



Intersessional Meeting of the Clean Technology Fund (CTF) Committee

Virtual

Wednesday, March 20, 2024

NORTH MACEDONIA (ACT) INVESTMENT PLAN



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CTF/TFC.IS.4/02
March 14, 2024

PROPOSED DECISION

The CTF Trust Fund Committee, having reviewed the *Investment Plan for North Macedonia for the CIF Accelerating Coal Transition (ACT) Investment Program, (CTF/TFC.IS.4/02)*, endorses the Investment Plan as a basis for the further development of the projects foreseen in the plan and takes note of the total requested funding of USD 85 million (inclusive of project preparation grants and MPIS), to support the following projects:

- Project 1: Retiring Coal Assets and Repowering with Renewable Energy
USD 56.8 million for the following components broken down as below:
 - USD 25.5 million for Component A - Powerplant Retirement, Mine Remediation and Repurposing
 - USD 1.8 million for Component B: PROSPECT - Providing Renewable Opportunities through Solar and Education in Coal Territories
 - USD 29.5 million for Component C: PowerHub - Grid Strengthening, Batteries, Training for Tomorrow
- Project 2: Socio-economic Regeneration of Pelagonia and Southwest regions
USD 14 million for the following components broken down as below:
 - USD 4.65 million for Component A: Green & Growth programme for SMEs
 - USD 6 million for Component B: Revitalise - Industrial Zones for Economic Regeneration
 - USD 3.35 million for Component C: Climate-smart Economic Regeneration programme
- Project 3: Energy efficiency, clean heating, and distributed generation programme.
USD 14.2 million for the following components broken down as below:
 - USD 5.6 million for Component A: ECOBOOST - Empowering Coal Communities with Efficient and Renewable Lending
 - USD 8.6 million for Component B: EcoCommune - Community-Centric Clean Energy Initiative



Република Северна Македонија
Republika e Maqedonisë së Veriut
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MINISTRIA E EKONOMISË
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26 January 2024

Mr. Luis Tineo
Climate Investment Fund Interim CFO

Subject: North Macedonia CIF Accelerating Coal Transition (ACT) Investment Plan (IP) - Endorsement Request

Dear Mr. Luis Tineo,

On behalf of the Republic of North Macedonia, the Ministry of Economy (MoE) is pleased to submit this CIF ACT IP for consideration for endorsement of the CIF Trust Fund Committee (TFC). This IP, developed by the Government of North Macedonia in collaboration with multilateral development banks (MDBs), namely, European Bank for Reconstruction and Development (EBRD – lead), World Bank (WB), and International Finance Corporation (IFC), is a business plan proposing areas for ACT-financed investments and technical assistance and exploring the possibility of securing complementary co-financing from bilateral, multilateral, and private sources.

The IP is designed to proactively address associated challenges linked to the energy transition as it applies to national strategies, people and communities, and land and infrastructure. The USD 85 million in grants and concessional loans from CIF ACT funding is expected to leverage USD 471.3 million from MDBs and USD 35 million of public sector investment, as well as mobilise a further USD 85 million in private sector investment. The IP's outcomes will be pursued through the deployment of concessional funding, grants and direct investments by the public and private sector. This will be distributed across three IP components, targeting Governance, People and Communities and Infrastructure pillars: a) Component 1 - retiring coal assets and re-powering with RE; b) Component 2: Socio-economic Regeneration of Pelagonia and Southwest regions; and c) Component 3: Energy efficiency, clean heating, and distributed generation programme. This plan covers priority investment needs for an accelerated coal transition in the two most affected regions – Pelagonia and the Southwest region of the country.

The activities outlined in the IP are consistent with earlier commitments of North Macedonia in its enhanced Nationally Determined Contributions (NDC), where North Macedonia has set a target to decrease GHG (greenhouse gas) emission by 52% or achieve a net reduction of 82% GHG emissions by

2030 compared to 1990 levels. The IP activities will contribute toward the coal phase out and just transition process and the goal of reaching climate neutrality by 2050. We look forward to the continued support of CIF and the timely consideration of this IP proposal. Thank you very much for your kind cooperation.

Sincerely Yours,

Kreshnik Bektashi
Minister of Economy





Government of the Republic of North Macedonia

ACCELERATING COAL TRANSITION INVESTMENT PLAN FOR THE REPUBLIC OF NORTH MACEDONIA

-Pelagonia and Southwest regions-



Skopje, January 2024

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Abbreviations:

ACT	Accelerating Coal Transition
AD	Akcionersko Drushtvo (Joint Stock Company)
AFD	Agence Française de Développement
AQ	air quality
ASB	Advisory for Small Businesses
AU	Administrative Unit
BUR	Biennial Update Reports
CapEx	Capital Expenditure
CfD	Contract-for-Differences
CIF	Climate Investment Funds
CIFWB6	Chamber Investment Forum – Western Balkan 6
CHP	Combined Heat and Power Plant
CSO	Civil Society Organization
CSP	Competitiveness Support Programme
DBNM	Development Bank of North Macedonia
DSO	EVN Distribucija
DTIDZ	Directorate for Technological Industrial Development Zones
EBRD	European Bank for Reconstruction and Development
ECS	Energy Community Secretariat
EE	Energy Efficiency
EEA	European Economic Area
EEF	Energy Efficiency Fund
EEP	Elaborate for Environmental Protection
EIA	Environmental Impact Assessment
ENDC	Enhanced Nationally Determined Contributions
ENEF	Enterprise Expansion Fund
EEF	Energy Efficiency Fund
ERC	Energy Regulatory Commission
ESA	Employment Service Agency
ESA	Environmental and Social Assessment
ESAP	Environmental and Social Action Plan
ESM	Elektrani na Severna Makedonija
ESP	Environmental and Social Policy
EU	European Union
EUD	European Union Delegation
FEZ	Free Economic Zones
FiT	feed-in tariff
FiP	Feed-in-premium
FITD	Fund for Innovation and Technology Development
FOD	Factory for equipment and parts
FORT	Factory for maintenance, repair, and transport
G&G	Green & Growth
GCF	Green Climate Fund
GDP	Gross Domestic Product
GFF	Green Finance Facility
GHG	Greenhouse gases
GiZ	German Agency for International Cooperation
GRNM	Government of the Republic of North Macedonia

GVA	gross value added
HPP	hydropower plants
ICT	Chamber of North Macedonia
IFC	International Finance Corporation
IP	Investment Plan
IPPG	Investment Plan Preparation Grant
IPPs	Independent Power producers
IRF	Integrated Results Framework
JTD	Just transition diagnostic and roadmap
JTR	Just Transition Roadmap
LCA	Law on Climate Action
LEAPs	Local Environmental Action Plans
LQ	Location quotient
LSG	Local Self Governmental Units
LURA	Land Use Repurposing Assessment
M&R	Monitoring and Reporting
MAFWEM	Ministry of Agriculture, Forestry and Water Economy
MASIT	ICT Chamber of North Macedonia
MDBs	Multilateral Development Banks
MED	Ministry of Education
MEMO	National Electricity Market Operator
MEPSO	Electricity Transmission System Operator of North Macedonia
MF	Ministry of Finance
MIZ	municipal industrial zones
MLSP	Ministry of Labour and Social Policy
MoEPP	Ministry of Environment and Physical Planning
MoES	Ministry of Education and Science
MSMEs	medium-sized enterprises
MTC	Ministry of Transport and Communications
NC	National Communications
NDC	Nationally Determined Contributions
NEAP	National Energy and Climate Plan
NECP	National Energy and Climate Action Plan
NGO	Non-governmental Organisation
NIC	National Investment Committee
NTS	Non-technical Summary
OECD	Organisation for Economic Cooperation and Development
OEMVP	Economic Chamber of North-West Macedonia
OG	Official Gazette
PAP	Project Affected People
PEEB	Energy Efficiency in Buildings
PIT	Personal Income Tax
PIU	Project Implementation Unit
PP	Power Plant
PPAs	Power purchase agreements
PPCA	Powering Past Coal Alliance
PR	Performance Requirements
PSEEP	Public Sector Energy Efficiency Project
PV	Photovoltaics
PVPP	Photovoltaic Power Plant
R&I	research and innovation

RCF	Regional Challenge Fund
RCVET	Regional Vocational Education and Training Centers
RE	renewable energy
REEP	Regional Energy Efficiency Programme
REMIT	Regulation on Wholesale Energy Market Integrity and Transparency
RES	Renewable Energy Sources
RNM	Republic of North Macedonia
RSPV	rooftop solar PV
SDC	Swiss Agency for Development and Cooperation
SDG	Sustainable Development Goals
SEA	Secretariat for European Affairs
SEP	Stakeholder Engagement Plan
SOEs	State-Owned Enterprises
SPP	Single Project Pipeline
SSE	State Secretary for Energy
SSO	State Statistical Office
TFC	Trust Fund Committee's
TIDZ	Technological Industrial Development Zone
TPP	Thermal Power Plant
TPPs	Thermal Power Plants
TSO	Transmission Service Operator
UCPTE	Union for the Coordination of Production and Transmission of Electricity
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
VAT	Value Added Tax
VET	Vocational education providers
WB	World Bank
WB6	Western Balkans 6
WBIF	Western Balkans Investment Fund
ZELS	Association of the Local-Self Governments of North Macedonia

Executive Summary

1. The Accelerating Coal Transition (ACT) Program was established by the Climate Investment Funds (CIF) in March 2021 as a holistic toolkit to support countries transitioning from coal, tackling challenges linked to three pillars: governance, people and communities, and infrastructure. North Macedonia was selected as an ACT pilot country on February 1, 2023, and invited to develop an Investment Plan (IP) in collaboration with relevant CIF partner multilateral development banks (MDBs), namely, European Bank for Reconstruction and Development (EBRD – lead), World Bank (WB), and International Finance Corporation (IFC). This IP, prepared by the Government of North Macedonia, is a business plan proposing areas for ACT-financed investments and technical assistance and exploring the possibility of securing complementary co-financing from bilateral, multilateral, and private sources.

2. In its enhanced Nationally Determined Contributions (NDC), North Macedonia has set a target to decrease GHG (greenhouse gas) emission by 52% or achieve a net reduction of 82% GHG emissions by 2030 compared to 1990 levels. The mitigation actions for the energy generation sub-sector aim to achieve GHG emission reductions of 1,778 Gg CO₂-eq by 2030.¹ With the energy and climate targets for 2030, which were adopted by the Energy Community Ministerial Council in 2022 and which correspond to the targets in the National Energy and Climate Plan (NECP until 2030), North Macedonia has reaffirmed its commitment to reduce primary and final energy consumption, accelerate the use of renewable energy and reduce greenhouse gas emissions. In 2022, over 54% of the country's electricity was generated from the two coal-fired thermal power plants (TPPs): Bitola with installed capacity of 699MW and Oslomej with 125MW.² These TPPs play a key role for the country's energy security. However, they are also the biggest emitters in the country, responsible for c.2.7 million tonnes CO₂, 113,823 tonnes of SO₂, and 4,202 tonnes of dust per year.³ While the recent pandemic, geopolitical and energy crises have resulted in some delays in the closure of these plants (the NDC implied a phase-out of Oslomej by 2023 and Bitola by 2027), the country has recently reaffirmed its commitment to achieving its ambitious NDC target, primarily via complete coal phase-out before 2030. This ambition is on par with the Powering Past Coal Alliance⁴ recommended phase-out dates for Organisation for Economic Cooperation and Development (OECD) member states.

3. While North Macedonia is committed to a coal phase out, it faces several key challenges. The biggest challenge is to maintain energy security during the green energy transition. Additionally, North Macedonia belongs to the group of import dependent countries. In 2022, it imported circa 2.2 TWh of electricity,⁵ making it valuable for outside shocks. Pairing renewables with storage and other baseload solutions is essential to ensure system stability. Second, it needs to scale up the deployment of renewables and speed up grid investments to enable the displacement of coal capacities with low-carbon sources, while implementing

¹ Enhanced Nationally Determined Contributions 2021 p.17 <https://unfccc.int/sites/default/files/NDC/2022-06/Macedonian%20enhanced%20NDC%20%28002%29.pdf>

² Energy and Water Services Regulatory Commission of the Republic of Macedonia (ERC) Annual report 2022 erc.org.mk/odluki/2023.04.26_RKE_GI_2022-FINAL_ENG_VERSION.pdf

³ Reporting on Combustion Plants to the European Environment Agency (as of March 2023) <https://cdr.eionet.europa.eu/mk/eu/energycommunity/>

⁴ Powering Past Coal Alliance <https://poweringpastcoal.org/>

⁵ Energy and Water Services Regulatory Commission of the Republic of Macedonia (ERC) Annual report 2022 erc.org.mk/odluki/2023.04.26_RKE_GI_2022-FINAL_ENG_VERSION.pdf

demand side measures through energy efficiency programmes. Third, while the green economy transition is expected to create net economic gains, people, and businesses in the Southwest and Pelagonia regions may be affected unevenly due to reliance on coal value chains. It is important to ensure the transition is just by providing socioeconomic opportunities to people employed in coal power plants, mining, and relevant supply chains (currently c. 5,000), as well as broader communities, including women and youth, poor and disadvantaged households. Fourth, upstream land repurposing for coal mines and decommissioning/repurposing of power plants will require support for environmental remediation. Fifth, the coal phase out and just transition process should be aligned with the goal of reaching climate neutrality by 2050, to honour the international climate commitments of North Macedonia, as currently there is no such national commitment.

4. Investment mobilisation is critical to support the enhanced NDC's emissions reduction ambition. To achieve this ambition, the enhanced NDC envisions investment of EUR 25,031 million, out of which EUR 24,862 million in energy, EUR 110 million in agriculture, and EUR 58,6 million in waste between 2020 – 2030, with circa 85% coming from the private sector.⁶ In this context, support from MDBs and the donor community is essential to scale up climate finance and enable the transition.

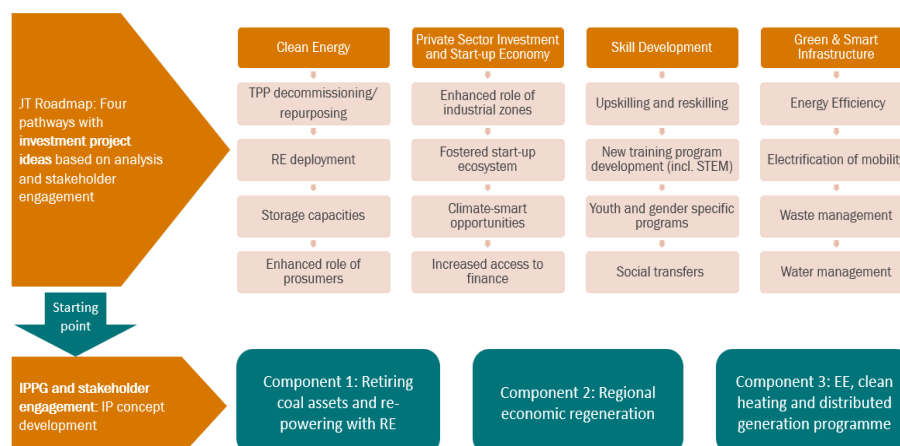
5. The Just Transition Roadmap (JTR),⁷ adopted by the Government in June 2023, provides socio-economic input into the IP. JTR introduces scenarios and socio-economic measures to ensure the transition benefits are shared and to support vulnerable regions, communities, and workers from falling behind. As a guiding document for the just transition in North Macedonia, it envisions an institutional infrastructure to coordinate and implement the just transition-related activities. Furthermore, the JTR presents four pathways for a just transition, each containing specific project ideas that served as departing point for developing this IP's components. This is particularly relevant for components 2 and 3 that focus on economic diversification of the two regions, including creation of sustainable job opportunities, as well as prioritising energy efficiency.

⁶ NDC Implementation Roadmap for North Macedonia 2020-2030 p.16

<https://api.klimatskipromeni.mk/data/rest/file/download/c86929c13f43f00f201b38ef166822904cf3568a881e997bc608433de987eb8f.pdf>

⁷ Just Transition Roadmap – Republic of North Macedonia May 2023 <https://www.economy.gov.mk/mk-MK/news/just-transition-roadmap.nspix>

Figure 1 Just Transition Roadmap Guiding development of ACT IP



6. To overcome the challenges of financing the just transition while ensuring energy security, North Macedonia presents this ACT Investment Plan, based on the following Theory of Change:

If North Macedonia takes a comprehensive approach, involving retiring coal-fired TPPs, investing in renewables, grid, and storage, promoting energy efficiency, clean heating, economic regeneration and just transition for affected workers and communities, guided by strong governance structures, *then* it can accelerate coal transition and reduce emissions and local air pollution, while ensuring energy security, fostering climate-smart and inclusive economic regeneration of Southwest and Pelagonia regions with a skilled green workforce, and empowering local communities to participate in and benefit from green transition.

7. To this end, the plan targets a financial package of USD 676,3 million. The USD 85 million in grants and concessional loans from CIF ACT funding is expected to leverage USD 471,3 million from MDBs and USD 35 million of public sector investment, as well as mobilise a further USD 85 million in private sector investment. This will be distributed across three IP components, targeting Governance, People and Communities and Infrastructure pillars:

- Project 1: Retiring coal assets and re-powering with RE
- Project 2: Socio-economic Regeneration of Pelagonia and Southwest regions;
- Project 3: Energy efficiency, clean heating, and distributed generation programme.

Table 1 summarises ACT IP’s indicative financial plan, while Figure 2 presents an expected IP impact framework. This plan covers priority investment needs for an accelerated coal transition in the two most affected regions – Pelagonia and the Southwest region of the country, acknowledging that the full country’s needs to meet NDC targets are much higher. Furthermore, the IP Components are designed as such to minimize public sector lending.

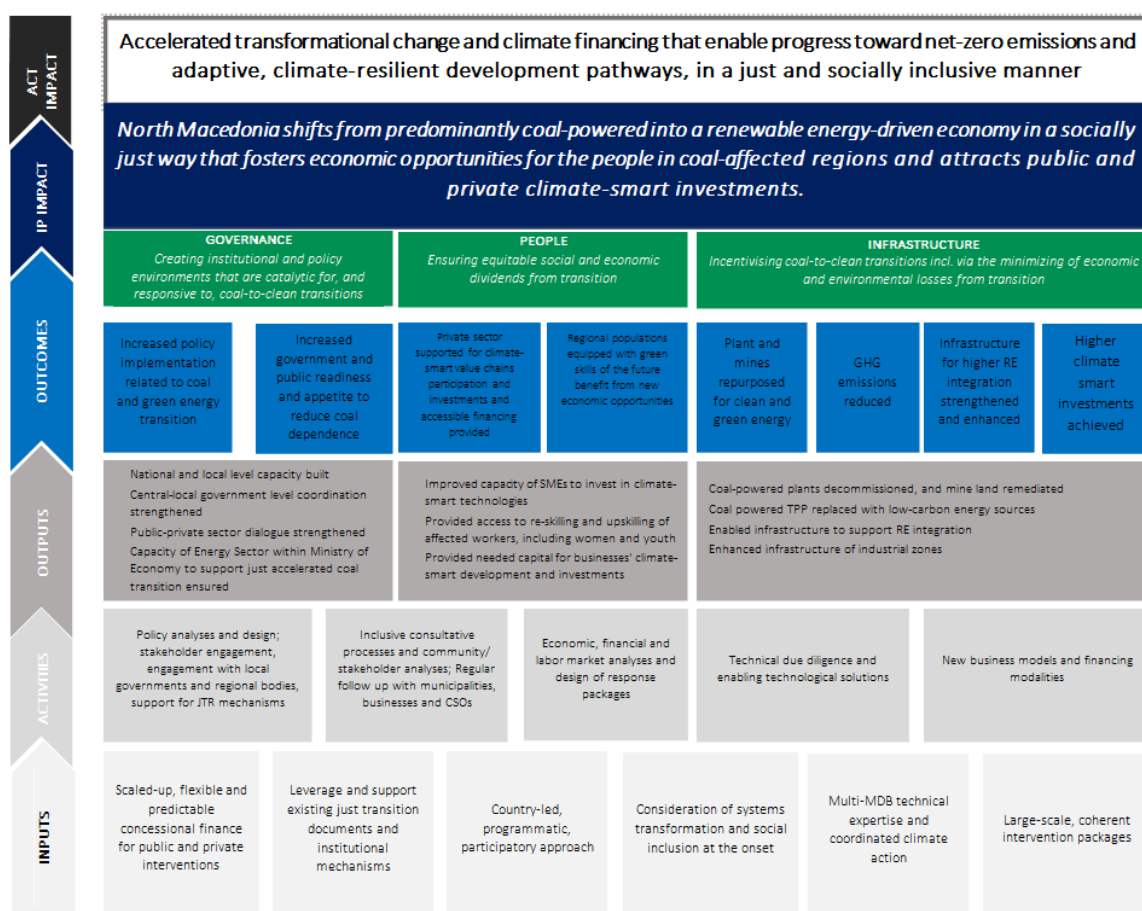
Table 1 Indicative Financial Plan for North Macedonia (USD million) *

Investment Plan Projects	MDBs	MDB share	CIF ACT	Private Sector	Gov/ SOE/ other	Total	Pillars		
							Infrastructure	People	Governance
PROJECT 1: RETIRING COAL ASSETS AND RE-POWERING WITH RE									
A: Powerplant retirement, mine remediation and mine repurposing	WB, EBRD	110	(c) 25 (g) 0,5		35	170,5	V		V
B: PROSPECT: Providing Renewable Opportunities through Solar and Education in Coal Territories	EBRD, IFC	230	(g) 1,8	75		306,8	V	V	V
C: PowerHub: Grid Strengthening, Batteries, Training for Tomorrow	EBRD, IFC, WB	75	(c) 27 (g) 2,5	10		114,5	V	V	
PROJECT 2: SOCIO-ECONOMIC REGENERATION OF PELAGONIA AND SOUTHWEST REGIONS									
A: Green & Growth programme for SMEs	EBRD	5,3	(c) 2,7 (g) 1,95			9,95	V	V	
B: Revitalise: industrial zones for economic regeneration	EBRD, WB	10	(c) 5,5 (g) 0,5			16	V	V	V
C: Climate-smart economic regeneration programme	EBRD, IFC	22	(c) 2,7 (g) 0,65			25,35		V	
PROJECT 3: ENERGY EFFICIENCY (EE), CLEAN HEATING, AND DISTRIBUTED GENERATION PROGRAM									
A: ECOBOOST: Empowering Coal Communities with Efficient and Renewable Lending	EBRD	8	(c) 5,6			13,6	V	V	
B: EcoCommune: Community-Centric Clean Energy Initiative	WB	11	(c) 8 (g) 0,6			19,6	V	V	
IP Total		471,3	(c) 76,5 (g) 8,5	85	35	676,3			

*Any financial commitments from the Investment Plan Components, especially the funds that will be borrowed from MDBs as well as the CIF funding that will be channeled through MDBs, will always be subject to separate contractual arrangements defining the applicable terms and conditions, to be entered into in accordance with the respective mandates, and the laws, rules, regulations, policies and procedures applicable to the respective Parties signing the agreements therefore.

MDBs should strive to minimise the public lending costs, given the financial position of the country, while acknowledging the need for public sector lending in some transactions.

Figure 2 ACT IP Impact framework North Macedonia



8. ACT IP is complementary and builds upon the related efforts of involved MDBs and other development partners. For example, the **EBRD** has been investing in coal mine land repurposing to solar PV and grid upgrades; it has been also channeling financing to local SMEs, and for residential energy efficiency via partner financial institutions. It also offers technical assistance support, including in decarbonisation planning for ESM, market mechanisms for RE deployment, human capital development and workforce reskilling for coal value chain employees. The **World Bank (WB)** is implementing the Public Sector Energy Efficiency Project (PSEEP) focusing on energy efficiency and renewable investments in public sector buildings including by establishing an Energy Efficiency Fund (EE Fund) under the Development Bank of North Macedonia (DBNM). WB is also preparing a new investment project to support climate resilient planning and investment by municipalities as well as air quality (AQ) improvements in targeted urban areas in North Macedonia, including municipalities of Bitola and Kichevo, combining capital investments and incentive schemes for households to replace highly polluting solid-fuel stoves and boilers with more efficient and cleaner heating options. WB has also completed a study to support the Government in designing a framework for the acceleration of rooftop solar PV (RSPV) deployment, including the design of potential financing mechanisms. **IFC** supports the Directorate for Technological Industrial Development Zones (DTIDZ) in attracting investments in advanced manufacturing sectors, targeting sustainable industrial zones to host climate-friendly industries and help local companies to better integrate into global value chains, by greening their operations. Other development partners in North Macedonia actively support the accelerated coal transition in investments, capacity building, and technical assistance (Details in Annex 6).

1. Country Context

1.1 North Macedonia's Macroeconomic and Social Overview

9. The Republic of North Macedonia is a territorially small (25,713 km²), landlocked country located on the Balkan Peninsula, with a population of 1.8 million people as per the latest census from 2021. The agricultural land covers 50% of the surface area, while forests cover about one-third of the country. The country has a diverse climate with eight climatic regions. North Macedonia is divided into eight administrative regions: Eastern, Northeastern, Pelagonia, Polog, Skopje, Southeast, Southwest, and Vardar regions, 80 municipalities plus the capital – the City of Skopje.

10. In 2005, North Macedonia started its EU accession process, which presents a top strategic priority for the country. The first Intergovernmental Conference on accession negotiations took place in July 2022, following the approval of the Negotiating Framework by the European Council. The bilateral dialogue between the EU and North Macedonia encompasses the alignment with the EU *acquis* as well as the progress on the fundamental reforms launched by the country. This reform agenda is complemented by a gradual shift to greening the economy, decreasing pollution and human impact on the environment, and ensuring integration of the regional transport and energy infrastructure with Europe. Over the upcoming period, the country is also expected to accelerate the implementation of the Economic and Investment Plan and the Green Agenda for the Western Balkans to align with the European Green Deal. Acceleration of low carbon transition and reduction of air pollution require urgent attention to enable North Macedonia's sustainable economic development, create new economic opportunities, reduce transition risks, and improve public health.⁸

11. As a European Union (EU) candidate country, North Macedonia has undergone strategic reforms. These reforms have resulted in solid macroeconomic fundamentals, job creation, and an open economy that increasingly attracts foreign investment. However, Government institutions have more challenges to tackle along the reform path, strengthen state institutions, address deficiencies in investment policies, improve business regulations and environment to leverage untapped potential of the country's geographical location and natural endowments, and enable access to a high quality of education and skills needed for the job market, and more equal access to economic opportunities.⁹

12. The macroeconomic situation in North Macedonia deteriorated substantially due to the COVID-19 pandemic and the commodity price shock following Russia's invasion of Ukraine. GDP contracted by 4.7% in 2020. Annual inflation reached 19% in September 2022, averaging 14% in 2022 and expected to be 8.6% for 2023. Despite a continuous increase in the minimum wage, effective the real wage growth turned negative in May 2022.¹⁰ Macroeconomic stability

⁸ NECP 2022 https://www.economy.gov.mk/content/Official%20NECP_EN.pdf

⁹ Republic of North Macedonia: Request for an Arrangement under the Precautionary and Liquidity Line-Press Release; Staff Report; and Statement by the Executive Director for Republic of North Macedonia. 2022 (IMF 2022) <https://www.imf.org/en/Publications/CR/Issues/2022/11/29/Republic-of-North-Macedonia-Request-for-an-Arrangement-under-the-Precautionary-and-525935>

¹⁰ EBRD Transition Report 2022-2023 North Macedonia <https://www.ebrd.com/transition-report-2022-23>

is being supported by the managed floating exchange-rate regime, backed by sizeable foreign-exchange reserves of EUR.¹¹ Real GDP growth was 2.2% in 2022 and is projected to average 2.3% for 2023 by the Ministry of Finance. Overall, economic growth remains low after taking a hit in early 2022, and consumer confidence continues to decline.¹² Industrial production declined by 2% in July 2023 as mining and manufacturing lost ground while energy production intensified.¹³ Finally, with the public debt accounting for 55.8 % of GDP in September 2023 and a projected public deficit of 4.8% in 2023, North Macedonia is below the 60% public debt ceiling and surpasses the public deficit ceiling of 3% according to the Maastricht criteria.¹⁴ This limits the country's borrowing capacity and creates an impediment to the EU accession process.

Figure 3 Budget balance and public debt – Ministry of Finance (as of October 2023)

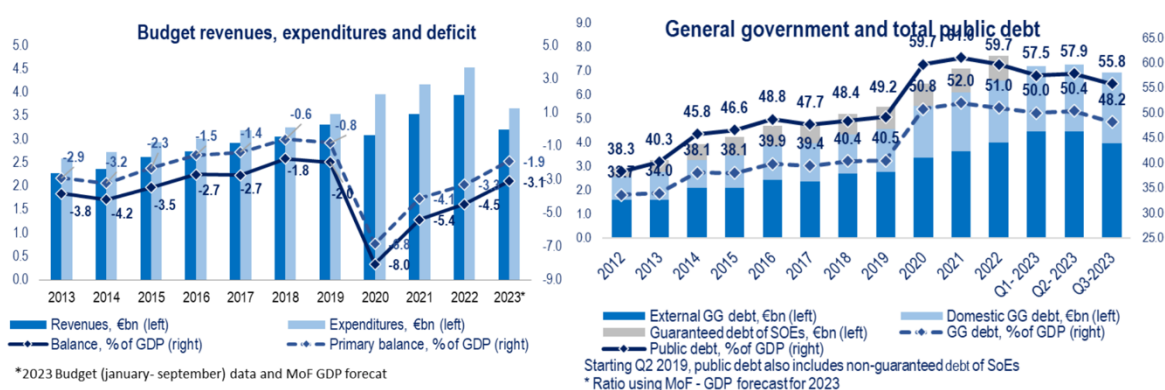


Table 2 Key Macroeconomic Indicators - Ministry of Finance North Macedonia (as of October 2023)¹⁵

Key macroeconomic indicators and projections								
	2016	2017	2018	2019	2020	2021	2022	2023*
Real GDP growth, %	2.8	1.1	2.9	3.9	-4.7	3.9	2.1	2.5
Nominal GDP, million EUR	9,657	10,038	10,744	11,262	10,852	11,690	12,898	14,396
Average annual inflation, %	-0.2	1.4	1.5	0.8	1.2	3.2	14.2	8.9
Budget balance, % of GDP	-2.7	-2.7	-1.8	-2.0	-8.0	-5.4	-4.5	-4.8
General government debt, e.o.p., % of GDP	39.9	39.4	40.4	40.5	50.8	52.0	51.0	48.2****
Current account balance, % of GDP	-2.6	-0.8	0.2	-3.0	-2.9	-3.1	-6.0	-4.2
Average unemployment rate, %	23.7	22.4	20.7	17.3	16.4	15.4	14.4	14.0
Average exchange rate MKD/EUR	61.6	61.6	61.5	61.5	61.7	61.6	61.6	61.6
Key monetary policy rate, %	3.73	3.27	2.92	2.29	1.65	1.29	2.46	5.75**
Foreign reserves, e.o.p., % of GDP	27.1	23.3	26.7	29.0	31.0	31.2	29.9	27.1***

*MoF projections, unless otherwise noted

**Average monetary policy rate for January-October 2023

***Actual for September 2023, ratio based on MoF projections

****Actual for Q3- 2023

11 Republic of North Macedonia: Request for an Arrangement under the Precautionary and Liquidity Line-Press Release; Staff Report; and Statement by the Executive Director for Republic of North Macedonia. 2022 (IMF 2022) <https://www.imf.org/en/Publications/CR/Issues/2022/11/29/Republic-of-North-Macedonia-Request-for-an-Arrangement-under-the-Precautionary-and-525935>

12IMF 2022

13 World Bank Western Balkans Regular Economic Report September 2023

<https://documents1.worldbank.org/curated/en/099101623051741490/pdf/P50064801939bc0a00a0d2077a3883b52c9.pdf>

14 World Bank Western Balkans Regular Economic Report September 2023

<https://documents1.worldbank.org/curated/en/099101623051741490/pdf/P50064801939bc0a00a0d2077a3883b52c9.pdf>

15 Ministry of Finance Monthly Newsletter North-Macedonia-Monthly-Newsletter-October-2-9.pdf (finance.gov.mk)

13. North Macedonia is an export-oriented economy, with its biggest trade partners being EU member states. In terms of product exports, North Macedonia exports mostly catalysts with precious metal or precious metal compounds as the active substance, ignition, and other wiring sets (used in vehicles, aircraft, or ships), and flat-rolled products of iron or non-alloy steel. North Macedonia predominantly imports petroleum oils and oils obtained from bituminous minerals, other metals of the platinum group and its alloys, platinum, and platinum alloys, and colloidal precious metals, compounds, inorganic or organic, of precious metals.¹⁶ According to the total external trade volume in the period January-September 2023, the most important trade partners of the Republic of North Macedonia were Germany, Great Britain, Greece, Serbia, and China. According to the State Statistical Office (SSO) data, the total value of exported goods from the Republic of North Macedonia in the period January-September 2023 amounted to EUR 6.3 billion, a 1.3% increase compared to the same period in 2022. The value of imported goods in the same period was EUR 8.3 billion, or 8.5% less than the same period in 2022. Thus, the trade deficit in the period January-September 2023 was -24.3%.¹⁷ Trade volumes by industrial category are presented in Table 3.

Table 3 Volume of export-import North Macedonia 2018-2023¹⁸

External trade grouped according to Classification of products by activity, cumulative data Value in EUR (thousand)							
Period		2023 (M01-M08)	2022	2021	2020	2019	2018
Total	export	5,502,897	8,299,582	6,969,766	5,781,084	6,433,300	5,872,484
	import	7,299,621	12,125,228	9,648,126	7,599,420	8,441,049	7,676,329
Products of agriculture, forestry, and fishing	export	206,438	276,923	267,901	260,721	271,459	231,668
	import	105,130	172,255	152,600	140,042	138,530	133,804
Mining and quarrying	export	161,716	269,565	228,639	176,441	218,921	225,627
	import	253,385	433,634	216,396	176,736	203,943	156,233
Manufactured products	export	4,905,415	7,419,424	6,308,946	5,214,822	5,808,804	5,309,836
	import	6,724,588	10,851,282	8,920,749	7,070,581	7,889,339	7,203,598
Electricity, gas, steam, and air conditioning	export	161,677	210,086	40,865	43,512	34,966	26,479
	import	139,675	579,028	280,734	154,120	135,638	113,479
Water supply; sewerage, waste management, and remediation services	export	57,858	111,130	115,584	79,405	88,265	69,387
	import	55,134	65,040	62,135	42,271	56,124	52,374
Information and communication services	export	5,523	5,748	2,915	2,980	4,639	5,561
	import	6,248	11,757	8,933	9,772	9,935	12,220
Professional, scientific, and technical services	export	1	0	0	0	12	0
	import	16	21	9	39	11	10
Arts, entertainment, and recreation services	export	232	153	139	121	1,525	87

14. Demographically, North Macedonia has an aging population. Per the latest census (2021), the total population of the country stands at 1,836,713 individuals (declined by 9% since 2002). Of these, 50% are females and 49% are males. The share of people from the age

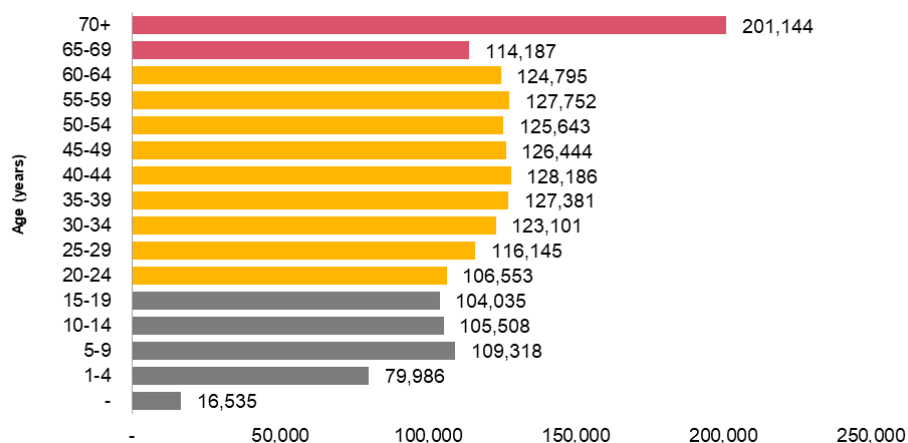
¹⁶ State Statistical Office – External Trade August 2023 https://www.stat.gov.mk/pdf/2023/7.1.23.13_mk.pdf

¹⁷ SSO External Trade January-May 2023 https://www.stat.gov.mk/pdf/2023/7.1.23.13_mk.pdf

¹⁸ SSO Export Statistics 2023 Државен завод за статистика: Стоковна размена со странство, јануари – август 2023 година (stat.gov.mk)

group over 65 increased from 11% in 2002, to 17% in 2021, while the number of households has increased as per the 2021 census to 598,632 (6% increase from 2002). The demand for eldercare that accompanies an ageing population has a particular impact on the labour force participation of women, but also on the availability of labour for market needs.

Figure 4 Population in the Republic of North Macedonia by age – SSO - Census 2021



15. At 14%, North Macedonia has historically the lowest, yet a high unemployment rate and a persistent gender gap in the labour market. The unemployment decline in North Macedonia however was due to lower activity rate (down to 55% in 2022 from 57% in 2017), instead of increased employment rate, but also a drop in female and youth unemployment.¹⁹ Still, the employment rate of young people (age 15-29) was 34%, well below the EU rate of 49% in 2022.²⁰ The most significant percentage of the active population (7%) is within the 40-44 age group (128,186 people). The second largest is the population aged between 55 and 59 (127,752). Increasingly also, people work in the services sector at the expense of agriculture. The employment gap between men and women amounts to 18% and almost twice as high as in the EU in 2022. When looking at economic participation, in 2023, North Macedonia has **low parity in economic participation and opportunity** and ranks 108 out of 146 in this parameter.²¹ The gap specially widens when looking at economic participation and opportunity in legislators, senior officers and managers. Only 21% of firms in North Macedonia have female top managers, and only 20% of firms have female majority ownership. This shows that there are not many women in leadership positions in North Macedonia. Furthermore, sharing of responsibilities within the household in North Macedonia is unbalanced. Women spend on average three times more time (3.7 hours) per

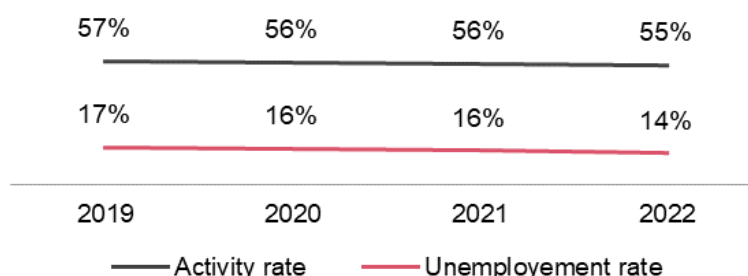
¹⁹ World Bank <https://data.worldbank.org/indicator/SI.POV.GINI?locations=MK>

²⁰ ILO 2022 https://www.ilo.org/budapest/countries-covered/fyrm/WCMS_461968/lang--en/index.htm

²¹ World Economic Forum, 2023, Global Gender Gap Report

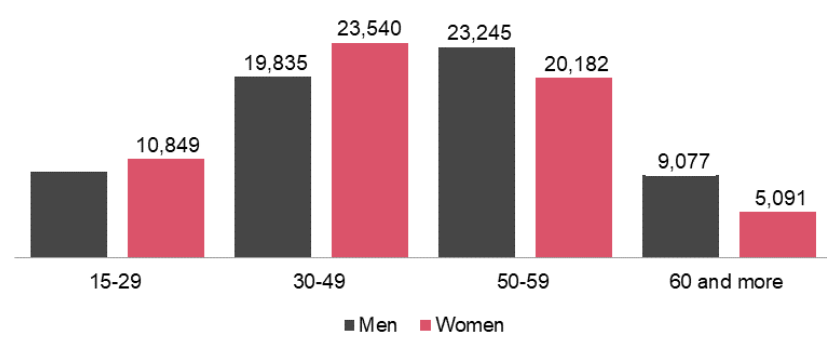
day than men (1.3 hours) on unpaid domestic and care work.²² Finally, income inequality is one of the highest in Europe (GINI 33.5 in 2019).²³

Figure 5 Activity and unemployment rates (State Statistical Office)



As per data from the Employment service agency of North Macedonia, most of the unemployed people or 43,427 are in the age group of 50-59. This can indicate that older workers in the job market are facing challenges in finding or retaining employment, as well as lower mobility across jobs and sectors. This may be due to encountering age-related biases or difficulties in adapting to changing job requirements.

