project, which aims to enable low-emission urban development and climate resilience of cities in the nine countries beneficiaries of the project. The project was approved in October 2018 and is projected to last 23 years, and is being implemented with the support of the European Bank for Reconstruction and Development, with the participation of national and local authorities of beneficiary countries. The total cost of this project is USD 592 million. Additionally, North Macedonia, with 42 other countries around the world, is a beneficiary of funds for technical assistance⁵² and capital⁵³ from the so-called GCF Global Sub-National Climate Fund. The Sub-National Climate Fund is designed primarily to boost private sector investment and enable climate and sustainable solutions at the local and national level.

In October 2021, the country became part of the Green Climate Fund’s Refrigeration Equipment Financial Instrument, one of the world’s first of its kind (total budget: USD 879.8 million) aimed at providing refrigeration solutions in nine countries, including North Macedonia. The measures include financing investments in innovative technologies and refrigeration systems that do not pollute the environment, as well as creating a favourable environment by strengthening institutional, policy and regulatory frameworks and building capacities of key stakeholders on technologies, business models and evaluation and implementation of refrigeration projects⁵⁴. The project will be implemented by the World Bank as an accredited entity.

⁴⁹ National Designated Authority for the GCF of North Macedonia, 2022a

⁵⁰ National Designated Authority for the GCF of North Macedonia, 2022a

⁵¹ National Designated Authority for the GCF of North Macedonia, 2022b

⁵² National Designated Authority for the GCF of North Macedonia, 2022b

⁵³ National Designated Authority for the GCF of North Macedonia, 2022b

⁵⁴ GCF FP177 Cooling Facility, 2022.

7.3 The position and the role of the National Designated Authority

The Cabinet of the Deputy President in charge of Economic Affairs, Coordination of Economic Sectors and Investments is the National Designated Authority (NDA) for the Green Climate Fund. Its key function is to serve as an official point of communication with the GCF and to ensure ownership of the state of all activities funded by the GCF in North Macedonia.

The Cabinet is responsible for full coordination of economic sectors in national institutions and their alignment with national priorities, strategies and policies. The Cabinet is also responsible for coordination and implementation of the activities arising from North Macedonia's agreements with the relevant international financial and economic institutions, for coordinating the implementation of processes related to structural reforms and for determining impacts of legislation on the business community in the country.

The responsibilities of the NDA are:

- to exercise strategic oversight;
- to convene national stakeholders in order to identify GCF funding priorities;
- to cooperate with public, private and civil sectors entities that need to be accredited by the GCF and nominate such entities to be accredited for direct access;
- to implement the “No-Objection” Procedure for the project proposals for GCF funding;
- to coordinate and manage funds from the GCF Readiness and Preparatory Support Programme.

7.4 “No-Objection” procedure in the Republic of North Macedonia

The Green Climate Fund will accept project proposals for financing on a rolling basis, as well as by publishing calls for submission of project proposals. Access to GCF resources implies preparation of a pipeline of quality projects for GCF funding, focusing on the national climate and development priorities of North Macedonia. Before submitting a project proposal for funding to the GCF, the NDA implements a national process for developing project ideas, evaluating, prioritizing and accepting project proposals. This will allow for a project pipeline to be developed through the process of bilateral and multilateral consultations with stakeholders, as well as by publishing a call for submission of project ideas every two years. The NDA will lead the process for developing projects, their prioritization and evaluation before they are submitted to the GCF, in accordance with the approved “No-objection” Procedure.