Figure 6 Number of unemployed people by age, as of 30 June 2023 (Employment service agency of the Republic of North Macedonia)

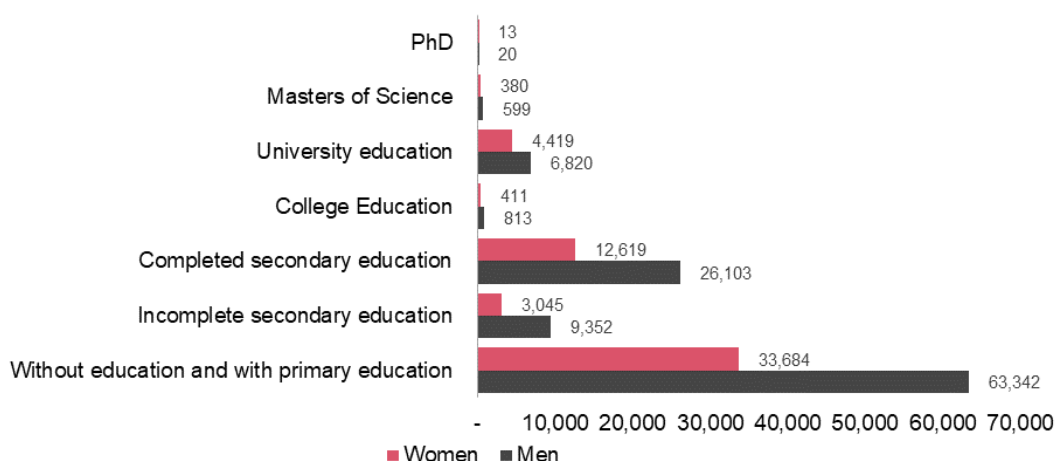


As presented in Figure 7, more than 148,000 people are those with maximum completed secondary education. This may suggest a need for policies that bridge the gap between education and job market requirements to enhance employability.

22 EBRD Gender SMART diagnostic tool

23 GINI Index – World Bank 2019 Gini index - North Macedonia | Data (worldbank.org)

Figure 7 Number of unemployed people according to their level of education as of 30 June 2023 (Employment service agency of the Republic of North Macedonia)



16. Similar to the other Western Balkan Countries (WB6), North Macedonia is facing deficit of skilled labour, skills mismatch and growing migration of workforce. In the EBRD's Business Environment and Enterprise Performance Survey, 14% of respondents deemed an inadequately educated workforce to be a major or severe obstacle to growth in North Macedonia. The skills mismatch is exacerbated by weak human capital development institutional frameworks in the country at national, regional or sectoral levels. Emigration flows toward the European Economic Area (EEA), and Switzerland saw a considerable increase from 2011 to the start of the pandemic in 2020. Permits for employment reasons were by far the fastest-growing permit category; 2019 saw about five times the number of permits issued for remunerated activities compared to 2011. While most migrants from North Macedonia in OECD countries are of working age, there is a significant share of elderly migrants, with 16% of the migrant stock aged 65 and above. About one in five Macedonian migrants in OECD countries are highly educated – the highest rate among the WB6 economies – while 38% are low-educated.²⁴ North Macedonia has also endorsed the Common Regional Market 2021-2024 Action Plan alongside all the other WB6 economies and, in addition, signed an agreement with Albania and Serbia to launch the Open Balkan initiative.

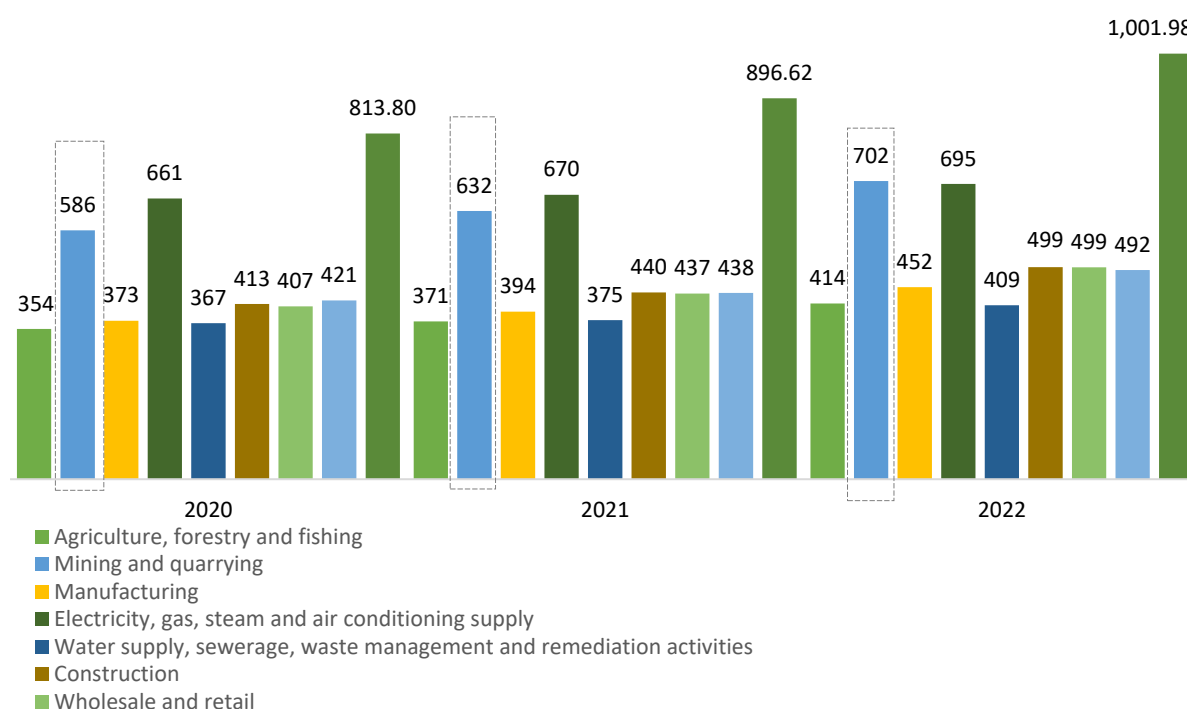
17. In 2023, North Macedonia ranked 73 out of 146 countries on the Gender Gap Index (0.711).²⁵ While North Macedonia's overall Gender Gap Index has not changed since 2020, the country's ranking has fallen. This indicates that North Macedonia has maintained its status regarding gender issues. Furthermore, as per WEF's global gender gap report 2023, North Macedonia's sub-index of educational attainment is 0.997. Female school enrolment rates, particularly in tertiary education, are higher than that of men. North Macedonia's Health and Survival sub-index is also very high at 0.960. However, North Macedonia has a low score for Political Empowerment (0.283) with a huge gap between men and women in ministerial positions. Additionally, women face **challenges to access to finance** in North Macedonia.

24 Labour Migration In The Western Balkans: Mapping Patterns, Addressing Challenges And Reaping Benefits OECD 2022, p.175 <https://www.oecd.org/south-east-europe/programme/Labour-Migration-report.pdf>

25 World Economic Forum, 2023, Global Gender Gap Report

While there are near-equal rights in access to land assets and equal rights in access to finance,²⁶ there is a wide gender gap in different aspects of access to finance. For example, only 80% of women have a bank account at a financial institution compared to 91% of men.²⁷ Similarly, more men borrow from formal financial institutions than women (20% and 24% respectively).²⁸ Moreover, women are less likely to be self-employed than men (21% of women compared with 29% of men) and own account workers (7% of women compared with 17% of men).

Figure 8 Average net salary per sector (EUR) (PwC ESM study 2023)



18. While the energy transition is expected to bring net benefits for the economy of North Macedonian, the Pelagonia and the Southwest regions of the country are expected to be affected disproportionately more by the accelerated coal transition, given they host the largest TPPs and are reliant on coal value chains. These two regions contribute with 19% to the national GDP. Yet, the socio-economic challenges present in these two regions mirror national challenges and could be exacerbated by the coal transition if not properly addressed. Gender equality gap also persist in both regions, and women participate less in the economy compared to men. Also, there are significant gender gaps in access to finance and labour practices, including women’s predominant role in unremunerated care work, reducing their ability to engage fully in the economy. Furthermore, a coal-reliant local economy with decent

26 Same.

27 EBRD Gender SMART diagnostic tool

28 Same

salaries in mining and quarrying (see Figure 8) and well-developed coal value chain can create opposition to a transition that can bring disruption to the sector.

19. Therefore, the Southwest and Pelagonia regions are the focus of this investment plan that proposes activities to turn the transition into an opportunity for these regions to spearhead green transformation in the country, attract higher added value knowledge-intensive and innovative multinational and large domestic companies, and ensure just transition. Instead of exacerbating pre-existing inequalities, these activities are used as catalysts to improve access to skills and employment for women and vulnerable groups. While North Macedonia can learn from successful just transition regions such as Ruhr in Germany, and during the process participate in knowledge exchange with other ACT countries, a successful transition in North Macedonia can later serve as a helpful case study for the rest of the Western Balkans, undergoing coal transition processes, and facing similar socio-economic trends.

1.2 National and International Climate Strategies and Plans

20. North Macedonia has dual responsibilities regarding climate change – as an EU candidate country and a developing country under the UNFCCC. Energy and Climate policies are closely interlinked, as more than 70% of North Macedonia’s GHG emissions derive from the energy sector (75% in 2019). The country’s dependence on electricity and fossil fuel imports makes the country vulnerable to fluctuations in the volatile energy markets. The international climate commitments and national climate energy actions are ambitious and set the country on the decarbonisation pathway, driven by the goal of coal phase out by the end of the decade, while ensuring energy security (Table 4).

Table 4 Summary of key National and International Climate Strategies and Plans

Climate and energy	General commitments – North Macedonia
United Nations Framework Convention on Climate Change (UNFCCC)	Non-Annex I party - no mandatory greenhouse gas emission targets.
Kyoto Protocol in 2004	Active role in global efforts for GHG emissions reductions, but no mandatory greenhouse gas emission targets.
Paris Agreement (2016 and 2018) ²⁹	Active role in global efforts for GHG emissions reductions, but no mandatory greenhouse gas emission targets.
Contracting Party of the Energy Community	Implementation of the EU climate and energy <i>acquis</i> .
Nationally Determined Contribution (NDC)	Reduce the CO2 emissions from fossil fuel combustion by 36% by 2030 compared to the business as usual (BAU) scenario. Comply with the carbon price of the EU emissions (ETS) trading system until 2027.
Energy Community 2030 climate and energy targets	82% net emissions reduction by 2030 compared to 1990 levels, share of RE at 38% and energy efficiency at 2,03Mtoe in PEC and 2,00Mtoe in FEC
Enhanced nationally determined contributions (ENDC)	51% reduction in GHG emissions compared with 1990 levels, or 82% net emissions reduction by 2030 compared to 1990 levels, including though retirement of all coal-fired power plants.
National Energy and Climate Action Plan (NECP) in 2022 (update due June 2024) ³⁰	Coal phase-out by closing the thermal power plants (824MW in total); increase the share of renewables in the electricity production mix; Reduce electricity import dependence (that reached a high 65% in 2021) and preserve the forests as the only carbon sink in the country.

29 North Macedonia National Communication (NC). NC4.2023 <https://unfccc.int/documents/627667>

30 NECP 2022 https://www.economy.gov.mk/content/Official%20NECP_EN.pdf

Four National Communications (NC) on Climate Change (latest April 2023).	North Macedonia's commitment to fulfilling its international obligations under the UNFCCC is presented in this Fourth National Communication—plans and measures for emissions reductions in key sectors.
Three Biennial Update Reports (BUR), the last being in June 2021	2050 target of a carbon-neutral continent with the EU through mainstreaming a strict climate policy and reforming energy and transport sectors.
Sofia Declaration – Western Balkan leaders ³¹	Aligning with EU Climate Law, including 2050 climate neutrality ambition, set forward-looking 2023 energy and climate targets, continue alignment with the EU Emission Trading Scheme, review and revise, where necessary, all relevant legislation to support progressive decarbonisation of the energy sector and secure full enforcement, notably through the Energy Community; increase the share of renewable energy sources while decreasing and gradually phasing out coal subsidies, actively participate in the Coal Region in Transition initiative for the Western Balkans, develop programs for addressing energy poverty and financing schemes for household renovation and providing basic standards of living.
The Energy Development Strategy (2020) (Energy Strategy) ³² – currently being redrafted	Compliance with the EU's 2030 framework, and its 2050 energy roadmap, including energy efficiency, with 2040 targets to: maximise energy savings up to 52% of primary and 28% of final energy; integration and security of the energy markets: ensure that North Macedonia is even more strongly integrated into the European markets, to provide the necessary flexibility for higher integration of RES; decarbonisation: In the green scenario in 2040, the Strategy reduces greenhouse gas emissions to 61% compared to 2005 or 73% compared to BAU while strongly increasing the use of RES up to 45% in gross final energy consumption; R&I and competitiveness minimize the total cost of the system based on the optimization of the lowest prices and legal and regulatory aspects: full compliance with the EnCS <i>acquis</i> .
Energy Efficiency Law (2020) ³³	Transposition of the Energy Efficiency Directive 2012/27/EU, Energy Performance of Buildings Directive 2010/31/EC and stipulates preparation of Energy Efficiency Action Plans - which are now part of the integrated NECP and will cease to exist as separate plans.
Energy Law (2019) - undergoing revision to transpose the Clean Energy Package and a new RES Law is under preparation to transpose RED II.	Transposes the Third Energy Package in the electricity and natural gas sector and the Renewable Energy Directive 2009/28/EC. It allows further unbundling of the distribution and supply of electricity and establishes full liberalization of the electricity market. The transposition of the Clean Energy Package was due by December 2023, and the RED II Directive should have been transposed by December 2022. Therefore, two new laws, Energy law and Renewables Law are under preparation. The new Energy Law will be enacted during 2024.
The Law on Climate Action (Law or LCA) - under development, to be completed in 2023	Should fully transpose EU climate legislation, enabling low-carbon development and climate change resilience. It is expected to set a profound change in the climate capacities of the country, as well as to enhance cross-sectoral policy coordination and climate mainstreaming. ³⁴
Long-Term Strategy for Climate Action and Climate Action Plan (Climate Strategy 2021) ³⁵	The Strategy provides a long-term objective quantifying North Macedonia's contribution to the global effort to reduce national net GHG emissions (including Forestry and Other Land Use and excluding MEMO items ³⁶ by 72% by 2050 compared to 1990 levels (or GHG emission reduction of 42% by 2050 compared to 1990, excluding FOLU and MEMO items) and increased resilience of North Macedonia's society, economy, and ecosystems to the impacts of climate change.
Powering Past Coal Alliance (PPCA) ³⁷	The PPCA is a coalition of national and sub-national governments, businesses, and organisations working to advance the transition from coal power generation to clean energy. It sets out our collective commitment to accelerate the transition from coal to clean energy. North Macedonia and Montenegro are the first from the Western Balkan countries to join the coalition in 2021 by setting coal phase out dates.

21. The National Energy and Climate Plan (NECP), which is under revision, outlines the country's decarbonisation pathway, making North Macedonia firmly committed to fulfilling the obligations under the Energy Community Treaty. The plan's ambitions include coal plant's closure by the end of the decade (2030), introduction of a carbon tax, and a 23%

31 Sofia Declaration on the Green Agenda for the Western Balkans 2020 <https://www.rcc.int/docs/546/sofia-declaration-on-the-green-agenda-for-the-western-balkans-rn>

32 Energy Development Strategy 2020-2040 https://cdn.climatepolicyradar.org/navigator/MKD/2020/energy-development-strategy-until-2040__ae3e3c2e2f315a8b1e2686fb7c48446d.pdf

33 4th National Energy Efficiency Action Plan (2020-2022) https://economy.gov.mk/Upload/Documents/4NEEAP%20final%20version%2014.04.2021_en%20corected.pdf

34 Long Term Strategy on Climate Change p.15

35 Long Term Strategy on Climate Change

<https://api.klimatskipromeni.mk/data/rest/file/download/2ba0633b4385d2538862b16572bff16d13ad0895665ee2729d24e177022ace27.pdf>

36 MEMO items include emissions from aviation and electricity import.

37 PPCA North Macedonia <https://poweringpastcoal.org/members/north-macedonia/>

reduction in energy consumption through energy-efficiency measures by 2030, based on a scenario with additional measures (WAM).³⁸

22. Regarding renewable energy sources, North Macedonia, as per the NECP (2022) aims that at 38% share of gross energy consumption coming from RE by 2030.³⁹ In 2020, the country achieved only a 19.3% share.

23. The legal basis for actions related to coal transition and low or zero-carbon strategies are laws and policies related to climate change and energy, presented in Table 5, most of which are under revision or under preparation:

Table 5 Legal basis for coal transition

Sectors	Laws, bylaws, rulebooks
Environment & Climate	Law on Climate Action (Under inter-institutional adjustment, it is expected to be adopted by the end of 2023 ⁴⁰)
	Law on Environment (2005 with last changes in 2022) ⁴¹
Energy	Energy Law (2018) ⁴²
	Rulebook on energy balances and energy statistics (2015) ⁴³
	Rulebook on the manner and procedure for monitoring the functioning of energy markets (2019) ⁴⁴
	Law on Energy Efficiency (2020) ⁴⁵
	Rulebook on Marking Energy Consumption and Other Resources for Energy Products (2016) ⁴⁶
	Rulebook on amending the Rulebook on the energy performance of Buildings (2015) ⁴⁷
	Decree on eco product design (2011) ⁴⁸
	Rulebook on Renewable Energy Sources (2019) (Official Gazette of the RNM no. 112, 3.6.2019) ⁴⁹
	Decree on the measures for support of electricity generation from renewable energy sources (2019) ⁵⁰
	Decision on the total installed capacity of the preferential producers of electricity (2019) ⁵¹
Decision on the national mandatory goals for the share of energy generated from renewable sources in the gross final energy consumption and for the share of energy generated from renewable sources in the final energy consumption in transport (2019) ⁵²	

24. The strategic basis and governance structures relevant for the coal and energy transition is presented in Table 6:

38 ENDC 2021, p. 19

39 NECP 2022, p. 15 and Energy Community 2030 energy and climate targets <https://www.energy-community.org/implementation/package/CEP.html>

40 Law on Climate Action 2023 – to be adopted [climateaction-ipaproject.mk](https://www.energy-community.org/implementation/package/CEP.html)

41 Law on Environment 2005 Закон за животната средина ([moepp.gov.mk](https://www.energy-community.org/implementation/package/CEP.html))

42 Law on Energy Efficiency Zakon za energetika_EN1.pdf ([economy.gov.mk](https://www.energy-community.org/implementation/package/CEP.html))

43 Rulebook on energy balances and energy statistics 2015 Службен весник на РМ ([slvesnik.com.mk](https://www.energy-community.org/implementation/package/CEP.html))

44 Rulebook on the manner and procedure for monitoring the functioning of energy markets Службен весник на РМ ([slvesnik.com.mk](https://www.energy-community.org/implementation/package/CEP.html))

45 Law on Energy Efficiency (2020) Zakon za energetska efikasnost.pdf ([economy.gov.mk](https://www.energy-community.org/implementation/package/CEP.html))

46 Rulebook on marking energy consumption and other resources for energy products 2016 ОДЛУКА ЗА ОПРЕДЕЛУВАЊЕ НАЈВИСОКИ ЦЕНИ НА ОДДЕЛНИ НАФТЕНИ ДЕРИВАТИ УТВРДЕНИ СОГЛАСНО МЕТОДОЛОГИЈАТА ([economy.gov.mk](https://www.energy-community.org/implementation/package/CEP.html))

47 Rulebook on amending the Rulebook on the energy performance of buildings (2015) ПРАВИЛНИК ЗА ИЗМЕНУВАЊЕ И ДОПОЛНУВАЊЕ НА ПРАВИЛНИКОТ ЗА НАЧИНОТ НА КОРИСТЕЊЕ НА ЗДРАВСТВЕНИ УСЛУГИ НА ОСИГУРЕНИТЕ ЛИЦА ВО СТРАНСТВО ([economy.gov.mk](https://www.energy-community.org/implementation/package/CEP.html))

48 Decree on Eco-product Design 2011 Microsoft Word - 54264C0761141C41A9FE7DC944DAD77B.doc ([economy.gov.mk](https://www.energy-community.org/implementation/package/CEP.html))

49 Rulebook on Renewable Energy Sources 2019 final_Pravilnik_OIE_28_05_19 bez TC (1) (1)-converted.pdf ([economy.gov.mk](https://www.energy-community.org/implementation/package/CEP.html))

50 Decree on the measures for support of electricity generation from renewable energy sources (2019) final_Pravilnik_OIE_28_05_19 bez TC (1) (1)-converted.pdf ([economy.gov.mk](https://www.energy-community.org/implementation/package/CEP.html))

51 Decision on the total installed capacity of the preferential producers of electricity 2019 final_Pravilnik_OIE_28_05_19 bez TC (1) (1)-converted.pdf ([economy.gov.mk](https://www.energy-community.org/implementation/package/CEP.html))

52 Decision on the national mandatory goals for share of renewable energy sources 2019 т-69 final_Odluka_ucestvo na OIE_05_02_19 (2).pdf ([economy.gov.mk](https://www.energy-community.org/implementation/package/CEP.html))

Table 6 Strategic basis for coal transition

Energy	Climate	Social/youth/gender	Other strategic documents
The Strategy for Energy Development in RNM until 2040 (2019) ⁵³	Long-term strategy on climate action and action plan ⁵⁴	Program for Protection of vulnerable energy consumers for the year 2022 ⁵⁵	Agenda 2030 and Sustainable Development Goals ⁵⁶
Program for financial support for the generation of electricity from preferential producers who use premiums for 2019 (2019) ⁵⁷	National Energy and Climate Plan ⁵⁸	Promotion of green jobs inserted in the Strategic Plan of the MoEPP for the period 2020-2022 ⁵⁹	Industrial Strategy of the Republic of Macedonia 2018-2027 ⁶⁰
Fourth National Energy Efficiency Action Plan ⁶¹	National Ambient Air Protection Plan in the Republic of Macedonia (2012) ⁶²	The potential for the creation of new green jobs according to the Fourth National Communication p.158 ⁶³	Strategy for Regional Development of The Republic of North Macedonia (2021-2031) ⁶⁴
	Clean Air Plan - reduce air pollution. Government Strategic Program (2019) ⁶⁵	Strategy for Gender Equality (2022 - 2027) (Macedonian version only) ⁶⁶	Voluntary National Review (2020) ⁶⁷
		Implementation of the Action Plan for integrating gender aspects of responsiveness in the preparation of the 4th National Communication/ 3rd Biennial Update Report (2019-2022) ⁶⁸	Statistical research program for the period of 2018-2022 ⁶⁹
Just Transition Roadmap (adopted 2023)			

53 The Strategy for Energy Development in RNM until 2040 (2019)

<https://api.klimatskipromeni.mk/data/rest/file/download/4a5343d50dc1080836144142d925d9f80d71a5545a86b6a9a68218f5cb3cc179.pdf>

54 Long-term strategy on climate action and action plan

55 Program for Protection of vulnerable energy consumers for the year 2020 chrome-

extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.slvesnik.com.mk/Issues/a2bed5b42c36460fbb6b1a8dc4a40dbe.pdf

56 Agenda 2030 North Macedonia <https://sustainabledevelopment.un.org/memberstates/Macedonia>

57 Program for financial support for the generation of electricity from preferential producers who use premiums for 2019 (2019)

chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.economy.gov.mk/Upload/Documents/ilovepdf_com.pdf

58 National Energy and Climate Plan chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.economy.gov.mk/content/Official%20NECP%20-%20MK%20version_11465878.pdf

59 Strategic Plan of the MoEPP for the period 2020-2022 chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.moep.gov.mk/wp-content/uploads/2014/12/Strateski_Plan_2020-2022_final.pdf

60 Same

61 https://www.economy.gov.mk/Upload/Documents/4NEEAP%20final%20adopted_EN.pdf

62 National Ambient Air Protection Plan in the Republic of Macedonia (2012) chrome-

extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.moep.gov.mk/wp-content/uploads/2014/12/Nacionalen-plan-za-zastita-na-vozduh.pdf

63 The potential for the creation of new green jobs [tps://www.economy.gov.mk/Upload/Documents/4NEEAP%20final%20adopted_EN.pdf](https://www.economy.gov.mk/Upload/Documents/4NEEAP%20final%20adopted_EN.pdf)

extension://efaidnbmnnnibpcajpcglclefindmkaj/https://api.klimatskipromeni.mk/data/rest/file/download/1fde7ae390526eab08df8490ae199a7f0597b28f358721a252f2b23f316b3208.pdf

64 Strategy for Regional Development Of The Republic Of North Macedonia (2021-2031) chrome-

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65 Clean Air Plan - reduce air pollution. Government Strategic Program (2019) <https://vlada.mk/PlanZaChistVozduh>

66 Strategy for Gender Equality (2022 - 2027) (Macedonian version only) chrome-

extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.mts.gov.mk/content/pdf/2022/strategija_%D0%A1%D1%82%D1%80%D0%B0%D1%82%D0%B5%D0%B3%D0%B8%D1%98%D0%B0_%D0%B7%D0%B0_%D1%80%D0%BE%D0%B4%D0%BE%D0%B2%D0%B0_%D0%B5%D0%B4%D0%BD%D0%B0%D0%BA%D0%B2%D0

67 Voluntary National Review (2020) <https://sustainabledevelopment.un.org/memberstates/macedonia>

68 Implementation of the Action Plan for integrating gender aspects of responsiveness in the preparation of the 4th National Communication/ 3rd Biennial Update Report (2019-2022) chrome-

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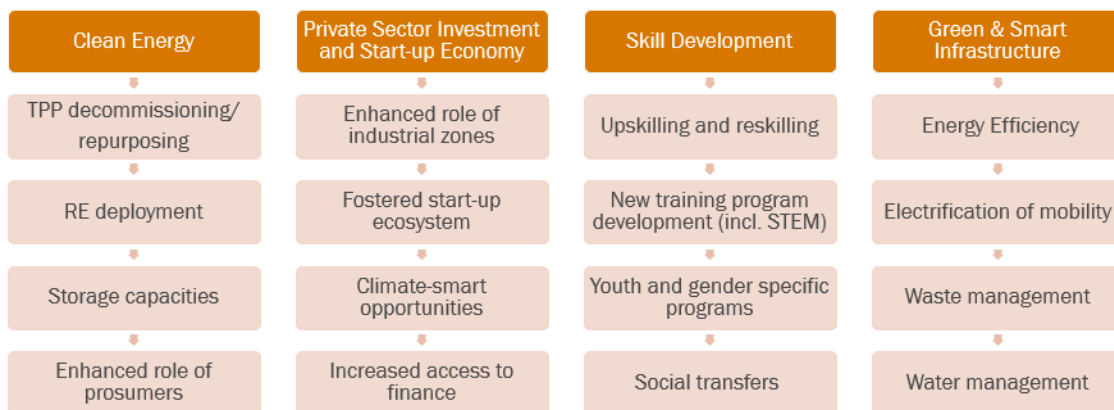
69 Statistical research program for the period of 2018-2022 chrome-

extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.stat.gov.mk/pdf/Programa20182022.pdf

1.3 Governance and Key stakeholders

25. On June 13, 2023, North Macedonia adopted the Just Transition Roadmap. The document focusses on ensuring that the green economy transition benefits are shared, while protecting vulnerable people, regions, and communities from falling behind. The roadmap, supported by the EU Delegation, and the EBRD, targets four pathways, including 1) private sector investments and start-up economy, 2) green and smart infrastructure, 3) clean energy, 4) skills development. It forms the foundations of “people” and “governance” pillars of the IP.

Figure 9 Just transition pathways in the roadmap



26. The Just Transition Roadmap outlines the governance structure for the process. It includes: The Minister of Economy who has been already assigned as the National Coordinator for implementing the Just Transition Roadmap as per government decision dated 13 June 2023. A Just Transition Council, chaired by Minister of Economy and composed of Ministers from the following ministries: Ministry of Economy, Deputy Prime Minister in Charge of Economic Affairs, Ministry of Finance, Ministry of Environment and Physical Planning, Ministry of Agriculture and Water Management, Ministry of Transport, Ministry of Education, Ministry of Labour and Social Policy, Ministry of Local Self-Government, Director of ESM, Director of MEPSO, Director of NOMAGAS.

27. The JTR also envisions the establishment of the Just transition Secretariat as an intra-ministerial working body comprising the heads of the three working groups on (1) re-skilling and training, (2) economic transition, and (3) renewable energy and storage created by the Ministry of Economy. The Ministry of Economy has already established the working groups and both the JTR and the IP are discussed within the groups. It is also recommended that regional forums for just transition are formed in both Pelagonia and Southwest regions, and primarily in most coal-dependent municipalities, Kichevo and Bitola to encourage the regions to be inclusive and comprise various stakeholders to address and reflect on the specific municipality/region’s needs. Ministry of Economy initiated the discussion on establishing regional fora with local governments and Centres for Regional Development.

28. In terms of the key stakeholders, the Ministry of Economy – ME, mostly the Energy Sector is the leading institution responsible for the coal transition mandating over: energy policy, including investments in the energy sector, fossil fuels, energy efficiency, and renewable energy sources; internal market policies under which the standards and policies

for road transport vehicles and technical conformity are regulated; mining policies and geological aspects, and industrial and investment policies.

The Office of the Deputy Prime Minister in Economic Affairs is responsible for achieving the Sustainable Development Goals and is a National Designated Entity for the Green Climate Fund (GCF).

The Ministry of Finance (MF) manages the Treasury Single Account, receives all revenues, from which all payments are made on behalf of budget users at the central and local government levels. It is also responsible for accessing concessional finance. Ministry of Finance is responsible for successful management of public finances, to achieve higher economic growth and improve the quality of life of the citizens of the Republic of North Macedonia.

The Ministry of Environment and Physical Planning - MoEPP is responsible for climate change policymaking; it is a focal point for the UNFCCC, and a nationally designated entity for the Kyoto Protocol.

The Ministry of Labour and Social Policy (MLSP) sets social policies, labour policies and policies that tackle unemployment, vulnerable groups, women and youth and social transfers.

The Ministry of Education and Science (MoES) sets education policies, training, lifelong learning, and vocational education.

The Ministry of Agriculture, Forestry and Water Economy (MAFWE) is responsible for designing and implementing agricultural and forestry-related policies and for economically using water resources.

The Ministry of Transport and Communications (MTC) is responsible for transportation licenses for freight and passenger transport, aviation activities, and railways. In addition, the Ministry is responsible for physical planning and the management of construction land.

Local Self Governmental Units (LSG) or municipalities, especially in the affected regions of Pelagonia and Southwest regions play a central role in the just energy transition. They are responsible for local policy making such as urban planning, environmental protection, local economic development, and have their own and shared revenues with central government. LSGs are eligible for sub-sovereign borrowing, depending on the financial condition of the municipality.

Technological Industrial Development Zones (TIDZ) organize and manage the zones and attract investors, creating economic opportunities.

The Municipal Industrial Zones (MIZ) are local development zones which can be established and managed by municipalities and can offer specific incentives such as low land purchase prices and lower communal fees for potential investors.

The Energy Regulatory Commission (ERC) is an independent regulator established in 2003, regulating energy sector, including gas and district heating; it sets energy and water supply

tariffs and tariffs for sewerage and wastewater treatment services. The ERC is self-financing based on a levy on sector participants.

29. North Macedonia has a relatively active private sector, academia and CSOs. The role of the private sector is crucial for the accelerated coal transition. North Macedonia's four main business chambers are: Economic Chamber of North Macedonia, Association of Business Chambers, Economic Chamber of North-West Macedonia (OEMVP), ICT Chamber of North Macedonia (MASIT) and other thematic business associations. There is also an Association of Foreign Investors within the Economic Chamber of North Macedonia, and Regional Offices of the Economic Chamber of North Macedonia. Private sector actors are important as they need to provide training needs and skills gaps in the industry including, where relevant, to coal value chain employees. The education service providers are vital in delivering reskilling and upskilling programs, designed based on assessments of local skills gaps and skills development opportunities. It is also needed to provide the technical expertise for various projects related to the accelerated coal transition. Finally, the civil society sector is one of the most critical stakeholders, as they work with different constituencies in the affected regions, including women and other vulnerable groups. Trade Unions also play a pivotal role in workers' rights protection and labour policies.

2. Accelerating Coal Transition (ACT) Context

30. North Macedonia faces several challenges in accelerating the coal transition: it needs to scale up the deployment of renewables while investing in the grid and preserving energy security. North Macedonia is a net electricity importer (circa 2 TWh p/a vs. 5.5 TWh p/a domestic production). To preserve energy security, the country needs to displace coal-fired capacities with other domestic generation sources, primarily – renewables. To ensure energy system stability and balancing, grid and storage upgrades, including ancillary services, are needed as the overall supply from intermittent renewable energy sources replace baseload supply from coal, and minimise the need for gas in the transition period.

2.1 Energy market structure in North Macedonia

31. The energy market structure in North Macedonia encompasses energy producers, transmission and distribution operators, market operator, traders, suppliers, and final consumers (Figure 11). Following the country's independence in 1991, the country's electricity system was owned and operated by a single state-owned company, Elektrostopanstvo na Makedonija. In 2005, it was unbundled into four companies: (1) MEPSO AD, the state-owned transmission operator, (2) MEMO DOOEL, state-owned market operator, 100% subsidiary of MEPSO AD, and off-taker of renewable energy produced by preferential producers under the Feed-in Tariff scheme; (3) ESM AD, the state-owned generation company, owning all significant generation assets (predominantly coal and hydro), and (4) EVN Makedonija AD, owner of EVN Distribucija (DSO) and EVN Home (Universal supplier and supplier in last resort – which is selected based on public procurement processes). In 2006, the latter was privatized and sold to EVN AG, the Austrian utility, with 10% retained by the Macedonian government, and in 2008, it acquired its current name -EVN Macedonia AD

Skopje.⁷⁰ The sector, together with gas and district heating, is monitored by the Energy Regulatory Commission (the ERC), an independent regulator established in 2003.

32. Elektrani na Severna Makedonija AD - (JSC - ESM) is the most significant domestic electricity producer, followed by Combined Heat and Power Plant (CHPP) TE-TO, EVN Elektrani, and other smaller electricity producers. ESM generates and supplies electricity primarily from coalfired and hydro plants; it also operates coal mines. ESM accounts for 90% of the entire domestic production, owning around 80% of the lignite-fired capacity and having a total of 3,808 employees in 2023.⁷¹ The Company has an electricity generation license valid until 1 November 2040. It also has a heat generation, distribution, and supply license for its Energetika branch. ESM has also established nine separate companies (legal entities). Three of the companies are for tourism, hospitality, sport and recreation: ELEM TURS DOOEL Skopje, Ski Centar Popova Shapka DOOEL Tetovo and ESM Molika DOOEL Bitola. Additionally, ESM has a separate company for production of equipment and parts called Fabrika za Oprema I Delovi - FOD DOOEL Novaci. ESM also has a company for trade with electrical energy and gas – ESM Prodazba DOOEL Skopje, three companies for heating energy in Skopje, including: ESM Proizvodstvo na toplina DOOEL Skopje, ESM Snabduvanje so toplina DOOEL and ESM Distribucija na toplina DOOEL Skopje, as well as one company for heating in Bitola – ESM Toplifikacija DOOEL Bitola.

33. The feed in tariff (FiT) and the premium tariff (FiP) are available mechanisms to support electricity production from renewable energy sources in North Macedonia. Under FiT, preferential producers are guaranteed with the tariff for each kWh produced electricity under which the Electricity Market Operator is obliged to purchase the total of electricity produced by the preferential producers in a period of 15-20 years, depending on the type of power plant. The FiP represents an additional fee to the price that the preferential producer has achieved by selling the produced electricity in the electricity market. The producer under FiP is chosen via tender procedure with auction, carried out by the Ministry of Economy. Out of 624 domestic producers in 2022 in North Macedonia, 616 use renewable energy sources, whereby 172 use FiT, 21 use FiP and the remaining do not use support measures to produce electricity. This electricity is then allocated proportionally to the active suppliers and sold to final consumers through them. **Electricity traders** are the key entities through which the sale of electricity is carried out on the wholesale market. **Electricity suppliers** perform the same purchasing activities as traders, but apart from them, they have the additional right to supply households and small customers. Their sales activities are directed primarily toward the retail electricity markets.

34. MEMO, the National Electricity Market Operator is in charge of the organization, efficient functioning, and development of the markets with bilateral agreements and balanced energy, as well as performs the activities related to the organized electricity market in the country.⁷² In October 2019, MEMO received a license to organize and manage the electricity market by the ERC. It thus began to function independently as an Operator of the electricity market in the Republic of North Macedonia territory. After the necessary technical conditions were fulfilled, organized day-ahead electricity market in the Republic of

⁷⁰ EVN <https://www.evn.mk/AboutUs/History.aspx?lang=en-gb>

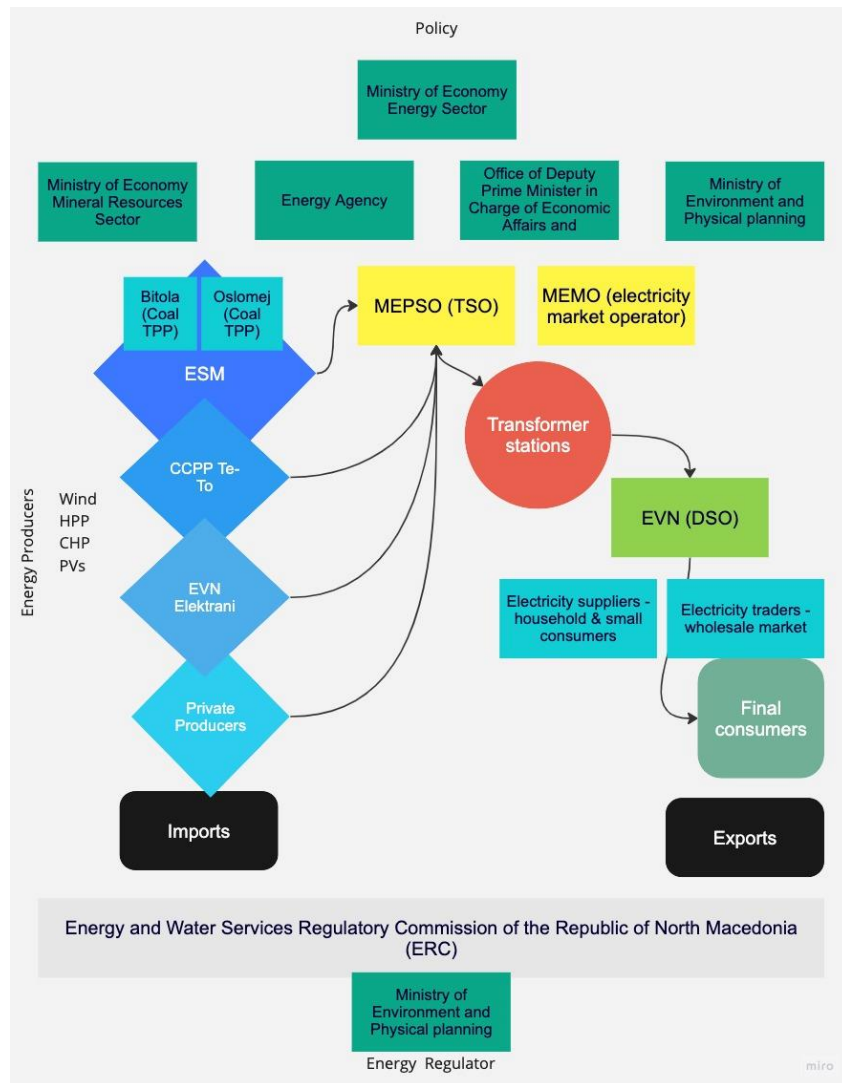
⁷¹ ESM Data presented at Just Transition Forum Skopje – October 4, 2023

⁷² MEMO https://www.memo.mk/?page_id=252501&lang=en

North Macedonia was launched in May 2023. Market coupling with the European Single Day-Ahead Market is subject to correct and timely transposition of the Electricity Integration Package, that should have been transposed in North Macedonia by the end of 2023.

35. Electricity traders (that also supply consumers) are the key entities through which the sale of electricity is carried out on the wholesale market. Electricity suppliers perform the same purchasing activities as traders, but apart from them, they have the additional right to supply to end customers. Their sales activities are directed primarily toward the retail electricity markets. The regulated market has one 'universal supplier,' EVN Home, who can, in principle, procure its electricity from any source. Still, most electricity is procured through the state-owned generator, ESM, at a price below the market price. Before the pandemic and the current energy crisis, the 'universal supplier' model was due to be phased out. ESM's obligation to offer a share of its output at subsidized prices to EVN Home steadily decreased. However, due to the pandemic and the energy crisis, instead of phasing out ESM continued to supply 100% of the demand of EVN Home, to satisfy the needs of the regulated market (households and SMEs).⁷³

Figure 10 Energy Ecosystem North Macedonia

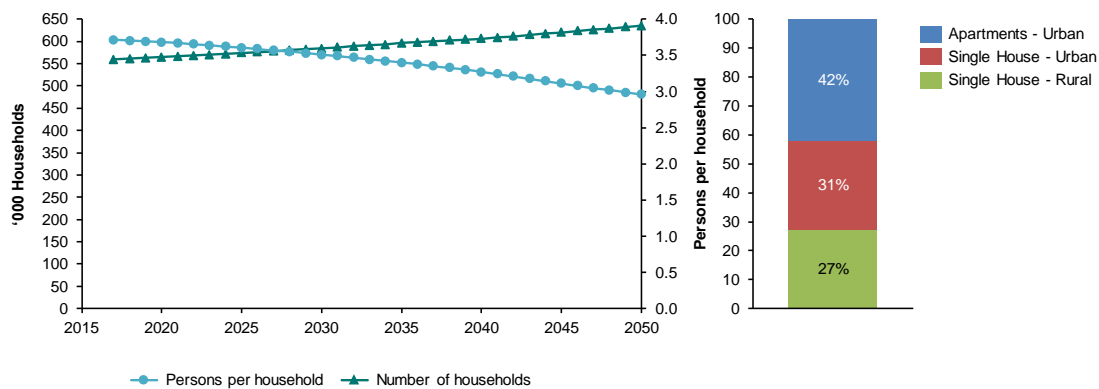


73 IMF 2022

2.2 Energy consumption and energy efficiency

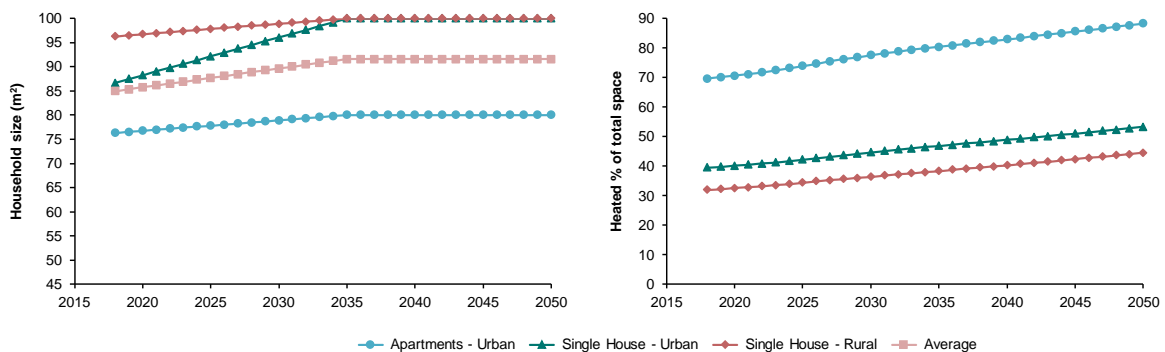
36. In 2022, electricity consumption in North Macedonia amounted to 7,105 GWh, and was characterised by high demand peaks in winter. It was broken down into 53% residential consumption, 24% other MV and LV, 9% HV, and 14% network losses. Transmission losses were 1.6% and distribution losses were 12% of total consumption. As a developing economy with projections for GDP growth, North Macedonia is expected to increase its energy consumption in the residential and industrial sectors. On the one hand, the population is expected to decline by 0.3% in 2050 compared to 2017. The number of persons in a household is projected to decline from 3.7 in 2017 to around 3 in 2050, and the consumption per household is expected to increase.

Figure 11 Number of persons per household (State Statistical Office)



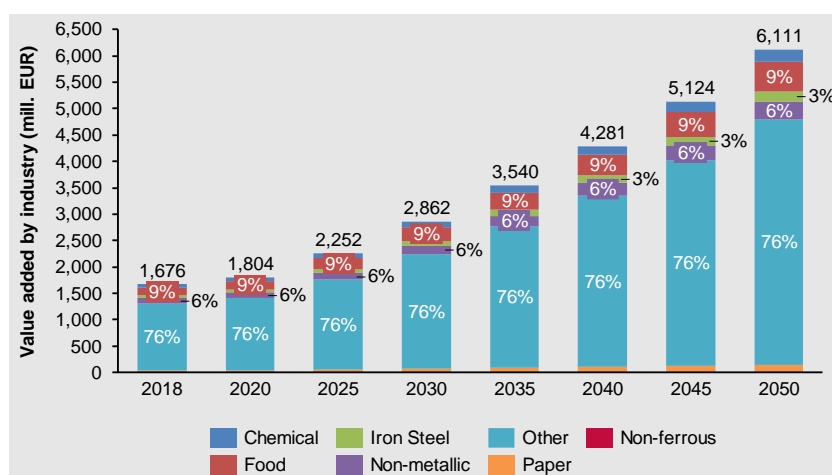
Thus, according to projections in the Long-term climate strategy from 2021, more households are expected to require heating, which will increase the energy demand.⁷⁴ Energy consumption is also expected to rise in the industry sector, given that the value added is projected to grow (Figure 12).

Figure 12 Energy consumption trends (State Statistical Office)



74 Long-term Climate Strategy and Action Plan – North Macedonia, 2021

Figure 13 Value added by industry type (Long-term climate strategy 2021)



37. North Macedonia commits to the “Energy Efficiency First” principle (generate the necessary amount of energy, minimize investment in outdated technologies, and manage energy demand economically) in its NDC, Energy Strategy, National Energy Efficiency Action Plan (the fourth edition) and the NECP. In the NECP, the main principles of Energy Efficiency First were introduced via interaction between 63 specific policies and measures. Regarding energy efficiency, there are 25 policies and measures including retrofitting existing buildings (residential, central governmental, municipal, and commercial), construction of new buildings and passive houses, renewal of public car fleets, green procurement, eco-labelling of appliances, replacement of incandescent street-lighting with LED, increased use of central heating, introducing EE obligation schemes as well as EE certificates for buildings. The energy efficiency measures should achieve savings of final energy consumption 20.8% and 34.5% savings of primary energy consumption and increased funding for research and innovation, promotion of clean technologies and clean heating opportunities.

38. There are still however gaps slowing down the achievement of EE ambitions, including legal, technical, and financial. The legal gaps are related to not fully transposing EU *acquis* related to energy efficiency and climate changes into Macedonian legislation.⁷⁵ Technical gaps are related to the availability of district heating to all newly constructed buildings in the municipalities where the district heating companies exist, mandatory EE passport in order to achieve the design heating parameters, construction of district heating companies and

⁷⁵ North Macedonia legislation regarding environment and air quality is almost complete. 93% of the Directive 2008/50/EC and 85% of the Directive 2004/107/EC with accompanying rulebooks are transposed in the national legislation. 62% of the Industrial Emissions Directive related to industrial pollution and risk management is transposed. The National Emission Reduction Plan, which was adopted in 2017, has been implemented since January 2018. The reduction of emissions is yet to be carried out in accordance with the timeframes indicated in the emissions reduction plan. Directive 2004/42/EC [43] for VOCs in paints and varnishes and Directive 2009/126/EC [46] on VOCs in petrol stations were fully transposed. 45% of the legislation related to chemicals has been transposed but not yet implemented. The legislation related to the Sulphur Content Liquid Fuels Directive alignment is completed. However, the alignment with the EU *acquis* in the field of climate change is still at an early stage. Directive 2001/81/EC was fully transposed into the national legislation and national emission ceilings for NO_x, NMVOC, SO_x and NH₃ have been defined. The transposition of the new NEC Directive in the national legislation was planned for 2019 and some obligations under the new NECD are already performed. According to the Law on Environment and ESM's A-permit, to comply with emission limits, ESM should reduce/mitigate the outputs from coal combustion, e.g. reduce sulfur concentrations by 2026. Finally, as a contracting party to the EnC, it should implement the provisions in the environmental section of the agreement i.e.. Decision D/2013/05MC-EnC for the implementation of the LCP Directive 2001/80/EC for the reduction of emissions of certain pollutants in the air.

distribution network in the municipalities where the district heating companies does not exist, to remove all procedural barriers for installation of solar roof PV plants (for public, commercial and residential buildings), mandatory inspection of roof condition as well as electrical installation before installation of PV plants.

39. To address financial gaps related to energy efficiency, on October 3, 2023, the Parliament of the Republic of North Macedonia approved changes to the Law on the Development Bank of North Macedonia, enabling the creation of an Energy Efficiency Fund in 2024 (EE fund). The EE Fund will have a total amount of 15 million EUR and will operate within the North Macedonia Development Bank, aiming to finance energy efficiency investments. The EE Fund will get an initial capital of EUR 5 million from the World Bank, further supported by an additional EUR 10 million from the green bond auction. The fund is in alignment with the country's decarbonization goals outlined in the Energy Development Strategy until 2040. Loans, guarantees, and grants initially will be available to legal entities and from 2025 be extended to individuals, contributing to energy savings and environmental preservation. The establishment of the fund would also ensure compliance with the EU Energy Efficiency Directives.

2.3 Energy generation

40. In the Republic of North Macedonia, electricity generation is driven by the coal-fired thermal power plants (TPPs) and hydro plants owned by ESM. In the total installed capacity in 2022 (2.26 GW), thermal power plants have the largest share at 45%, followed by hydropower plants at 32%, cogeneration plants with electricity and heat at 13 %, and the rest at 10%. In 2022, the energy generation mix of North Macedonia was dominated by coal-fired power plants (47%) and hydro (25%). (Table 8). Electricity production by coal power plants increased by 25% (534 GWh) compared to 2021 (historically low year for lignite generation), due to the increased production in TEC Bitola and in TEC Oslomej due to the energy crisis. The crisis also led to temporary use of fuel-oil fired Negotino plant, which was previously put in cold reserve. At the same time, in 2022, the installed capacity of renewable sources has increased by 144,4 MW, the highest increase ever.⁷⁶

41. North Macedonia is a net importer of electricity. In 2022, 21% of the gross electricity consumption was supplied by import, while 79% - by domestic production, albeit heavily reliant on gas, oil, and coal imports from abroad for generation (Table 7). High reliance on fossil fuel imports results in exposure to volatile energy markets and raising domestic concerns about energy security.⁷⁷ In 2022, North Macedonia exported 624 GWh of electricity, an increase by 34,95% compared to 2021.⁷⁸

⁷⁶ ERC Annual Report 2022 p.30 https://www.erc.org.mk/odluki/2023.04.26_RKE%20GI%202022-FINAL%20ENG%20VERSION.pdf

⁷⁷ ERC Annual Report 2022 [erc.org.mk/odluki/2023.04.26_RKE GI 2022-FINAL.pdf](https://www.erc.org.mk/odluki/2023.04.26_RKE_GI_2022-FINAL.pdf) p.36

⁷⁸ same, p. 34

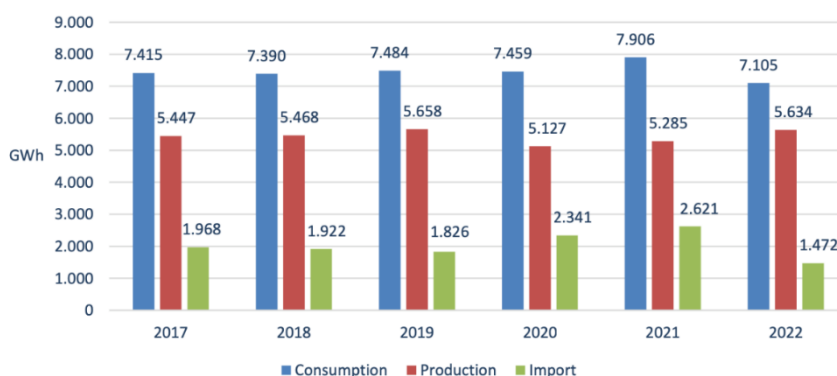
Table 7 Balance of electricity demand and supply in the period from 2020 to 2022 (in GWh) (ERC Annual Report for 2022, p.29)

GWh	2020	2021	2022	2022/21 (%)	2022/20 (%)
Injected into the power system	8,479	9,532	9,314	-2.29%	9.84%
Production	5,128	5,285	5,634	6.60%	9.89%
The largest producer	3,643	3,170	3,647	15.05%	0.12%
Other producers	1,091	1,705	1,578	-7.45%	44.58%
Producers with FIT	393	407	394	-3.19%	0.15%
Producers with premium chosen tariff	0.056	3	15	400.00%	
Total import	3,352	2,940	2,209	-24.86%	-34.10%
Gross consumption	7,459	7,906	7,105	-10.13%	-4.74%
Net consumption	6,476	6,865	6,133	-10.66%	-5.29%
Direct consumers of transmission	957	924	643	-30.41%	-32.78%
Regulated supplier	3,562	3,688	3,754	1.79%	5.38%
Other distribution consumers	1,957	2,252	1,736	-22.91%	-11.27%
Losses	983	1,041	972	-6.63%	-1.12%
Transmission	124	125	114	-8.80%	-7.98%
Distribution	859	916	858	-6.33%	-0.13%
Export	1,011	359	523	45.68%	-48.27%
Net import	2,341	2,621	1,471	-43.88%	-37.16%
Import dependance %	31.38%	33.15%	20.70%		
Shares on free market %	52.24%	53.34%	47.16%		

Table 8 Installed capacity and electricity production (ERC Annual Report for 2022)

Producer	Number of power plants	Installed capacity (MW)	Share (%)	Production (GWh)	Share (%)
JSC ESM Skopje	15	1,478.61	65.25%	3,754.99	66.64%
TEC	4	824.00	36.36%	2,621.64	46.53%
HPP	8	557.40	24.60%	985.18	17.48%
WPP	1	36.80	1.62%	107.66	1.91%
TE-TO	2	60.41	2.67%	40.51	0.72%
JSC TEC Negotino	1	210.00	9.27%	412.62	7.32%
TEC	1	210.00	9.27%	412.62	7.32%
TE-TO JSC Skopje	1	227.00	10.02%	926.81	16.45%
TE-TO	1	227.00	10.02%	926.81	16.45%
EVN Power Plants	15	62.56	2.76%	147.61	2.62%
HPP	11	58.56	2.58%	142.81	2.53%
PVPP	4	4.00	0.18%	4.80	0.09%
Others	591	288.04	12.71%	392.77	6.97%
Small HPP	113	103.04	4.55%	269.35	4.78%
PVPP	472	139.4	6.15%	72.04	1.28%
Biogas	4	9.00	0.40%	51.38	0.91%
WPP	1	36.00	1.59%		
Biomass	1	0.60	0.03%		
Total	623	2,266.21	100.00%	5,634.8	100.00%

Figure 14 Electricity production, consumption, and import for 2022 (ERC Annual Report for 2022, p.34)



42. The Macedonian electricity system is interconnected with the electricity systems of Serbia, Greece, Kosovo, and Bulgaria. Construction of the interconnection with Albania started in Q3 2021. As a result of these interconnections, the regional grid is expected to be more readily able to accommodate increasing RES penetration. Finally, MEPSO is a full member of the European Network of Transmission System Operators for Electricity (ENTSO-E), which ensures interconnection compatibility with European electric power systems.⁷⁹

2.4 Increasing role of renewable energy sources

43. While North Macedonia is predominantly a coal-dependent country, the share of renewable energy sources is rising. In 2022, the total installed capacity of renewable energy sources amounted to 944,5 MW – a 16% increase from 2021.⁸⁰ Most new power plants installed in 2022 (144 MW in total) are solar power plants with a total installed capacity of 99,2 MW, followed by wind power plants with an installed capacity of 36 MW, small hydro power plants with a total installed capacity of 7,2 MW and one biogas power plant with an installed capacity of 2 MW. In total, 267 new power plants were built using renewable energy sources (Table 9). Although the production of electricity from PV and wind sources is increasing, in 2022, overall generation amounted to 29% of the national total, a 2.5% decrease compared to 2021, mainly due to the reduced production by hydropower plants and increased electricity production from thermal power plants.⁸¹

Table 9 RE installed capacity⁸²

Type of RES power plants	Built 2022		Planned ⁸³	
	Number of power plants	Installed capacity (MW)	Number of power plants	Installed capacity (MW)
Solar	254	99.2		
Small Hydro Power Plants	11	7.2	25	30
Wind Power Plant	1	36	5	123.2

79 ENTSO-E <https://annualreport2016.entsoe.eu/members/>

80 ПОБРЗО ДО ОБНОВЛИВА ИДНИНА: КОРИСТЕЊЕ НА ДЕГРАДИРАНИ И НЕУПОТРЕБЛИВИ ПОВРШНИ КАКО ЛОКАЦИИ ЗА СОЛАРНИ И ВЕТЕРНИ ЦЕНТРАЛИ ВО СЕВЕРНА МАКЕДОНИЈА, Еко Свест, Септември 2023 п. 6 https://ekosvest.com.mk/wp-content/uploads/2023/10/Pobrzdo_do_obnovliva_idnina_2023_MK.pdf

81 ERC Annual Report 2022 https://www.erc.org.mk/odluki/2023.04.26_RKE%20GI%202022-FINAL%20ENG%20VERSION.pdf

82 same, p.40

83 ERC Annual Report 2022 p.43 https://www.erc.org.mk/odluki/2023.04.26_RKE%20GI%202022-FINAL%20ENG%20VERSION.pdf

Biogas	1	2	10	10.06
Biomass			3	3
Total installed in 2022	267	144.4	43	166.26

43. North Macedonia possesses an estimated capacity of approximately 11 GW installed capacity for PV plants and 354 MW installed capacity of wind power.⁸⁴ This inference is logical considering the historical focus on exploiting hydro potential, where the most technically and economically viable sites for hydro power generation have already been tapped. The remaining **hydro power potential** is primarily situated in the Vardar River valley, but its utilization is associated with substantial costs for the relocation of railway and highway infrastructure. There is also a lesser extent of hydro potential on the Crni Drim river.

45. Geographically, Southeast part of Macedonia, spanning from Demir Kapija goes down to the borders with Greece, stands out as the most promising area for wind potential. A significant number of connection requests to the transmission grid are concentrated in this region. Additionally, the North-eastern part of the country is promising for the implementation of wind power plants. Ongoing measurements in Pelagonia and the Southwest region indicate potential for wind power plant development near Krusevo town and the Plakenska mountain (between Ohrid and Demir Hisar Municipality). In terms of **solar power**, the largest number of connection requests, as reported by MEPSO, are received for the eastern part, specifically in the vicinity of Stip (central east part of the country), and for the Pelagonia region near SS Bitola 2. The largest photovoltaic (PV) plant in the Western Balkan region began operating in September 2023, boasting a DC side installed capacity of 55 MW. This privately-owned PV capacity actively sells electricity on the market and assumes balancing responsibilities.⁸⁵

46. The Republic of North Macedonia has 20 coal mining locations with geological reserves estimated at 2.5 billion tons. From the remaining geological coal reserves, it is estimated that 38% could be exploited with surface excavation and the rest with a cavity–underground technology. Cavity coal excavations are not currently used in North Macedonia. The coal in the Republic of North Macedonia is currently exploited in two types of mines. The first type of mines sees lignite extraction (Suvodol, Brod-Gneotino and Oslomej) for the electricity production in the TPPs, with the second type of mines supplying industrial (coking) coal (Table 10).⁸⁶ **Coal mining for electricity occurs in Pelagonia and the Southwest region.** The Kichevo and Pelagonia coal basins have determined coal deposits in Suvodol, Brod-Gneotino, Zivojno, Oslomej, Popovjani, and Stragomiste, of which Oslomej, Brod-Gneotino and Suvodol are in use and being exploited. Suvodol and Brod Gneotino are in operation while the Oslomej mine has been decommissioned from operations with only minor reclamation activities taking place. Thus, Oslomej TPP is highly reliant on imports, primarily from Kosovo.⁸⁷

⁸⁴ ПОБРЗО ДО ОБНОВЛИВА ИДНИНА: КОРИСТЕЊЕ НА ДЕГРАДИРАНИ И НЕУПОТРЕБЛИВИ ПОВРШНИ КАКО ЛОКАЦИИ ЗА СОЛАРНИ И ВЕТЕРНИ ЦЕНТРАЛИ ВО СЕВЕРНА МАКЕДОНИЈА, Еко Свест, Септември 2023

⁸⁵ Biggest solar power plant in Western Balkans completed in Novaci in North Macedonia, September 2023,

<https://balkangreenenergynews.com/biggest-solar-power-plant-in-western-balkans-completed-in-novaci-in-north-macedonia/>

Table 10 Size of active coal mines and ash disposal sites (Energy Strategy 2019 and LURA assessment)

Active Mines / Objects	Region	Estimated Size (km ²)	Annual exploitation – million tones	Years of production left (as of 2014)	Coal reserves (as of 2014) million tones
1. Suvodol lignite mine	Pelagonia – 17km NE from Bitola	27	3	16	48
2. Brod Gneotino lignite mine	Pelagonia	6.5	2	11.5	23
3. Oslomej lignite mine	Southwest	6	0.04	2	0.35
TOTALS		39.5	5.04		71.35

2.5 Power Sector Transition

2.5.1 Investment in PVPP on former mines

47. Coal-reliant areas provide opportunities for conversion into renewable energy hubs.

There are already several examples of coal mine land remediation and repurposing to the PV use. For example, the country's first 10MW Oslomej PVPP facility was built by ESM on the former Oslomej lignite mine site, with EBRD's loan and WBIF grant, and a human capital development component. Following this successful example, the EBRD is financing, the second PVPP Oslomej 2 (10 MW) and 20 MW in Bitola, will be completed by the end of 2024, which sends a positive signal to interested investors. Additionally, private-public partnerships (PPP) exist between the state-owned ESM and two private companies constructing two additional PV plants with a capacity of 50MW each (100 MW in total). The private partner will cover the investment and operating costs and, within 35 years, will transfer the ownership to AD ESM. In 35 years, the private partner of AD ESM will pay at least 10% of the electricity produced at an hourly HUPX price.⁸⁸

48. Former coal mining lands can provide additional space for renewables, and other deployment. For example, many additional large private RES projects are initiated to move away from coal, but other solutions such as storage must be provided to address the intermittency of renewables. In Bitola, according to the Capital investment plan, ESM plans to construct an additional 180MW PV, close to the TPP, on the Suvodol mine, with the support of the KfW and the EBRD (Table 11). The construction of this PVPP will significantly increase the share of renewable energy sources in the energy system of North Macedonia. Some estimates show that up to 600MW of solar PV could be deployed on mining lands, but alternative depleted mining land use (e.g., small pumped hydro storage, but also agriculture and light industry) should also be explored.⁸⁹

Table 11 PVPPs installed on former coal mines (Aide Memoire 2023)

PVPP	Installed capacity (MW)	Investor	Status
Oslomej 1	10	ESM – EBRD	Operational

88 ESM Capital Investment Plan, May 2022 - <https://www.esm.com.mk/?p=13164&lang=en>

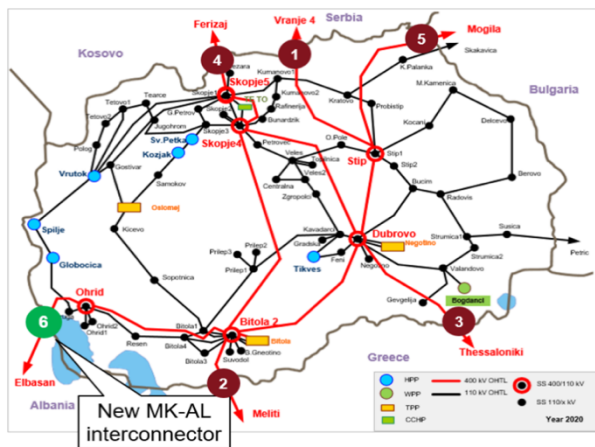
89 Aide Memoire ACT IP Scoping Mission 22-25 May 2023 Skopje, North Macedonia

Oslomej 2	10	ESM – EBRD	Preconstruction
Oslomej 3	100	ESM – PPP	Partly operational
Bitola 1	20	ESM-EBRD	Preconstruction
Bitola 2	60	ESM-EBRD-KfW	Planned
Bitola 3	100	ESM-EBRD-KfW	Planned
Total	300		

2.5.2 Grid enhancement as a precondition for RES transition

49. As the system gradually transitions to intermittent renewables, optimisation of balancing services, as well as storage and grid investments become a priority. North Macedonia has a well-developed transmission network with five interconnection points. The overall transmission network consists of 577 km of 440 kV and 1,601 km of 110 kV lines. As a transmission system operator, MEPSO manages the 2,122 km of lines. The 400 kV lines form a ring and connect the largest electricity producer, TPP Bitola, with the direct consumers; they also connect North Macedonia with the neighbouring countries. North Macedonia has interconnections with Serbia, Kosovo, Bulgaria, and Greece. The construction of a new 400kV electricity transmission interconnector line with Albania is underway. The 110 kV is well-developed and connects large hydropower plants, TPP Negotino, and other producers with all urban and industrial areas (Figure 16).⁹⁰ Based on a recent study conducted by MEPSO for country- wide system reserves, the existing balancing system reserves can accommodate, under certain conditions, only up to 1.3 GW of intermittent renewables.

Figure 15 MEPSO transmission system⁹¹



Interconnection lines	Type of conductors	Length (km)	Year
1 Serbia	400 kV TS Stip 1 - TS Vranje 4	ACSR 2x490/65 mm ²	70.2 2015
2 Greece	400 kV TS Bitola 2 - TS Metiti	ACSR 2x490/65 mm ²	17.3 2007
3 Greece	400 kV TS Dubrovo - TS Thessaloniki	ACSR 2x490/65 mm ²	54.7 1978
4 Kosovo	400 kV TS Skopje 5 - TS Ferizaj	ACSR 2x490/65 v	22.7 1978
5 Bulgaria	400 kV TS Stip 1 - TS Mogila	ACSR 2x490/65 mm ²	71.3 2009
	110 kV TS K. Palanka - TS Skakavitsa	ACSR 240/40 mm ²	12.8 1994
	110 kV TS Susitsa - TS Petric	ACSR 240/40 mm ²	11.1 1979

MEPSO 5 year network development plan	Year	Current status	CAPEX mil. EUR
6 Interconnection line with Albania (PECI list)	2018-2020	EIA /legal relations/ project documentation	36.92
New transmission lines	2018-2022	n/a	5.1
Revitalization / reconstruction of OHL	2018-2022	n/a	24.44
Revitalization/reconstruction of transformer stations	2018-2020	n/a	14.12
Modernization of electricity transmission system	2018-2020	n/a	8.1
Total CAPEX			88.68

50. The current demand on RES investments is integrated in the MEPSO grid development plan. RES applications for connection to the transmission system reached 8,718 MW capacity, of which 6,907 MW of PV plants and up to 1,811 MW of wind power plants. In the Bitola region alone, MEPSO currently has 977.5MW of connection requests, one of which is 260 MW and the rest - smaller than 100 MW. An example is the new transmission project in the

90 Energy Development Strategy 2020-2040 p.20 https://economy.gov.mk/Upload/Documents/Adopted%20Energy%20Development%20Strategy_EN.pdf

91 Energy Development Strategy 2020-2040 p.20 https://economy.gov.mk/Upload/Documents/Adopted%20Energy%20Development%20Strategy_EN.pdf

southeast part of the country (EUR 33 million investment in new 400kV substation, reconstruction of existing 110kV transmission lines and new underground 110 kV transmission lines), which will allow connection of additional 1.2 GW RES (predominantly wind farms). Construction is expected to start at the end of 2024 and be finished in 2027.⁹² However, further site-specific (including brownfield) investments, described in component 1, are required to support RE integration in both regions. Further investments in RE, including in the Pelagonia and Southwest regions, will require substantial investments in the grid.

51. To support integration of RE, it is important to increase availability of low carbon storage solutions in the system. The storage regulation is still under development,⁹³ however there is already one expression of interest communicated to MEPSO.

52. The increasing RES trend is affecting the DSO (EVN) as well. EVN already has 250MW from small PV connected and expects another 500MW in the next two years. The entire territory of the country is affected by this trend, particularly Shtip, Probistip, and Strumica. However, over the last year, over 500 new connection requests have been rejected due to the inability to integrate them in the grid because of low capacity in the transmission substations. There is also increased interest from prosumers – households who can install up to 6 kW on houses and SMEs up to 40 kW. EVN also sees potential in batteries and other storage technologies to address the issue, but this is still underdeveloped.⁹⁴

2.5.3 Gas infrastructure

53. Natural gas forms part of the country's energy transition strategy, as outlined in all strategic documents, including the adopted Energy Strategy, NDC, 2022 NECP: North Macedonia's mid- and long-term decarbonisation heavily builds on a rapid scale up of renewable energy sources but also relies on gas as a transition fuel to support early peaking of GHG emissions by enabling the phase out of coal use in the energy sector and industry. Gas is also seen as a critical element to allow for more flexibility in the system and therefore increase security and reliability of supply. To allow for reaching net-zero emissions, gas infrastructure would need to be able to transport decarbonised gases in the future.

54. North Macedonia is expanding the existing gas infrastructure to allow secure transition and reduce air pollution. Currently, natural gas is mainly used for district heating in Skopje, electricity production by the CHPP TE-TO and some industrial activities. Works to build the gas transmission pipelines between Negotino–Bitola and Skopje-Tetovo-Gostivar are progressing. Sections Gostivar - Kichevo and Sveti Nikole - Veles are being developed and prepared for financing. Preparation of project documents is underway (with funding by WBIF) for the interconnections with Kosovo and Serbia. Interconnection with Greece is at financing structuring stage after the two Transmission System Operators signed a cooperation agreement in 2021. Gas however, will not be funded under this investment plan.

⁹² Aide Memoire ACT IP Scoping Mission 22-25 May 2023 Skopje, North Macedonia

⁹³ Same

⁹⁴ Aide Memoire ACT IP Scoping Mission 22-25 May, Skopje, North Macedonia

2.6 Energy transition towards EU alignment

55. An overview of the energy transition dynamics of the country is also present in the EU Accession progress reports for North Macedonia, the latest being published in November 2023.⁹⁵ The national framework legislation on the internal energy market aligns with the EU's third energy package for gas and electricity markets, which are open for competition. The adoption of corresponding implementing legislation is well advanced. The electricity transmission and distribution network operators are unbundled in line with the EU acquis. The unbundling process of the Natural Gas Transmission System Operator has finished. Since January 2023, a new company Transmission System Operator for Natural Gas - NOMAGAS JSC Skopje started operating, as a result of the merging process of the previous TSO GA-MA and NER JSC. The new company is fully state-owned and is in the process of certification. Full transposition of the Regulation on Wholesale Energy Market Integrity and Transparency (REMIT) regulation, as adopted by the Energy community, has been done in 2023 with the adoption of the amendments to the Energy Law and of two Rulebooks issued by the Energy regulatory commission. Its implementation is on the way. According to the progress report, The Energy Regulatory Commission (ERC) is functional and continues to demonstrate regulatory independence. In the area of hydrocarbons, the law on mineral resources is aligned with the hydrocarbon licensing directive. The Renewable Energy Directive (REDI) is still to be transposed, even though the deadline for transposition expired at the end of 2022. Investments in hydropower are expected to be compliant with the relevant environmental acquis. The amendments to the Energy Law of 2022 made the NECP a legal obligation and replaced the Renewable Energy Sources (RES) action plan. Currently, the process for drafting of the new Energy law is underway, which shall transpose the Electricity Integration Package, as adopted and adapted by the Energy Community in 2022. The new Energy Law shall be adopted in the first quarter of 2024 in order to enable market coupling with the single European electricity market.

56. The Government sees solar PV (including on former mines) and wind plants as key to the energy transition for the country. However, coal-fired power plants provide 74% baseload capacity in North Macedonia and state-owned transmission system operator (MEPSO) has raised concerns about the (a) energy security of supply due to the intermittency of renewables, and (b) ability of the grid to operate while integrating renewables without further upgrades. For example, in the Bitola region (which produces 2,457 GWh per year and is a vital production node) alone, MEPSO received over 1 GW of RE connection requests by 2023 (compared to 7 GW for the entire country). Additionally, under the Law for Strategic Investments (2020),⁹⁶ two investments are approved by Government in the affected regions: a PV plan in Baldovenci with 138 MW installed capacity and a WPP plant in Prilep with 47.2 MW of installed capacity.⁹⁷ At the same time, the whole transmission system can currently integrate only 1.3 GW of renewables and any further RE capacity would require substantial investments in the grid.⁹⁸

⁹⁵ EU Progress Report North Macedonia, November 2023 https://neighbourhood-enlargement.ec.europa.eu/north-macedonia-report-2023_en

⁹⁶ Law for Strategic investment 2022 under which investments gain status of being strategic, therefore are expediated.

https://www.mzv.cz/public/9a/ed/d3/4542404_2796127_Zakon_za_strateshki_investitsii_vo_Republika_Severna_Makedonija_20_01_2020.pdf

⁹⁷ Government decisions from 25.11.2022: https://vlada.mk/sites/default/files/img/odluka_sip_balkan_renewable.pdf

and https://vlada.mk/sites/default/files/img/odluka_sip_enimak.pdf

⁹⁸ Aide Memoire – Scoping Missions 15-19 May 2023 <https://www.cif.org/documents/aide-memoire-north-macedonia>

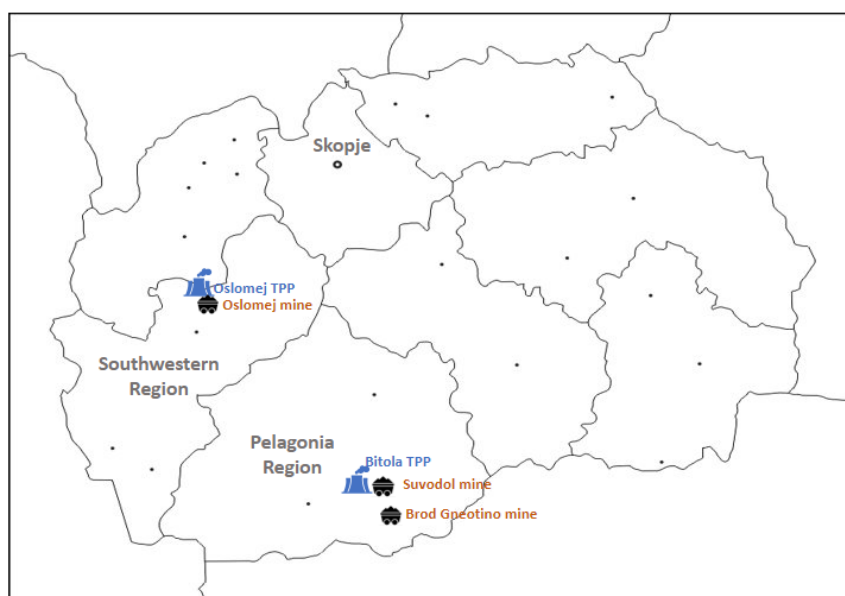
57. On top of the infrastructural challenges for the energy transition, the socioeconomic aspects of the accelerated coal transition must be addressed carefully, particularly in the Southwest and Pelagonia coal-reliant regions. The populations of these two regions will be unevenly affected by the coal transition, highly reliant on local coal value chains, as well as broader communities, unless just transition measures are actively taken. Socioeconomic opportunities need to be provided to people employed in coal power plants and mines (now – c. 3,808), plus a similar number in **coal value** chains; furthermore, upstream land repurposing for three coal mines (Oslomej, Suvodol and Bjord-Gneotino) and decommissioning/repurposing of power plants will require environmental remediation. It is essential to promote access to alternative livelihoods for those affected by the transition, while tackling pre-existing inequalities and preventing the widening of gaps. More specifically, it is critical to equip directly and indirectly affected workers with the career guidance and market-relevant skills required for either internal redeployments or external job transfers across the regional labour market, as well to support the reskilling of other target groups (such as women and youth from regions reliant on fossil fuels), with a focus on green and digital skills and energy efficiency competences in demand by employers. At the policy level, while passive labour-policy measures such as early retirement and compensation schemes can be helpful in the short term, they tend not to address long-term issues. Active labour market policies are required, such as measures to strengthen national education policies and employment services or support for the development of SMEs, focusing on job quality –going beyond the narrow counting of job numbers. Changes in local economies could also have impacts on the ability of local government to maintain infrastructure and services as well as the overall provision of services by public and private providers. As families face stressful financial conditions, additional support could be needed to manage social risks which may emerge gender-based violence, depression, and substance abuse, etc.

2.7 Southwest and Pelagonia Region Socioeconomic Context and Transition Activities

58. North Macedonia's small size means the impact of coal phase-out will be felt throughout the country—both in terms of indirect and induced effects on employment and value-added nationally. About 3,600 direct and about the same number of indirect jobs could be affected by the coal phase-out.⁹⁹ As majority of occupations from coal value chain will be irrelevant, substituted or transformed. Despite its diminishing role in the energy mix, coal-related employment is significant for both regions, therefore, plays an important economic role.

⁹⁹ Just Transition Roadmap 2023

Figure 16 Pelagonia and Southwest region with TPP Bitola and Oslomej and mining locations



59. Pelagonia and the Southwest regions are expected to experience most of the consequences of the coal phase-out. Coal mining and coal-powered energy production in the Pelagonia regions have had a significant impact on their economic and social development: a) directly through employment in ESM, the leading energy producer in the country and owner of the power plants and the mines, b) indirectly - through other parts of the coal value chains, and c) induced – through workers’ consumption. The biggest impact from the transition will be in the rural municipality of Novaci where the affected people are 25% of the total population of the municipality, even though the biggest absolute number of directly affected people is in Bitola and Kichevo with 7% and 6% of the population respectively. Summary of key demographic data are presented in Table 12.

60. Additionally, the energy transition process is also affecting the ESM suppliers’ companies and their workforce. While many are not directly impacted by the ‘coal phase-out’, the contractors which are most reliant on coal-related activities might face significant challenges. It is crucial for these companies to diversify their client base, explore new climate-smart opportunities, and facilitate relevant upskilling of their workforce in green and digital occupations.

61. Unemployment in the Southwest region is significantly higher than the national average (15.7% nationally, 21.2% in the Southwest region in 2021). However, the average gross and net salaries are below the national average. The Pelagonia region has a higher GDP per capita, while the Southwest region has a lower GDP per capita than the national average.

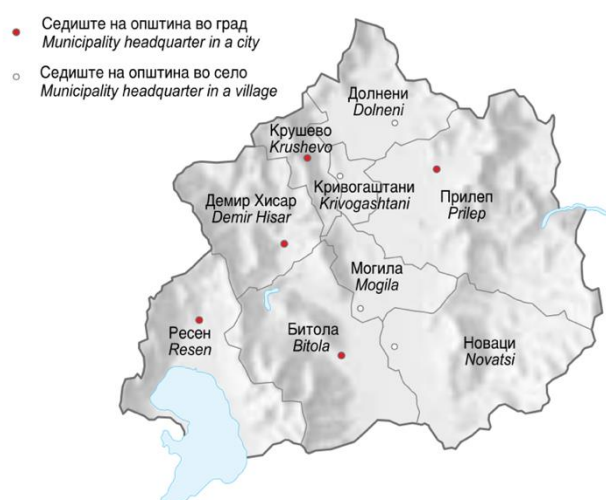
Table 12 Demography and economic parameters - State Statistical Office 2022¹⁰⁰

Indicator	Period	Southwest	Pelagonia	National
Population		177,398	210,431	1,836,713
Employment rate (%)	2021	41.3	54.6	47.3
Unemployment rate (%)	2021	21.2	12.2	15.7

100 Regional Statistics 2022 Regionite vo RM 2022.WEB.pdf (stat.gov.mk)

Average gross wage per employee (MKD)	2021	38,246	39,860	42,887
Net average salary per employee (MKD)	2021	25,615	26,663	28,718
Number of primary and lower secondary schools	2021/2022	124	172	972
Number of upper secondary schools	2021/2022	14	20	129
Number of students in primary and lower secondary education ¹⁰¹	2021/2022	17,226	19,580	186,649
2021/2022 Number of students in upper secondary education	2021/2022	6,600	8,067	71,081
Number of graduated students from universities	2021	658	900	7257
Number of active business entities	2021	7,218	7,791	75,914
Number of enterprises established	2020	532	456	5,141
Number of enterprises closed	2019	615	543	5,407
GDP per capita	2020	242,440	321,340	316,488

2.7.1 Pelagonia economic profile



62. The Pelagonia Region is in the south of the Republic of North Macedonia.

Territorially, it is the largest region, positioned for agricultural development. It also contains the largest coal deposits, making it the country's largest electricity producer.¹⁰² Demographically, Pelagonia faces the country's most considerable population decline.¹⁰³ The population in Pelagonia is in the aging, with the largest share of the population being 59-64 old. This means that the working-age population is also decreasing. The fertility rate is low (1.3 in 2018), while net migration is negative but low and stable.

The fertility rate is low (1.3 in 2018), while net migration is negative but low and stable.

63. Pelagonia has mostly mature companies (60%) and companies undergoing growth (33.3%). Manufacturing is rising in Pelagonia, while agriculture is declining as of 2021.¹⁰⁴ Projections indicate that manufacturing will grow the fastest in the next decade, followed by human health and social work activities, information, and communications, while agriculture, forestry, hunting, and fishery will further sharply decline. Similar decline trend is projected for mining and quarrying as well as wholesale and retail trade and construction.¹⁰⁵ As per the Economic Chamber analysis, there is a shortage of skills for 38% of the jobs needed in the region. In Pelagonia, as in other regions in the country, there are initiatives for connecting companies with vocational education providers (VET) in need of VET for the IT industry,

101 SSO Education and Science 2023 https://www.stat.gov.mk/PrikaziSoopstenie_en.aspx?rbrtxt=17

102 State Statistical Office – Regions in the Republic of North Macedonia 2022 https://www.stat.gov.mk/PrikaziPoslednaPublikacija_en.aspx?id=32

103 Analysis of Supply and Demand 2021 <https://www.e4e.mk/wp-content/uploads/2022/01/analysis-of-supply-and-demand-proofreading-and-translation71026.pdf>

104 same.