7.5 National GCF Coordination Mechanism in the Republic of North Macedonia

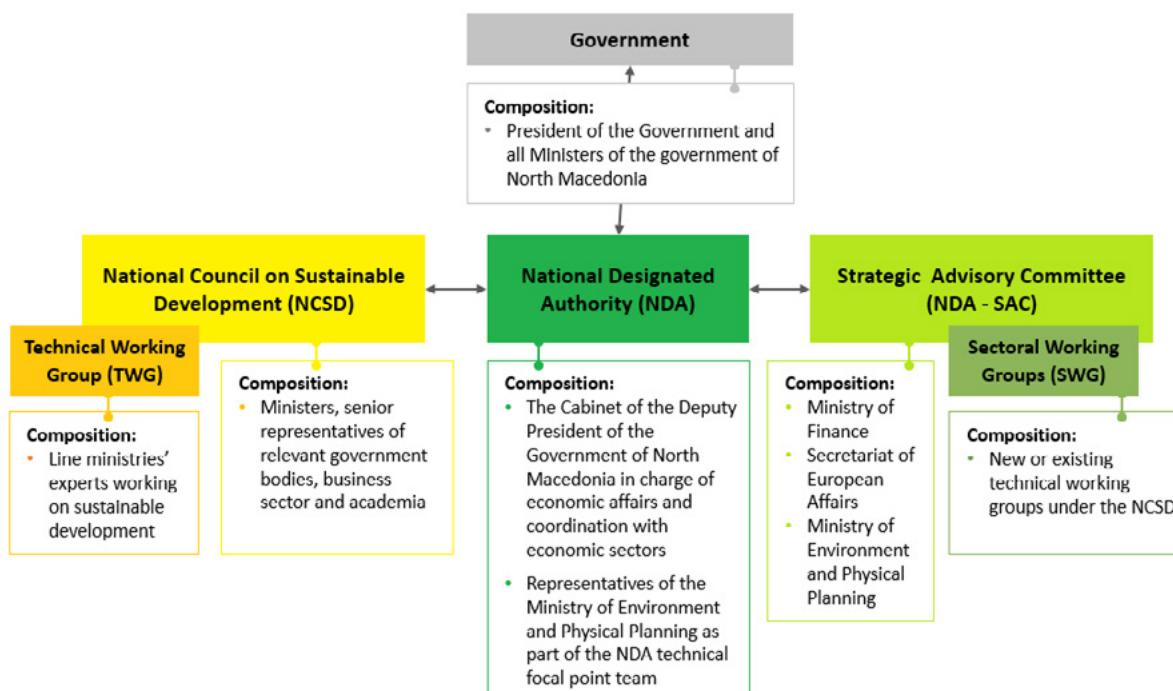
As part of its work, the NDA coordinates and communicates with all stakeholders in the country (relevant public, private and non-governmental entities, sub-national and international) to guide the process of cooperation with the GCF. This comprises the national GCF coordination mechanism.

The country coordination and prioritization mechanism ensures systematization of stakeholder involvement and of the decision-making process. The mechanism assists the NDA in effective implementation of tasks, especially in the identification of priorities for GCF funding, as well as in the preparation of the National Country Work Programme, implementation of the “No objection” Procedure, nomination of direct access entities and other functions.

The following institutions are represented in the National GCF Coordination Mechanism:

- Government of the Republic of North Macedonia;
- National Designated Authority (NDA);
- Strategic Advisory Committee (NDA-SAC);
- Sectoral Working Groups (SWG);
- National Sustainable Development Council (NSDC).

Figure 12. Structure of the GCF Coordination Mechanism in North Macedonia



Source: FAO, 2019

7.6 Green Climate Fund climate finance statistics

The GCF supports mitigation and adaptation projects that will shift the country's development towards low-emission development and/or climate resilience. It cooperates with both the public and private sector for investments that foster transformation and focus on climate. Of the 190 projects funded by the GCF, 151 project (66 percent) receive funding for the public sector, while 39 projects (34 percent) receive funding for the private sector. Of the total number of projects, 32 projects are of large companies, while the remaining 158 projects focus on micro, small and medium-sized companies. The GCF offers 41.6 percent of the funds in the form of grants, 43.4 percent as concessional loans, 2.4 percent as guarantees, 5 percent of the funds in the form of payments based on results and 7.6 percent in the form of capital for project financing. The Fund also provides additional grants for the preparation of project proposals for funding, as well as for Readiness and Preparatory support for states to access the GCF resources.

Figure 13. GCF Funding Structure



Source: GCF, 2021

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The financial instruments for the public and for the private sector are determined individually. Grants are adjusted according to the incremental (differential) costs or according to the risk premium required to achieve the sustainability of the investment, or to cover the costs of specific activities such as technical assistance. The recipient's borrowing capacity is also taken into account. The level of concessionality (preferential rates and conditions) should not prevent investments that would otherwise occur, including private sector investments.

7.7 Green Climate Fund Private Sector Fund

The GCF aims to stimulate private investment through its Private Sector Fund (PSF) and to overcome obstacles for the private sector by insuring climate-related risk. It also seeks to foster mobilization of additional funding.

The Private Sector Fund's mission is to engage the local and global private sector to support climate change adaptation and mitigation projects in developing countries. Through active involvement with Accredited Entities, the PSF can act as a catalyst for financing transformative, innovative climate projects and activities in developing countries.

The GCF Private Sector Fund promotes private sector investment through:

- concessional loans such as low-interest loans and long-term loans;
- credit lines from banks and other financial institutions;
- capital investments and risk mitigation guarantees;
- protection against first loss and grant-based capacity-building.

7.8 Green Climate Fund private sector engagement conferences

The Green Climate Fund since 2018 has held four annual conferences on private sector engagement in climate investment.