105 same.p.62

mechanical engineering, tourism, and hospitality.¹⁰⁶ Based on calculating the location quotient as a measure of regionally competitive sectors, Pelagonia is competitive mainly in agriculture, mining, manufacturing, and electricity (details in Table 8).¹⁰⁷

64. Regarding labour structure, the unemployment rate in the Pelagonia region is relatively low compared to other regions in North Macedonia, decreasing from 34% in 2008 to 12% in 2021.¹⁰⁸ From the registered unemployed persons actively looking for work in the municipality of Bitola in 2020, 53% are women and 47% are men. Most people have low levels of education. From the same report for 2022, in Bitola there were 4,070 unemployed persons (1,971 male and 2099 female). The demographic trend shows that the Pelagonia region has been experiencing a notable decline in its population, amounting to a substantial decrease of 11.6% during the period of 2002 to 2021. More than half (54%) of the unemployed persons are in the group of persons with no primary education, (43% are with primary education) and incomplete secondary education (11%). 27% of unemployed have completed secondary education and 19% have higher education. Skills-wise, Pelagonia has a shortage of employees with the following qualifications: assistant maintainer of smoke conduits, salesperson – sale services clerk, textile worker, automobile electrician, electrical technician, electrical mechanic, electrical mechanic for computer technology, florist, carpenter, baker, maintenance machinist, metalworker, welder, architectural technician, interior architecture designer technician, graphic arts technician, legal technician, trade and marketing technician, electrician-energy technician, electrician for computer technology and automatics mechanical technician, mechanical-energy technician, computer-aided management technician, clothing technician, textile technician, footwear technician, clothing computer operators, food technician, production process technician, chemical technology technician nutritionist technician, furniture and interior technician, wood processing technician.

65. The Pelagonia region is still lacking well-developed infrastructure. 18% of the region's road networks Pelagonia need improvement.¹⁰⁹ Transportation of goods by rail in the Pelagonia region in 2019 was higher by 3.7 times compared to 2015 (55,689 compared to 14,941 tonnes). The reconstruction of the railway line Bitola - Kremenica (border with Greece) provides an opportunity for a better connection of the Pelagonia region. A complete reconstruction of the line from the side of North Macedonia has finished, and the railway, once operational, will connect to a branch stop to the Zabeni industrial zone. Additionally, reopening the railway connection Veles - Bitola - Florina - Thessaloniki could positively impact the region's integration and development prospects.¹¹⁰ Finally, Pelagonia is close to "St. Apostle Paul" Airport in Ohrid, providing additional opportunities for business travel, and tourism into the region.

106 same.p.80

107 Location quotient (LQ) is a way of discovering the industries or occupations that are truly unique and specialized in a regional economy (compared to the national average). It is estimated as follows: $LQ_{(i,r)} = (A_{(i,r)} / A_r) / (A_{(i,R)} / A_R)$, where A the GVA, i the sector, r the region and R the country. If the $LQ > 1$ for a sector, then this is an important sector for the region. Note that in the adjacent Western Macedonia the LQ for 'mining and energy' is ~6.5, while for all the other sectors is less than 1. Eventually, location quotients will be utilised in the input-output analysis of the next project deliverable.

108 same. p.41

109 Strategy for regional development of Republic of North Macedonia 2020-2030 (Official gazzete No.76/2021).

110 same.

2.7.2 Southwest region Economic Profile

66. The Southwest region comprises the Southwest part of the Republic of North Macedonia.

According to the 2020 census, the region has 9.7% of the country's population. The configuration of the terrain, encompassing the river basins of Treska and Crn Drim and the Ohrid Lake basin, indicates the great hydro potential of the region, partly utilised by the artificial lakes Shpilje and Globochica with their hydroelectric plants. These geographical characteristics and the mild climate are favourable for fruit growing, wood processing, and tourism. Ohrid Lake, considered the oldest lake in Europe, is protected by UNESCO.¹¹¹ The population of the region has decreased by 1.23 % over the past decade (2009- 2019), in contrast to the country's general increase (1.15 %). This is driven in part by the lowest fertility rate in the country (1.06 in 2018) and one of the lowest in Europe.¹¹²



67. Regional economy is driven largely by tourism. The largest sectors by gross value added (GVA) include wholesale and retail trade, repair of motor vehicles and motorcycles, transportation, and storage, and accommodation and food service activities. The sector participates with a significant 30.6% of the region's GDP (2019). The second most important sector in GVA (13.8% in 2019) is real estate activities. Mining, manufacturing, electricity, gas, and water supply, sewerage, waste management, and remediation activities participate with 17.5% of the gross value added of the Southwest region and a share of 7% of the sector at the national level. The Southwest region and Polog region in North Macedonia have a dominant share in the electricity production through renewables (35 % and 31.1 %, respectively) and, specifically, through hydropower plants.¹¹³

68. Unemployment rates have decreased but remain high (21.2 % in 2021) and persistent among the most vulnerable groups, such as lower-skilled and young people. There is also a high incidence of inactivity for women, as well as high unemployment and inactivity among people with medium and higher levels of educational attainment, indicating a structural deficit in the economy, a mismatch in the labour market skills supply and demand and a lack of entrepreneurial drive among the latter group. According to the data from the State Statistical Office as of 30 June 2023, in Kichevo there are 3,221 registered unemployed persons. 1,898 of unemployed are with primary school (or not finished basic education), 1,024 with secondary education, and 299 with higher education (including master and PhD). Specifically, in Kichevo there are 3,211 unemployed persons (1,561 male and 1,650 female).

¹¹¹ same

¹¹² JTR Assessment 2023

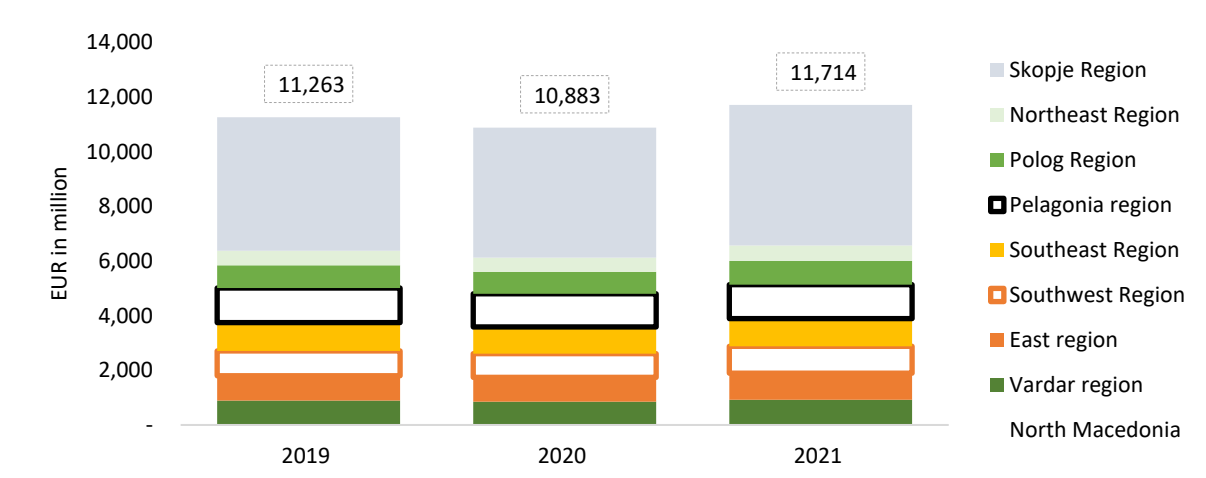
¹¹³ same.

69. The Southwest region is also facing challenges in terms of infrastructure. The road network of the Southwest region is more extended than that of Pelagonia (59.2 km/100 km² compared to 41.9 km/100 km²). It is also in better condition as the region experienced the greatest improvement of its local road network in the past years. The construction of Corridor VIII, one of the pan-European multi-modal transport system that connects South of Italy and Adriatic Sea with the Black Sea Coast of Bulgaria, will be of great importance for the area as it passes through Ohrid and Kichevo, although there are continuous delays in its implementation. The "National Plan 2021-2027" foresees the highway construction between Struga and Kjafasan (border with Albania). The region has only 25.8 km of railway network, corresponding to 3.8 % of the country's total. Large cities such as Ohrid and Struga do not have railway stations and railway infrastructure nearby. Air transport is organised through the Airport "St. Apostle Paul" in Ohrid.

2.7.3 Challenges and opportunities for economic development of the Pelagonia and Southwest regions during energy transition

70. Comparatively speaking, both the Southwest and Pelagonia regions contribute significantly to the country's economic growth (Figure 17).

Figure 17 Contribution of Pelagonia and Southwest regions to the economic development of North Macedonia (PwC ESM study 2023)



71. The coal phase-out may disproportionately affect the labour market and business structure in the two regions. The employees from ESM directly contribute to the local economies (Table 13). On the one hand, there is the need of supporting workers who will need to change workplace due to the phase-out, through reskilling and redeployment, and on the other hand creating opportunities for those that are not active in the labour market, especially women and youth. The ESM's TPP transformation will also affect suppliers servicing REK Bitola and Oslomej. Furthermore, between 25-30% of citizens in North Macedonia, reflected also in these two regions, live in energy poverty, that can further affect vulnerable communities, if measures are not undertaken during the coal phase-out.¹¹⁴

114 Energy Poverty Toolkit Analytica 2023 https://www.analyticamk.org/images/2023/08/_piracnik_final_EN.pdf

Table 13 ESM employment (As presented in Just Transition Roadmap 2023)

ESM data 2021	REK Bitola (Pelagonia)	REK Osłomej (Southwest)
Employees (including those in FOD - Factory for equipment and parts and FORT - Factory for maintenance, repair, and transport).	3,116	1,150
Mining	1,514	554
Electricity production	1,010	401
Non-permanent workers	290	100
FOD workers	302	95
Men	87%	92%
Direct value-added annually to the local economies	EUR 84,858,507	EUR 31,725,911
Residence of workers ¹¹⁵	Bitola, Mogila, and Novaci	Municipality of Kichevo.

72. Regarding the social factors in the process of coal phase-out, there are no specific programs for the Southwest and Pelagonia, according to the Ministry of Labour and Social Policy.¹¹⁶ On a national level, MLSP provides social transfers during the heating season, especially during the COVID-19 pandemic and energy crisis periods. Various projects have been implemented to support purchasing inverter air conditioners and energy efficiency. Still, the users of social help (most vulnerable consumers) live in dire, sub-standard conditions and do not see the potential for improvements. There are also no early retirement schemes/programs for coal value chain employees, only social pensions. The Employment Agency administers programs for unemployed people but not exclusively for the targeted regions. There is also an educational transfer (grant) for youth that work in the industry, equivalent to MKD 3,000 MKD (EUR 50) per month. However, there is a need to target specifically workers and vulnerable groups in coal-affected regions and facilitate their transition.¹¹⁷

Table 14 Location Quotient calculation for Pelagonia and Southwest region (2019) – regionally competitive sectors

Regionally competitive sectors by location quotient	Pelagonia	Southwest
Agriculture, forestry, and fishing	2.1	0.5
Mining, manufacturing, electricity, gas and water supply, sewerage, waste management, remediation activities	1.5	0.8
Construction	0.7	0.8
Wholesale and retail trade, repair of motor vehicles and motorcycles, transportation, and storage; accommodation and food service activities	0.7	1.3
Information and communication	0.4	0.2
Financial and insurance activities	0.2	1.2
Real estate activities	1.0	1.7
Professional, scientific, and technical activities; administrative and support service activities	0.4	0.5

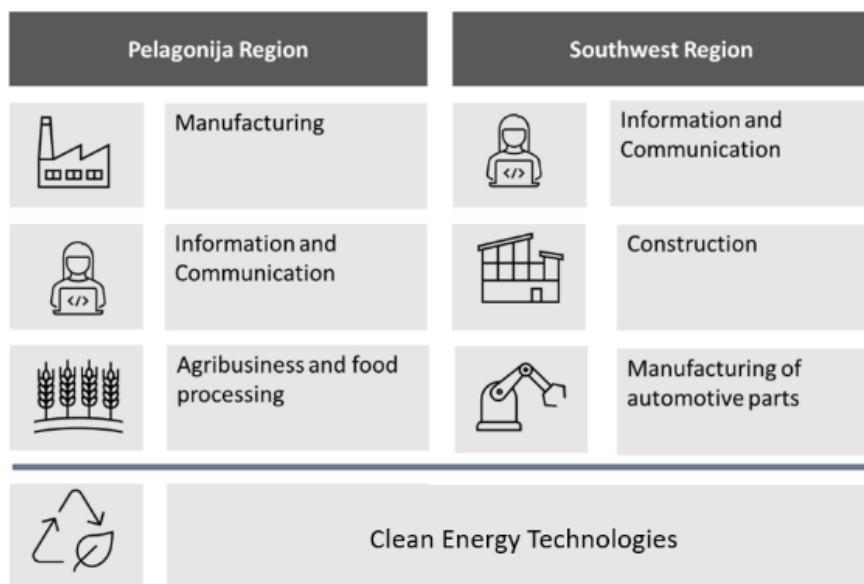
¹¹⁵ Just Transition Roadmap May 2023

¹¹⁶ Aide Memoire ACT IP Scoping Mission 22-25 May, Skopje, North Macedonia

¹¹⁷ same

Public administration and defense; compulsory social security; education; human health and social work activities	0.7	1
RSTU Arts, entertainment and recreation, repair of household goods and other services	0.6	0.8

Figure 18 Sectors with highest development potential in Pelagonia and Southwest region (PwC ESM study 2023)



73. Currently, the non-government initiatives to support affected people in the two regions are also limited. One example is the EBRD’s investment with the ESM for the construction and operation of a 30 MW solar photovoltaic project across two sites. As part of the investment, the Bank supports the capacity enhancement of the company to actively contribute to the preparation of regional economic development measures, as well as the development and implementation reskilling and redeployment initiative to improve access to market-relevant skills and employment opportunities for affected workers.¹¹⁸ While there are some discussions and initiatives to encourage workers to move to solar photovoltaic power plants (PVPPs), this is not a popular choice now due to a perceived lack of job security.¹¹⁹

74. There are some minor but positive examples of initiatives supporting people’s upskilling and reskilling by private companies in the affected regions. Taskforce in Pelagonia has supported about 1,500 people from other professions to re-qualify to work in IT.¹²⁰ It also provides good salaries and incentives, and support employment of older people, who may face ageism discrimination in the labour market. The latter is particularly important, since according to the Economic Chamber of North Macedonia – Regional Office representatives in Bitola, particularly citizens above 55 (predominantly from rural areas) are unemployed and face challenges with re-skilling in both the Pelagonia and the Southwest region.¹²¹

118 EBRD Projects North Macedonia <https://www.ebrd.com/work-with-us/projects/psd/53692.html>

119 Aide Memoire ACT IP Scoping Mission 22-25 May, Skopje, North Macedonia

120 Interview with representatives from Regional Office Bitola - Economic Chamber of North Macedonia (15.06.2023)

121 same

75. Besides being an economic opportunity, the coal-phase out offers an opportunity to improve the quality of life in both regions, including through air, water, and coal pollution reduction.¹²² Dust and sulphur dioxide emissions from the power plant are consistently higher than emissions' legal limits. For example, the two stacks of the Bitola power plant, Bitola B1+B2 (60,422 tonnes) and Bitola B3 (24,091 tonnes) remain the country's most significant source of SO₂ emissions. In the past few years, the plant has frequently been ranked among Europe's top five emitters of pollutants.¹²³ In addition, coal ash, a by-product of the electricity production process, is deposited in the open near the plant and was found to contain heavy metals whose radioactive levels also exceed allowed limits, contaminating local soil and water.

76. These local air pollution levels continue to pose significant health risks for citizens. A Bankwatch analysis from 2021 shows that fine dust PM_{2.5} concentrations alone are responsible for up to 8 % of all deaths among adults in Novaci – the closest rural municipality to the TPP Bitola.¹²⁴ The study claims that if Bitola had complied with its emissions ceilings, it would have avoided almost 300 deaths in North Macedonia in 2020. While no country-specific data has been identified, a study for Western Balkans also highlighted air pollution effects on children: in 2020, in the Western Balkans, there were 6,290 recorded days of asthma symptoms.¹²⁵ Additionally, in 2020, an estimated 212 cardiovascular and respiratory hospital admissions were due to PM_{2.5} from the emissions breaches, costing a total of EUR 0.28 million. Air pollution also impacts labour productivity: 74,349 workdays were lost due to sick leave caused by the pollutant PM_{2.5} in 2020 in the region, costing the modelled Western Balkans countries EUR 6 million.

77. In summary, the energy transition in Pelagonia and the Southwest regions can catalyse innovative green development based on the strengths and opportunities for the regions, with appropriate planning, investments, and governance structures. Table 15 summarises the strengths and weaknesses, threats, and opportunities for Pelagonia and Southwest region that can either support or impede the just energy transition. These observations build upon the Just Transition Roadmap which advocates for a paradigm shift that will allow these regions to use the coal phase-out as an opportunity to achieve a high development rate and disentangle from their reliance on low value-added activities. Robust policy framework and market mechanisms (e.g., auctions) can help the country attract investments in the regions and gain access to cheaper and abundant clean energy. Green economy transition will also create new high value-added opportunities, in a field where technologies are changing rapidly, creating new investment opportunities and knock-on effects from increased innovation. Therefore, both regions can move from labour-intensive to knowledge-intensive and resource-efficient sectors, through restructuring their development patterns and ensuring human capital development.

122 Comply or close – Bankwatch June 2023 2023_06_28_Comply-or-close.pdf (bankwatch.org)

123 North Macedonians' go slow on greener energy is costing lives 2022 <https://balkaninsight.com/2022/04/06/north-macedonias-go-slow-on-greener-energy-is-costing-lives/>

124 Comply or close – Bankwatch June 2023 2023_06_28_Comply-or-close.pdf (bankwatch.org)

125 same.

Table 15 SWOT Analysis for Pelagonia and Southwest regions

Strengths	Weaknesses	Opportunities	Threats
Palagonia region			
<p>Highest salaries next to Skopje region</p> <p>Higher GDP per capita than the national average</p> <p>Demand on the skilled workforce</p>	<p>Decline of agriculture as a traditional sector</p> <p>Poorly developed road infrastructure</p> <p>High dependence on mining and quarrying</p> <p>Skills mismatch</p> <p>Women’s low participation in the labour market</p>	<p>Revitalizing agriculture and manufacturing sector</p> <p>Reskilling for IT</p> <p>Equip transition affected workers with skills either for internal redeployments or external job transfers</p> <p>Support upskilling of target groups - e.g., women and youth with a focus on green and digital skills and energy efficiency competences to ensure development of the necessary talent pools for energy sector and close gender gaps</p>	<p>Highest population decline nationwide, with low natality and aging population.</p> <p>Public health impacts from environmental pollution of coal plants and mines</p> <p>Relatively week institutional framework for human capital development in the county at national/regional/sectoral; level</p> <p>Unequal distribution of care work affects the capacity of all women to productively contribute to the economy.</p>
Southwest region			
<p>A significant share of young employable population</p> <p>Low dependence on mining</p> <p>Demand for the skilled workforce</p>	<p>Lower GDP per capita than the national average</p> <p>No railway infrastructure in large cities</p> <p>Skills mismatch</p> <p>Women’s low participation in the labour market</p>	<p>Tourism improvement</p> <p>Blue economy development initiatives</p> <p>Equip the workers directly or indirectly affected by the transition with the market-relevant skills required for either internal redeployments or external job transfers across the regional labour market</p> <p>Support the upskilling of other target groups, e.g. women with a focus on green and digital skills and energy efficiency competences to ensure development of the necessary talent pools for energy sector and close gender gaps</p>	<p>Lowest fertility rate in the country</p> <p>Relatively week institutional framework for human capital development in the county at national/regional and sectoral levels</p> <p>The unequal distribution of care work affects the capacity of all women to productively contribute to the economy.</p>

2.8 Role of Private Sector, Innovation, and Leverage of Resources

78. Most of the active companies in North Macedonia are micro companies with one to nine employees (82%) in 2021. Only 0.3% of active business entities employ over 250 employees. In 2020, micro, small, and medium-sized enterprises (MSMEs) prevailed in North Macedonia, representing 99% of active companies.¹²⁶ Small and medium-sized enterprises (SMEs)

¹²⁶ same

represent 99 percent of the total registered companies and employ 75% of the country's workforce in North Macedonia. While the number of active companies in North Macedonia has grown over the year, 2020 saw a 4% dip compared to 2019 due to the pandemic.¹²⁷

79. Private sector innovation, research and development could play a significant role in the accelerated coal transition process, but North Macedonia is lagging on these aspects. North Macedonia ranks 82 out of 141 countries in the Global Competitiveness and Innovation Report 2019 and 74 out of 154 in the Competitive Industrial Performance Index 2022. The European Innovation Scoreboard characterises North Macedonia as an emerging innovator, with performance at 46% of the EU average. Performance is below the average of the emerging innovators (50%) but is increasing (14.5%-points) at a rate higher than that of the EU (9.9%-points) during 2006-2023.¹²⁸ This means North Macedonia's performance gap with the EU is shrinking. Since the EU is the country's leading trade partner, the value chain integration should be closer aligned with the EU internal market *acquis* and compliance with the EU standards, as well as the European Green Deal and the Circular Economy Action Plan.¹²⁹

80. The Republic of North Macedonia strives to include energy transition technologies and measures in its research and innovation (R&I) priorities concerning research, innovation, and competitiveness. The Smart Specialisation Strategy from 2023 identified the energy sector as one of the priority areas that need innovation. The NECP identifies the need for frequent revision of the energy-related curricula at all educational levels to follow the innovative trends in science and technology, especially in energy transition.

81. In terms of funding the research and innovation activities related to energy and climate, the country plans to continue the national support via the mechanisms of the Fund for Innovation and Technology Development (FITD) to support innovation in MSMEs. The FITD's programmes also include possibilities for new mechanisms targeting the public sector and large enterprises. These support mechanisms will enable knowledge and technology transfer between the scientific institutions and the industry, thus enhancing the competitiveness of the business sector and, at the same time, supporting industry-driven science. Additionally, the access to international support from the EU research and innovation programs (like Horizon Europe) and other donor funds should be further enhanced by establishing effective project management units in the responsible ministries (comprised of multidisciplinary officers involved in the planning, evaluation, and monitoring procedures) and by increasing the competences of the institutions to absorb such funds effectively.¹³⁰

82. Regarding competitiveness, the NECP advises that SMEs should be encouraged and supported to diversify their portfolio of services and products in RES and EE by providing suitable financial and technical mechanisms. The mechanisms included in the FITD programs (like co-financing grants, business accelerators, technology transfer offices, Science Technology Park, etc.) could be a good starting point for improving the business environment and ensuring the competitiveness of companies.¹³¹ SMEs' greening efforts have been encouraged by increased access to finance. The Development Bank of North Macedonia has

127 State Statistical Office 2021

128 European Innovation Scoreboard - North Macedonia 2023 ec_rtd_eis-country-profile-mk.pdf (europa.eu)

129 same

130 NECP 2022

131 same.

become essential in fostering green lending to SME projects, including as part of COVID-19 recovery programs. Moreover, the recently adopted Plan for Accelerated Growth (2022-2026) is expected to provide an impetus to greening measures by introducing several instruments to promote and finance SMEs' green projects.

83. An opportunity to cushion the coal-phase out impact on the labour market is by considering further investments by both FDIs and domestic investors in the Technological Industrial Development Zones (TIDZ) or the municipal industrial zones (MIZ). ¹³²An Industrial zone is a part of the territory of the Republic of North Macedonia owned by the Republic of North Macedonia, as a specially fenced and marked area that is a functional unit in which activities are performed under conditions prescribed by the specific laws.¹³³ These are areas of land connected to infrastructure (transportation, power, water, wastewater, and supporting services) usually in the periphery of a city, for the purposes of industrial development. There are currently 15 operational TIDZs, among which are the zone in Kichevo, Bitola and Struga ¹³⁴ and a new planned green zone Gevgelija. The latter intends to provide green infrastructure and attract climate smart businesses through cooperation between local businesses, community and authorities to reduce waste and pollution, efficiently share resources (such as information, materials, water, energy, and natural resources), and help achieve sustainable development , with the intention of increasing economic gains e and improving environmental quality . The zones have managed to attract 34 large MNEs nationwide in several strategic industries such as automotive, domestic appliances, construction materials and batteries. Many municipalities, including those in the Pelagonia and the Southwest regions have also established municipal industrial zones (MIZ) at different levels of development and size of investments. Particularly the municipal industrial zones are underutilized mechanism for attraction of both foreign and domestic investors, that can create new jobs in the coal-affected regions.

84. Finally, North Macedonia provides incentives for attracting and supporting both domestic and foreign investors via its industrial zones, as well as via the Law for Financial Support of Investment enacted in 2018 to support accelerated technological growth of the manufacturing sector. The industrial zones and subsidies continue to play a crucial role in bringing know-how to the country and enabling private sector investments. Therefore, they can be a catalyst for new investments and job creation in the coal-affected regions. The incentives offered in TIDZs and MIZs are summarized in the following table.

¹³² During the stakeholder engagement, it became clear that the MIZ present an underutilized mechanism and potential for local economic development in the coal affected regions, that need support to improve infrastructure and governance to be able to attract climate-smart investment. More on the discussions under Stakeholder engagement section in this IP.

¹³³ Industrial Zones <https://investinseregion.mk/index.php/en/poddrska-za-msp-2/zoni-za-investiranje/indz?contrast=highcontrast3>

¹³⁴ According to the TIDZ web site information, <https://fez.gov.mk/en/home-english/>

Table 16 Overview of the current Technological and Municipal Industrial Zone Incentives

Type of support	Law for TIDZ ¹³⁵	Municipal Industrial Zones (MIZ) ¹³⁶
Capital Expenditure (CapEx) cash incentive	<ul style="list-style-type: none"> ✓ Standard structure: Cash incentive up to 10% on capital investment (CapEx) budget. Maximum cumulation up to 50% of eligible investment costs (including the personal income tax benefit). ✓ Flex, advanced and premium structure: individualized approach based on business plan analysis. Increased cash incentive up to 25% based on CapEx plus tax exemptions. 	<ul style="list-style-type: none"> ✓ Covering 10% of the annual costs for construction of facilities, procurement of equipment over 5-year horizon, but not higher than 50% on aggregate amount (Based on Law for financial support of investments); ✓ Cash incentive of additional 10% on the same capital investment for competitiveness increase (revenue growth) over the same period
Personal Income Tax (PIT) Exemption	Up to 10-year exemption from (or paid subsidies) personal income tax.	New employment benefits subsidy over the same period.
Corporate Tax	Up to 10 years from the start of the operations.	No incentives.
Value Added Tax (VAT)	VAT exemption on: <ul style="list-style-type: none"> ✓ goods and services imports in the TIDZ; ✓ turnover of goods and services within the TIDZs. 	No incentives.
Import duties	<ul style="list-style-type: none"> ✓ Exemption of import duties for imported goods in the zones; ✓ Exemption from customs guarantee obligation for import of goods for the following industries: ICT, R&D and new technology development based on outstanding environmental standards. 	No incentives.
Land Infrastructure development (communal) fee	Exemption on the land infrastructure development fee.	Municipality can decrease communal tax for investors in the MIZ.
Land lease	Beneficial land lease price of EUR 0.1 per 1 m ² annually up to 99 years. However, there is a land operating & maintenance fee in addition to land lease fee.	Auctions for land starting with 1EUR per m ² .
Workforce training and re-skilling costs	Employee training cost remuneration for general and special skills up to 50% from the total CapEx for general skills, and up to 25% from the total CapEx for special skills.	Up to 50% of the expenses for R&D activities and new market penetration.

2.9 Barriers to Just Transition Away from Coal

85. The energy security concerns are an important factor in transition away from coal. Given coal’s predominant role in North Macedonia’s generation, coal phase out, must be supplemented by transition measures, and large investments in renewables and the grid. In addition, integration of the Macedonian electricity market with the European single electricity market should be ensured to address the security of supply concerns. This requires implementation of the Electricity Integration Package, including the Risk Preparedness Regulation and all necessary regional security of supply measures. Furthermore, ending coal mining activities will require remediation which is costly for ESM, and the country as whole.

86. The need to ensure just transition presents another key challenge for Southwest and Pelagonia regions. The two regions, facing the coal phase out contribute approximately 19% to the total GDP of the country.¹³⁷ The salaries of employees in this sector are significantly

¹³⁵ For the TIDZ, this is the relevant law. The Law for financial support of investment is essentially the same yet addresses the local companies as well outside the TID zones.

¹³⁶ Law on industrial green zones (municipal industrial zones) 3 A K O H (thebalkanforum.org)

¹³⁷ SSO Regional statistics (2022) and PwC ESM Analysis 2023

higher than in other industries, with an average net salary equal to EUR 720 vs an average market salary of EUR 500/month. Although coal sector does not generate significant absolute number of jobs, dependency and transition risks exist across the coal ecosystem on many layers. For example, there are no specific measures targeting population and supply chains in these two most affected regions. This may cause lack of societal buy-in and resistance to energy transition if no concrete socio-economic measures are envisioned. Further details and the role of IP in addressing them, are outlined in Annex 1.

3. Programme Description

87. As a Government-designed and owned Investment Plan, the IP reflects the Country's priorities regarding the accelerated coal transition. The main objective of the ACT Investment Programme is to tackle critical barriers related to governance, people, and infrastructure; address funding gaps leading to the successful implementation of country-level strategies and kick-starting projects; build support at the local and regional levels; and accelerate the retirement of existing coal assets (coal mines and coal power plants) together with enabling new economic activities for those impacted by the transition.

88. Based on the extensive stakeholder engagement and strategic documents, the ACT investment plan: 1) focusses on the most affected regions - Pelagonia and Southwest, 2) prioritises the energy sector transformation due to its largest impact on GHG emissions, 3) recognises the need for grid enhancement, including storage solutions, before further investments in renewable energy sources, 4) and sees human capital as pivotal horizontal dimension across investment activities.

89. This IP aims to support North Macedonia in shifting from a predominantly coal-powered into a predominantly renewable energy-sourced economy in a socially just way that fosters economic opportunities for the people in coal-reliant regions, while attracting public and private climate-smart investments. This assumes electricity market integrated with the single European electricity market, to ensure security of supply.

90. Throughout the projects' delivery, human capital development will remain at the core, as accelerating coal transition requires new skills and a labour market shift from coal-based jobs to clean energy jobs. Both the Just Transition Roadmap adopted in 2023, and stakeholder consultations during IP preparation, emphasised high unemployment rate, including among youth, and gender gap in the labour market, as well as the lack of skilled workforce, especially in the energy sector. They also highlighted brain drain patterns already present in the Southwest and Pelagonia regions, weak education systems, especially TVET, and labour market policies unprepared for shift to green and digital skills and jobs, among the key transition challenges. To achieve this goal, it is essential to incorporate re-skilling and upskilling initiatives for workers affected by the transition, as well as for young people (with a focus on NEETS – Not in Employment, Education or Training), without any previous occupational skills or work experience, while simultaneously improving education and facilitating labour market reforms. This will ensure that both current and future workforce can acquire the necessary skills to secure decent employment opportunities in the emerging

green economy to unlock the job potential of renewables and other clean energy solutions. This entails offering basic vocational skills training and re/upskilling. At the policy level, the programme will support the development of active education and labour market policies, such as greening TVET system, developing green occupational standards etc, support for the development of SMEs, with the focus on job quality, going beyond the narrow counting of job numbers.

91. The IP also aims to enhance the participation of women in the labour force, particularly on green and digital skills. This can be achieved by capitalising on the growing economic opportunities arising from the expansion of renewable energy sources. Considering the current occupational segregation in energy sector, men will naturally benefit from reskilling and upskilling opportunities, enabling them tap into new job opportunities brought by JT. Women may get primarily administrative jobs, unless measures are taken to train them in relevant technical, entrepreneurship skills. Thus, the IP will integrate a gender component to support women in accessing alternative livelihoods including re- and upskilling, leadership, entrepreneurship, financial literacy programs to promote self-employment. Activities will also be developed at the sectoral level by providing support to women's professional networks. At the policy level, activities will encompass the integration of recommendations from EBRD's Toolkit for Accelerating Gender in Climate Strategies - e.g., on how to set sex-disaggregated benchmarks for the strategy KPIs or involve women in the decision-making process related to the design and implementation of such strategies. This could also include strengthening private sector/municipality-driven legal and regulatory environment for care provision (childcare, elderly care).

3.1 Overview of the proposed interventions

92. Specifically, the ACT IP of North Macedonia consists of the following three projects and components that will catalyse the coal transition:

- Project 1: Retiring coal assets and re-powering with RE
- Project 2: Socio-economic Regeneration of Pelagonia and Southwest regions
- Project 3: Energy efficiency, clean heating, and distributed generation program

3.1.1 Project 1: Retiring coal assets and RE-powering with RE

Project 1 focuses on the retirement of coal assets and re-powering with RE. The objectives of Project 1 are fourfold: (a) contributing to the country's NDC target via substantial reduction of energy sector emissions through a full coal-phase out, (b) ensuring environmental remediation and effective land repurposing of former coal mining lands, including for RE deployment, (c) accelerating transition and ensuring energy security through investments in grid strengthening, synchronous condensers and storage solutions in the affected regions to enable re-powering with renewables, (d) promoting access to alternative livelihoods for those affected by the transition process through reskilling and upskilling, towards just transition. The Project contains three components:

Component A supports **powerplant retirement, mine remediation and repurposing**. The former includes discontinuing the coal power generation, disconnecting the assets from the system, demolition and blasting activities, and site clearing and remediation, unless viable repurposing alternatives are identified. The latter includes repurposing of post-mining lands and associated sites for alternative uses. This component also contains the governance element covering the development of the powerplant decommissioning plans.

Component B is a **PROSPECT programme - Providing Renewable Opportunities through Solar and Education in Coal Territories**. It focusses on solar PV deployment, with human capital development programme for the affected workforce. Given the current electricity import reliance (over 26% in 2023), price volatility and increased regional electricity and fossil fuel costs, North Macedonia needs to prevent increasing import reliance in the transition period, to protect vulnerable consumers and avoid exacerbation of energy poverty. As such, to enable coal plant retirement, it is critical to prioritise rapid deployment of renewables (including solar PV on coal mine sites) primarily via competitive mechanisms. The component will also include a programme for the affected workforce. It will cover the introduction of a series of high quality, nationally accredited training courses, including gender component, designed and implemented in partnership with local TVET and higher education institutions. In addition, the programme will support development of green education policies and regulatory frameworks, to ensure that local educational institutions provide affected workers with required skills to obtain decent employment.

Component C is **PowerHub: Grid Strengthening, Batteries, Training for Tomorrow**. It focuses on the **deployment of enabling infrastructure to support RE integration in the regions**, including to provide improved access to skills and employment for affected communities. When enabling the transition to intermittent renewables, it will be important to provide grid upgrades **and energy storage solutions** and ensure **grid flexibility and balancing**, to provide stable electricity supply and minimise the role of gas in the baseload. To this end, up to 100MW of storage (e.g., utility-scale battery storage energy systems) could be deployed on power plant/mine sites, together with grid investments. Supporting RE integration and transition to intermittent renewables requires skilled workers, including planning, engineering, technical and operational professionals, currently in deficit. Thus, the component will also support the development of training centre with MEPSO, the transmission system operator, including creation of opportunities for women and girls in green occupations.

The project's three components are at the heart of delivering on the energy transition in North Macedonia, and are well-aligned with the pillars of the CIF ACT programme, including: (a) *infrastructure* – mine closure, plant decommissioning, reclamation and repurposing, repowering with RE and storage and ancillary services; (b) *people* – contributing to implementation of social plans (including Just Transition Roadmap) and promoting access to alternative livelihoods for those affected by the transition process through reskilling and upskilling, and (c) *governance* via support in developing asset decommissioning plans, and auction design to support the attraction private sector investments, as well as capacity building for local vocation training institutions.

3.1.2. Project 2: Socio-economic Regeneration of Pelagonia and Southwest regions

Project 2 focusses on the socio-economic regeneration of Pelagonia and the Southwest regions. The overarching goals of this project are to: (a) support existing companies in the region in green transition and expansion, to provide sustainable employment opportunities in green and climate-smart business segments, (b) support broader human capital development in the region via upskilling and re-skilling of the workforce, as well as measures to support women's and youth's integration into the labour market; (c) attract new climate-smart investments into Southwest and Pelagonia regions to support economic regeneration (e.g. smart agriculture, batteries etc.) including though improving local infrastructure. The following sections elaborate on the proposed implementation approach, key investments and implementation considerations related to the proposed initiatives. Project 2 is comprised of:

- **Component A: Green & Growth (G&G) programme** will focus on channelling finance via local partner financial institutions (PFIs) to the Southwest and Pelagonia regions. The G&G programme would have two partially overlapping windows: (1) green - to support regional SMEs' low carbon transition via energy efficiency and renewable energy investments; and (2) growth – to support regional business growth and human capital development via capex investments. Via Advisory for Small Businesses programme, this component will support companies in increasing employability via provision of trainings, as well as foster the entrepreneurial ecosystem in the regions though support to start-ups.

Component B is Revitalise: industrial zones for economic regeneration. It will support the development of industrial zones in the Southwest and Pelagonia regions to address barriers to attracting domestic and foreign investments in high value-added industries in line with state aid rules. It will also support municipalities in strengthening their planning capacities for zones' development and broader socio-economic planning.

Component C targets an **economic regeneration programme** to support the attraction of corporate climate-smart investments in Southwest and Pelagonia regions, coupled with human capital development. This component will support direct financing to corporates by EBRD and IFC, including via debt, equity, or mezzanine instruments. These components will also help companies to implement dedicated programmes to increase engagement of women in technical and managerial positions, through employing higher standards of gender equality across operations, implementing internship, mentorship, and other structured learning programs for women. The human capital development aspect of this component will target not only affected workers, but also create the opportunities for other target groups, with a focus on green and digital skills and energy efficiency competences to ensure that the benefits of the green economy transition are shared, and no one is left behind. This is of particularly relevance for women, who unless measures are taken to upskill them, might get only fraction of the jobs brought by the green transition. At the policy level, support will include establishment of public-private partnership mechanisms, to

enable private sector employers to inform the development of occupational and skills standards in line with industry needs.

The project's three components align with the pillars of the CIF ACT programme, including: (a) *infrastructure* – investment in municipal industrial zones and related infrastructure; (b) *people* – contributing to human capital development for climate-smart jobs and support for SMEs to invest in climate-smart skills; and (c) *governance* - supporting local governments' capacity to manage industrial zones and attract climate-smart investors as well as capacity building for local educational and training providers.

3.1.3 Project 3: Energy efficiency, clean heating, and distributed generation program

Project 3 focuses on **energy efficiency, clean heating and distributed generation**, with the following objectives: (a) to reduce electricity demand through retrofits, enabling accelerated coal phase out and lowering energy costs for the population, (b) to improve air quality in coal-reliant municipalities via clean heating investments, (c) to introduce new income generating opportunities for local communities via distributed generation, and (d) enable new job creation opportunities in energy efficiency and distributed generation in the affected regions. This includes:

Component A is ECOBOOST: Empowering Coal Communities with Efficient and Renewable Lending. It focuses on providing: (a) concessional investments for energy efficiency, and distributed generation to households in coal-reliant regions via partner financial institutions, (b) supporting energy efficiency and distributed generation of public sector buildings via municipal lending building. It will help to reduce energy costs to the population, reduce energy demand and create new economic opportunities, including through jobs in EE retrofits and distributed RE, and through selling electricity from prosumers.

Component B is EcoCommune: Community-Centric Clean Energy Initiative. This Component will work on towards the same objectives but will target less commercially viable investments with higher levels of concessionally. It will focus on a) clean heating, b) household energy efficiency and rooftop solar installation programme for vulnerable consumers, and c) public sector buildings. It will also explore the opportunity to support the development of energy communities.

The project's two components align with the pillars of the CIF ACT programme, including: (a) *infrastructure* – supporting investment in EE infrastructure both for community and residential buildings as well as clean heating infrastructure; (b) *people* – supporting the living standard and quality of life of people by improving their infrastructure and protecting against high electricity bills, as well as enabling creation of local EE and distributed RE jobs; and (c) *governance* by supporting municipalities in implementation of municipal EE plans, as well as and local communities in taking active part in energy transition.

Detailed project concepts are available in Annex 4.

3.2. Investment Preparation Activities

93. In preparation for the Investment Plan, an additional USD 0.5 million investment plan preparation grant (IPPG) was utilised for specific studies and activities supporting the IP via MDBs. The Government of North Macedonia accessed the USD 0.5 million to conduct the following investment plan preparation activities: 1) Capacity Building Support to the Ministry of Economy – Energy Sector to lead the drafting of the Accelerated Coal Transition Investment Plan to ensure inclusive, coordinated, and well-communicated process by embedding stakeholder engagement expert in the Ministry of Economy's Energy Sector, and acquiring support from the technical advisor; 2) Assessment of climate-smart economic diversification opportunities in Pelagonia and Southwest regions; 3) Market analysis of energy efficiency and clean heating opportunities for coal-reliant communities; 4) Grid infrastructure, power plant repurposing (using CIF's ReACT tool) and storage study to support integration of renewable sources in the Southwest and Pelagonia regions and 5) coal mine land remediation and repurposing study. The IP preparation also benefited from the baseline assessment of the EBRD's ongoing technical cooperation support to the ESM, which included policy and regulatory diagnostic assessment of the TVET and adult education and (re-)training system in North Macedonia; review of the existing JT delivery context at the municipal level including governance, strategies, and action plans (such as local employment plans), as well as implementation capacities of responsible stakeholders (e.g. local employment centres).

3.3 Enabling technologies and innovative models

94. Lessons learned from past cases of transition provide examples for technical and financial models of power plant decommissioning and repurposing. In the case of North Macedonia, these have been considered in the IP preparation processes via a technical study, supported by the IPPG grant. The study utilised CIF's ReACT tool¹³⁸ to assess the viability of Paris-aligned options for repurposing Oslomej and Bitola TPPs. These were assessed against several criteria, including, but not limited to technological and financial feasibility, ability to contribute to energy security of the country, job retention potential for diverse groups (women, men, etc.), etc. Limited repurposing opportunities for power plant infrastructure have been identified to date (e.g. for synchronous condenser). For now, decommissioning and site repurposing is deemed as the most appropriate option for most of the units.

95. At the same time, a study on land repurposing assessment for coal mines, conducted as part of IPPG, has highlighted several options for coal mine land and ash disposal site repurposing. The Land Use Repurposing Assessment (LURA) assessment, conducted by World Bank, examined the sites based on five criteria: location, geotechnical risks and legacies, topographical and hydrological conditions, environmental conditions and risks, and development opportunities. It then produced a map of the area, depicting zones where specific repurposing options would be most likely to succeed, given the conditions and the community's needs. The map below provides an overview of the repurposing potential of the ESM mine concession (including parts that are still in operation as well as decommissioned

138 <https://www.cif.org/knowledge-documents/react-simplified-guide-repurpose-coal-assets>

areas). Figure 20 shows the distribution of combined optimal land use types, as a per centage of total area in km².

Figure 19 Combined optimal land uses and areas for ESM three selected areas

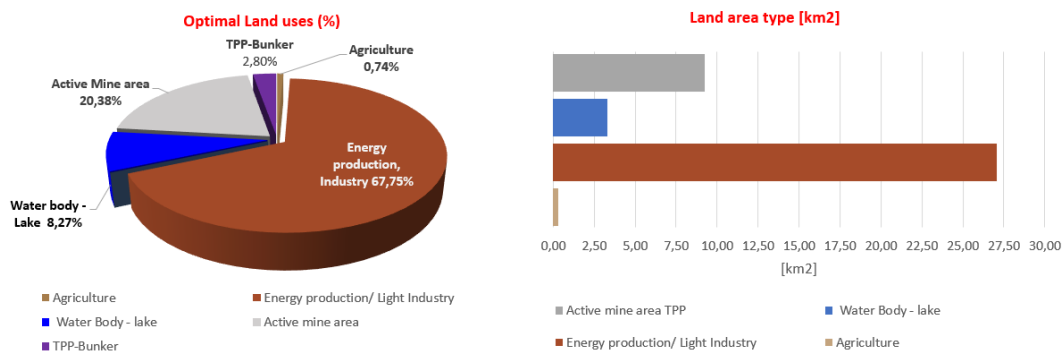
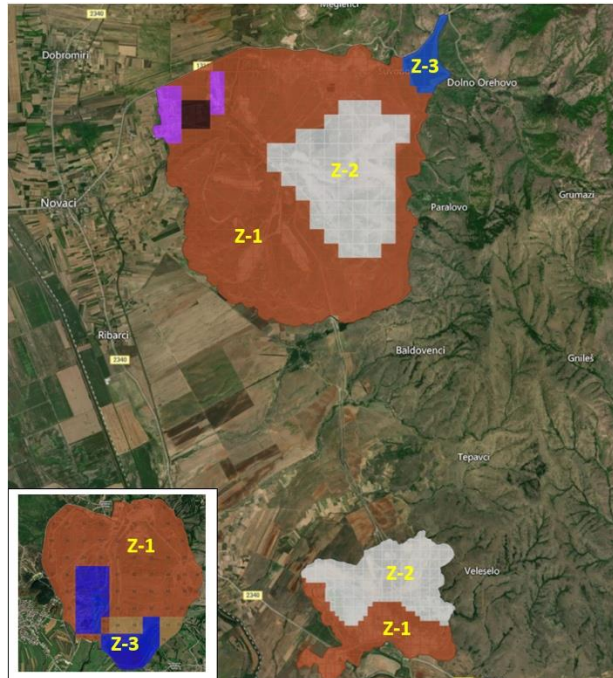


Figure 20 Combined optimal land use map ESM mine lands and selected areas (Oslomej out of scale)



96. Based on this modelling, deployment of renewables (or light industry) has been identified as the most optimal option for coal mine land repurposing. These have been integrated in IP Project 1. The Project also integrates governance support for conducting renewable energy auctions to attract private investments, based on lessons learnt from EU and other markets in designing such mechanisms. Following power plant decommissioning, the sites could also be used for the deployment of supporting infrastructure, including synchronous condensers and storage solutions, including batteries, currently not deployed (or regulated) in North Macedonia.

4. Financing Plan and Instruments

97. The IP is structured to deliver transformational impact and accelerate North Macedonia's coal transition through three complementary projects that address CIF ACT's governance, infrastructure and people pillars. The described costs, composition and scale of financing instruments have been calibrated through early estimates and based on delivering projects of the same archetypes by MDB partners.

98. In total, USD 85 million is allocated to North Macedonia from CIF ACT resources, combining concessional loans (USD 76.5 millions) to be extended in a mixture of public and private lending terms and grants (USD 8 million) to be used in the form of technical assistance and investment or incentive grants. Deploying the CIF ACT funding is expected to mobilise a further USD 471.35 million of MDB resources and directly catalyse over USD 85 million in private sector investments and USD 35 million in public sector investment. The breakdown of the ACT funding for each Project is described below and presented in Table 17. All CIF funding will be channeled through the EBRD, World Bank and IFC.

Table 17 Indicative summary of financing plan (in USD million)

Investment Plan Projects	MDBs	MDB share	CIF ACT	Private Sector	Gov/S OE/ other	Total	Pillars		
							Infrastru cture	Peo ple	Gover nance
PROJECT 1: RETIRING COAL ASSETS AND RE-POWERING WITH RE									
A: Powerplant retirement, mine remediation and mine repurposing	WB, EBRD	110	(c) 25 (g) 0,5		35	170,5	V		V
B: PROSPECT: Providing Renewable Opportunities through Solar and Education in Coal Territories	EBRD, IFC	230	(g) 1,8	75		306,8	V	V	V
C: PowerHub: Grid Strengthening, Batteries, Training for Tomorrow	EBRD, IFC, WB	75	(c) 27 (g) 2,5	10		114,5	V	V	
PROJECT 2: SOCIO-ECONOMIC REGENERATION OF PELAGONIA AND SOUTHWEST REGIONS									
A: Green & Growth programme for SMEs	EBRD	5,3	(c) 2,7 (g) 1,95			9,95	V	V	
B: Revitalise: industrial zones for economic regeneration	EBRD, WB	10	(c) 5,5 (g) 0,5			16	V	V	V
C: Climate-smart economic regeneration programme	EBRD, IFC	22	(c) 2,7 (g) 0,65			25,35		V	
PROJECT 3: ENERGY EFFICIENCY (EE), CLEAN HEATING, AND DISTRIBUTED GENERATION PROGRAM									
A: ECOBOOST: Empowering Coal Communities with Efficient and Renewable Lending	EBRD	8	(c) 5,6			13,6	V	V	
B: EcoCommune: Community-Centric Clean Energy Initiative	WB	11	(c) 8 (g) 0,6			19,6	V	V	
IP Total		471,3	(c) 76,5 (g) 8,5	85	35	676,3			

*Any financial commitments from the Investment Plan Components, especially the funds that will be borrowed from MDB's as well as the CIF funding that will be channeled through MDB's, will always be subject to separate contractual arrangements defining the applicable terms and conditions, to be entered into in accordance with the respective mandates, and the laws, rules, regulations, policies and procedures applicable to the respective Parties signing the agreements therefore. MDBs should strive to minimise the public lending costs, given the financial position of the country, while acknowledging the need for public sector lending in some transactions.

99. Project 1 - Retiring coal assets and re-powering with RE: USD 56,8 million of ACT funding will be allocated to this project including USD 4,8 million grants and USD 52 million concessional loans. Grants would be used for 'governance' and 'people' pillars, including development of decommissioning plans, auctions for renewables, and human capital development activities, some grant financing will also be used for batteries, given the high cost of the technology and its role in ensuring energy security. Concessional finance will be deployed for the less commercially viable projects including powerplant decommissioning, mine remediation and repurposing, and grid strengthening. New solar investments (Component B) are expected to be financed on commercial terms.

100. Project 2 – Socio-economic Regeneration of Pelagonia and Southwest regions, will deploy approximately USD 10,9 million ACT concessional finance, USD 3,1 million in grants and USD 37,3 million in MDB loans. This concessional funding will leverage financing for businesses to strengthen new economic activity in the two affected regions, through a combination of direct lending to larger businesses and reaching smaller companies through partner financial institutions. ACT resources will support broader human capital development in the region, and work with private sector employers to enhance women's and youth's integration into the labour market. Furthermore, the project will support the strengthening of the municipal plans under 'governance' pillar, focusing on enabling infrastructure and equipment in industrial zones to attract further private sector investment (including FDI) into the Pelagonia and Southwest regions.

101. Project 3 Energy efficiency, clean heating, and distributed generation program proposes to use USD 13,6 million ACT concessional finance, and USD 0,6 million in grants to leverage USD 19 million in MDB investments in energy efficiency, clean heating, and distributed generation technologies, and lead to new jobs and income generating opportunities both for public buildings and the residential sector. The interventions for public buildings will be channeled either through a municipal or at central level, depending on the financial position of the municipalities. Financing for the residential sector would provide concessional investments blended with MDB financing; several financing mechanisms are being explored including intermediated financing through financial institutions to reach households to reduce energy demand, costs, and create new economic opportunities. Higher concessionality will be provided for vulnerable consumers and clean heating solutions.

102. CIF support will be key to unlock new investment in the coal-affected regions through addressing market barriers, improving the bankability of projects, introducing new clean energy technologies, and ensuring that the enabling infrastructure is present to crowd in further private sector investment. MDBs' use of concessional resources (including grants) will be limited and commensurate to contribute to market development and avoid the introduction of distortions. Financing packages for project components will be calibrated in line with CIF financial terms and conditions defining the relevant concessional policy. Specifically, Table 18 outlines public sector lending terms; for private sector projects, the degree of concessionality of CIF resources will be determined by the deploying MDBs on a project-by-project basis, applying common blended concessional finance principles. To

mitigate the impact of the IP delivery on the Macedonian public financing, the MDBs will explore modalities to extend public sub-sovereign projects without the need for state guarantees, wherever appropriate given local borrowing capacities.

During the IP implementation, the provisions from the national Public Debt Law prescribing the borrowing procedure must be followed.

Table 18 CIF Public sector lending terms and conditions applicable to North Macedonia

	Currency	Lending rate (fixed)	Maturity	Grace period	Principal repayments
Tier A (for shorter term loans)	USD	0.98 %	Up to 20 years	8 years	Equal semi-annual instalments after grace period
	EUR	0.56 %			
Tier B (for longer term loans)	USD	1.18 %	Up to 30 years		Up to 30 years
	EUR	0.68%			

5. Additional Development Activities

103. The European Union Delegation (EUD) and the EBRD have supported the Government in developing the territorial Just transition diagnostic and roadmap (JTD) to ensure that the transition benefits are shared and to keep vulnerable regions, communities, and workers from falling behind. This document was mentioned by stakeholders as one of the critical reference points for informing the IP pillars. The EU delegation in North Macedonia supports the EU4Green project, launched in 2022. It is an EU project implemented by Environment Agency Austria, financed by the European Commission. It aligns with the ambitious goals of the European Green Deal, adopted by the European Commission in December 2019, which envisions a resource-efficient and carbon-neutral Europe by 2050. By bolstering the Green Agenda's regional governance, the project seeks to support the Western Balkans in transitioning to a more sustainable and climate-resilient future, benefiting local and European markets. EU4Green has just opened offices in three Western Balkan countries: Albania, Bosnia and Herzegovina, and Serbia. By doing so, EU4Green aims to enable easier regional cooperation, contact, and exchange regarding environmental and climate issues while offering knowledge and technical assistance.

104. EIB in North Macedonia has a project on the City Climate Finance Gap Fund, which can help (a group of) municipalities with several tasks, including project definition and pre-feasibility work. The facility is up and running, and assignments could be launched swiftly in response to requests from municipalities. It could fit well with the geographic and coal transition focus of the Investment Plan to facilitate the implementation of investments by any financier in the municipalities.

105. KfW is very active in projects related to the green energy transition, including financing district heating in Bitola with ESM, which is under construction (EUR 39 million); Bogdanci Windpark Phase 2 with ESM (under implementation, EUR 18 million); rehabilitation of Large HPP' with ESM, under implementation (EUR 25 million); Energy Efficient Rehabilitation of Student Dormitories with the Ministry of Education under implementation EUR 20 million).

KfW is also in the preparatory phase for Bitola PVPPs with the installed capacity of the approximately 160MW – partnering with ESM and EBRD. The ongoing feasibility study and the approximate budget is EUR 150 million. The Bank is also doing a pre-feasibility study for Bitola Solar District Heating.

106. The USAID Energy Program presented its activities supporting the energy-related legislation in North Macedonia and is currently reviewing the Strategic Investment Law. The Program pointed out that the DFC – US International Development Finance Corporation is also increasingly interested in providing financing. USAID also conducted a study for the organisational restructuring of ESM. From the Program’s experience, the critical energy transition challenge is also the balancing capacity.

107. UNDP presented their support for municipalities for energy efficiency. At the same time, GiZ, who conducts the Readiness preparation for the Green Climate Fund (GCF), informed that under GCF, North Macedonia will access funding for energy efficiency in public buildings led by the Agence Française de Développement (AFD) Group funds.

6. Implementation Potential with Risk Assessment

108. To be successful in implementing the ACT IP, there are several risks/barriers to be considered, summarized in Table 19.

Table 19 Country risks for energy transition and ACT IP’s role in mitigation

Area	Barrier	Reason	ACT IP role
Governance	Policy uncertainty	Limited clarity on the exact dates of power plant decommissioning by unit due to energy security concerns, including import reliance and lack of replacement capacity. Lack of visibility of RE deployment targets by year, as well as market mechanisms can undermine investors’ confidence and lead to under-deployment of RE, resulting in transition delays.	Support on transition planning as part of the projects (e.g., ESM decarbonisation support), will accelerate the set-out of the unit phase out dates in 2024 as part of national planning. Support in the development of auctions will accelerate private RE deployment, including via repurposing of coal-mining lands.
	Operational constraints	Country stakeholders lack time, resources and know-how to attract international financing and deliver on accelerated transition due to competing priorities.	MDB support as part of IP can help bring necessary capacity and expertise.
Infrastructure	Carbon lock-in	North Macedonia has extensive fossil fuel infrastructure and faces transition challenges due to potential sunk investment costs and long lifespans of these assets, creating potential inertia for longer FF asset operations.	Accelerating support for coal plant decommissioning, including with ACT concessional finance, directly reduces lock-in risks and accelerates the green transition.
	Lack of public grid infrastructure to support RE integration	Underinvestment in grids limits the capacity of RE absorption. This delays RE permit issuance, slows down RE scale up and fossil fuel phase out. Once operational, dispatch from RE risks being curtailed due to grid constraints.	Concessional finance support for grid projects linked to integration of RE investments on mine and power plant sites, as well as synchronous condensers to support frequency and voltage regulation, and storage solutions (incl. with grant support) for

			addressing RE intermittency as part of IP will support accelerated transition.
	Lack of expertise	Lack of expertise in land repurposing planning and environmental remediation to the best available standards (particularly for coal ash disposal sites) can lead to suboptimal land repurposing and environmental hazards.	Technical assistance from MDBs to ESM as part of project delivery under ACT IP will help to ensure optimal repurposing solutions in conditions of land scarcity, and environmental remediation to the highest standards.
People	Lack of societal buy-in	Concerns around jobs and future of fossil fuel-reliant communities, as well as energy security, associated with fossil fuel phase out may lead to a lack of societal buy in and delayed transition.	The programme supports equipping workers directly or indirectly affected by the transition with the market-relevant skills required for either internal redeployments or external job transfers across the labour market, in partnership with local education providers and employment agencies and based on assessments of local skills gaps and skills development opportunities. The program also supports capacity building in the Ministry of Economy to engage with local governments and local communities on just transition.
	Job growth and job losses will be unevenly distributed across skill levels, cities, and genders	While most of the new jobs will be created in medium and high-skilled occupations, low-skilled workers are most at risk of redundancies. Due to persisting gender stereotypes women may be able to obtain only a fraction of the job opportunities created.	The plan will support training of women and youth in in RE, EE, entrepreneurship, etc. (with a focus on young women and NEETS – Not in Employment, Education or Training), without any previous occupational skills or work experience. Dedicated programmes will help to increase engagement of women in technical and managerial positions, through employing higher standards of gender equality across operations, implementing internship, mentorship and other structured learning programs for female employees.
	Lack of holistic education reforms to ensure relevance and inclusivity	Current TVET systems are weak in supporting just transition and slow in responding to labour market needs. They lack the necessary governance mechanisms, are poorly financed, and lack sufficiently skilled teachers.	Supporting reform approaches at system level to facilitate implementation of required change brought by green transition.

7. Monitoring and Evaluation

109. In this ACT IP, North Macedonia is led by the following Theory of Change: *If* North Macedonia takes a comprehensive approach, involving retiring coal-fired TPPs, investing in renewables, grid, and storage, promoting energy efficiency, clean heating, economic regeneration and just transition for affected workers and communities, guided by strong governance structures, then it can accelerate coal transition and reduce emissions and local air pollution, while ensuring energy security, fostering climate-smart and inclusive economic regeneration of the Southwest and Pelagonia regions with a skilled green workforce, and empowering local communities to participate in and benefit from green transition.

110. North Macedonia responds to CIF’s integrated approach to results measurement, as presented within the ACT Integrated Results Framework (IRF) in Annex 5. CIF’s integrated approach combines essential monitoring and accountability functions with a holistic multilevel and multidimensional approach, including a complex systems orientation, and emergent learning opportunities. Within this integrated approach, measurement of program

and project impacts are captured via the multiple dimensions of monitoring, evaluation, learning, gender, and other key crosscutting approaches, aiming to deliver a nuanced and complete understanding of the program's progression, and thematic specificities, in delivering a complex and multifaceted program goal.

111. The program's performance is tracked via targeted, core indicators defined within the ACT IRF, in response to the ACT Theory of Change and its constituent objectives. The IRF also presents how each Project, and their components contribute to which indicators. The IRF first presents country level indicators, moving to IP level ACT Core Indicators, and co-benefits, with baseline and targets provided where available.

112. System-wide analysis. The IRF serves as a fundamental instrument that grounds the country program's high-level goal statement in measurable national indicators and targets, and thereafter links the program's theoretical objectives with the measurable outcome-level results anticipated via its constituent project pipeline. As the IP is developed collaboratively with the Government of the Republic of North Macedonia, implementing MDB partners, and other stakeholders, the process of defining project objectives, and aggregating the related results via the IRF, constitutes a consistent and system-wide approach on the coherence of and between interventions, and on accountability between proposed goal statements and pragmatic results estimations.

113. Anticipated program impacts. The IP of North Macedonia aims to deliver all ACT IP core objectives. The country's IRF will therefore track core indicators with respect to all Project components. The IRF will be responsive to any changing dynamics within individual projects, and under or over achievement of program-level results will allow for learning and adaptation.

114. Protocols for tracking. The monitoring and reporting of results will be a collaborative process among all stakeholders. Country focal points and implementing agencies, with support from the CIF Administrative Unit (AU) Monitoring and Reporting team, will lead on tracking the country IP impact indicators set out at IP approval. Implementing MDBs will monitor and report annually to the CIF AU all outcome-level core indicators relevant to each approved project, in accordance with the methodologies, reporting requirements and timelines set out within the ACT IRF, and within the forthcoming ACT M&R Toolkit. As such, MDBs will be responsible for incorporating these outcome-level indicators into the monitoring and reporting frameworks and mechanisms for each implemented project, alongside any optional outcome indicators and at least one co-indicator per project, also in accordance with the ACT IRF and ACT M&R Toolkit.

115. Country M&R workshops, anticipated at inception, midterm, and IP-conclusions along with any, as needed, interim country M&R workshops, will allow for multi-stakeholder cross-sectoral consensus on indicator progress, targets, methodologies, and related gaps, lessons, or enhancements, in accordance with the guidance set out by the CIF AU for the ACT program.

116. The ACT M&R Toolkit translates the ACT IRF into a practical and detailed guide which sets out definitions of indicators, measuring methods/approaches and frequency, roles, and responsibilities etc. related to transformational change and just transition. In addition to the MDBs own evaluation processes through their independent evaluation offices or other efforts, the MDB and country counterparts will participate in evaluation activities of the CIF. This includes independent program level mid and end-term evaluations and evaluations on

key themes such as transformational change and just transition. Evaluative insights could also relate to diagnostic, design, implementation, economic value, and synthesis evaluations of programs and projects. The ACT IP evaluation will build upon and utilise existing monitoring and evaluation efforts in the country.

117. Any evaluation on transformational change will use the dimensions of transformational change as identified through the transformational change learning partnership and documented in the program design documents and evaluation guidance provided. Similarly, any evaluation of just transition will consider the CIF just transition framework and its associated dimensions. The guidance and questions provided in the ACT design document related to just transition, transformational change and gender will be used to structure both formative and summative evaluative processes. These discussions will be structured around the ACT Investment response criteria.

118. A variety of evaluation methodologies may be deployed with a particular emphasis on enhancing participation in evaluation and learning processes as well as ensuring the rapid use of information for learning and course correction where required.

119. The detailed IRF framework together with ACT IP Co-benefits is presented in Annex 5.

Annex 1. Responsiveness to ACT Investment Criteria

ACT Criteria	Investment Plan Relevance for North Macedonia
1. Potential for Transformational Change	
Relevance	<p>Transformational change from the IP is derived from coal transition, including retiring the two thermal power plants in Bitola and Oslomej, upstream mine land remediation, and re-powering with renewable energy, coupled with grid strengthening and storage deployment for energy security, while supporting the just transition for Southwest and Pelagonia regions for coal value chain employees and coal-reliant communities.</p> <p>All ACT IP projects are relevant to support the country to achieve ENDCs and Paris commitments, just transition, environmental remediation.</p> <p>The ToC of North Macedonia in this IP is relevant for the coal transition as it builds the implementation, prioritisation and policymaking capacity to shift from coal to RES powered economy, while achieving committed targets.</p> <p>The ACT IP is drafted in a thoroughly inclusive and transparent process, with many iterations in terms of needs and proposed components, which ensures ownership of the IP projects by stakeholders.</p>
Systemic Change	<p>The IP and associated funding provide the basis to move from planning to implementation of just energy transition in the country, including full coal phase out by the end of the decade. The envisioned plan is also expected to support the green economy transition of the Southwest and Pelagonia regions, enabling local businesses and communities to participate in sustainable and higher value-added activities. Implementation of the IP in North Macedonia will provide a demonstration effect for the Western Balkans (e.g. Serbia, Bosnia and Herzegovina and Montenegro), who are facing similar coal transition challenges and socio-economic contexts. The IP also utilises Just Transition Roadmap working groups to have an ongoing consultative process within institutions and other relevant stakeholders on specific project implementation. The IP also will support the actual detailed planning for TPP decommissioning which, moving the discussion for TPP closure to concrete planning and action. The IP finally integrates specific measures for marginalized and vulnerable groups both through access to training and economic opportunities as well as EE investments, building on previous experience, but also elevating the role of these groups to the highest level via the people dimension of the IP.</p>
Speed	<p>The programme will support the country's full coal phase out by 2030, which would be the first time such ambition is stated among CIF ACT countries. First projects for RE deployment and 'people' component are expected to start in 2024. It is expected that all funding will be utilised before 2030.</p>
Scale	<p>The programme supports the 82% net GHG emissions reduction target of North Macedonia by 2030, compared to 1990. It targets full installed coal-fired capacity of the country (764 MW), and deployment of over 400 MW of RE on former coal mine lands. It also targets just transition measures for the two affected regions – Southwest and Pelagonia.</p> <p>The ACT IP scales policy implementation, by presenting a pipeline of projects and available funding, making it easier for institution to coordinate efforts and achieve impact.</p> <p>The ACT IP already thorough the design phase, sensitizes institutions and other relevant stakeholders on the importance of coordinated approach among institutions, donors, MDBs, local governments, economic chambers, academia, NGO, unions and experts on the just coal transition.</p>
Adaptive Sustainability	<p>The programme will support national adaptation objectives, by reducing the country's reliance on coal-fired power plants, leading to reduction of water use in the cooling systems, and associated physical climate risks. The plan will also support the country's broader sustainable development, by accelerating energy transition, reducing air pollution, and supporting human capital development.</p> <p>The IP will support projects such as storage, support for climate-smart investments in municipal industrial zones, training programs, which all will employ innovation and application of new technologies, approaches and techniques that guarantee move forward towards greener and more sustainable economy. By being aligned with key strategic policy objectives of the country, the IP ensures to contribute to their achievement and be embedded in a context that is determined to move towards a bold transformation from coal to RES powered economy.</p>
2. Potential for GHG Emissions Reduction/Avoidance	
Increased rate of renewable energy deployment	<p>The programme will directly support increased RE deployment, targeting up to 400MW of installed solar PV on repurposed coal mine lands. In addition, auctions organised under IP's 'governance' pillar, will help to scale up private sector RE investments across the country, targeting up to additional 700MW of RE through private sector investments during the implementation period.</p>
Reduction/avoidance of GHG emissions	<p>Bitola and Oslomej TPPs currently emit c. 2.7 million tonnes of CO₂/year. As such, the plan will result in substantive GHG reductions.</p>
Contribution to technology development	<p>The programme will support green economic regeneration in the Southwest and Pelagonia regions, including attracting climate-smart companies and investments. This will contribute to both regional and national technological development, including in RE supply chains.</p> <p>The programme will also support deployment of storage solutions which are still new to the country.</p>
Enhanced integration of climate-related risks	<p>MDB-supported investments will integrate measures to address climate-related risks and enhance climate resilience on project levels. Furthermore, some IP components, like distributed generation can help to diversify location risks and support system resilience.</p>
Prevention of increased import	<p>The programme will support the country's energy transition and prevent increased reliance on electricity imports via RE and grid investments. While some role for gas is envisioned in the baseload for system stability in the transition period per national plans (e.g. NECP and Energy Strategy), these investments will not be covered by</p>

dependency on fossil fuels	ACT programme. It is important to note that ambitious 82% net GHG emissions reduction is reflective of these plans. Furthermore, ACT's contribution to RE deployment, grid, and in particular, storage investments will directly support minimising the role of gas in the baseload.
3. Financial Effectiveness	
Value for money	The plan supports effective usage of grants and concessional finance, with a leverage ratio of 1 USD from CIF, to USD 475 million investments by MDBs. To this end, donor resources are focussed on non-commercial components, including power plant decommissioning, land repurposing, storage and grid investments, as well as support across 'people' and 'governance' pillars, particularly for the grant component.
Mobilization potential	Private sector mobilisation will be essential to implementing other components. For example, auctions are expected to attract private investors for RE deployment. The component 2 will also help to address barriers to regional economic regeneration in Southwest and Pelagonia, including infrastructure barriers in the industrial zones, and skills shortages via human capital development initiatives, focussing on coal value chain workers, women and other target groups. This is expected to catalyse climate-smart private sector investments in the region.
Implementation potential	The implementation will rely on successful cooperation between key stakeholders, led by the ME. This will build on the governance structure, outlined in the Just Transition Roadmap. In terms of concrete investments, ESM, MEPSO and EVN have been actively involved in the IP preparation and are in discussions with participating MDBs on concrete projects. IP implementation will also require close coordination with municipalities, vocational training providers, and development partners, who have been involved via stakeholder engagement, and are ready to support the processes. Lastly, EBRD and IFC are well-positioned to work on private sector investments, given their extensive experience, and network in the country, including with local PFIs.
4. Just Transition	
The IP builds on the Just Transition Roadmap. The Roadmap provides guidance on key socio-economic actions at regional and national levels, sets out governance structures, and serves a starting point for IP actions, particularly under the 'people' component. The aim of the JTR is to ensure that the benefits of green economy transition are shared, while protecting people, regions, and communities from falling behind. These will be ensured through implementing the reskilling and redeployment initiatives for the affected workers, and new opportunities for the communities. The programme will also support development of green education policies and regulatory frameworks, to ensure that local educational institutions provide affected workers with required skills to find decent employment. This includes, but is not limited to, greening existing occupational standards, profiles and curricula and developing and accrediting new occupational standards based on labour market and skills demand forecasting and strengthening institutional capacity of local TVET Centres in Bitola and Kichevo to facilitate implementation of required change brought by green transition, in close coordination with industry, including strengthening governance, updating existing and developing new green and digital skills programs, and re-skilling of teachers.	
5. Gender Equality and Social Inclusion	
The Programme recognises the importance of supporting investments in the affected regions that can create better local employment opportunities for women, as well as the need to integrate a gender lens into regional planning processes, especially when North Macedonia has low parity in economic participation and opportunities for women. ¹³⁹ Thus, the programme supports women's increased participation in the labour market through creating opportunities for women and girls in green and digital occupations, that have not yet been stereotyped along the gender line. The programme recognises that engagement of women would be critical in enabling them to gain access to the sector, that was previously largely closed to them. The programme will also focus on supporting companies in promoting women's skills and employment opportunities and ensuring that they have access to green and digital skills and jobs, through employing higher standards of gender equality across their operations, including by implementing internship, mentorship, and other structured leaning programs for women.	
6. Development Impact Potential	
Economic, social, and environmental impacts	The programme components will have minimal negative environmental impacts. Instead, they will support local air pollution reduction (c. 113,823 tonnes of SO _x and 4,202 tonnes of dust/annum), helping to reduce public health risks for local communities. Power plant and mine land remediation will also help to prevent soil and water contamination. Lastly, the human capital development interventions will support affected workers and communities by creating of new economic opportunities (e.g. via enabling improved access to green skills and jobs e).
Markets of system impacts	The programme will address market barriers to investments, as outlined in the 'risks' section. Some examples include auctions with creditworthy offtaker, skills development programmes, ensuring energy security via grid and storage investments, and supporting green transition of local companies by providing access to finance for climate-smart investments.

¹³⁹ World Economic Forum, 2023, Global Gender Gap Report

Annex 2. Assessment of the country's absorptive capacity

1. For the purposes of the IP, absorptive capacity criteria include demand for ACT activities, macroeconomic and political stability during implementation, private sector mobilisation potential, as well as power system's absorption capacity. Based on these criteria, no material challenges with unmitigated risks to utilising ACT concessional financing are identified.
2. **Demand for ACT resources:** The investment costs needed to enable energy transition are estimated at over EUR 3 billion by 2030.¹⁴⁰ These comprise of: (1) coal phase out activities, including power plant decommissioning and mine remediation, (2) renewable energy investments, (3) grid and storage upgrades, (4) just transition for coal reliant communities, and (5) institutional support and capacity building. Over 60% of the costs are associated with renewables, and will be deployed primarily via private sector, and up to 20% - for grid and storage upgrades nationally. CIF's ACT concessional funding of USD 85 million, and c. USD 475 million co-financing by MDBs, will be critical in supporting coal phase out, just transition, and governance activities, as well as limited site-specific RE-repowering activities, needed to catalyse transition across the country.
3. **Macroeconomic stability:** The real GDP growth has reduced due to the pandemic and energy crisis, and reached 2.2% in 2022; however, it is expected to recover to 2.3% in 2023, according to the Ministry of Finance's projections. The public debt is moderately high, and accounts for 55.8% of the country's GDP during the period January-September 2023. As such, where possible, IP places a focus on private sector mobilisation (e.g., for RE deployment and economic regeneration), as well as corporate lending to SOEs (e.g. MEPSO) to avoid a further strain on public budget. Furthermore, high level of concessionality is needed, particularly for sovereign debt, for such activities as coal phase-out.
4. **Political stability:** North Macedonia is a stable and democratic country, in the process of EU accession. The coal phase out and energy transition targets are inscribed in the country's key documents, including the NDC and NECP. As such, irrespective of political changes, the likelihood of the course's reversal is low. Just transition is also seen as a priority, with the recent adoption of the Just Transition Roadmap in June 2023, including the ongoing set-up of the governance structures.

140 Ministry of Economy and EBRD internal calculations.

5. **Private sector mobilisation potential:** The private sector in North Macedonia is catching up with investments in green technologies, visible through increased interest for financing of such projects by commercial and development banks.¹⁴¹ The Energy Regulatory Agency has also seen an influx of applications for licences for production of electricity from renewable energy sources: it issued 686 licences in the period January 2022 - September 2023 for 503 MW of renewables installed capacity.¹⁴² Thus, the Government's partnership with MDBs is vital to the implementation of the ACT IP programme aiming to mobilise significant private sector investments. EBRD and IFC have a strong record in working with private sector of different size. For example, EBRD has provided direct financing and technical assistance to private agricultural, manufacturing and services companies; it has also supported smaller clients via the financing lines channelled via private financial institutions in the country. IFC has been working on supporting TIDZ Directorate in attracting larger investors into the country, which will be helpful for IP implementation.
6. **Power system absorption capacity:** The detailed modelling for the power systems transition has been undertaken in the NECP and Energy Strategy. The documents show the technical feasibility of the coal phase out by the end of the decade (outlined in the IP). MEPSO's recent study shows that, under certain conditions, only up to 1.3 GW of renewables could be integrated into the system without further investments in the grid. However, given the country's import dependence and challenges associated with intermittent renewables, it would be important to ensure minimal stable baseload (limited role for gas in the transition period), invest in storage solutions, and ancillary services, including for frequency and reactive power control. In terms of the transmission grid, significant investments will be required in new and reconstruction of existing substations and transmission lines in addition to brownfield investments for rehabilitation of existing substations in the power plants and mine sites, to enable RE absorption; same applies to the distribution grid, where EVN is already rejecting some RE applications, due to technical constraints. In parallel, reduction of electricity demand through energy efficiency measures is seen as a key priority, as it can reduce the strain on the system.

141 MARES Conference – Green Finance Panel with banks October 26 Skopje

142 ERC Press release – 12.10.2023 Регулаторна комисија за енергетика, водни услуги и услуги за управување со комунален отпад на Република Северна Македонија (erc.org.mk)

Annex 3. Summary of Stakeholder Consultations

Given the CIF's country-driven approach, a comprehensive stakeholder engagement process was implemented during the IP design. The Government of North Macedonia was supported by the CIF's Multilateral Development Bank (MDB) partners, led by the European Bank for Reconstruction Development (EBRD), with World Bank (WB) and International Finance Corporation (IFC). On April 6, 2023, the MDBs held a kick-off call with the Ministry of Economy (ME) and the Ministry of Finance (MF) to (i) introduce the team, (ii) provide an overview of the program and timelines, (iii) answer questions on the expectations, process, and priorities, and (iv) discuss next steps including the scoping mission.

The following consultation included 1) first scoping missions, 2) period of continuous meetings with different stakeholders to discuss specific IP aspects (e.g. meetings with regional economic chambers, local governments, NGOs etc.). 3) second joint mission, 4) meeting with municipality of Bitola 5) public presentation in Municipality of Bitola, 6) meetings with Regional Development councils for Pelagonia and Southwest region, 7) Meeting with municipality of Kichevo 7) Public consultations in Bitola 8) Public consultations in Kichevo, 9) Public consultations in Skopje 10) Environmental Impact Assessment on IP – public consultation in Skopje. During the entire process of stakeholder engagements, stakeholders were asked to provide comments which were integrated in minutes of meetings, or written comments. The reflections were continuously updated within the IP draft. In the last round of comments after the public consultations in December, all written comments were assessed as final and integrated in the IP.

In the next section, a summary matrix is presented with key comments and rationale for their consideration. Detailed report on stakeholder engagement is presented as a separate document to the IP.

Table 20 Stakeholder key comments integration

Summary of key comments	Integrated	Not integrated	Explanation
Governance			
Inclusion of IP projects in the Single Project Pipeline		X	The IP key projects will be integrated by the Ministry of Economy under the SPP list hosted in the Secretariat for European Affairs
Urban planning units, Ministry of Transport should be more involved to support needed permitting and timely policymaking and policy implementation enabling ACT IP implementation	X		Ministry of Transport together with local governments (urban planning units) are mapped as key stakeholders in the IP for the IP implementation. Via policy support, Ministry of Transport will be engaged early in the process.
Local governments lack capacity and expect support for engaging more actively with the IP and just transition over all	X		Local governments will be eligible to receive policy support under Project 2 and 3, and the IP has been consulted with wide range of donors, that can further support local governments to engage with the just transition topic.
120 days for IP public consultation		X	The IP is not a type of document that needs to be consulted 120 days under the national legislation. Moreover, since the initial Scoping Mission in May 2023, the IP is continuously consulted with all stakeholders, and all stakeholders has contact to ask questions and suggestions for the IP. The IP was published for public discussion on December 5 on the Ministry of Economy website with deadline for comments by December 29, 2023 The IP had another round of public discussion under the Environmental Impact Assessment (EIA) on January 15 th , 2024.
People			
Support for municipal industrial zones	X		Integrated under Project 1, Component B: Revitalize. This component is entirely developed to support municipal industrial zones to be able to attract climate smart investments.
Significant support for coal value chains workers	X		The entire IP is designed to create economic opportunities for coal value chain worker.
Social transfer per the example of Greece – EU funds		X	The Government does not see the IP as the place to allocate funding for social transfers, given that the IP has an infrastructural, economic, and human capital development aspect that should bring sustainable economic development and coal transition. However, the Government works actively under other social programs to develop packages for most affected workers, early retirement schemes etc.
All instruments should prioritise people from affected regions	X		All projects and components are design with eligibility having only entities from Pelagonia and Southwest region. Additionally, in detailed project development phase, projects will further set

			criteria where most affected entities (e.g. from Novaci, Oslomej, Bitola etc.) receive higher evaluation points.
There is little funding allocated for municipal industrial zones		X	Within the IP, the MIZ are in the focus, intending to put it higher on the agenda so funds from other sources can further be mobilized. At the same time, the IP projects will serve as pilots to understand better what MIZ need.
Kichevo is disproportionately affected by the energy transition and has no private sector to uptake new opportunities.	X		Not only for Kichevo, but also across components, this fact I taken into consideration. The IP focuses on comprehensive economic support via training and access to finance, to ensure that the local economies at the end of the IP investment cycle, end in improved economic condition.
Infrastructure			
Focus on opportunities for revitalisation of agriculture	X		Agri-sector is included under Project 2, the socio-economic revitalisation by providing funding for private sector climate smart-investments and trainings relevant for Agri sector
More concrete TPP repurposing options were expected in the IP		X	The IP suggests few options for TPP repurposing, intending to support development of detailed TPP repurposing options as the very first projects to be implemented under the IP. Provided current updates of the National Energy and Climate Plan and the Energy Law (ongoing revision), which will have an effect on the TPP closure and repurposing dynamics, the IP will address the details of the TPP repurposing In dedicated plans, considerate of latest changes in the NECP and Energy Law.
TPP repropoing with gas		X	Although there is discussion on powering one block in Bitola TPP with gas, given ACT IP criteria, these suggestions are not integrated.
Energy security should be paramount, no project should be implemented at the expense of losing energy security	X		The IP identifies this as key priority. The IP projects will therefore be stages as to create enabling environment – (grid enhancement, RES investments and integration, etc.) before TPP decommissioning.
More indicators can be included on how the IP will impact the environment	X		Additional indicators were integrated, as well as an Environmental Impact Assessment analysis is available for the IP.

Annex 4. Project Concept Briefs

A.4.1. Project 1: Retiring coal assets and repowering with RE

A.4.1.1. Background

1. North Macedonia has set an ambitious NDC target of net 82% GHG emissions reduction by 2030 compared to 1990 levels. In 2022, 52% of the country's electricity (2.6 TWh) was supplied by coal-fired power plants.¹⁴³ Given the prevalent role of the electricity sector in North Macedonia's emissions, the NDC and the NECP see coal phase out as the key element in achieving the target. As such, decommissioning of the 125MW TPP Oslomej and 699MW TPP Bitola (3*233MW), emitting c. 2.7 million tonnes of CO₂/annum¹⁴⁴ is expected to be a key contributor to meeting the country's decarbonisation target.
2. Closure of the power plants however would also have knock-on effects on upstream lignite mining activities in three mines, creating the needs for environmental remediation. This creates opportunities for land repurposing, including deployment of renewables on former open pit mines, building on the experience of ESM's first utility scale 10MW solar PV in Oslomej. In doing so, it is important to attract private sector investments to ensure more competitive process, and lower RE costs for the population. The coal capacity retirement should be synchronised with the commissioning of new renewable energy power plants and taking care of human capital development.