The first annual GCF conference was held on 10 to 11 October 2018 in Incheon, Republic of Korea. The two-day “Private Climate Investments” conference addressed the need to capture the energy and entrepreneurship of businesses in addressing climate challenges and it was organized immediately after the publication of the [UN report](#) which emphasized the urgency of actions needed to keep global warming below 1.5°C. The conference gathered more than 600 people from over 120 countries to learn about opportunities to unlock private sector funding.

At this conference, while talking about challenges and opportunities for climate investment, it was concluded that: companies find it difficult to obtain funding, in many countries there are no regulations on this topic or if there are they are not appropriate, there are no economic incentives for transition to new technologies, that it is necessary to identify opportunities for co-financing climate-resilient investments, it is necessary to invest in companies with innovative technology, that there is a huge need for investments in climate change mitigation and adaptation, and that the tools offered by the GCF could help reduce the investment risk and mobilize domestic and international private investors.⁵⁵

The Second Annual GCF Conference on Climate Investment of the Private Sector was held in the period 7 to 9 October 2019, in Incheon, Republic of Korea. With 94 speakers and 23 panel sessions, the three-day event drew over 500 guests coming from over 100 countries, providing a global marketplace and ecosystem for leading private sector actors to come together and accelerate climate action in developing countries.

The conference focused on a number of key areas considered vital for increasing the role of the private sector in addressing the increasingly urgent need to finance climate action around the world. This included how to leverage trillions of dollars held by institutional investors, overcoming regulatory and market barriers, unlocking the potential for private investment in forestry and land use, as well as in e-mobility, fostering innovative participation

⁵⁵ GCF private investment climate conference, 2018

in incubators and accelerators, expanding the scope of climate bonds and insurance products, and withdrawing debt and capital to foster green transition.⁵⁶

The Third Annual GCF Conference on climate investment of the private sector was held on 14 to 16 October 2020 and explored how to generate private sector investments in bold solutions addressing the dual challenges of climate change and the COVID-19 pandemic.

By bringing together leading private and public sector actors - including financial institutions, governments, project developers, climate leaders and development banks - this virtual gathering enabled the timely sharing of experiences, innovations and best practices to increase public-private partnerships.

The conference was an important link with global policy dialogues, in particular with the "Initiative for Financing Development in the Age of COVID-19 and Beyond", and the UN Climate Change Conference in 2021 (COP 26). Investors at this conference labelled the COVID-19 pandemic as a wake-up call for efforts to shift portfolios towards climate-friendly investments.⁵⁷

The fourth annual GCF conference on private sector climate investment took place in the period 18-19 October 2021. As the world struggles to cope with the dual crises of global warming and COVID-19, the need to leverage financial flows for positive change has never been greater. The world's largest Green Climate Fund is ideally placed to catalyse entrepreneurial ideas from the private sector and explore how the range of green finance can be expanded.⁵⁸

Climate investments are investments by the private or public sector aimed at climate change adaptation or mitigation, which also bring a financial return to the investor.

⁵⁶ GCF private investment climate conference, 2019

⁵⁷ GCF private investment climate conference, 2020

⁵⁸ GCF private investment climate conference, 2021



8. The private sector in the Republic of North Macedonia – potential for climate investments



The private sector can choose a strategic approach to integrating climate investment, thereby building its resilience, positioning itself as a responsible actor contributing to addressing climate change and boosting its own reputation. As climate investors, the private sector entities are generally driven by market returns, although in some cases they also focus on impact in combination with the return. In rare cases climate investors do not expect typical market returns. The types of climate investors are shown in Table 5.

Table 5. Types of climate investors and expected return on investment

Climate Investor Type	Expected return on investment
Real sector (corporations, private companies)	Market return
Commercial banks	
Institutional investors (pension funds, insurance companies, independent funds, other equity managers)	
Bilateral, multilateral, national development banks (departments focused on the private sector)	Quasi (mixed) return
Impact Investors (focus on impact and return)	
Impact Investors (do not require return)	
Family Offices/ Philanthropists/ NGOs	Sub-market return
Bilateral, multilateral, national development banks (departments focused on the public sector)	
Governments	

Source: [World Bank, 2021](#).

This Manual will further present the key policies supporting private sector climate investment in the Republic of North Macedonia, as well as the key findings on the level of awareness, challenges and opportunities for the private sector climate investment in the Republic of North Macedonia based on research carried out under this Project (2020/2021). In addition, the Manual will reveal key methods used by private companies and portfolio managers to integrate climate investment into their work and we will give concrete recommendations for improving these processes and building synergies with the public sector.

8.1 Key policies and strategic documents covering Macedonian Government support to private sector climate action and climate finance

The main policy documents directly related to Macedonian Government's support to private sector development efforts and the provision of financial resources that could be relevant to the private sector's climate activities, include: Economic Growth Plan translated into the [Law on Financial Support of Investment Industrial Strategy](#), [National Small and Medium-Sized Enterprises Strategy](#), [Strategy for Smart Specialization](#) and [Law on Free Economic Zones](#).

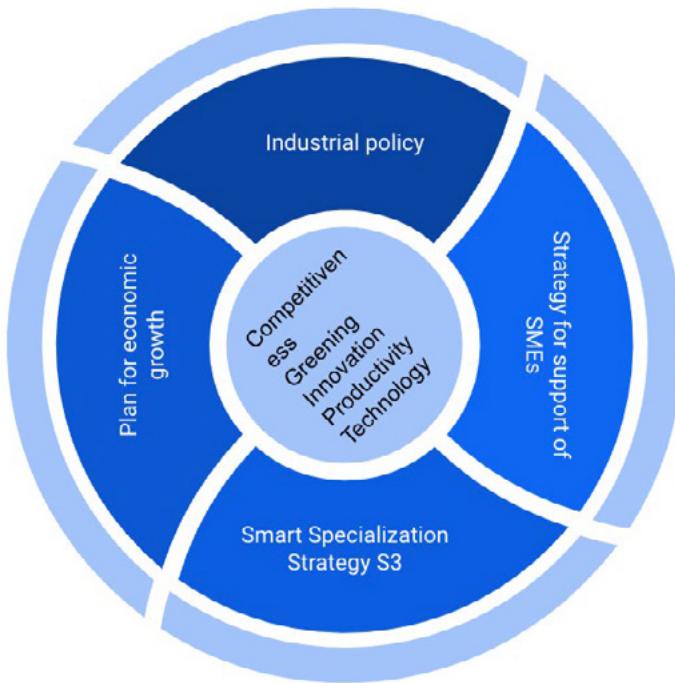
Table 6. Key documents of the Republic of North Macedonia stipulating support for private sector development

Document	Goals	Responsible Institution
Law on Financial Support for Investments in the Republic of North Macedonia (adopted in 2018, amended in 2019 and 2021)	Boosting economic growth and development of the Republic of North Macedonia, support for private sector investment to increase the competitiveness of the economy and create employment	Cabinet of the Deputy Prime Minister in charge of Economic Affairs Directorate for Technological Industrial Development Zones (for investment projects in technological industrial development zones) Agency for Foreign Investment and Export Promotion (for investment projects outside technological industrial development zones)
The Industrial Strategy of the Republic of North Macedonia 2018-2027, with Action Plan	Strengthening the foundations of the processing industry Increasing productivity, innovation and technology transfer in the processing industry Catalysing green industry and green processing Stimulating export of processed products Building a processing industry that stimulates learning Implementation and coordination between sectors	Ministry of Economy

Document	Goals	Responsible Institution
The National Small and Medium-sized Enterprises Strategy (2018-2023)	<p>A framework for cooperation between public and private sector stakeholders and civil society in order to support the development of SMEs, support innovation and improve their competitiveness.</p> <p>Favourable business environment: to create a favourable business environment that encourages entrepreneurship and innovation.</p> <p>Increasing and improving the opportunities for growth of SMEs: to help SMEs become highly productive and competitive participants in the European and other international markets.</p> <p>Dynamic ecosystem for entrepreneurship and innovation: To boost North Macedonia's economic competitiveness by increasing the entrepreneurial and innovative capacity of SMEs</p>	Ministry of Economy
The Smart Specialization Strategy 3S – under development	Identifying priority innovative and growing sectors with development potential as per the methodology of the European Union Joint Research Centre	Working group led by the Ministry of Education

Looking at these key documents as drivers of government's efforts to support the private sector, following overlaps or joint commitments have been identified:

Figure 14. Overlaps or joint government commitments in support to the private sector



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Source: Author's own elaboration

In all documents, there is an attempt to improve the country's competitiveness, enable innovation, improve productivity and facilitate technology transfer, while also using more green and expanding technologies. However, all documents apply a slightly different approach in trying to achieve this goal, and still they are complementary to each other, creating a valuable and comprehensive framework for the government's efforts to develop the private sector.