A.4.1.2. Project Objectives

3. The objectives of this project are fourfold: (a) contributing to the country's NDC target via substantial reduction of the energy sector emissions through full coal-phase out, (b) ensuring environmental remediation and effective land use of former coal mining lands, including for RE deployment, (c) accelerating transition and ensuring energy security through investments in grid strengthening, synchronous condensers and storage solutions in the affected regions to enable re-powering with renewables, (d) promoting access to alternative livelihoods for those affected by the transition process through reskilling and upskilling, to ensure just transition.

A.4.1.3. Proposed Approach

4. The project will combine three components to achieve the abovementioned objectives.

¹⁴² Electricity generation - North Macedonia 2022 6.1.23.09_mk.pdf (stat.gov.mk)

¹⁴⁴ Calculated using assumptions of 39% capacity factor from 2022, subcritical combustion heat rate: 9,950 Btu/kWh, and lignite emission factor: 101,000 kg of carbon dioxide per TJ.

5. **Component A** supports powerplant retirement, mine remediation and repurposing. The former may include discontinuing the coal-fired power generation, disconnecting the assets from the system, demolition and blasting activities, and site remediation, unless viable repurposing alternatives are identified. The latter includes repurposing of post-mining lands and associated sites and assets for alternative uses, including with potential infrastructure investments (e.g. small, pumped hydro, solar parks, thermal storage, synchronous generator and similar). This Component can support developing new business models for ESM and job creation focused on land remediation and repurposing. This component also contains the governance element covering the development of the powerplant decommissioning plans.
6. TPP Oslomej consists of one unit with a total installed capacity of 125 MW, commissioned in 1980.¹⁴⁵ It is located in the municipality of Kichevo in the Southwest region, 6 km from the city. This thermal power plant currently uses the last remaining quantities of coal from local lignite mine Oslomej - West (Basin Kichevo), coupled with lignite imports. Given the old age of the plant, a variety of options have been explored, including a full unit modernisation¹⁴⁶ with a 30-year life extension. These plans have eventually been revoked, with the enhanced NDC of North Macedonia¹⁴⁷ setting the phase-out date of 2021. However, due to the energy security crisis and increased import prices, the closure has been delayed, with the plant temporarily re-starting operations during winter months. As such, it is critical to simultaneously deploy a low carbon alternative to replace the electricity supply from TPP Oslomej to ensure energy security, as well as provide support for decommissioning and environmental remediation. As part of the remediation and repurposing, 120 MW PV plants in total are already being constructed by ESM and private investor to replace the installed capacity of Oslomej TPP (Table 21).

Table 21 Coal-fired power plants (2022 data)¹⁴⁸

Plants	Location	Capacity (MW)	Electricity generation (GWh)
Oslomej	Southwest	125	261
Bitola – 3 units	Pelagonia	699	2,328
Grand Total		824	2,589

7. REK Bitola is located in the municipality of Novaci, close to Bitola municipality in the Pelagonia region. It comprises of three 233 MW units, commissioned in 1982, 1984, 1988 respectively, responsible for the largest share of electricity generation in the country. Apart from CO₂, the three units emit on average 105,431 tonnes of SO₂, and 4,202 tonnes of dust per year.¹⁴⁹ This makes Bitola TPP one of the most polluting plants in the Western Balkans region and Europe, causing poor local air quality and negative

145 TPP Oslomej https://www.esm.com.mk/?page_id=1866&lang=en

146 TPP Oslomej https://www.esm.com.mk/wp-content/uploads/2017/04/Modernization-of-TPP-Oslomej_2019.pdf

147 <https://unfccc.int/sites/default/files/NDC/2022-06/Macedonian%20enhanced%20NDC%20%28002%29.pdf>

148 ERC Annual Report 2022 https://www.erc.org.mk/odluki/2023.04.26_RKE%20GI%202022-FINAL%20ENG%20VERSION.pdf

149 Comply or close – Bankwatch June 2023 [2023_06_28_Comply-or-close.pdf](https://www.bankwatch.org/2023/06/28/Comply-or-close.pdf) (bankwatch.org)

public health effects for the local population.¹⁵⁰ As a Contracting Party to the Energy Community, and European Union accession country, North Macedonia has obliged to comply with Directives 2001/80 EC relating to the limitation of emission into the air from existing large combustion plants, and Directive 2010/75/EC on industrial emissions.¹⁵¹ The country is already in breach of the Directives due to emissions from TPP Bitola. To comply, North Macedonia either needs to close the plant, or install emissions controls, with capex investment needs estimated at c. EUR 230 million and EUR 370 million respectively¹⁵² for Directives compliance.¹⁵³ These capex investments would also extend the asset lifetime of the plant, creating a carbon lock-in risk, including for further delaying the current 2027 phase-out date set in the country's NDC and NECP. It would also create asset stranding risks. As such, early decommissioning support and environmental remediation are critical parts of the IP programme.

8. Based on the discussions with the ESM management and a power plant repurposing study undertaken as part of IPPG, the decommissioning and site repurposing is likely to be the most viable option for most of the units. However, IPPG highlighted several opportunities for site repurposing, using CIF ACT's ReACT tool.¹⁵⁴ These include a synchronous condenser as the most feasible option, thermal storage and pilot hydrogen electrolyser, the feasibility of which would need to be confirmed during technical due diligence. These devices provide improved voltage regulation and stability by continuously generating/absorbing adjustable reactive power; they also support frequency stability by providing synchronous inertia. Due diligence will determine whether it is better to re-use plant infrastructure, or consider a place on the TPP site, based on the condenser's model compatibility with TPP infrastructure.
9. In case the decommissioning is pursued, it could be financed either directly by ESM balance sheet lending, or on-lending against the state budget. To lower the cost of procuring external services, ESM could for example largely rely on its workforce, and where possible, equipment as part of the process, as well as generate small revenues (e.g., from selling scrap metal). For the rest of the financing needs, due to ESM's financial position, the project will likely include a state guarantee. However, given the country's constrained fiscal space, it would be essential to utilise concessional financing to lower the cost of borrowing and ensure that remediation is carried out to a high environmental standard, with the technical support from MDBs. To this end, decommissioning plans will need to be prepared within one year of setting the coal-phase out dates in the updated NECP and/or Energy Strategy, under the 'governance' pillar of the IP.
10. The phase out of the power plants will lead to a reduction in domestic demand for lignite, currently supplied by three ESM-owned open-pit mines: Oslomej, Suvodol and Brod-Gneotino (Table 22). This would require environmental remediation and effective

150 Comply or close – Bankwatch June 2023 2023_06_28_Comply-or-close.pdf (bankwatch.org)

151 Per Ministerial Council Decisions D/2013/05/MCEnC and D/2013/06/MC-EnC of the Energy Community on 24 October, 2013 respectively.

152 Per Ministerial Council Decisions D/2013/05/MCEnC and D/2013/06/MC-EnC of the Energy Community on 24 October, 2013 respectively.

https://www.energy-community.org/dam/jcr:8c8a919e-33c3-404c-aa20-510b429e530a/MK_NERP_042017.pdf

154 React: a simplified guide to repurpose coal assets 2023 <https://www.cif.org/knowledge-documents/react-simplified-guide-repurpose-coal-assets>

land repurposing, starting with Oslomej and Suvodol mines, which are also reaching the exhaustion of the deposits.

Table 22 Coal mines to be remediated or repurposed (2022 data)

Plants	Location	Output in 2022 (t)
Oslomej	Southwest	155,232
Suvodol	Pelagonia	3,519,749
Brod-Gneotino	Pelagonia	858,671
Total		4,533,652

11. As part of the IPPG grant, World Bank has conducted a Land Use Repurposing Assessment (LURA) on the three mine sites, coal ash disposal sites in Oslomej and Bitola, and overburden lands owned by ESM, factoring in associated reclamation needs. It then produced a map of the area, depicting zones where specific repurposing options would be most likely to succeed, given the conditions and the community's needs. The outputs of assessment are presented in section 3.3 of the IP.
12. For the Oslomej mine, the remediation and land repurposing has already begun with 20 MW solar photovoltaic power plant financed by EBRD with ESM, and 100MW by Bulgarian and Turkish private investors via PPP tender supported by the EBRD.
13. In line with the Environmental Law from 2012, ESM has an obligation to ensure rehabilitation and remediation of degraded lands due to mining activities.¹⁵⁵ at the end of its mining concession. Based on the LURA assessment, up to 2,707 km²ha of available coal-mining lands could be most optimally repurposed for RE. Repurposing all this land to RE would cost c. EUR 68 million, based on the global average estimate of c. EUR 25,000/ha, to be confirmed during project due diligence. These costs include levelling, grading, drainage, compaction, erosion control, vegetation, access, grid connection, but not the actual RE installations. To minimise additional costs to ESM and/or the Government, land stabilisation and levelling costs for energy (or light industry) projects could be borne by developers, for example in exchange for lower land cost. If the projects are developed by ESM, repurposing costs can be lowered by using the company's workforce (thereby prolonging employment), and equipment, as in the case of 10 MW Oslomej-1 PV project.
14. In addition, around 8.3% of current mining land could become a permanent water body (lake). In particular, the upper reservoir at the Suvodol mine could be combined with the deep residual pit that will be formed after mine operations are completed to develop a closed loop pump storage power project (PHP). Further due diligence would be required to assess the elevation and water quantities after the IP approval, as part of extensive environmental assessments.
15. **Component B** is centred around - PROSPECT: Providing Renewable Opportunities through Solar and Education in Coal Territories. It focuses on repowering with solar PV, with human capital development programme for the affected workforce. Moreover,

155 North Macedonia Environmental Performance Review – Third Review 2019 ECE.CEP_186.Eng_.pdf (moep.gov.mk)

due to the high energy demand and limited availability of lignite deposits, TPPs rely in part on imported coal from Greece, Albania and Kosovo, further increasing the production cost of electricity and adding to the security of supply risk. Given the price volatility and increased regional electricity and fossil fuel costs, it is critical to prevent increased import reliance in the transition period, to protect vulnerable consumers and avoid exacerbation of energy poverty. As such, to enable coal plant retirement, it is important to prioritise rapid deployment of solar PV on coal mine sites, as well as associated grid upgrades and storage solutions, before decommissioning the plants.

16. In terms of renewables development pipeline of ESM, in addition to the 40MW solar PV plants in Oslomej and Bitola, developed and financed by the EBRD, and 100 MW via PPP, it is expected that new 60 MW Bitola solar PV plant will be financed by KfW, and 100MW solar PV plant – by KfW and EBRD. These projects, with combined installed capacity of 300MW, are needed for decarbonisation of ESM and rapid renewables deployments to enable accelerated transition, while proving re-deployment opportunities for ESM workforce (outlined below), and in parallel - preparing for further deployment of private RE via auctions.
17. For subsequent RE projects, private sector mobilisation is critical to the deployment of new capacities, including on mine land sites, as it can ensure: (a) faster project implementation, lower investment costs and therefore more competitive electricity prices and lower energy costs for consumers and (b) reduced need for borrowing for ESM and the Government, so that public debt capacity can be deployed to other much needed social and infrastructure projects. Conservatively, an additional 300MW of private PV could be deployed on coal mine lands. For project finance, both debt and equity instruments could be provided by participating MDBs, where needed.
18. Given the lack of long-term private offtake options in the region, market experience from EU and other regions indicates that Contract-for-Differences (CfD) auctions could be the most viable and competitive solution to support developers of renewable projects, facing high upfront costs and long asset lifetimes through stabilising volatile wholesale prices, allowing access to finance, and to protect consumers from high and volatile electricity prices. EBRD is well-positioned to support the Government in the development of national auction scheme (most likely CfD), including the regional site window (300MW of private PV on mine sites), given extensive auction organisation experience in Western Balkans and broader Europe. No CIF concessional financing will be needed for private RE projects, outside of the grant for auction organisation under the 'governance' pillar of ACT in the amount of c. USD 1 million.
19. Development of these projects also provides improved skills and employment opportunities for coal value chain workers to be affected by decommissioning of coal power plants and coal mine closure, as well as other community members, while minimising the adverse social and economic risks and impacts. Currently, 3,433 ESM workers (2,878 permanent, 555 temporary), 156 are employed in power plants and mines, of which the majority (86%) are male.

20. As part of the EBRD’s ongoing solar PV investments’ package, since 2023, the Bank has been supporting the ESM in: (a) enhancing its capacity to actively contribute to the regional economic development planning process and the formulation and delivery of a strategy for the development of six nationally accredited market-relevant curricula for retraining affected local workforce; (b) the development of reskilling and redeployment initiatives; and (c) introducing gender inclusion measures to foster women’s access to economic opportunities across all its operations. To compliment these efforts, the EBRD will also support ESM in building project management and electricity trading capacity through the development and implementation of two new certified training programs for at least 72 employees, of which at least 25% female.
21. Building on the experience of ongoing support to the ESM and the Just Transition Roadmap, the project under the IP will implement the overarching reskilling and redeployment initiative for affected workers. While the EBRD’s, ongoing programming with ESM targets only 450 workers, there is a need to support the labour market integration of the rest of its at least 1,200 workers and around 2,000 workers from the supply chain, who are expected to be indirectly affected by the company’s green energy transition. It is estimated that TPP Bitola’s and TPP Oslomej’s transition, including upstream mining impacts could affect up to 10,000 people if considering only the number of employees in the power plants and considering an average of 3 persons households (Table 23), without further interventions.

Table 23 Affected population by cities (Source: PwC ESM analysis 2023)¹⁵⁷

City/ Village	Region	Population	Number of employees (permanent and temporary)	Affected family members) ¹⁵⁸	Total affected people as % of total population
Bitola	Pelagonia	85,164	1,981	5,943	7%
Novaci	Pelagonia	2,648	224	672	25%
Mogila	Pelagonia	5,283	134	402	8%
Demir Hisar	Pelagonia	7,260	93	279	4%
Krushevo	Pelagonia	8,385	32	96	1%
Kichevo	Southwest	39,669	797	2,391	6%

22. Thus, supporting affected workers in the process of upskilling and internal and external redeployment is critical. This will be done through the introduction of a series of high quality, nationally accredited retraining courses designed and implemented in partnership with local TVET and higher education institutions. This could include (i) nationally accredited reskilling vocational and high education programmes, in partnership with local academic institutions, (ii) upskilling in-company or modular short 6 months to 1-year courses, and (iii) dedicated programmes to increase engagement of women in technical and managerial positions, through employing higher standards of gender equality across operations, implementing internship, mentorship and other

¹⁵⁷ This table considers only the number of employees in ESM and their immediate family; does not address the number of affected along the supply chain.

¹⁵⁸ The number is calculated with consideration that an average household is consisted of 3 people and considering each employee is part of such house hold <https://www.stat.gov.mk/publikacii/2022/Statistichki-atlas-mk-en-web.pdf>

structured learning programs for female employees. In addition, the project will support development of green education policies and regulatory frameworks, to ensure that local educational institutions provide affected workers with required skills to obtain decent employment. This could include greening existing occupational standards, profiles and curricula, and development of new occupational standards based on labour market and skills demand forecasting, strengthening institutional capacity of local TVET Centres in Bitola and Kichevo to facilitate implementation of required change brought by green transition, in close coordination with the industry, including strengthening school governance, updating existing and developing new green and digital skills programs, and re-skilling teachers.

23. **Component C** is PowerHub: Grid Strengthening, Batteries, Training for Tomorrow. It focuses on the deployment of enabling infrastructure to support RE integration in the regions, including to provide improved access to skills and employment for affected communities. When enabling the transition to intermittent renewables, it will be important to deploy storage solutions and ensure grid flexibility, to provide stable electricity supply and minimise the role of gas in the baseload. To this end, up to 100MW of utility-scale batteries or alternative technologies could be deployed on power plant/mine sites. Given the novelty and lack of commercial viability of technology, this component will need a high level of concessional finance and grants.
24. It will be also critical to provide financing for grid upgrades, including transmission and distribution lines and substations to support the integration of renewables deployed on former mine and power plants sites as well as the wider Pelagonia and the Southwest regions. Clear justification and linkage to new site-specific RE deployment will be provided to CIF with each project. Early list of identified projects, in consultation with MEPSO, (subject to due diligence) includes adding a third 400kV transformer in the Bitola 2 substation, reconstructing 100 km transmission line Gostivar - Oslomej - Kichevo -Sopotnica - Bitola; upgrade of the 400kV interconnection with Greece (line Florina-Bitola); investments in high voltage equipment on the existing substations that use environmentally friendly insulation gas instead of SF6 and Bitola 1 substation rehabilitation. The list will be continuously updated during the IP implementation.
25. It is expected that projects under this component will be done primarily with the state-owned transmission system operator (MEPSO), with about 30% concessional loan, and remaining debt financing from MDBs. The level of concessionality is based on experience from past projects, and factors in novelty of technology and the impact lower impact on tariff, hence avoiding substantial increases of energy cost to the population. Where possible, corporate financing will be used to support a more sustainable financing model and reduce risks to the Government budget (when providing guarantee) and attain faster approval procedures and project implementation. Further investments with EVN, including to support absorption of distributed generation capacity, under IP's component 3, could also be covered under this component.
26. RE integration and transition to intermittent renewables requires skilled workers, including in planning, engineering, technical and operational professions. The TSO,

MEPSO, is currently facing the lack of skilled engineers and technicians to support the energy transition. To address the skills shortage, the EBRD will support MEPSO in setting up a training centre in the Southwest region, thus using MEPSO existing facilities that can be repurposed for trainings. One of the core areas of support will be the development of curricula and professional standards for the relevant green occupations (to be defined at the skills mapping stage). This will include the preparation of learning guidelines for in-company training centre, including development of training programs for the centre to reflect relevant core skills for employability in the sector, in line with best practices and quality standards. This could be followed by technical planning support for the launch of the centre itself, and support in implementing newly developed trainings programs, including support in sourcing of first cohort, training of teachers for an initial cohort, etc. This centre would target not only affected workers (majority of whom are males) but will also create opportunities for women and girls in green occupations. Engagement of women would be of critical importance in enabling them to gain access to the sector, that previously saw low levels of women's participation.

A.4.1.4. Implementation Readiness

27. The decommissioning of the power plants will be implemented by ESM, with technical support from the relevant MDB (World Bank/EBRD), to ensure compliance with the best environmental and social standards. The timeline for retirement would be defined based on the robust modelling, including as part of the updated National Energy and Climate Plan, and the Energy Strategy. Decommissioning plans will be prepared within one year from NECP's and Energy Strategy update, and the process will commence no later than 2029 for all blocks, with some expected to be decommissioned earlier. Should the repurposing option be identified for TPP blocks, this would be supported by the MDB financing decommissioning, unless agreed otherwise. The planning will also be supported by the corporate decarbonisation plan for ESM, delivered by the EBRD in 2024, as part of an ongoing project, also including climate governance support to ESM in addressing climate risks and opportunities at the corporate level. ESM and local education providers are also increasingly willing to implement just transition elements of the projects, if provided with much needed institutional and capacity building support. CIF ACT's support will be critical in scaling up these programmes.
28. The decommissioning would be carefully sequenced with the deployment of renewables and associated grid upgrades. To ensure accelerated energy transition, the rapid deployment of renewable capacity could be supported via: (a) coal mine land remediation and, where relevant, repurposing delivered by ESM, based on Oslomej-1 project experience, and with the technical support of the World Bank; (b) c. 160 MW solar PV projects with ESM, financed by EBRD and KfW, and implemented over the next three years; (c) timely organisation of auctions (first - 2024) by the Government, with technical support from the EBRD. For the latter, both the Government and EBRD see substantial interest from the private sector in the renewables deployment, with current advanced merchant projects pipeline amounting to circa 500 MW.

29. MEPSO is well-positioned to deliver on the required grid upgrades to support renewables integration through: (1) its 10-year network development plan; (2) targeted grid upgrade study for Southwest and Pelagonia regions delivered as part of IPPG support; (3) internal capacity and experience for delivering on current projects. For storage, the relevant counterparty (public/private) will be identified during the IP implementation, as this would depend in part on the storage regulation provisions, currently under development by the Government, and expected to be finalised in 2024.

A.4.1.5. Rationale for CTF ACT Financing

30. The project’s three components are at the heart of delivering on the energy transition in North Macedonia, and are well-aligned with the pillars of the CIF ACT programme, including: (a) infrastructure – mine closure, plant decommissioning, reclamation and repurposing, repowering with RE and storage and ancillary services; (b) people – contributing to implementation of social plans (including Just Transition Roadmap) and promoting access to alternative livelihoods for those affected by the transition process through reskilling and upskilling, and (c) governance via support in decommissioning plan development with ESM, and auction design to support the attraction private sector investments, as well as capacity building for local vocation training institutions.

31. CIF ACT grant and concessional finance support is needed under this component to address market barriers through a programmatic approach, tackling barriers outlined in Section 6.

32. The CTF ACT financing will help overcome first-mover costs, build confidence among local stakeholders and communities, and accelerate the participation of private developers and commercial lenders along the process.

A.4.1.6. Indicative Financing

33. The indicative costs for project components are listed below:

Table 24 Indicative breakdown of Project 1 components (USD million)

In USD million	ACT		IFIs			Government	Private	Total	Governance	Infrastructure	People
	Concessional	Grant	EBRD	WB	IFC	SOE					
PROJECT 1: RETIRING COAL ASSETS AND RE-POWERING WITH RE											
Component A: Powerplant retirement, mine remediation and mine repurposing	25 ¹⁵⁹	0,5 ¹⁶⁰	110			35		170,5	V	V	

159 Concessional shares to be split on first-come, first serve basis maximising leverage ratios of CIF’s concessional finance and grants. These can be combined with external concessional/grant resources in line with each MDB’s policies including joint Blended Concessional Principles. Co-financing among MDBs can also be explored.

160 To be used for development of decommissioning plans by WB/EBRD on first-come first-serve basis.

Component B: PROSPECT: Providing Renewable Opportunities through Solar and Education in Coal Territories		1,8 ¹⁶¹	150		80		75	306,8	V	V	V
Component C: PowerHub: Grid Strengthening, Batteries, Training for Tomorrow	27 ¹⁶²	2,5 ¹⁶³		75			10	114,5		V	V
Project Total	52	4,8		415		35	85	591,8			

**Any financial commitments from the Investment Plan Components, especially the funds that will be borrowed from MDB's as well as the CIF funding that will be channeled through MDB's, will always be subject to separate contractual arrangements defining the applicable terms and conditions, to be entered into in accordance with the respective mandates, and the laws, rules, regulations, policies and procedures applicable to the respective Parties signing the agreements therefore. MDBs should strive to minimise the public lending costs, given the financial position of the country, while acknowledging the need for public sector lending in some transactions.*

A.4.1.7. Results Indicators

34. The decarbonisation of the electricity sector, including through TPP retirement, as well as mine remediation will have positive environmental impacts, including emissions reduction of c. 2.7 million tonnes of CO₂/annum, and over 100,000 tonnes of SO₂/year, substantially improving local air quality and reducing public health risks to the population. Activities of Component B and C will support reskilling of affected workforce and create alternative livelihood opportunities for coal value chain workers and affected population.
35. The final list of indicators will be available during the project preparation stage. Anticipated outcomes of the project include the following: Decommissioned coal-based power generation capacity (MW);
- GHG emissions reduction (metric tons/year);
 - SO_x emissions reduction (metric tons/year);
 - Coal mine land area rehabilitated (ha) and re-purposed (ha);
 - Deployment and integration of renewable generation capacity enabled (MW) via grid and storage investments;
 - Renewable generation capacity constructed (MW);
 - Governance action introduced (Y/N), including conducted renewables auctions; labour market reforms etc.;
 - Decommissioning plans developed;
 - Affected workers retrained/redeployed (percentage, female, male);

¹⁶¹ Grant consists of two components, to be deployed by the EBRD: (a) USD 1 million for auction design, (b) USD 0.8 million for ESM re-skilling programme.

¹⁶² To be split on first-come, first serve basis. To maximise leverage ratios, maximum shares of CIF-provided concessionality will be: (a) 20% of total capex costs for grids, (b) 35% for storage. These can be combined with external concessional/grant resources in line with each MDB's policies including joint Blended Concessionality Principles. Co-financing among MDBs can also be explored.

¹⁶³ Grant consists of two components: (a) USD 0.5 million for MEPSO training centre to be supported by EBRD, and (b) USD 2 million capex grant for batteries to be used on first-come, first-serve basis by an MDB implementing this project.

- i. Number of market-relevant re-skilling and upskilling training programmes in partnerships with TVET and universities launched;
- j. Financing mobilized, including from MDBs and other parties (broken down by public/private finance mobilisation).

A.4.1.8. Implementation timelines

36. The timeline for the project will be developed once approval is obtained for the proposed IP programme. The timeline for decommissioning of each unit will be defined in 2024, as part of NECP and Energy Strategy updates, via robust modelling to ensure careful planning for energy security. The auctions will be implemented in several rounds over 2024-2027. While reskilling and upskilling programs of affected workers will be implemented in line with decommissioning of each of the unit, the preparatory work, including at the policy level, will start once approval is obtained for the proposed IP program.

A.4.2 Project 2: Socio-economic Regeneration of Pelagonia and Southwest region

A.4.2.1. Background

1. The Southwest and Pelagonia regions are reliant on coal value chains for income generation. Circa 3% of the active workforce is involved in coal value chains, with circa 3,000 direct and 2,000 indirect jobs, including in mining, energy, mechanical and electrical engineering, metal fabrication, manufacturing and trade of machinery and electrical equipment, construction, transportation, technical gases, catering, professional services and others. Both regions have diverse, yet labour-intensive industry structures across manufacturing, services and agribusiness industries, with most common sixteen codes¹⁶⁴ covering 1,822 companies. The unemployment rate in the Southwest region is 21% of active labour force, compared 12% in Pelagonia in 2021. The country's energy transition is likely to disproportionately affect both regions. As such it is important to ensure that the transition is just and provides new quality opportunities for affected workers and coal-reliant communities.
2. Pelagonia and the Southwest regions attract MNEs located primarily in the Technical Industrial Development Zones (TIDZs), with recorded revenues of EUR 1.3 billion in 2022 (17% growth compared to 2021), and net earnings of c. 47 million in 2022. According to the analysis of the IPPG consultants, the two regions also host 44 larger domestic enterprises (with average net earnings over EUR 0.25 million/annum). These

¹⁶⁴ Most common codes include crops production, animal husbandry, mixed farming, food & beverages industry, textile industry, plastics, foundry, metal fabrication, HVAC (heaters, ventilation, air conditioners, dehumidifiers fans), machinery, electrical, domestic appliances, automotive industry, furniture, trade, other industries.

employ circa 11,000 people. In addition, there are 209 smaller domestic companies with net earnings of EUR 30-250 thousand/annum. Both regions see growth opportunities in revitalising agricultural sector, supporting entrepreneurship, reskilling for the IT sector, and expanding the manufacturing sector.

3. However, the regions also face several inter-linked development impediments, including ageing population, labour-intensive economies, lack of skilled workforce and investments in high value-added industries. Both regions experience a decline in conventional agriculture¹⁶⁵ and poorly developed road infrastructure. Regional manufacturing is predominantly conventional; while foreign direct investments are on the rise, they focus primarily on the labour-intensive industries. At the same time, prospective employers and investors see shortages of skilled labour force (e.g. in renewables industry). This is caused by a skills mismatch, including a lack of high-quality education and training opportunities in the higher value-added industries. The trend is further exacerbated by the perceived low attractiveness of the regions by young people, including due to poor air quality in coal-reliant municipalities and uncompetitive salaries, compared with Skopje and EU countries. This results in outmigration, and in turn perpetuates the cycle of low investor interest and lack of investments in high value-added industries in the regions, which could create new quality opportunities as part of the coal transition.
4. Given the regional development context and the transition's wider impact, the programme should support not only directly impacted ESM workers, but also create new opportunities for other target groups, including youth and women. These opportunities should primarily focus on future-proof green skills and energy efficiency competences to ensure that the benefits of the green economy transition are shared. This is of particular relevance for women, who are less represented in STEM fields, and can miss out on new value-added opportunities, without further support and interventions. Across the country, formal energy sector trainings do not adequately reflect the increasing demand for green skills. As such, the introduction of new accredited training programmes, informed by business needs, is key to the successful acceleration of energy transition. This may include the development of digital and energy efficiency skills that can help increase service efficiency through the adoption of new technologies.
5. The policy level should also address the absence of unified and market-oriented national mechanisms to qualify the green skills. This requires the introduction of the necessary regulatory frameworks for skills verification and certification of specialists,

¹⁶⁵ Often during stakeholder engagement, representatives from Ministry of Agriculture, local government representatives and local population emphasized the need for measures to support revitalization of agriculture. This need is partly addressed under Project 2 – Annex 4.

along with the development a new curriculum for prospective certified specialists. According to the internal Employment Service Agency (ESA) data for the green jobs for the next 2-3 years on the national level, the main shortage of workers will be in the occupations shown below:

Table 25 Shortage of workers for the occupations needed for green transition

Occupation	Demand (workers)	Occupation	Demand (workers)
Masons and related construction trades	1100	Electricians in buildings and similar occupations	300
Glaziers	1000	Electrical mechanics and electricians	300
Carpenters and construction carpenters	550	Electromechanic for power engineering	300
Facades and plasterers	500	Electromechanic for power engineering, specialised	300
Heating and air conditioning installer, master	500	Construction workers for facilities, part-skilled persons and assistants	200
Electrical fitter	500	Electrical fitter of energy machines and devices	200
Insulation Workers	400	Installer of electrical machinery and equipment	200
Thermoisolator	400	Electrical apparatus and equipment maintainer	150
Electrical technician for installation and equipment	400	Stone cutter, stone carver and engraver	100
Heating and Air Conditioning Installers	400	Roofers	100
General construction workers	300	Electromechanic	100
Tinsmith master	300		

- Regional economic diversification, with the focus on human capital development, is critical to ensuring just transition for coal value chain employees and coal-reliant communities. Firstly, it is important to attract climate-smart investments into the regions to ensure creation of sustainable economic opportunities, compatible with the country's green transition. To this end, the programme should actively engage with private sector companies to understand and address their barriers to investments in the regions, including from human capital perspective. The programme should also support companies in promoting women's skills and employment opportunities through employing higher standards of gender equality across operations, including through implementing internship, mentorship, and other structured learning programs for women to nurture their talent and improve green skills. It should also support existing carbon-intensive local businesses, especially SMEs and micro-enterprises, in transitioning to more low-carbon models, and existing local climate-smart businesses in sustainable scale-up of their operations to create new economic opportunities.

A.4.2.2. Project Objectives

7. The overarching goals of this project are to: (a) support existing companies in the region in green transition and expansion, to provide sustainable employment opportunities in green and climate-smart business segments, (b) support broader human capital development in the region via upskilling and re-skilling of the workforce, as well as measures to support women's and youth's integration into the labour market; (c) attract new climate-smart investments into Southwest and Pelagonia regions to support economic regeneration (e.g. smart agriculture, batteries etc.) including though improving local infrastructure. The following sections elaborate on the proposed implementation approach, key investments and implementation considerations related to the proposed initiatives.

A.4.2.3. Proposed Approach

8. To achieve the objectives, the programme needs to target:
 - a) Availability of finance tailored to the specific development, growth and human capital needs of diverse stakeholders involved in the just transition process;
 - b) Availability of industrial development zones with necessary and adequate infrastructure and support services to attract new investors, in line with state aid rules;
 - c) Attraction of large climate-smart investments in businesses in Southwest and Pelagonia regions, coupled with human capital development.

The proposed approach consists of the following three investment components:

9. **Component A's "Green & Growth (G&G)" programme** will focus on channelling finance via local partner financial institutions (PFIs) to the Southwest and Pelagonia regions. The G&G programme would have two windows: (1) green - to support regional SMEs' low carbon transition via energy efficiency and renewable energy investments; and (2) growth – to support regional business growth and human capital development via capex investments. Thus, the product will support the development of labour market relevant training programs and opening employment opportunities for former coal value chain employees as well as the broader local population, including women and youth living in the affected regions. To this end, individuals and young businesses will receive advisory support related to starting and growing a business and be equipped with tools for cross-stakeholder collaboration, via Advisory for Small Business (ASB) Programme.
10. The G&G facility will build on the EBRD's successful experience of the completed SME Competitiveness Support Programme (CSP). To date, around EUR 50 million have been extended to over 200 small businesses in North Macedonia, with incentives from the EU covering up to 15% of the total loan amount in grants. The eligible investments

included improvements in product quality, health & safety at work and environmental protection. However, only 30% of the participating SMEs under the CSP were from the Southwest and Pelagonia regions.

11. G&G's grant level could be increased from the current 10% (offered through the only currently available corporate grant-supported product in North Macedonia – the UNDP supported Green Finance Facility (GFF), which targets only RE&EE, to 15% of investments. Somewhat higher grant levels should provide stronger impetus for the much-needed investments and resource-intensive activities related to green and human capital improvements in the affected regions. G&G's grant intensity level would then be the same as for the expired CSP since that level has proved to be sufficient to motivate the SMEs to invest. The grants to the final sub-borrowers would be paid upon successful investment completion.
12. **Component B - Revitalise** will support the development of industrial zones in the Southwest and Pelagonia regions to address barriers to attracting domestic and foreign investments in high value-added industries in line with state aid rules. It will also support municipalities in strengthening their planning capacities for zones' development and broader socio-economic planning.
13. Southwest and Pelagonia regions host three TIDZs - Prilep, Kichevo, and Struga. In 2022, companies in these zones generated a revenue of EUR 180 million (5.6% of national total) and employed 2,530 people¹⁶⁶ (17% of national total).¹⁶⁷ Based on this data, TIDZs in both regions are more labour intensive and less revenue-generating than the national average. IPPG consultants' analysis covering stakeholder engagement with the municipalities, TIDZ directorate and companies, highlighted that the three zones have sufficient infrastructure, but see local skills shortages as a key barrier to further attraction of large investors. Addressing this barrier could attract additional 5-10 investors for remaining 46,3 ha of land, providing employment to 1,000-2,000 employees (depending on the business activity). For example, an ABEE car battery company has recently announced¹⁶⁸ an intention to invest in TIDZ Kichevo, which could offer employment to up to 600 people. The skills training needs are addressed below.
14. While TIDZs have been helpful to attracting FDI to the country, there are increasing questions about the level of provided incentives and policies' sustainability, including the likelihood if companies to stay after the expiry of incentives. As such, the

¹⁶⁶ Based on the data received from the Directorate of the TIDZ

¹⁶⁷ Based on the data received from the Directorate of the TIDZ

¹⁶⁸ One of the key decision-making factors for the ABEE company was the technical workforce becoming available from the REK Oslomej power plant layoff plan.

component intends to support workforce upskilling related to the TIDZ, and also further explore investments in municipal industrial zones (MIZs), per priorities of the municipalities. The MIZs mainly offer acquiring industrial plot for greenfield projects on auction with bidding procedure determined by the municipality with specified starting price¹⁶⁹ and the possibility of applying for financial support from the Government of North Macedonia under the Law for Financial Support of Investments.¹⁷⁰ The zones vary in offerings and features. Some of them are in remote and rural settlements and have high development capital cost (e.g., Prilep 2, Demir Hisar, Debreshte, Mogila), or limited remaining space (e.g. MIZ Slavej). Others have had success with attracting at least one investor (e.g., MIZ Opalenik and MIZ Makazi).

15. There are both existing, brownfield industrial zones in larger regional cities (Bitola, Prilep), and newly planned and developing industrial zones, for example Zabeni near Bitola, and ones in Novaci and Mogila municipalities. However, in terms of the development and investment potential, there are two distinct municipal industrial zones, i.e.:

- MIZs with higher development and investment potential based on existing demand, and
- MIZs with lower development and investment potential, due to several inter-related causes such as largely or fully divested land plots, ownership status, and lack of demand due to low population density and rural character of the local economy, hence low prospects for economic project viability.

Preliminary analysis of the IPPG consultants, suggests that up to 8 zones could fit into the first category, requiring circa USD 14.5 million in infrastructure investments, including roads, water supply, wastewater collection and treatment, power supply, and other works. Detailed costs per zone will be identified during project preparation, including via engagement with municipalities, and support for their industrial zone development plan upgrades under the ‘governance’ pillar.

16. The Component will provide sovereign/sub-sovereign loans to support integrated, cost-effective, resource efficient and high-quality investments in the MIZs’ infrastructure. These investments will be carefully designed to support the development of quality green infrastructure and ensure sustainable business model of operations with MDBs’ support. The latter includes financial sustainability and focus on attracting climate smart businesses. It will integrate lessons learned from past investments (e.g., Žabeni zone currently has legal proceedings with circa 40 existing owners of land that have breached their contracts by not executing investments). The development of such zones would address investment barriers for larger companies and create favourable conditions for domestic and foreign climate-smart investments to ignite low carbon industrial activities that support economic regeneration and

¹⁶⁹ According to the Law on the Industrial and Eco zones, 2013. Many zones start selling price is 1 Euro per 1 m².

¹⁷⁰ Limited to manufacturing sector, while agribusiness, residential building construction and ICT sectors (unless R&D) excluded.

facilitate creation of sustainable jobs in the regions both directly (employment for local contractors to work on infrastructural upgrades), and indirectly – by enabling attraction of new businesses.

17. **Component C targets an economic regeneration programme to support the attraction of corporate climate-smart investments in businesses in Southwest and Pelagonia regions, coupled with human capital development.** This component will support direct financing to corporates by EBRD and IFC, including via debt, equity, or mezzanine instruments.
18. As part of the investments, the Programme will help companies to create gender-equal labour market opportunities and skills development for demanded green jobs. This will include, for example (a) developing and implementing initial training programs in renewable energy (RE) and energy efficiency (EE) to reflect relevant core skills for employability in the sector, mainly targeting young people (with a focus on young women and NEETS – Not in Employment, Education of Training), without any previous occupational skills or work experience, and (b) developing upskilling modular short courses, targeting workers either already employed or self-employed in the two regions and who want to acquire new green skills. At the policy level, support will include establishment of public-private partnership mechanisms (e.g. in the form of Sector Skills Councils), to enable private sector employers to inform the development of occupational and skills standards in line with industry needs. The programme will also support the companies in implementing dedicated programmes to increase engagement of women in technical and managerial positions, through employing higher standards of gender equality across operations, implementing internship, mentorship, and other structured learning programs for women.
19. The component will target investments in climate smart activities and projects, defined in line with *MDBs Climate Mitigation Common Principles*.¹⁷¹
- Negative- or very-low-emission activities, which result in negative, zero or very low GHG emissions and are fully consistent with the long-term temperature goal of the Paris Agreement;
 - Transitional activities, which are still part of GHG-emissive systems, but are important for and contribute to the transition towards a climate-neutral economy, e.g., energy efficiency improvement in manufacturing that directly or indirectly uses fossil fuels;

171 https://www.eib.org/attachments/documents/mdb_idfc_mitigation_common_principles_en.pdf

- Enabling activities, which are instrumental in enabling other activities to make a substantial contribution to climate change mitigation, e.g., manufacturing of very-low- emission technologies.¹⁷²

The Component could also support climate adaptation investments, for example in climate-resilient agriculture.

20. The Component's concessionality will be used to incentivise investments in higher cost climate-smart technologies.

A.4.2.4. Indicative Financing

21. The indicative costs for project components are listed below:

Table 26 Indicative breakdown of Project 2 components (USD million)

In USD million	ACT		IFIs			Gover nment	Private	Total	Gover nance	Infrastr ucture	People
	Concessional	Grant	EBRD	WB	IFC	SOE					
PROJECT 2: SOCIO-ECONOMIC REGENERATION OF PELAGONIA AND SOUTHWEST REGIONS											
Component A: Green & Growth programme for SMEs	2,70	1,95	5,30					9,95		V	V
Component B: Revitalise: industrial zones for economic regeneration ¹⁷³	5,50	0,50	5	5				16	V	V	V
Component C: Climate-smart economic regeneration programme	2,70 ¹⁷⁴	0,65	11		11			25,35			V
Project Total	10,9	3,1	37,3					51,3			

**Any financial commitments from the Investment Plan Components, especially the funds that will be borrowed from MDB's as well as the CIF funding that will be channelled through MDB's, will always be subject to separate contractual arrangements defining the applicable terms and conditions, to be entered into in accordance with the respective mandates, and the laws, rules, regulations, policies and procedures applicable to the respective Parties signing the agreements therefore. MDBs should strive to minimise the public lending costs, given the financial position of the country, while acknowledging the need for public sector lending in some transactions.*

¹⁷² The complete list of the climate mitigation or climate-smart activities and technologies are provided in the Annex 1 of consultant's work – List of climate mitigation activities by IPPG consultants. Some examples of the most important and relevant activities and resulting investment projects to the ACT Project in NM are:

Energy (renewable energy generation, energy storage, efficient energy distribution)
 Energy and resource efficiency in manufacturing sector (brownfield and greenfield projects)
 Energy efficiency and carbon sequestration in agriculture
 Energy and resource efficiency in water supply and wastewater management projects
 Energy efficiency in buildings (retrofit)
 Solid waste management (waste segregation, material recovery and reuse, EE)
 Usage of ICT solutions across all climate mitigation projects
 Cross-sectoral activities (transition policy actions, technical assistance)

¹⁷³ Grant for zone development and concessional finance to be shared equally between WB and EBRD, unless mutually agreed otherwise.

¹⁷⁴ To be shared equally between IFC and EBRD. Grant to be allocated to EBRD for support under the 'people' pillar outlined above.

A.4.2.5. Implementation Readiness

22. Implementation of this component will require extensive involvement of local partner financial institutions, private sector, municipalities, zone management teams, education service providers, local communities, and the Government of North Macedonia. First, for the Green and Growth credit line, the programme will rely on the extensive network of PFIs, which EBRD cooperates with via other financial products. These PFIs have an outreach in the Southwest and Pelagonia regions, including good knowledge of local businesses. Second, for the municipal industrial zones, throughout IP preparation, MDBs and the Government have engaged with the municipalities, who are extensively involved in the planning processes. For example, in the case of Zabeni, Bitola municipality already has an established municipal team, responsible for the zone management, investment, service provision and maintenance. Third, for the economic regeneration programme, it is important to build both on the existing network of clients in the region (e.g., for EBRD – Cermat) and attract new climate-smart businesses via investor fora and roundtables, with the support of the Economic Chamber of Commerce. Across components, the capacity of municipalities must be strengthened to ensure timely permitting, support, and removal of administrative barriers for private sector investments, and strong coordination between municipalities and central Government relevant institutions – sectors to ensure complementarity and coherence.

A.4.2.6. Rationale for CIF ACT financing

23. The Southwest and Pelagonia coal-dependent regions are faced with several inter-locked development impediments: population decline and a rapidly ageing population, dependence on imported fossil fuels, and being locked-into labour-intensive products. Unemployment remains relatively high. Young people and women are more vulnerable to such conditions. Poor air quality and inadequacy of infrastructures are factors affecting the quality of life. The above-mentioned factors make the regions less appealing, resulting in low fertility rates and outmigration. Without socio-economic interventions, coal transition can exacerbate regional trends including outmigration, unemployment, and lack of investments.

24. These regions are often seen as risky for prospective investors, due to overstated perceived transition challenges. The use of concessional resources blended with MDB and private capital can alter an investments' risk-return profile and improve investors' perception, helping high impact projects materialise. These projects can deliver an important demonstration effect for other project developers and financiers, who will in the future require less or no concessional support. The targeted use of blended concessional finance can transform projects that are not fully commercially viable into projects with a higher likelihood of full commercial viability in the long term, thereby helping to create new economic activity and support market development over time. Accordingly, the rationale behind the proposed CIF ACT financing is based on the

following key requirements for the regional economic regeneration: (a) to attract a stream of foreign and domestic investors, targeting climate-smart oriented companies, into the region over the next 5 to 7-year horizon; and (b) to create improved access to skills and employment.

A.4.2.7. Results Indicators

25. The final list of indicators will be available during the project preparation stage. Anticipated outcomes of the project include the following:
- a. Improved capacity of municipal governments to implement relevant just transition strategies;
 - b. Number of climate-smart investors attracted into the industrial zones and broader regions;
 - c. Financial performance of the newly attracted investors;
 - d. Number of local companies supported in green investments;
 - e. Number of people upskilled/re-skilled (incl. former coal value chain employees, women, youth etc);
 - f. Enhanced collaboration/partnerships between local communities, private sector, civil society, and provincial/local governments on the transition process.

A.4.2.8. Timeline

26. The timeline for the project will be developed once approval is obtained for the proposed IP program. It is expected that support for industrial zones could be implemented within 2-4 years, on-lending via Green & Growth credit line to begin in 2025 and finish in about three years, and first investments under the economic regeneration programme to occur over 2024-2029.

A.4.3. Project 3: Energy Efficiency, Distributed Generation and Clean Heating Programmes

A.4.3.1. Background

1. Energy efficiency, distributed generation and clean heating programmes are an indispensable part of North Macedonia's energy transition. Energy efficiency plays a key role in the electricity demand reduction, as well as reduction of energy costs. This is especially important for the most vulnerable groups, helping to reduce and avoid energy poverty. Distributed generation helps consumers contribute to the green energy transition, generate revenues, and facilitate energy security. Clean heating solutions serve a similar purpose, in addition to reducing air pollution, addressing health and safety risks. All the three components are also creators of green job opportunities, which can help to ensure just transition, security of energy supply and increase energy affordability for end users (with the focus on energy poverty), particularly for coal-reliant communities in Southwest and Pelagonia regions.

2. The Strategy for Energy Development of the Republic of North Macedonia until 2040,¹⁷⁵ defines both **energy efficiency** and decarbonisation as key priorities. The Strategy targets energy savings of up to 51.8% of primary and 27.5% of final energy consumption by 2040. North Macedonia's total energy consumption is comparatively low by EU standards. However, the country remains one of the most energy-intensive economies in the region and has a carbon intensity 38% higher than the EU average, due to the reliance on coal for electricity generation and underinvestment in energy efficiency across sectors. North Macedonia has seen some positive trends over the past decade. For example, between 2010-2018, primary energy consumption decreased by 9% due to implemented energy efficiency measures and increased installation of green technologies (e.g. heat pumps, solar rooftop PV plants, solar thermal collectors, efficient biomass stoves etc.). According to the second National Energy Efficiency Action Plan, buildings consume circa 39% of the domestic energy, and have a potential to achieve circa 20-40% energy savings via energy efficiency investments. This reduction to energy demand will play a critical role in the transition of electricity sector away from coal.
3. The opportunities for energy demand reduction, particularly in buildings remain underutilised. For example, according to the EBRD's market study of the Western Balkans region conducted in cooperation with the Energy Community Secretariat (EnCS), the average level of penetration of green technologies in North Macedonia is below 9%. The uptake limitations are driven by market barriers, including energy pricing structure, access to financing, knowledge and understanding of available resources, limited data and low comfort levels, misaligned incentives, regulatory barriers, and lack of technical capacity.
4. At the local level, municipalities are actively developing programmes for energy efficiency in public buildings and Local Environmental Action Plans (LEAPs). World Bank is currently implementing a EUR 25 million Public Sector Energy Efficiency Project (PSEEP) supporting energy efficiency investments in public facilities. The project includes energy efficiency investments in the healthcare buildings managed by the Ministry of Health as well as buildings and street lighting owned by municipalities. Furthermore, this project supports the establishment and operationalisation of the Energy Efficiency Fund (EE Fund) as a sustainable and revolving financing mechanism to scale up energy efficiency investments in municipal facilities, together with the Macedonian Development Bank. Under PSEEP, there is a EUR 5 million component to support the first EE Fund investments in municipal projects once the Fund is established and operationalized. Thus far, the project has received applications from Kichevo municipality, but no applications from Bitola.

175 Energy Development Strategy

5. **Distributed generation** involves generating electricity or heating at or near where it will be used (for example, via rooftop solar panels). It can be used to power a single structure, such as a home or business, or be part of a microgrid. This can enable local consumers to directly participate in energy transition, while generating revenues, for example with feed-in-tariff incentives (similar to the current incentives offered by the Energy and Water Services Regulatory Commission). Distributed generation is also more labor-intensive and creates cleaner job opportunities compared to, for example, large-scale PV projects.
6. In the Southwest and Pelagonia regions, electricity, and solid biomass (wood) are the most used heating sources.¹⁷⁶ Combustion of solid fuels in Bitola and Kichevo contributes to the municipalities having some of the highest concentrations of PM (dust) in the air in the country. As such, **cleaner and more efficient heating** options not only contribute to decarbonisation, but also improve public health in the affected communities. Centralised (as a part of district heating systems) and decentralised solutions for introduction of solar-thermal, geothermal, individual, or large heat pumps, biomass/biogas, and waste-to-energy plants could be considered among the options. To provide analytical support, World Bank is currently exploring a project to finance equipment for strengthening air quality measurement and monitoring network, analysis, modelling, and data dissemination including in the affected municipalities.
7. **Fostering green skills development for local workers is key to unlocking the job potential throughout the above-mentioned components.** As in other Western Balkan countries, in North Macedonia, formal trainings for energy professionals do not reflect the increasing demand for higher specialisations driven by the need for cleaner and smarter energy systems. The introduction of new accredited training programmes informed by business requirements is key to the successful roll-out of clean electrification plans.

A.4.3.2. Project objectives

8. The project has the following objectives: (a) to reduce electricity demand through retrofits, enabling accelerated coal phase out and lowering energy costs for the population, as well as GHG emissions, (b) to improve air quality in Southwest and Pelagonia via clean heating investments, (c) to introduce new income generating opportunities for local communities via distributed generation, and (d) enable new job creation opportunities in energy efficiency and distributed generation in affected regions.

¹⁷⁶ Analysis of alternatives to coal-based district heating for the Bitola region in North Macedonia 2022. Eko-Svest <https://makstat.stat.gov.mk> and Analysis-of-alternatives-to-coal-based-district-heating-for-the-Bitola-region-in-North-Macedonia-2022.pdf (ekosvest.com.mk)

A.4.3.3. Proposed Approach

9. The Project is composed of the two interlinked components, closely coordinated by respective MDBs, targeting both public and residential sectors. In the residential sphere, it is targeting more commercial models with lower levels of concessionality where possible (e.g. for middle class consumers), and higher levels of concessionality (e.g. for vulnerable consumers and clean heating), where necessary. This will be carefully designed to not crowd out commercial financing.
10. **Component A: is ECOBOOST: Empowering Coal Communities with Efficient and Renewable Lending**, deployed by the EBRD. It could focus on providing: (a) concessional investments for energy efficiency, and distributed generation to households in coal-reliant regions via partner financial institutions, (b) supporting energy efficiency and distributed generation of public sector buildings (e.g. educational, administrative, and healthcare). This could be done via municipal lending (depending on the municipality's financial position and investment size).
11. **Component B is EcoCommune: Community-Centric Clean Energy Initiative**, deployed by the World Bank. This Component will work on towards the same objectives but will target less commercially viable investments with higher levels of concessionality. In particular, it will focus on a) clean heating, b) household energy efficiency and rooftop solar installations programme for vulnerable consumers, and c) public sector buildings. The latter could include channeling via the existing mechanism under the Ministry of Finance or the Energy Efficiency Fund. The Component may also explore the opportunity to support the development of energy communities and will be aligned and draw on The Programs for the Protection of Vulnerable Energy Consumers which defines vulnerable consumers and conditions for utilizing funds targeting vulnerable energy consumers.¹⁷⁷
12. The Components will help to reduce energy costs to the population, reduce energy demand and create new economic opportunities, including though jobs in EE retrofits and distributed RE, and though selling electricity from prosumers. Under this component, investments may include clean district heating systems including renewable technologies such as solar district heating, biomass or biogas, large heat pumps etc. Potential solutions might include a combination of two technologies (e.g. solar district heating and large heat pumps), also combined with thermal storage.

Public sector

13. The municipality of Bitola owns 80 public buildings and has prepared a Programme for Energy Efficiency for the period of 2024-2026. The plan for Kichevo municipality is

¹⁷⁷ Programs for the Protection of Vulnerable Energy Consumers 2022 <https://economy.gov.mk/news/sekto-programi-3067>

under development. Bitola's programme targets circa EUR 1,5 million in investments for energy efficiency measures (improving the building envelope, including roofs and replacement of old inefficient windows and outside doors).

Table 27 Bitola – estimated EE Investment needs and savings (2024-2026)

Year	Estimated investments for EE measures (EUR)	Estimated savings in (kWh/annum)	Estimated savings (EUR/annum)
2024	509,831.89	277,247	39,035
2025	508,592.52	300,670	38,652
2026	510,203.25	196,795	24,796
Total	1,528,627.66	774,712	102,483

14. The public buildings in Bitola have a good potential for rooftop solar PV plants for electricity production. The produced electricity can be used for lighting, heating, and cooling of public buildings, as well as lighting systems for their own purposes. For example, IPPG consultants estimated¹⁷⁸ that in Bitola, public sector building provides circa 52,000 m² of technically feasible rooftop space. Assuming that half of it could be covered with rooftop solar, the space provides the opportunity to deploy up to 5 MW of solar PV, resulting in c. 6,600 MWh of electricity/year.¹⁷⁹ The capex is estimated at c. EUR 7 million. Kichevo has similar geographical characteristics to Bitola related to the annual solar radiation but with half the population and a smaller number of public buildings. Following a similar calculation logic, in Kichevo, up to 2.4 MW of solar PV could be deployed, with a generation of circa 3,300 MWh electricity/annum.
15. Overall, further analysis would need to be undertaken during the IP implementation to reflect Kichevo's Programme for Energy Efficiency. IPPG consultants estimate that up to USD 15 million could be deployed in the Southwest and Pelagonia regions to improve building envelopes for municipal buildings, install solar panels for preparation of hot water, and install photovoltaic power plants for own production of electricity. In addition, the programme can provide capacity building activities to implementing entities, and support preparation of energy audits.
16. The Project will also consider opportunities to decarbonise district heating, led by the World Bank. For example, a district heating system in Bitola could be further developed with ESM, which is already working on developing pipeline connections to supply households, commercial and public buildings in and around Bitola. The DH network will target large commercial and multifamily apartment buildings.
17. The decarbonisation alternatives can include solar district heating, with Bitola's solar irradiation of approximately 1,592 kWh/m².¹⁸⁰ Pelagonia region sees similar solar irradiation, but also has a high presence of underground waters, which may be a geothermal or heat pump source for district heating. Therefore, there is a possibility for the usage of geothermal water-to-water heat pumps for heating and cooling in individual houses and multiapartment

178 Programme is approved by the Energy Agency of The Republic of North Macedonia, but still not officially adopted by the municipal council (usually done by the end of the year)

179 Solar irradiation in Bitola - 1,591 kWh/m², in Kichevo - 1,450 kWh/m². For Bitola: a PV plant with an area of 2 m² and annual solar radiation for the region of 1,591 kWh/m² would produce 547 kWh per year. The cost for a PV plant of two square meters is estimated to be EUR 500 without an inverter.

180 Programme for Energy Efficiency for the Municipality of Bitola, prepared by MACEF Skopje 2023.

buildings with well-known technical solutions. Another study on alternatives to the District Heating Systems of West Macedonia, the Case of Ptolemaida,¹⁸¹ suggested a combination of a thermal solar system, biomass boiler, CHP unit with Organic Rankine Cycle and high-temperature heat pumps.

Residential sector

18. There is a clear need to improve the energy efficiency of the residential buildings across the Southwest and Pelagonia regions, which are home to 380,976 residents.¹⁸² Based on the survey, undertaken by IPPG consultants, most of the individual houses or multi-apartment buildings were constructed between 1970-1990, requiring substantial renovations and improvements. Currently, only circa 26% of residential buildings in the regions have energy efficient facades.¹⁸³
19. Part of the improvements have been done in the past few years through the EBRD's GEF program, which offers green financial products and services. This product has high uptake and is comprehensive in terms of the available technologies under the green technology selector. As such, it is considered as a key measure to boost the residential EE and RE investments in the region.

Table 28 Statistical Data for the Pelagonia and Southwest regions

Municipality	No. of Residences	No. of Residences with EE facade	Percentage of buildings with EE facade
Bitola	24,530	5,863	24%
Centar Zhupa	2,220	141	14%
Debar	4,854	1720	35%
Debrca	4,190	629	15%
Demir Hisar	4,414	875	20%
Dolneni	5,032	919	18%
Kichevo	16,715	7,656	46%
Krivogashtani	2,317	275	12%
Krushevo	3,419	985	29%
Makedonski Brod	3,748	214	6%
Mogila	2,604	143	5%
Novaci	1,385	127	9%
Ohrid	16,788	4,223	25%
Plasnica	1,728	406	23%
Prilep	21,947	3,084	14%
Resen	7,509	1,220	16%
Struga	18,093	7,593	42%
Vevchani	899	316	16%
Total	142,392	36,389	

181 Alternatives to the district heating in Western Macedonia: the case of Ptolemaida 2016 https://regionsbeyondcoal.eu/wp-content/uploads/2019/02/DISTRICT_HEATING_EN.pdf

182 IPPG EE consultants survey: Market Analysis on energy efficiency and clean heating opportunities for coal-reliant communities 2023

183 North Macedonia Census 2021

https://makstat.stat.gov.mk/PXWeb/pxweb/mk/MakStat/MakStat__Popisi__Popis2021__NaselenieVkupno__Stanovi/T3005P21.px/

20. Increasing the residential buildings' energy efficiency is seen a priority for affected municipalities to reduce energy demand and lower energy costs for citizens, in particular vulnerable consumers. According to a sample survey with 593 respondents in the Pelagonia and Southwest regions, undertaken by the IPPG consultants, the most popular heating source is wood (59%), followed by electricity (40%), coal (4%) with the remaining 1% covered by heating oil.¹⁸⁴ Approximately half of survey respondents have implemented some basic energy efficiency measures, and circa a quarter – RE. Circa 65% of these investments have been financed via own resources.
21. More than 70% respondents stated that they would implement further EE and RE investments if they had further access to financing with a grant component. The measures of interest included improvement of the building envelope, installation of solar panels for sanitary hot water, followed by heat pumps, biomass boilers and rooftop PV plants. Despite the high interest, there is a limited uptake, particularly for more advanced measures, due to prohibitive costs. In addition to creditworthiness, the requirements of banks based on collateral for credit are a frequent obstacle for citizens to apply for existing credit lines. This is especially pronounced in multi-apartment (residential) buildings.
22. Some commercial banks,¹⁸⁵ offer the above-mentioned GEF product with a grant component in the form of investment incentives of up to 20% of the loan amount.¹⁸⁶ Out of the total EUR 13,3 million GEF sub-loans placed in these regions in the last five years, EUR 7,1 million have been used for facades and insulation improvements in 636 homes. Despite a good track record, the funding available for the country as a whole (EUR 32 million) is not enough to satisfy the total needs, especially in Southwest and Pelagonia regions.
23. Another issue is that the incentive amount of the existing credit lines is also not always a sufficient motive to apply for the loans. Therefore, the citizens of these regions often decide to wait for municipal grants (often about 50% of the investment).¹⁸⁷ However, municipalities cover one measure during one calendar year, so the effect is small, and poses a strain on local budgets, which will also be increasingly affected by energy transition. The future uptake may also be negatively impacted by the effects of energy transition on household's incomes, without further interventions.
24. Hence, to overcome these issues and secure more meaningful effects to the coal-reliant communities, it is necessary to provide credit lines supported with somewhat

184 IPPG EE consultants survey: Market Analysis on energy efficiency and clean heating opportunities for coal-reliant communities 2023

185 Banks that offer this loan product are: Komercijalna Banka AD Skopje, Prokredit Banka AD Skopje, Sparkasse Banka AD Skopje and NLB Banka Skopje

186 Banks that offer this loan product are: Komercijalna Banka AD Skopje, Prokredit Banka AD Skopje, Sparkasse Banka AD Skopje and NLB Banka Skopje

187 <https://www.bitola.gov.mk/javen-povik-efikasni-domovi/>

higher grants compared to GEF, that would be available only for these two regions. In this manner, the measure would also reach households in Southwest and Pelagonia regions that were prevented from participating in other subsidy programmes due to the required levels of co-investment of own resources (that exceeded their purchasing power). Furthermore, this would reduce the amount of energy vulnerable population in the regions by lowering energy consumption, thus, helping to strengthen societal buy-in for energy transition.

25. For the remaining vulnerable consumers, World Bank will explore options with a significantly higher level of grant intensity, to ensure affordability, both for energy efficiency and rooftop solar. As per Just Transition Roadmap, this could cover circa 32,485 of the lower-income quarter of the areas' households.
26. Financing for green residential technologies also opens opportunities for households to become prosumers and sell surplus generated energy (e.g. from rooftop PVs or small wind turbines) via the distribution network. These opportunities could be aggregated in the future via energy communities.
27. In terms of individual clean heating options, a World Bank study in 2021 on sustainable heating in North Macedonia concluded that the least cost heating options, including externality costs, are air-to-air heat pumps and eco-design biomass stoves and boilers, which could be supported under the Project.
28. Apart from the reduction of energy demand, the programme also supports the 'people' component of the ACT IP programme. Firstly, the reduction of energy demand supports energy affordability, by reducing electricity bills for local communities, and strengthening their capability to procure better comfort at lower specific costs. This is especially important for c. 30,000 lower-income households in the region, that would be able to spend lower share of disposable income for the consumption of energy services, leaving them sufficient resources for decent and healthy living standards, upon the implementation of the measures.¹⁸⁸ Secondly, the Component will generate a stable pipeline of energy efficiency and distributed electricity projects in the regions, creating increased demand for ESCOs, who would be encouraged to set-up local presence, associated with permanent jobs, providing new opportunities for local communities. Third, programme offering will reduce the need for grant-intensive programmes from municipalities (e.g., referenced in para 19), allowing to free up local budgets for other social needs to support just transition. Lastly, distributed generation provides a direct opportunity for local communities to participate in low carbon transition as prosumers and gain revenues from the process.

188 Just Transition Roadmap, 2023.

A.4.3.3. Implementation Readiness

29. The energy efficiency activities can be facilitated by the Ministry of Finance, Energy Efficiency Fund and the Ministry of Economy, including Agency for Energy, as a part of the Ministry of Economy, which supports the implementation of the national energy policy by undertaking various activities such as fostering the introduction of energy efficiency measures, and creating an environment to increase usage of renewable energy sources for electricity production. At the local level, Bitola municipality has already developed a Programme for Energy Efficiency for the period of 2024-2026. Investment in public buildings, owned by the municipalities, will depend on a) the financial condition of the municipality, b) the readiness of the Ministry of Finance to approve and support those investments according to the municipal balance sheets and c) the capability of the municipalities to develop project proposals and to implement projects.
30. The financing for households will be supported via partner financial institutions, to improve the outreach and support private sector IP component. The financial sector in North Macedonia is at a satisfactory level. Together with the Development Bank of North Macedonia, there are 13 commercial banks and two savings houses.¹⁸⁹ Almost all banks have their branches and significant presence in the Southwest (e.g. 7 banks in Kichevo) and Pelagonia (e.g. all banks in Bitola) regions.¹⁸ Furthermore, the grant-supported credit lines attract the interest of the local banks given the high demand from their customers and are seen as the best available instrument to motivate green investments. Hence, the local banks should be valuable partners in the distribution of the funds for the eligible investments in these regions.
31. Individual heating system replacement can be delivered through central and municipal level in a coordinated matter. At the central level, Ministry of Economy or Ministry of Environment and Physical Planning can coordinate the program from the central level, while municipalities or the newly proposed Energy Efficiency Fund would be responsible for implementation of providing targeted subsidies to households that are using inefficient or highly polluting heating systems. The Energy Regulatory Commission is responsible for setting the heating tariffs for the supply of heat to various consumers (residential, commercial, public etc.) During project preparation of the Air Quality project, to be supported by the World Bank, implementation arrangements will be determined on how to deliver subsidy schemes to households, particularly vulnerable consumers (energy poor), for the replacement of the old heating systems.

¹⁸⁹ Banks in North Macedonia <https://www.nbrm.mk/banki.nspk>

A.4.3.4. Rationale for CTF ACT Financing

32. Energy efficiency, distributed energy generation and clean heating are important parts of the Just Transition Roadmap for the two affected regions. These programmes will help to mitigate social impacts of energy transition on the local communities by reducing energy consumption and resulting bills, thus eradicating root causes of energy poverty. The programmes also create new economic opportunities in the regions, by creating a pipeline for energy efficiency and distributed generation projects, which will create new local jobs in construction and operations and management. Distributed generation also creates revenue-generating opportunities for affected communities and enables them to participate in energy transition, including potentially via energy cooperatives. Given the limited borrowing space of municipalities and consumers, which may be exacerbated by energy transition, grant and concessional finance will be critical to ensure uptake and delivery on outcomes.
33. CIF support is needed to tackle market barriers faced by these technologies and interventions, necessary for advancing the low-carbon transition of the affected regions. Specifically, high ‘green premiums’ or upfront costs of energy efficiency investments and other decarbonisation technologies (clean heating, distributed generation) often prove prohibitive, especially when coupled with limitations in access to finance. The use of targeted incentive grants and concessional loans can help unlock long-term economic and climate benefits, while reducing costs and carbon emissions. Furthermore, by expanding the use of such technologies, further skills and jobs may be created in local economies, which helps tackle other market barriers such as the lack of involvement in the green supply chains and implementation track record, thereby improving the cost competitiveness of these low-carbon technologies.

A.4.3.5. Indicative Financing

34. The indicative costs for project components are listed below:

Table 29 Indicative breakdown of IP components (USD million)

In USD million	ACT		IFIs			Government	Private	Total	Governance	Infrastructure	People
	Concessional	Grant	EBRD	WB	IFC	SOE					
PROJECT 3: ENERGY EFFICIENCY (EE), CLEAN HEATING, AND DISTRIBUTED GENERATION PROGRAM											
Component A: ECOBOOST: Empowering Coal Communities with Efficient and Renewable Lending	5,60		8					13,60		V	V
Component B: EcoCommune: Community-Centric Clean Energy Initiative	8	0,60		11				19,60		V	V

Project total:	13,6	0,6	19			33,2			
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**Any financial commitments from the Investment Plan Components, especially the funds that will be borrowed from MDB's as well as the CIF funding that will be channeled through MDB's, will always be subject to separate contractual arrangements defining the applicable terms and conditions, to be entered into in accordance with the respective mandates, and the laws, rules, regulations, policies and procedures applicable to the respective Parties signing the agreements therefore. MDBs should strive to minimise the public lending costs, given the financial position of the country, while acknowledging the need for public sector lending in some transactions.*

A.4.3.6. Results Indicators

35. Possible outcome indicators for the programme include:

- a. Verified energy (electricity and heat) savings in kWh or GJ;
- b. Verified reduction of GHG emissions related to energy (electricity and heat) savings in tCO₂e;
- c. Number of residential buildings with improved energy consumption performance;
- d. Number of prosumers;
- e. Number of jobs created in energy efficiency and distributed electricity sectors (incl. by gender);
- f. Reduced local air pollution (tonnes of PM, SO_x/annum);
- g. Percentage of people under energy poverty line in both regions.

A.4.3.7. Timeline

36. The timeline for the project will be developed once approval for the proposed IP program is obtained. For the residential sector, envisioned timeline is 2024-2025, depending on the EBRD approval process for the overall Facility and the time of signing the respective loan agreements with the participating FIs.

Annex 5 IRF – Integrated Result Framework (Monitoring and evaluation framework)

Table 30 IRF Framework

ACT IMPACT						
<i>Accelerate transition from coal-powered to clean energy while supporting socio-economic goals and environmental remediation</i>						
ACT Program Theory of Change: <i>If CIF addresses funding gaps related to the successful implementation of country-level strategies and associated kick-start projects; builds support at the local and regional levels to reconsider the development of new coal plants; and supports policy and investment activity in economic regeneration, social plans and income support for affected employees and communities, then national governments, public sector utilities and private sector operators will act to accelerate the retirement of existing coal assets and their replacement with new sources of renewable energy while ensuring a holistic, integrated, socially inclusive and gender equal just transition away from coal.</i>						
NORTH MACEDONIA ACT INVESTMENT PLAN IMPACT						
<i>North Macedonia shifts from predominantly coal-powered into a renewable energy-driven economy in a socially just way that fosters economic opportunities for the people in coal-affected regions and attracts public and private climate-smart investments.</i>						
NORTH MACEDONIA IP Theory of Change: <i>If North Macedonia takes a comprehensive approach, involving retiring coal-fired TPPs, investing in renewables, grid, and storage, promoting energy efficiency, clean heating, economic regeneration and just transition for affected workers and communities, guided by strong governance structures, then it can accelerate coal transition and reduce emissions and local air pollution, while ensuring energy security, fostering climate-smart and inclusive economic regeneration of the Southwest and Pelagonia regions with a skilled green workforce, and empowering local communities to participate in and benefit from green transition.</i>						
MONITORING APPROACH						EVALUATION AND LEARNING APPROACH
RESULT STATEMENT	INDICATORS	BASELINE (Date)	TARGET (Date)	MEANS OF VERIFICATION	NOTES	KEY AREAS
NORTH MACEDONIA INVESTMENT PLAN-LEVEL IMPACTS						
North Macedonia shifts from predominantly coal-powered into a renewable energy-driven economy in a socially just way that fosters economic opportunities for the people in coal-affected regions and	<ol style="list-style-type: none"> Share of energy from renewable sources gross final consumption of energy in North Macedonia energy systems (%) Share of RE in gross electricity production 	<ol style="list-style-type: none"> 1. 19% (2022) 2. 31% (2021)¹⁹¹ 3. 24.5% (2019)¹⁹² 4. 30% (2019)¹⁹³ 	<ol style="list-style-type: none"> 1.38% (2030)¹⁹⁴ 2. 66% (2030)¹⁹⁵ 3. <20% (2027)¹⁹⁶ 4. <25% (2027)¹⁹⁷ 	Ministry of Economy, State Statistical Office (SSO), ESM annual report	<p>IP-level impacts focus on alignment with pre-existing NDCs, national development priorities, and available statistics at the Investment Plan and/or country level.</p> <p><i>IP Plan as a whole will contribute to achieving national wide coal-replated targets.</i></p>	<p>Signals of transformational change: Signals of transformational change at the program level might focus on more narrowly bounded aspects of energy systems transformation than in the section above (i.e., CIF-level impact). They might cover lower levels of systems transformation and be more closely tied to individual ACT Investments Plans and/or project-level impacts. Specific definitions and methodologies are TBD.</p>

191 https://www.irena.org/-/media/Files/IRENA/Agency/Statistics/Statistical_Profiles/Europe/North-Macedonia_Europe_RE_SP.pdf?rev=af786ac719ac4e70af03a867ddfedd6

192 https://www.mtsp.gov.mk/content/pdf/2021/trud/strategija_vrabortuvanje_2021_eng.pdf

193 Same.

194 Energy Community targets <https://www.energy-community.org/implementation/package/CEP.html>

195 NECP

196 Employment Strategy North Macedonia 2021 https://www.mtsp.gov.mk/content/pdf/2021/trud/strategija_vrabortuvanje_2021_eng.pdf

197 Same.

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<p><i>attracts public and private climate-smart investments.</i></p>	<p>3. Share of young people (15-29) who are NEETs¹⁹⁰ reduced.</p> <p>4. Vertical skills mismatch for 25–64-year-olds reduced</p>				<p>1. With TPP retirement (Project 1, Component A, and mine repurposing – installation of PVPPs, small hydro, thermal, the RES capacity will replace the coal capacities, thus contributing to increased RES in final energy consumption.</p> <p>2. same as 1.</p> <p>3. Via Project 2, Component A: Green & Growth, support will be provided to SMEs for capex investments for human capital development, as well as setting up training programs to increase employability of NEETS. Also, via Project 2, Component 3: Climate smart program support for companies will be provided to develop training programs in RE and EE, upskilling modular courses.</p> <p>4. Same as 3.</p>	<p>Gender and just transition elements: The program impact level allows space for further evaluations, assessments, and other approaches to take place as the program evolves in these areas. These activities may be tailored to specific recipient countries or applied more broadly across the program.</p>
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Monitoring Approach						Evaluation and Learning Approach
RESULT STATEMENT	INDICATORS	BASELINE (Date)	TARGET (Date)	MEANS OF VERIFICATION	NOTES	KEY AREAS
NORTH MACEDONIA INVESTMENT PLAN-LEVEL OUTCOMES						
PILLAR 1: GOVERNANCE						
A. North Macedonia adopts and implements policies and strategies for	<p>ACT CORE 1. Policies: Number of policies, regulations, codes, or standards that have been amended or adopted (#)</p> <p>1.1 Energy:</p>			Ministry of Economy, Municipal plans, MDB project data/country data	The National Energy and Climate Plan and Energy Strategy have already been adopted but will be updated in 2024. Just Transition roadmap has also been adopted in June 2023. As such, North Macedonia is advanced on the	Changes in policies, plans, and institutional capabilities may also be incorporated in analyses of signals of transformational change , which contribute toward the fundamental systems change described above. For example, specific policy analysis might help support the overall understanding of coherence across international and national policies (i.e., relevance) and

¹⁹⁰ Not in education, employment or training

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<p>coal-to-clean transition</p>	<p>1.1.1 Renewable energy auctions scheme developed and implemented (1 auction conducted)</p> <p>1.2 Just Transition (inc. gender)</p> <p>1.2.1. Functional JT Governance structure established¹⁹⁸</p> <p>1.2.2. Municipal plans for industrial zones strengthened to attract investments</p> <p>1.2.3. National or/and regional Skill/employment Strategies/action plans developed/upgraded</p>	<p>1.1.1. 0 (2023)</p> <p>1.2.1. 0 (2023)</p> <p>1.2.2. 0 (2023)</p> <p>1.2.3. 0 (2023)</p>	<p>1.1.1 1 (2025)</p> <p>1.2.1. 1 (2024)</p> <p>1.2.2. 2 (2026)</p> <p>1.2.3. 2+ (2027)</p>	<p>'governance' pillar, and IP will only cover key gaps.¹⁹⁹</p> <p>1.1.1. No auction schemes are so far present in North Macedonia. Under Project 1, Component B: PROSPECT, support for the Government will be provided for CfD auctions for about 300 MW on mine sites.</p> <p>1.2.1. North Macedonian Government adopted the JTR in June 2023, which envisioned governance structure for implementation of the JTR which will also be used for the ACT IP implementation. Across projects, when possible, support will be provided for the governance structure.</p> <p>1.2.2. Under Project 2, Component B: REVITALISE, technical support will be provided for municipal zones to attract climate-smart investments.</p> <p>1.2.3 Under Project 2, Component C: Climate smart programme, policy support will be provided for establishing public-private mechanisms – Sector-Skills Councils, as well as policy interventions to address the absence of unified, market-oriented national mechanisms to qualify for green skills, skill verification.</p>	<p>linkages between national policy and institutional capacity (i.e., scale).</p> <p>CIF's targeted evaluations and/or sector studies to fill strategic knowledge gaps: Moving down the results chain, the monitoring function becomes increasingly important to capture program outcomes and outputs. Evaluation and learning function will complement core indicators by filling strategic evidence and knowledge gaps. Evaluation and learning activities will be selected based on overall stakeholder demand, evidence gaps, and cross-learning opportunities.</p>
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198 Just Transition Roadmap ; supported via IPPG capacity building pillar Just Transition Roadmap (economy.gov.mk)

167 Implications of the International Energy Agency Net Zero Emissions by 2050 Scenario for Net Zero Committed Financial Institutions <https://www.smithschool.ox.ac.uk/sites/default/files/2022-03/Implications-of-the-International-Energy-Agency-Net-Zero.pdf>

Just Transition Roadmap (economy.gov.mk)

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	<p>ACT CORE 2. Readiness. Coal transition strategies finalized (#)</p> <p>2.1. Detailed decommissioning/repurposing plans for each TPP prepared</p>	2.1. 0 (2023)	2.1. 2 (2025)	<p>ESM, Ministry of Economy</p> <p>MDB project data</p>	<p>2.1. Under Project 1, Component A, for both TPP Oslomej and TPP Bitola, technical support will be provided for detailed decommissioning plans for each TPP</p>	
PILLAR 2: PEOPLE						
<p>C. Sources of income created for affected employees through job retention or job creation</p>	<p>ACT CORE 3 Income security for employees of subset industries Number of employees of retired coal plants/mines that have access to sustained income (#)</p> <p>3.1. Number of directly affected workers redeployed (disaggregated by sex)</p>	3.1. 0 (2023)	3.1. 1500 of ESM workers (disaggregated by sex, age, types of Job (2030)	<p>MDB project financial data</p>	<p>The indicator targets the permanent staff (2,880 workers) of the ESM, excluding c. 800 workers expected to be retired by 2030. As such, this indicator is linked to Project 1, Component B that includes support for ESM. However, opportunities for relocation internal to ESM or even within the same sector might be limited. A preliminary disaggregation by Project is outlined below:</p> <p><i>Project 1, Component B, C: c. 400 workers transitioning within the energy sector</i></p> <p><i>Project 2, Component A, B, C: c. 1,100 workers supported in accessing opportunities offered through entrepreneurship, SMEs and corporates</i></p>	<p>Quality and distribution of jobs: Through both just transition and gender-responsive approaches, further evaluative and learning-oriented analyses may center on the types of jobs created (and lost), and which sub-populations are gaining (and losing) employment opportunities. For example, this might include generating evidence on decent jobs created and plans for addressing jobs lost through skills development and economic diversification activities.</p> <p>Gender-responsive aspects can be studied in more detail through targeted research, evaluations, and/or case studies. These will seek to understand the program’s impacts in reducing gender imbalances and expanding inclusion, including interventions’ relevance and access to the female labor force and the inclusion and viability of female owned enterprises in economic regeneration programs, driven by potential activities such as:</p> <p>a. <u>Coal plant or coal mine retirement/re-purposing phase:</u> Gender and social policy and strategy preparedness assessment; including mapping of: i) institutional linkages to Ministry of Women’s Affairs or equivalent, gender focal points in line ministries (including in Social Protection and Labor, and Education ministries, as well as Environment, and Energy); ii) expected poverty impacts of the transition, including social and gender-based care burdens for workers affected directly and indirectly by</p>

<p>D. Affected employees/communities equipped with relevant skills for jobs of the future</p>	<p>ACT Core 4. Social Plans and Economic Regeneration Packages: 4.1. Number of direct beneficiaries of implemented social plans and economic regeneration activities</p>	<p>4.1. 0 (2023)</p>	<p>4.1. 3,000, disaggregated by sex and age (2030)</p>	<p>MDB project data</p>	<p>The indicator targets the beneficiaries of reskilling /retraining programs <i>Project 1, Component B, C: c. 880 beneficiaries</i> <i>Project 2, Component A, B, C: c. 2,120 beneficiaries</i>, which could be approximately divided equally across those of Component A and those of Components B, C</p>	<p>the energy transition; and iii) policy mandates and measures to ensure gender equality outcomes in skill development and workforce transition.</p> <p>b. Post-coal regional transformation phase: Social protection assessment of readiness and completeness of short and long-term social assistance programs, active labor market programs, and education and reskilling programs targeting jobs of the future including gender assessments of gaps between women and men in education, skills, employment, and participation rates in new or similar jobs-related programs; and measures to reduce gender imbalances in impact of proposed interventions</p> <p>Just transition-framed analyses:</p> <ul style="list-style-type: none"> • Procedural Justice: may examine the enhancement of social inclusion processes and procedures, such as stakeholder engagement at local and national levels, the extent to which vulnerable groups in impacted areas have been represented, gender inclusion, and the scope of social partners involved, i.e., government, labor, business, civil society, race. • Distributional impacts: may also be further examined along other evaluative lines or with additional focus on specific sub-populations, such as ethnic, religious, and racial minorities, female headed households, Indigenous People and local communities, migrants, youth, and persons with disabilities
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PILLAR 3: INFRASTRUCTURE						
<p>E. Reduce GHG emissions</p>	<p>ACT CORE 5 (= CIF 1). 5.1 Mitigation: GHG absolute emissions savings million tons of CO₂</p>	<p>200_{5.1. 0} (2023)</p>	<p>201_{c. 13.2} (2038)</p>	<p>ESM, Ministry of Economy, MDB project data</p>	<p>Annual emissions are calculated using assumptions of the *23.84% capacity factor for Oslomej and 41.59% for Bitola from 2022; *50y²⁰² average; operational coal plant age in Europe,²⁰³ based on historical data and average pre-2030 retirement ages (tbc in updated NECP); *Subcritical combustion heat rate: 9,950 Btu/kWh, and lignite emission factor: 101,000 kg of carbon dioxide per TJ.</p> <p>5.1 Project 1, Component B: PROSPECT will support repowering with renewable energy of approximately 300 MW installed capacity, needed for decarbonisation of ESM, thus GHG emission savings. Additionally, Project 3, Component A ECOBOOST and B: EcoCommune, will support energy efficiency investments for commercial, public, residential and vulnerable groups buildings in improving buildings envelopes, rooftop solar, clean heating, energy efficiency and distributed generation, increased demand for ESCO, thus reducing energy demand and providing GHG savings. For vulnerable groups, the IP could address circa 32,485 households as per the JTR.</p>	<p>MDBs are encouraged to undertake “whole of energy systems” analyses as baselines during the Investment Plans and project appraisal process and to fully incorporate MEL aspects into such analyses. Integrated, systems-levels analyses can be used to build a theoretical model and reference scenario for how interventions will affect multiple results areas: renewable energy installation, coal retirement/abatement, asset reclamation and reuse, landscapes restoration, etc. Both estimated and real operational data can also then be consolidated effectively to report across these multiple indicators.</p>

202 <https://www.smithschool.ox.ac.uk/sites/default/files/2022-03/Implications-of-the-International-Energy-Agency-Net-Zero.pdf>

203 Continued operation of the plants would require significant capex investments to install pollution controls and comply with directives, which would extend lifetimes of the plants.