- **Economic Growth Plan of 2018** aims to enhance competitiveness of the Macedonian economy by focusing on horizontal support for improving technology, commercialisation of innovation, employment of highly skilled workers and by improving the overall success of existing companies, investment in research and development and expansion to new markets.
- **Industrial Strategy 2018-2027** aims to improve competitiveness by strengthening the foundations of the country's processing industry, by introducing a green industry and knowledge-based economy, and by improving exports of the processing industry.
- **National Small and Medium-sized Enterprises Support Strategy 2018-2023** focuses on improving entrepreneurship and innovation between small and medium-sized enterprises.
- **Smart Specialization Strategy** is under development, and it aims to identify and give momentum to those sectors that are already showing competitive advantage in the country, and does so by providing a strong link between research and development and the academia (the so-called triple spiral: government, businesses and academia).

Hence, the Republic of North Macedonia on a policy level offers a solid platform to support private sector climate investment, provided they can be linked to support for climate investment. Such link can be introduced by integrating measures and activities that support climate investments in the form of grants, favourable loans, expert assistance, networking, access to knowledge and technological development.

8.2 Climate investment - challenges and opportunities for the private sector in the Republic of North Macedonia

Two surveys were carried out under the second GCF Readiness Project in North Macedonia in order to collect the immediate perceptions of the private sector with regard to challenges and opportunities for climate investment. The first survey was carried out with an online questionnaire and more than 70 companies were surveyed through the national chambers of commerce. The second survey comprised sector focus groups discussing in detail the knowledge and challenges of companies in the Republic of North Macedonia with regard to climate change, climate technology, climate finance and climate investment.

In this Manual the key findings of the research, including specific recommendations in terms of better informing the private sector on climate change, climate technologies, climate finance and investments are presented. These recommendations are focused on three key groups of actors that should support the private sector's contribution to climate action and climate investment: state or public sector institutions, financial institutions - development and commercial banks, and of course, the companies themselves.

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8.2.1 Private sector knowledge of climate change

Most of the companies that were surveyed in the research responded that their company has prepared an Environmental Protection Report, that has introduced Energy Management System ISO 9001, an Environmental Management System ISO 14001, prepared an Environmental Impact Assessment Study and a Corporate Social Responsibility Strategy, and in a few companies there is also an Environmental, Social and Corporate Governance Investment Strategy.

Only few companies are familiar with the 2030 Agenda and the Sustainable Development Goals or have a Green Strategy. Also, a small number of companies hold an IPPC (Integrated Pollution Prevention and Control) B Permit, calculate GHG emissions, have Energy Management System ISO 50001, or have activities related to green job financing. Most of the companies do not have any of the documents mentioned above, nor conduct any of the activities listed.

Although companies appear to have an overall awareness of climate change, they need better to understand its causes, implications, how to measure its effects and in particular better to understand the risks and opportunities posed by climate change for the private sector. Companies are aware of and often have experience with the effects of climate change - droughts, extreme temperatures, supply chain disruptions, etc. However, they need systematic education to recognize risks, prepare for and prevent consequences by investing in climate technologies.

The institutions of the Government of the Republic of North Macedonia may address the above mentioned challenges through the following measures and activities.

Institutions/ public sector:

- increase private sector involvement in climate change education activities, policy making, drafting regulations and climate change-related laws and strategic documents;
- implement targeted actions that should catalyse public private partnerships to address climate change and develop climate investments;
- provide specific training modules on climate change and climate finance for the private sector, by involving chambers of commerce, companies and NGOs;
- strengthen the partnership between institutions and other sectors in order to maximize efforts and harness all existing expertise and potential institutional capacity to achieve better results;
- establish a mechanism for regular public-private sector dialogue for potential joint as well as individual private sector climate investments;
- greater involvement of the private sector in the on-going activities of the Ministry of Environment and Physical Planning, the Ministry of Economy and the Office of the Deputy Prime Minister of the Republic of North Macedonia for Economic Affairs, Coordination of Economic Sectors and Investments when discussing measures aimed at encouraging and financing the private sector for climate action;
- provide detailed information to companies on Government climate action measures and opportunities for private sector involvement.

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Financial institutions - banks:

- integrate environmental and social assessment when lending to both private and public entities, together with detailed and easy-to-understand guidelines for clients;
- establish in-house training centres and organise technology-focused or sector-focused events to educate clients about climate change and climate finance, thus changing the climate investment paradigm;
- conduct marketing activities that should educate the public and citizens about climate change and climate financing.

Private sector - companies:

- organize education and training activities on climate investment through economic chambers;
- establish a database of successful climate investment examples;
- develop peer-to-peer learning models with companies from the same sector.

8.2.1 Private sector knowledge of climate technology

The research conducted under the GCF second Readiness project in North Macedonia determined that companies in North Macedonia often implement climate technologies, but do not categorize or recognize them as such, especially in the energy and agricultural sectors. Companies do not have specific departments or employees monitoring the greenhouse gas emissions generated by them, the impact of climate change on their current and future operations, and do not monitor or apply climate technologies and investments. Education about climate technologies is needed especially for companies in the agricultural sector, especially because farmers find it very difficult to accept the use of new technologies. In the transport sector, the potential of green hydrogen as a future technology needs to be considered more seriously. Transport companies in the Republic of North Macedonia are increasingly facing the challenge of decarbonisation, especially because they have to be competitive in European markets where decarbonisation targets are already being set. Most commonly applied climate technologies by companies in all industrial sectors are energy related, such as installing photovoltaic panels and reconstructing buildings in order to save energy. Finally, the IT sector is gradually being educated about climate change and its role, and they offer smart solutions, software and key technologies that should support all sectors.

Companies are aware of climate technologies when presented as such, but they do not recognize them immediately, even though they use them and invest in them. Furthermore, companies do not have access to advanced and innovative technologies that are available in advanced economies and are often unable to cover the cost of purchasing or developing such advanced technologies.

Recommendations to support companies to implement new climate technologies

Institutions/ public sector:

- In cooperation with universities, support the establishment of Research transfer offices (RTOs) which should foster cooperation between industry and the universities with a focus on climate technologies;
- Develop and integrate climate technology criteria when granting state aid, subsidies and carrying out public procurement;
- Supporting research and development (R&D) investments specifically in climate technologies (e.g. Law on Financial Support of Investments – Measure for R&D - integration of sub-measure on climate technologies with greater weighting factor).

Financial institutions - banks:

- Integrating climate technologies as a lending criterion;
- Creation of databases of suppliers of climate technologies;
- Supporting companies in the process of developing and adapting climate technologies.

The private sector:

- Connecting with institutions that develop climate technologies and knowledge: universities, laboratories, accelerators;

- Assessing technologies in use that can be replaced by small-scale adaptation and those requiring larger investments;
- Integrating the transition to climate technology in strategic planning and business development;
- Forming teams that will monitor the impact of companies on climate change, the impact reduction measures, as well as monitor and invest in technologies and solutions that contribute to reducing emissions.

8.2.3 Climate finance and climate investment

Climate finance is becoming an increasingly important topic, especially among central banks, state institutions and commercial banks. There is an increasing need to create targeted instruments and products for companies to finance their climate efforts, but this requires a multi-layered approach. On one hand, companies need to set corporate practices, mostly known as ESG standards, and thus be able to use climate and green finance. On the other hand, lenders should have a common understanding and standards for climate finance and share climate finance objectives together with their clients. Therefore, regardless whether the climate finance is provided by the state or by the banks, the products should be based on a common understanding. They should factor in the longer period of time needed for customers to receive the return on investment from climate-related projects.

Companies in the Republic of North Macedonia are insufficiently or only partially familiar with climate finance. The majority, i.e. 83 percent of companies are familiar with climate change, but 50 percent of them have no knowledge of climate finance. Companies that know about climate finance are those companies that have knowledge of climate change and many of them, about 85 percent are companies that have already invested in sustainable/climate/environmental activities. There are employees that do not know if their company is familiar with climate finance, although they work in highly innovative companies and expect less than 10 percent of the company's capital to be invested in sustainable/environmental/climate activities in the next five to ten years.

The majority, i.e. 84 percent of the companies surveyed have not participated in discussions/informative sessions, nor have they received information or materials on climate finance. The percentage of those who have been informed about climate finance through government activities, through informal conversations and via the Internet is low. Hence, there is a serious lack of content targeting companies and covering climate finance and opportunities for companies in this regard.

Only few of the companies are familiar with the Sustainable Development Goals and the Agenda 2030 and mainly these are companies that invest less than 3 percent from their annual budget in research and development. It is encouraging that many of the companies within have prepared an Environmental Protection Report, have introduced Energy Management System ISO 9001, an Environmental Management System ISO 14001, have prepared an Environmental Impact Assessment Study as well as a Strategy for Corporate Social Responsibility.

Many companies have invested in sustainable/climate/environmental activities, such as recycling, energy generation from the sun/wind/water, wastewater treatment, water treatment, plant protection, electric vehicles, irrigation systems, use of natural gas for transport, and have addressed air pollution. These companies have invested in sustainable/climate/environmental activities in order to reduce the company's costs, to enable the transition to green investments,

have corporate social responsibility, achieve compliance with laws and have better position on the market. Although they have invested in sustainable/environmentally friendly/climate-friendly activities, companies would still invest less than 10 percent of their capital in the next 5 to 10 years for this purpose.

Companies also believe they are innovative, most of which innovate in products and processes, and a significantly smaller part try to patent the same. On average, innovative companies allocated just over 10 percent of the annual budget to research and development. When it comes to assistance in the development of technologies, most of the companies have cooperated with the Fund for Innovation and Technological Development, but also important is the cooperation with experts from the country and abroad, use of consultancy companies from the country as well as cooperation with academic institutions and universities.

With regard to the use of financial resources, companies in the past have mostly used financial resources from the Fund for Innovation and Technological Development of North Macedonia, commercial banks, European Bank for Reconstruction and Development, support from the Ministry of Economy, support under the Law on Financial Support of Investments, loans from the Development Bank of North Macedonia, but there is also a large portion of companies that have financed themselves only with their own funds.

Many of the companies, when investing in climate-related technologies, were increasingly using their own capital, state financial assistance, as well as funds from development banks. Companies were most motivated to invest in climate-related technologies because of availability of state aid, in order to improve the company's reputation and to use tax incentives/exemptions, but there are also companies that were motivated by clear guidance given from state institutions, simpler procedures, guidance from development banks on types of financial products/instruments, and due to networking with government institutions and climate action initiatives. However, companies also faced certain barriers such as lack of own funds, untimely access to information, but also lack of understanding of climate finance (adaptation and mitigation) and ambiguities in domestic laws.

Several key challenges/issues were identified at the focus group discussions on climate finance and climate investment, carried out under the second GCF readiness project in North Macedonia, including:

- Poor communication between companies and public institutions with regards to investments and their impact.
- Benefits of climate investment are often unknown.
- Companies have not developed methodologies to measure their contribution to climate activities.
- Economic chambers are not sufficiently informed.
- Climate issues are not high on the list of priorities when companies design solutions.
- Heavy bureaucratic procedures (several ministries need to be consulted, a lot of approvals need to be obtained and companies are discouraged).
- High interest among companies to conduct joint projects with other companies.

Institutions/ public sector:

- Introduction of green public procurement accompanied by training for companies.
- Climate criteria should dominate when allocating state support for the private sector.
- Working with public companies to finance climate investments.
- Increase in the number of financial instruments available to the Innovation and Technological Development Fund directly targeting projects that simultaneously focus on innovation and climate/green investments.
- Embedding a green and climate investment component in the Law on Financial Support of Investments.
- Creating a portfolio of public-private partnerships for climate investments, and a portfolio of private climate investments with state support.
- Financial awards for climate investment champions.
- Continuous flow of information on the possibilities for financing research and development, as well as on innovation activities through donor programs, which address climate change.
- Supporting private investment funds investing in climate and green investments of the private sector to reduce financial risks.
- Reduction of corporate taxes for companies investing in climate and green investments.

Financial institutions - banks:

- Establish specific climate and green finance schemes for SMEs and large enterprises.
- Facilitate access to capital for companies that have the potential to develop climate technologies through targeted financial products, possibly in cooperation with international financial institutions.
- Integrate ESG standards in assessing the creditworthiness of companies.
- Provide companies with access to new, additional climate investment funding in order to reduce risk and mobilize private green capital.

8.2.4 Private sector climate investments and the Green Climate Fund

During the GCF related research and events under the GCF Readiness Programme in North Macedonia, it was determined that the structure and operation of the GCF and its relevance to the end user - in this case the private companies - are often unclear. Private sector entities are not familiar with the way international financial institutions and funds operate, which often impedes constructive discussion. This challenge should be taken into account and a more tangible and simplified way of explaining the GCF to private sector is necessary.

Institutions/ public sector:

- Institutions, especially the NDA, should work to further engage the private sector in any GCF related activities, to create a common knowledge and understanding that projects targeting GCF funds should be developed jointly by the public and the private sector.
- The NDA may appoint a person responsible for the private sector, available on a regular basis for consultation with the private sector, and inform the private sector entities of any activities related to companies or projects where there is a possibility to access GCF funds.

- Promote the private sector tool in partnership with the national Chambers of Commerce to facilitate a better understanding of climate action, climate finance, climate investment and the GCF.
- Establish public-private climate dialogue as a mechanism for constant discussion regarding joint efforts on climate investment of both public and the private sector and building synergies.

Financial institutions - banks:

- The NDA should regularly work with banks as the main channel for connecting the needs and the funds and a catalyst for climate and green investment by the private sector, which should use GCF funds.
- The banks should, potentially through the Macedonian Banking Association, be in continuous dialogue with the other International Financial Institutions, the GCF and the NGOs to take advantage of the opportunities for accessing the GCF funds and offer them to the final clients – companies.
- Commercial banks should co-operate with the GCF to increase representation of climate investment in their portfolio.

8.2.5 Environmental, Social and Governance (ESG)-themed funds and impact investments - platform for private sector climate investments

Globally, climate investment can be monitored most often through the so-called Environmental, social and governance (ESG)-themed investments or through impact investments. These are two concrete methods that can serve as a model for jointly setting climate investment targets between the public sector, the banks and the private sector.

Environmental, Social and Governance (ESG) investments performance (JP Morgan Asset Management, 2022) are investments that take into account and measure environmental, social and management-related indicators, i.e aim to help the environment and promote social good, which can positively affect an investor's performance.

Environmental factors relate to the quality and performance of the natural environment and natural systems, for example, carbon emissions, environmental regulations, water stress and waste. Social factors relate to the rights, well-being and interests of people and communities, e.g. workforce management, occupational health and safety of employees and customers and product safety. Management factors relate to the management and supervision of companies and other entities in which investments are made, for example, the management board, ownership structure and salaries.

Investment portfolio managers and investors can apply two approaches to ESG investments (JP Morgan Asset Management, 2020), including:

- 1) **ESG integration** – First, ESG financial material factors can be used to generate increased risk-adjusted yields. This approach is often called ESG integration. This means systematic inclusion of financial material ESG factors in investment analysis and investment decisions, in order to improve risk adjusted long-term financial yields.
- 2) **ESG sustainable investments** - Secondly, when investors with their investments want to go further than ESG integration, a wider range of ESG indicators are used to achieve concrete sustainability-related results, by giving greater weight to sustainability indicators,

evaluating portfolios or investments against sustainability criteria and selecting investments that may be, but not necessarily are completely financially cost-effective. They are usually classified as “sustainable investment strategies”.

Impact investing (II) means investing financial assets or investment capital in order to generate a specific positive societal or environmental impact and financial benefits. The term began to be used in 2007, however, the concept itself has been practiced since much earlier, which is why II is often seen as a continuation of philanthropy. Often this term is also used as a synonym for the so-called responsible investment, ESG Investment (Environmental, Social and Corporate Governance Investment) or sustainable investment. A similar type of investment focused on the social aspects is the so-called SRI – Socially Responsible Investment.

An Impact Investor is a term that comes from the private financial sector and refers to any individual or organization that has simultaneously a particular mission for positive social impact and a market-based strategy. This means that in addition to the focus on the product, sales and profits, the investor also wants to achieve some positive social impact. Impact investors can be individuals, private companies, institutions, investment funds, private foundations, banks, pension funds, financial institutions for community development, corporations, banks as well as government entities.

Individual or institutional investors can align investments with their values – for example, a company can evaluate the environmental responsibility of other companies in its supply chain. An example of impact investment is also an investment of the public or private sector in NGOs working with certain communities, investments in clean technologies, investments in renewable energy sources with a positive impact on the environment or investment in educational programs for vulnerable categories.

Most often, a motive for II of companies is their Corporate Social Responsibility (CSR) Strategy, a sense of duty to the community, or a concern for a particular local community. The type of positive impact or generally the impact from a particular II depends on the industry and the sector. Most impact investors expect the amount of return on the investment within market margins and expectations, or to some extent below the market level of return.

The potential for impact investing globally is high and the topic of impact investing is becoming global, especially having in mind challenges as climate change, pandemics, poverty, insufficient access to basic resources such as water, heating, limited access to quality education of vulnerable groups, insufficient participation of women in the management of institutions and businesses etc. Such challenges can to a large degree be addressed through impact investing. From 2012 to 2018, impact investments grew from USD 11 347 billion to USD 30 683 billion globally, which is almost 200 percent growth in six years.

The trend of impact investing is growing, but given the size of societal and environmental problems, this growth requires more attention and acceleration.

Finally, awareness of the social impact of investing is also raised between the private and public sectors.

The challenges and recommendations presented are given to guide policy makers in the Republic of North Macedonia, especially the institutions that want to contribute to climate adaptation and mitigation.

Many of the proposals can be integrated into existing action plans, because as stated, Republic of North Macedonia has a set of economic policies that provide a basis for catalysing climate action by the private sector. In order to support these efforts, there is room for innovative policies and solutions. These can help accelerate the process and encourage joint action as a response to the effects of climate change where the private sector is not only a participant but a leader in climate action, and state institutions create an enabling environment for this key role of the private sector through their policies and funding.

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