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<p>F. Mobilize private sector financing</p>	<p>ACT CORE 6 (= CIF 4). 6.1. Co-Finance: Volume of co-finance leveraged (USD)</p>	<p>6.1. 0(2023)</p>	<p>Total USD 560 million (2030) 6.1. MDBs USD 475 million Private sector USD 100 million +</p>	<p>MDB project financial data</p>	<p>Total of non-CIF resources leveraged in ACT projects. Reporting on this indicator feeds directly into CIF Impact 4 (Co-Finance) 6.1 Project 1, Component B; PROSPECT intends to mobilise USD 85 millions of private sector investments in the envisioned 300 MW PVPP for ESM decarbonisation Project 2, Component A: Green & Growth and Component B: Revitalise intends to mobilise further private sector investments in EE and RE investments and human capital development investments.</p>
<p>G. Cleaner energy sources</p>	<p>ACT CORE 7 Plant decommissioning: 7.1. Capacity of existing coal power generation assets accelerated for retirement (MW)</p>	<p>7.1. 0 (2023)</p>	<p>7.1. 824 (2030)</p>	<p>ESM, Ministry of Economy</p>	<p>7.1 Under Project 1, Component A, existing capacity of coal-based generation (Oslomej 125 MW) and Bitola (699 MW) will be retired, and replaced via operationalized NCRE capacity (i.e., solar and wind energy).</p>
	<p>ACT CORE 8 Repowering 8.1. Installed capacity of renewable energy (MW)</p>	<p>8.1. 946 MW (2022)</p>	<p>8.1. 1,346 MW (2030)</p>	<p>MDB project data</p>	<p>8.1. Under Project 1, Component B: PROSPECT, +300 MW private and 100 MW public on coal-mining lands will be deployed; additional 700MW is expected to be delivered via auctions under the ‘governance’ pillar nationwide (beyond ACT IP)</p>
	<p>8.2 Energy storage capacity installed</p>	<p>8.2. 0 (2023)</p>	<p>8.2. 100MW (2030)</p>		<p>8.2. Under Project 1, Component C: PowerHub, storage solutions of 100 MW will be deployed – utility scale batteries or alternative technologies on power plant/mine sites.</p>
	<p>8.3. Additional Substation installed in Suvodol depleted open-pit coal mine</p>	<p>8.3. 2 substations in Bitola (2024)</p>	<p>8.3. 3hd substations in Bitola (400/110 kV) (tbc)</p>		<p>Under Project 1, Component C: PowerHub, the capacity for PV uptake and evacuation point for future PV plant will be developed,</p>

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					<i>enabling integration of approximately 2000MW of RES</i>	
	ACT CORE 9 Coal Abatement: 9.1. Amount of coal diverted (MT)	9.1. 0 (2022)	9.1. 4,53 (2030)	MDB project data	9.1. Under Project 1, Component A: Plant decommissioning, based on 2022 output from Oslomej, Subodol, Brod Gneotino mines, 4,53 MT will be diverted.	
	ACT CORE 10 Plant closure, repurposing: 10.1. Annual energy savings (GWh/yr)	10.1. 0 (2023)	10.1. TBD (2030)	MDB project data	10. 1 Due to investments in plant closure and repurposing under Project 1, Component A, energy savings are envisioned, yet need to be additionally estimated.	
H. Reclaim land and other infrastructure	ACT CORE 11 Mine closure, reclamation: 11.1. Mine area reclaimed and reforested/ restored (Ha)	11.1. 0 (2023)	11.1. 2,707 (2030)	MDB project data	Based on IPPG LURA assessment 11. 1 Along with plant closure and repurposing under Project 1, Component A, the need for coal mining subsidies, thus mine land that is not used for new PVPPs or other RES, will be reforested.	

Monitoring Approach						Evaluation and Learning Approach
RESULT STATEMENT	INDICATORS	BASELINE (Date)	TARGET (Date)	MEANS OF VERIFICATION	NOTES	KEY AREAS
NORTH MACEDONIA INVESTMENT PLAN-LEVEL CO-BENEFITS						
I. Social, Economic, and Environmental Development Co-Benefits	CO-BENEFIT 1. Pollutants Atmospheric Pollution: 1.1. PM _{2.5} savings (tonnes/annum) 1.2. SO ₂ savings (tonnes/annum) Terrestrial Pollution: 1.3 Reduction in volume of contaminants discharged Health Benefits 1.4. Value of avoided health costs due to reductions in pollutants (USD)	1.1. 0 (2023) 1.2. 0 (2023) 1.3.TBD (2023) 1.4.TBD (2023)	1.1. 4,202 (2030) 1.2. 113,823 (2030) 1.3.TBD (2030) 1.4.TBD (2030)	Ministry of Environment and Physical Planning, AirCare App, Global satellite data or related Project appraisal data National health data	<i>IP Project 1, Component A, B</i> <i>IP Project 3, Component A, B</i> 1.1 – 1.4. With TPP decommissioning and repurposing, under Project 1, Component A and B, atmospheric pollution will decrease due to replacement of coal assets with RES Under Project 3, Component A and B, via support for EE and RE for public buildings, households and vulnerable groups who especially use fossil fuels for heating, air pollution will decrease, thus the containment in the air and avoided health costs.	
	CO-BENEFIT 2. Just Transition: Social Inclusion and Distributional Impacts 2.1. Number and type of market relevant training Programmes developed 2.2. Number of Sectoral Skills platforms strengthened/ established 2.3. Number of new/updated National Occupational Skill Standards (NOSS) developed 2.4. Number of TVET institutions with increased institutional capacity 2.5. Number of SMEs, with the focus on job quality 2.6. Number of partnerships with educational institutions established to implement work-based or dual learning Programmes	2.1. 0(2023) 2.2. 0(2023) 2.3. 0(2023) 2.4. 0(2023) 2.5. 0(2023) 2.6. 0(2023)	2.1. 5+ (2030) 2.2. 1+ (2030) 2.3. 4+ (2030) 2.4. 3+ (2030) 2.5. 5+ (2030) 2.6. 5+ (2030)	MDB data, partners' reports, national statistics	2.1. <i>at least 1 per component across the following:</i> <i>Project 1, Component B, C</i> <i>Project 2, Component A, B, C</i> 2.2. <i>and 2.3.</i> <i>Project 2, Component C</i> 2.4. <i>and 2.6. about 1-2 per component across the following:</i> <i>Project 1, Component B, C</i> <i>Project 2, Component B, C</i> 2.5. <i>Project 2, Component A</i>	Just transition-framed analyses: <ul style="list-style-type: none"> Procedural Justice: may examine the enhancement of social inclusion processes and procedures, such as stakeholder engagement at local and national levels, the extent to which vulnerable groups in impacted areas have been represented, gender inclusion, and the scope of social partners involved, i.e., government, labor, business, civil society, race, etc. Distributional impacts: with focus on specific subpopulations, such as ethnic, religious, and racial minorities, female-headed households, indigenous people and local communities, migrants, youth, and persons with disabilities.
	CO-BENEFIT 3. Enhanced Energy Access National RISE Scores (ESMAP) National MTF rates (ESMAP) / SE4All Global Tracking Framework (GTF)	TBD	TBD	National statistics, macro-level indicators, World Bank and MDB country data	3. Under Project 1, Component A, coal TPPs will be closed or repurposed, thus access to clean energy will increase. Under Project 3, Component A and B, EE and RE investments will enable access to clean energy for	

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					commercial, residential and public buildings.	
	CO-BENEFIT 4. Gender- and vulnerable groups-specific co-benefits			MDB data	<i>IP Project 1, Component B, C</i> <i>IP Project 2, Component A, B, C</i>	
	4.1. Number of beneficiaries of gender-specific labor transition and skill development programs (at least 1000)	4.1. 0(2023)	4.1. 1000 + (2030)			
	4.2. Number of companies developing internship/mentoring Programmes for women	4.2. 0(2023)	4.2. 2+ (2030)			
	4.3. Number of companies developing and implementing Gender Equality Action Plans and/or Equal Opportunities Action Plans	4.3. 0(2023)	4.3. 2+ (2030)			
					<i>4.1. A preliminary disaggregation by Project is outlined below</i> <i>Project 1, Component B, C: c. 120 beneficiaries</i> <i>Project 2, Component A, B, C: c. 880 beneficiaries, which could be approximately divided equally across those of Component A and those of Components B, C</i> <i>4.2. and 4.3. Project 2, Component B, C</i>	

Annex 6. Existing activities in the field of just energy transition

Table 31 Existing activities in just energy transition

Partner	Relevant Projects	Value	Status	Description
AFD	Energy Efficiency in Buildings (PEEB) Cool	USD 1.8 billion total project value	Preparatory works	The PEEB Cool focuses on 11 countries, including North Macedonia, and it is a project that will transform the construction sector by advancing more energy-efficient building design, construction, and operation. It will prioritise sub-sectors with significant potential for climate change adaptation and greenhouse gas reduction, such as large-scale new housing schemes and commercial buildings involving both the public and private sectors.
EBRD	GEFF	EUR 85 million	Under implementation	(GEFF) in the Western Balkans provides finance for green economy investments in the residential sector as well as to businesses that offer energy efficiency and renewable energy products and services to households. GEFF is implemented under the WBIF Regional Energy Efficiency Programme for the Western Balkans (REEP Plus). EBRD has also provided technical assistance to develop the energy-efficiency legal and regulatory framework, encouraging further investment in this area.
	ESM Energy Crisis Liquidity Support	EUR 100 million	Under implementation	Sovereign Guaranteed loan for JSC ESM ("ESM", "Borrower", or the "Company") to support the Company's liquidity needs during the energy crises affecting North Macedonia.
	ESM Solar PV Transition	EUR 25 million	Grant agreement to be signed	Provision of a senior loan to ESM for implementing a 30 MW solar photovoltaic ("PV") project consisting of (i) a 10MW "Oslomej" expansion (preconstruction phase) on the exhausted coal mine of TPP Oslomej, and (ii) a 20MW "Bitola" expansion adjacent to TPP Bitola (together the "Project"). The project will be co-financed by EU WBIF grant in the amount of EUR 5 million.
	ESM Solar Project - Photovoltaic plant	EUR 7 million	Completed	Provision of a long-term senior debt financing for constructing a 10MW PV plant, adjacent to the existing TPP Oslomej. The PV plant is built on the exhausted coal mine of the TPP Oslomej, and the electricity produced will be directly sold to the nearby grid. The project was co-financed by EU WBIF grant in the amount of EUR 1.5 million.
	MEPSO Rehabilitation and Control Project	EUR 25 million	Project idea	The EBRD is considering providing a senior corporate loan to MEPSO, the state-owned electricity transmission system operator in North Macedonia.
	Green Finance Facility - North Macedonia	USD 30.4 million	Under implementation	The establishment of the Green Finance Facility in North Macedonia (GFF) in favour of participating financial institutions (PFIs) established in North Macedonia for on-lending to SMEs for investments in renewable energy (RE) and energy efficiency (EE) following the GFF Policy Statement. The GFF was developed in partnership with the United Nations (UNDP), with contributions from the Joint SDG Fund and the Government of North Macedonia.
	RES Auctions Technical Assistance		Completed	The EBRD provided technical assistance to support the introduction of solar tenders – the first in the region to be developed with exposure to wholesale power prices – with a combined installed capacity of 162MW.

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	Gas Interconnector and Gostivar-Kichevo and Sveti Nikole-Veles Sections	EUR 145 million	Preparatory works	Development of a hydrogen-ready national gas transmission lines, gas interconnection with Greece to diversify the gas supply and support the transition from coal. For the Greece Gas Interconnector Project, loan in the amount of EUR 28.9 million was secured from EIB and WBIF investment grant in the amount of EUR 12.4 million, with EIB as Lead IFI. For Gostivar-Kichevo and Sveti Nikole-Veles Sections, as well as for closing the financing for the gas interconnector with Greece, The EBRD is considering a loan in the amount of EUR 96.8 million
	Gas distribution		Preparatory works	The EBRD provides technical assistance to support the Ministry of Economy to prepare and implement a competitive tender for construction and operation of gas distribution network across the entire territory of North Macedonia.
	MEPSO	EUR 36 million	Planned	Provision of a long-term senior debt financing for the construction of 400kV interconnection with Albania, which will finalise the missing link of the power interconnection between Bulgaria, North Macedonia, Albania, Montenegro and Italy.
	MEPSO		Under implementation	The EBRD provides technical assistance to develop a Corporate Governance Action plan for MEPSO in line with the OECD guidelines.
	Private RES	EUR 200 million	Preparatory work	The EBRD is considering to finance multiple large-scale private PV and wind projects and is currently conducting due diligence for at least 250MW PV.
	MARES		Completed	Supported the establishment of the Macedonian Association of Renewable Energy Sources (MARES).
EIB	City Climate Finance Gap Fund	EUR 80 million (available globally)	Under implementation	City Climate Finance Gap Fund is a climate action trust fund that provides early-stage project preparation support to cities in developing countries.
	Floating PVPPs		Planned	Co-finance with the EBRD ESM's floating PVPPs projects. Potential co-financing from EU WBIF.
Energy Community	Integration of North Macedonia into the pan-European Energy Market and extend the EU internal energy market rules and principles based on a legally binding framework.		Ongoing	The Energy Community is an international organisation which brings together the European Union and its neighbours to create an integrated pan-European energy market. The organisation was founded by the Treaty establishing the Energy Community signed in October 2005 in Athens, Greece, in force since July 2006. Every year, the Secretariat publishes an Annual Implementation Report, which outlines the progress achieved by each Contracting Party in implementing the Energy Community acquis in force .
EUD	EU4Green	EUR 25 million	Under implementation	A regional EU project implemented by the Environment Agency Austria, financed by the European Commission. It aligns with the ambitious goals of the European Green Deal, adopted by the European Commission in December 2019, which envisions a resource-efficient and carbon-neutral Europe by 2050. By bolstering the Green Agenda's regional governance, the project seeks to support the Western Balkans in transitioning to a more sustainable and climate-resilient future, benefiting local and European markets.
	Just Transition Diagnostic and Roadmap		Completed	Development of the territorial Just transition diagnostic and roadmap (JTD) together with the EBRD.

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Supporting Energy Reforms IPA 2020	EUR 0.6	Under implementation	The specific objectives of this assignment are to support the country in the effective energy policy and ensure the strategic framework is in place, duly implemented and monitored; national legislation is aligned with the EU Energy <i>acquis</i> ; and Institutional capacities for implementation and enforcement of the legislation strengthened.
EU for Environmental Standards and Clean Air IPA 2021	EUR 22 million	Under implementation	<p>This Action aims to decrease pollution-related environmental and human health risks. The action will support North Macedonia to align its environment and climate change legislation with the EU <i>acquis</i> and to ensure its implementation and enforcement. The action will also improve the air quality in large cities in North Macedonia by addressing the air pollution caused by heating and transport systems.</p> <p>Objectives/Outcomes: (1) Improved application of environmental legislation and standards in North Macedonia; (2) Improved air quality in large cities in North Macedonia (Skopje, Kumanovo, Tetovo, Bitola)</p> <p>Expected Results/Output: (1.1) Legislative framework better aligned with the EU <i>acquis</i> and institutional framework enforced; (1.2) Planning and technical documentation for building the integrated waste management system for Skopje region prepared; (1.3) Small pond of OHIS industrial site cleaned-up; (2.1) Pollution generated by the heating systems reduced; (2.2) Pollution generated by the public transport reduced; (2.3) Green belts created; (2.4) Preconditions for expansion of the central district heating in Skopje established.</p> <p>UNOPS, Skopje Office, implements the EU for Clean Air part (objective 2).</p>
EU for Prespa IPA 2021	EUR 18 million	In procurement	<p>This Action will support the implementation of the Green Agenda for the Western Balkans in the transboundary Prespa Lake area, focusing on biodiversity and a toxic-free environment. It will also contribute to greening agriculture, local business and tourism and enhance cross-border cooperation. The UNDP local office will implement the Project.</p> <p>Objectives/Outcomes: (1) The ecological system in the Prespa lake area was preserved and improved; (2) Sustainable economic activities in the Prespa area were boosted; (3) Enhanced cross-border cooperation.</p> <p>Expected Results/Output: (1.1) Decreased pollution from human activities; (1.2) Natural resources preserved and protected; (2.1) Increased share of environmentally friendly agriculture; (2.2) Sustainable tourism products promoted and diversified; (3.1) Strengthened strategic vision on the development of Prespa Transboundary Area; (3.2) Established border crossing point with Greece.</p>
Implementation of Pilot Measures for Climate Change and Energy Efficiency in Public Buildings and Installations IPA 2020	EUR 4 million	Planned	Support the energy efficiency initiatives on local and central levels, including the Energy Efficiency Fund.

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EU for Green Economy IPA 2021	EUR 28.9 million	In procurement	<p>This action will promote the sustainable economic development of North Macedonia, contribute to the implementation of the Green Agenda for the Western Balkans, and increase the number of green jobs and the size of the circular economy. The action will also enhance the competitiveness of the agricultural sector. The transition to a green economy will stimulate business development and help the country improve its rank in the Global Competitiveness Index. The grant component of this project will be implemented through the Fund for Innovation.</p> <p>Objectives/Outcomes: (1) Greened, recovered and modernised economy.</p> <p>Expected Results/Output: (1) Established Greening Business Facility; (2) Enhanced cooperation and position of farmers in the supply chain.</p>
EU for Economic Cohesion IPA 2024	EUR 20,6 million	Planned	<p>In addition to supporting the economy, trade and agriculture, this Action is also addressing the climate change challenges on central and local levels by supporting structural reforms in energy and energy transition from fossil fuels towards clean energy in line with the Green Agenda for the Western Balkans. This involves aligning the national energy policy with the EU objectives and the undertaken international commitments; streamlining the institutional framework; enhancing the competencies of the authorities at the national, regional and local levels and building their capacities to implement measures in support of the green and just transition; upscaling the education and awareness on sustainable energy issues on the central and local level; and promoting the renewable energy and prosumers concept. The Action will also improve the analysis of the green energy transition and support future EU investments.</p>
Regional EU-WB6 Just Transition project	tbd	Planned	<p>A regional/multi-country project that will support the efforts of the WB6 countries in just transition.</p>
Revision of the National Energy Strategy and NECP	Tbd	Planned	<p>Revision of the MK long-term NES and NECP.</p>
WBIF EFSD+ grant funding through Different Guarantees and financial instruments	EUR 510,10 million	In preparation or implementation	<p>Western Balkans Regional Blending facilities and Guarantees with WBIF/EFSD+ Grant allocations, in addition to the IFI contributions, covering several EU/WB6 regional policy priorities:</p> <ol style="list-style-type: none"> 1. Green for Growth Fund – EUR 76 million- green transition 2. Regional Energy Efficiency Programme EUR 182,6 million – green transition 3. Green Finance for Inclusion – EUR 10 million - green transition 4. WB EDIF Guarantee 4 SME Resilience – EUR 60 million - financial inclusion 5. WB EDIF Guarantee Facility Youth – EUR 10 million- financial inclusion 6. European Fund for Southeast Europe – EUR 101,5 million - financial inclusion 7. Enterprise Expansion Fund (ENEF II) – EUR 30 - financial and financing diversification 8. Regional Competitiveness Programme – EUR 30 million - trade and value chain innovation 9. Advice for Small Business – EUR 15 million - multi thematic <p>SME Go Green Programme – EUR 25 million - sustainable agriculture</p>

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FAO	Strengthening country capacities for climate change adaptation and mitigation and finalization of Country Work Programme for the Republic of North Macedonia	USD 663 245	Completed	Based on the progress achieved under the first Readiness grant, a Procedure for Tracking, Monitoring and Streamlining Public Climate Finance was drafted and piloted as a proposed mid-term solution until a national climate budget tagging is introduced. Capacities of the NDA and different national stakeholders on strategic engagement with the GCF were strengthened, with particular attention on increasing the private sector engagement in innovation and investments for climate action in the country's priority sectors. The project supported transferring knowledge and experience at the institutional level regarding the GCF accreditation process to enable the country to access the GCF directly. This included identifying and prioritizing the most potential national institutions for GCF accreditation. As a first step, the Government nominated the Fund of Innovation and Technology Development (FITD) as the first national entity to initiate the GCF accreditation process.
	Support for the management of an effective national coordinative mechanism regarding the Green Climate Fund	USD 300 000	Completed	The project focuses on strengthening the institutional capacities of the NDA to effectively fulfil its roles and responsibilities related to the GCF, to create needed national participatory and stakeholder engagement processes, and to initiate the preparation of a GCF Country Work Programme aligned with the national adaptation and mitigation priorities, the Sustainable Development Goals and the GCF investment criteria.
GiZ	Building capacity towards sustainable human capital development in North Macedonia'	USD 820 076	Under implementation	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-base, as well as an enabling environment in the health, education, and labour & 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.
IFC	Green Industrial Zones - Gevgelija		Tender procedure	Support for the Directorate for Technological Industrial Development Zones (DTIDZ) to help attract investments to North Macedonia's advanced manufacturing sectors, focusing on greening the industrial zones. The programme is co-financed by EU WBIF.
KfW	Wind farm Bogdanci – Phase I + additional financing	EUR 48 million	Completed	Currently, the Bogdanci wind farm reaches an annual production of about 110 GWh.
	Wind farm Bogdanci – Phase II	EUR 30 million	Under implementation	Within the second phase of this project, the installation of 3 turbines in the Bogdanci wind farm with an installed capacity of 13.2-15 MW is envisioned, while the project beneficiary is JSC ESM. In this way, the wind energy will be used as a renewable energy source by constructing wind power plants to achieve additional annual production of 37 GWh of sustainable energy. The project is co-financed by EU WBIF - grant in the amount of EUR 9 million.

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	Energy-efficient rehabilitation of student dormitories	EUR 30 million	Under implementation	In addition to energy efficiency measures for student dormitories, the project includes measures for their complete reconstruction to improve students' living conditions. This project is part of the REEP+ programme co-financed by EU WBIF.
	District heating in Bitola	EUR 39 million	Under implementation	Pipes from REK Bitola to Bitola to establish a distribution network in the city.
	Rehabilitation of large HPP	EUR 36.2 million	Under implementation	Revitalization of six major hydropower plants (HPP Vrutok, HPP Vrben, HPP Raven, HPP Tikvesh, HPP Spilje and HPP Globochica), providing between 20% and 30% of the total electricity generation in the country. This investment will increase their installed capacity by an additional 13.5 MW, increasing electricity generation by approximately 47.5 GWh annually, reducing the maintenance costs, increasing both the reliability and stability of the system and protecting the environment. The rehabilitation is co-financed by EU WBIF grant in the amount of EUR 11 million.
	Bitola PVPP	EUR 150 million	Feasibility study	PVPPs with the installed capacity of approximately 160MW – partnering with ESM and EBRD – the feasibility study is ongoing
USAID	Investments In Developing Energy Assets	USD 20 million (for the region), USD 2 million for MK	Under implementation	Improve regional security of supply, reliability, and efficiency by advancing private sector-led investments in all segments of the energy sector. Develop investment-ready bankable projects, reducing the front-end risks for the investors, thus increasing the chances of the project being financed.
	Regional Activity Critical Infrastructure Digitalization and Resilience	USD 30 million (for the region) USD 1.8 million for MK	Under implementation	Provide assistance that helps North Macedonia improve its critical infrastructure cybersecurity and resilience. Assist the North Macedonia government and integral infrastructure operators to address core vulnerabilities. Assist the North Macedonia government and critical infrastructure operators to address core cybersecurity vulnerabilities
	Connect For Growth	USD 15 million (for the region), USD 2.7 million for MK	Under implementation	C4G partners with Ministries and energy sector stakeholders to diversify energy supply and improve energy sector resilience (e.g. improved planning for and response to supply disruptions, joining energy markets for increased efficiency, etc.) in the face of growing threats to regional energy security. It also helps to advance regional market integration and decarbonisation.
	Just And Secure Energy Transition (Jset)	USD 20 million (for the region)	Under implementation	JSET supports energy utilities and suppliers, market operators, and regulatory agencies in transitioning the region to fully functional, liquid, and transparent energy markets linked to Central Europe, incentivizing private investment and building the basis for the clean energy transition.

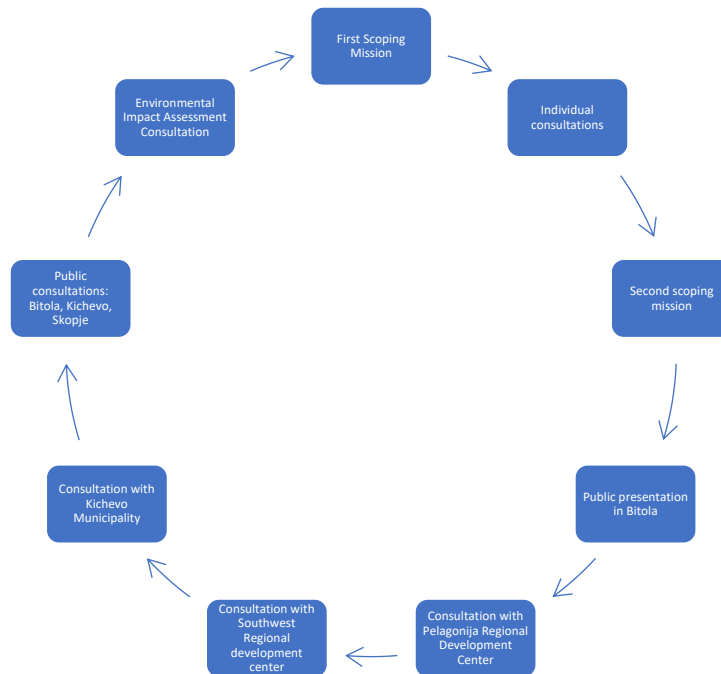
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	Enhancing Stability And Technical Expertise In European And Eurasian Energy Markets (Esteem)	USD 4.5 million	Under implementation	ESTEEM builds the capacity of national regulatory authorities to oversee entities that provide critical public services (e.g. electricity, natural gas, water, telecommunications), incentivizing investment while minimizing corruption.
	Development Of Regional Energy Markets Project		Completed	USAID's Development of Regional Energy Markets (DREM) Project is a three-year activity launched in December 2017 that works with the Government of North Macedonia to comply with European Union (EU) energy policy regulations and translate relevant EU legislation into national legislation. The project's overall goal is to enhance the regulatory environment of the energy sector and establish the legal framework for an open, transparent and vibrant energy market while improving energy services to households and industry, thus strengthening the country's energy security.
World Bank	Public Sector Energy Efficiency (EE) Project	EUR 27,2 million	Under implementation	The World Bank is engaged with North Macedonia, currently implementing a Public Sector Energy Efficiency Project (PSEEP) supporting energy efficiency investments in public facilities (loan from the WB in the amount of EUR 25 million + WBIF investment grant EUR 2,2 million). The project includes energy efficiency investments in the healthcare buildings managed by the Ministry of Health and buildings and street lighting owned by municipalities. Furthermore, this project supports establishing and operationalising an Energy Efficiency Fund (EE Fund) as a sustainable and revolving financing mechanism to scale up energy efficiency investments together with the Macedonian Development Bank. Under PSEEP, a EUR 5 million component is needed to support the first EE Fund investments in municipal projects once the Fund is established and operationalized.
	Air Quality Project		Planned	The World Bank is also preparing a new investment project to support air quality (AQ) improvements in targeted urban areas in North Macedonia, including municipalities of Bitola and Kichevo, with the highest concentration of PM emissions, as part of a broader project that may support Green Agenda with a focus on air quality. The main components proposed under the project pertaining to AQ improvements will include, combining capital investments and incentive schemes for households: i) equipment for strengthening air quality measurement and monitoring network, analysis, modelling, and data dissemination and ii) incentive schemes for households to replace highly polluting solid-fuel stoves and boilers with more efficient and cleaner heating options, combined with targeted energy efficiency improvements of building. Furthermore, the World Bank has also completed a recent study to support the Government of North Macedonia to design a framework for the acceleration of rooftop solar PV (RSPV) deployment, including. The study provides analysis and recommendations for designing a national program for RSPV scale-up, including the design of potential financing mechanisms.
	The Cooling Facility	USD 879,8 million	Under implementation	The Cooling Facility will be one of the world's first cooling-focused facilities to provide cooling solutions in nine countries. It will focus on regulation, policy, technical assistance, and financing to address and help remove barriers to developing sustainable cooling investments. Planned measures include financing for investments in innovative, climate-friendly cooling technologies and systems and creating an enabling environment by strengthening institutional, policy and regulatory frameworks and building the capacity of key stakeholders in technologies, business models and cooling project appraisal and implementation.

Stakeholder Consultations Report
ACT IP – North Macedonia
May 2023 – January 2024

Given the CIF’s country-driven approach, a comprehensive stakeholder engagement process was implemented during the IP design. The Government of North Macedonia was supported by the CIF’s Multilateral Development Bank (MDB) partners, led by the European Bank for Reconstruction Development (EBRD), with World Bank (WB) and International Finance Corporation (IFC). On April 6, 2023, the MDBs held a kick-off call with the Ministry of Economy (ME) and the Ministry of Finance (MF) to (i) introduce the team, (ii) provide an overview of the program and timelines, (iii) answer questions on the expectations, process, and priorities, and (iv) discuss next steps including the scoping mission.

The following consultation included 1) first scoping missions, 2) period of continuous meetings with different stakeholders to discuss specific IP aspects (e.g. meetings with regional economic chambers, local governments, NGOs etc.). 3) second joint mission, 4) meeting with municipality of Bitola 5) public presentation in Municipality of Bitola, 6) meetings with Regional Development councils for Pelagonia and Southwest region, 7) Meeting with municipality of Kicevo 7) Public consultations in Bitola 8) Public consultations in Kichevo, 9) Public consultations in Skopje 10) Environmental Impact Assessment on IP – public consultation in Skopje. During the entire process of stakeholder engagements, stakeholders were asked to provide comments which were integrated in minutes of meetings, or written comments. The reflections were continuously updated within the IP draft. In the last round of comments after the public consultations in December, all written comments were assessed as final and integrated in the IP.



**Climate Investment Funds (CIF) Accelerating Coal Transition (ACT) Investment Plan (IP) preparation
for the Republic of North Macedonia
Scoping Mission, 22-25 May 2023**

Based on notes and understanding from the meetings. For clarifications, please reach out to relevant stakeholder.

Hosted by Energy Sector, Ministry of Economy, North Macedonia

Draft: June 7, 2023

1. Introduction

2. The Climate Investment Funds (CIF) set up the Accelerating Coal Transition (ACT) Program under the Clean Technology Fund (CTF). It is a holistic toolkit to support countries transitioning away from coal, tackling challenges linked to three pillars including national strategies, people, and communities, as well as land and infrastructure, targeting transformational change. At the TFC Meeting on February 1, 2023, North Macedonia and the Dominican Republic were invited to participate in the program and develop an Investment Plan (IP) of up to USD 85 million each. Other countries participating in this program are India, Indonesia, the Philippines, and South Africa. The TFC also agreed that North Macedonia could also request up to USD 0.5 million as an Investment Plan Preparation Grant (IPPG) to support the preparation of the IPs.
3. Given the CIF's country-driven approach, the IP is a business plan to be developed and submitted by the Government of North Macedonia in cooperation with the CIF's Multilateral Development Bank (MDB) partners, in this case including the European Bank for Reconstruction and Development (EBRD – lead), World Bank (WB), and International Finance Corporation (IFC). The IP fleshes out the Government's proposals, identifies potential areas for MDBs' investments and technical assistance, and includes the potential of mobilizing complementary co-financing from bilateral, multilateral, and private sources.
4. On April 6, 2023, the MDBs held a kick-off call with the Ministry of Economy (ME) and the Ministry of Finance (MF) to (i) introduce the team, (ii) provide an overview of the program and timelines, (iii) answer questions on the expectations, process, and priorities, and (iv) discuss next steps including the scoping mission.
5. During May 22-25, the State Secretary for Energy (SSE) of the Ministry of Economy (MOE) of North Macedonia hosted a scoping mission comprising of MDBs – EBRD, WB and IFC to discuss the preparation of the draft Investment Plan (IP). Several meetings were organized by ME between the MDBs and CIF ACT representative with key Government stakeholders, private sector representatives, development partners, civil society organization representatives (CSOs), and State-Owned Enterprises (SOEs). During the scoping mission, the EBRD team and CIF ACT representative visited the TPP in Oslomej, current PVPPs and remaining ESM land and assets.
6. The key objectives of the mission were to:
 - (i) Designate the national entity with a mandate to engage on relevant CIF programmatic areas and related functions;

- (ii) Stocktake existing activities, documents, studies and plans for the preparation of IP (e.g., climate policy, electricity sector decarbonization, renewable energy plans, regional development plans, worker support, just transition governance, etc.);
- (iii) Exchange views with key stakeholders, inform them of the program, collect early inputs;¹
- (iv) Identify priority areas for further work;
- (v) Determine the scope of support under the Investment Plan Preparation Grants (IPPG of up to USD 0.5 million);
- (vi) Agree on the timelines and next steps.

2. Summary of key findings:

Political level:

- The Government remains committed to coal-phase out before 2030, in line with the strategic documents (NDC, draft NECP, Energy Strategy) to meet the 2030 82% GHG emissions reduction target compared to the 1990 level, recently confirmed per Decision 2022/02/MC-EnC submitted to the Energy Community Secretariat;
- Given elections are coming up in the spring of 2024, the IP should be submitted to CIF in February 2024 at the latest. The target date is November, to meet the CTF's meetings dates and avoid delays in accessing concessional resources. All stakeholders agreed to be proactive and contribute to this short deadline;
- ME will coordinate the process of drafting the ACT IP and communicating with the CIF for the North Macedonian Government, with close support from the EBRD as lead IFI, as well as IFC and World Bank.

Technical level:

- While there is an increased interest in PVPP investments which support the ACT, there is also a lack of balancing capacity in the transmission network;
- There is no comprehensive assessment on how the coal mine assets and land can be best repurposed;
- While there is clear awareness and interest to develop and invest in storage infrastructure, including batteries, there is a lack of a clear idea of what is needed in terms of legal basis, technology and needs to proceed in this direction;
- Crucial departing documents for the Investment Plan (IP) should be the Single Project Pipeline (SPP) of the country (for the public projects), the draft Just Transition Roadmap and the measures of the draft NECP;
- So far, there are limited engagements to specifically address the social aspects of the ACT in the affected coal regions of Southwest and Pelagonia;
- There are no specific early retirement, upskilling, re-skilling (except for the Technical Cooperation support as part of the EBRD's EUR 25 million loan to JSC Elektrani na Severna Makedonija (ESM) for the construction and operation of a 30 MW solar photovoltaic project across two sites, including the "Oslomej 2" expansion on the exhausted coal mine of TPP Oslomej, and the "Bitola" plant adjacent to TPP Bitola) for the people in the affected regions;
- MEPSO, ESM, EVN are interested to contribute to the IP process with project ideas, data and existing studies;

¹ This should include relevant national and local government officials, companies and industry bodies, representatives from Civil Society Organizations (CSOs), academia and the development partner community.

- CSOs emphasize the importance of engaging with local municipalities and other stakeholders, including CSOs, and communities themselves during the IP process;
- Private sector representatives are willing to be engaged in the IP process providing data, organizing workshops and providing expertise including through the Chamber of Commerce;
- The Energy Community representatives want to be involved in the strategic planning part of the IP;
- EBRD will reach out for documents that were mentioned during the consultations;
- EBRD will reach out to schedule additional meetings with stakeholders specified in the annex as well as other partners.

2. Background and Rationale

7. North Macedonia has set a Nationally Determined Contributions (NDC) target of net 82% greenhouse gas (GHG) emissions reduction by 2030 compared to 1990. In 2021, 39.5% of the country's electricity was generated from coal, supplied by two thermal power plants - 125MW TPP Oslomej and 639MW TPP Bitola. North Macedonia is a net electricity importer (circa 2 TWh p/a (about 30% of consumption)). Despite the energy crisis, the country has recently reinforced its commitment to an 82% reduction compared to 1990 levels by 2030, with a complete coal phase-out as the main driver.
8. The MDBs are already involved in supporting related projects to the IP. The European Union Delegation (EUD) and EBRD are supporting the Government in the development of the territorial Just transition diagnostic and roadmap (JTD) to ensure that the transition benefits are shared and to support vulnerable regions, communities, and workers from falling behind. This document was mentioned by stakeholders as one of the key reference points for informing IP pillars.
9. The EBRD has provided direct financing to new renewable energy projects, helping reduce North Macedonia's reliance on coal. The bank has also supported the development of renewable energy tenders, providing advice on legal and regulatory aspects to encourage private investment in the sector. Additionally, the EBRD has facilitated financing for small renewable energy projects and engaged in policy dialogue with government authorities to advance the green energy transition.

The EBRD has played a crucial role in promoting regional connectivity by building electricity interconnectors, which have improved energy reliability and facilitated the connection of new renewable energy sources. The bank has also supported the development of a hydrogen-ready national gas distribution system, promoting gasification in the country and exploring a hydrogen-ready gas interconnection to diversify and secure the gas supply and support the transition from coal.

In terms of energy efficiency, the EBRD has contributed to reducing household and business energy losses through its Green Economy Financing Facility (GEFF) program. Partner banks have offered financing for over 3,700 sub-projects, resulting in energy savings and high-performing technologies. The EBRD has also provided technical assistance to develop the energy-efficiency legal and regulatory framework, encouraging further investment in this area.

Notable achievements include the completion of the first electricity interconnection with Albania, which completes the east-west 400kV electricity connection between Bulgaria, North Macedonia, Albania, and Italy. The EBRD's investments in North Macedonia since 2017 are

expected to result in 48 MW of new renewable energy and significant CO₂e emission reductions. The bank has supported the construction of North Macedonia's first large-scale solar plant and has facilitated the introduction of renewable energy auctions.

The EBRD provided technical assistance to support the introduction of renewable energy auctions. This facilitated the launch of new solar tenders – the first in the region to be developed with exposure to wholesale power prices – with a combined installed capacity of 162MW. The auctions will be only for large scale RES (above 50MW).

Recently, EBRD provided up to EUR 7 million long-term senior debt financing for the construction of a 10MW PV plant, adjacent to the existing TPP Oslomej. The PV plant is constructed on the exhausted coal mine of the TPP Oslomej and the electricity produced is directly sold in the nearby grid.

Furthermore, EBRD provided a senior loan of up to EUR 25 million to the public electricity generation utility Elektrani na Severna Makedonija ("ESM") for implementing a 30 MW solar photovoltaic ("PV") project consisting of: (i) a 10MW "Oslomej" expansion (currently under construction) on the exhausted coal mine of TPP Oslomej, and (ii) a 20MW "Bitola" expansion adjacent to TPP Bitola.

Pending approval is the establishment of the Green Finance Facility in North Macedonia (the "GFF", the "Facility") of up to EUR equivalent of USD 30.4 million in favour of Participating Financial Institutions (the "PFIs") established in North Macedonia for on-lending to SMEs for investments in renewable energy (RE) and energy efficiency (EE) in accordance with the GFF Policy Statement. The GFF was developed in partnership with the UNDP, with contributions from the Joint SDG Fund and from the Government of North Macedonia.

The EBRD has also supported a just transition in the country, completing the first Just Transition Roadmap and action plan in the Western Balkans region. This diagnostic aims to advance the transition to green energy while identifying opportunities for economic diversification and reskilling in coal-dependent regions.

10. The World Bank is currently implementing a EUR 25 million Public Sector Energy Efficiency Project (PSEEP) supporting energy efficiency investments in public facilities. The project includes energy efficiency investments in the healthcare buildings managed by the Ministry of Health as well as buildings and street lighting owned by municipalities. Furthermore, this project supports the establishment and operationalization of an Energy Efficiency Fund (EE Fund) as a sustainable and revolving financing mechanism to scale up energy efficiency investments, together with the Macedonian Development Bank. Under PSEEP, there is a EUR5 million component to support the first EE Fund investments in municipal projects once the Fund is established and operationalized.

The World Bank is also preparing a new investment project to support air quality improvements in targeted urban areas in North Macedonia, including municipalities of Bitola and Kicevo, with the with highest concentration of PM emissions. The main components proposed under the project will include: i) equipment for strengthening air quality measurement and monitoring network, analysis, modeling, and data dissemination and ii) incentive schemes for households to replace highly polluting solid-fuel stoves and boilers with more efficient and cleaner heating options, combined with targeted energy efficiency improvements of building.

11. IFC currently supports the Directorate for Technological Industrial Development Zones (DTIDZ), to help attract investments to North Macedonia's advanced manufacturing sectors, with a focus on greening the industrial zones. The project aims to support sustainable industrial zones that can host climate friendly industries and help local companies to better integrate into global value chains, by greening their operations. IFC is also partnering with private sector investors in the renewable energy space to finance wind and solar investments in the country.

3. Mission Findings

12. **CIF Funding Structure.** At the beginning of the scoping mission, it was presented that North Macedonia has an opportunity to access up to USD 85 million in concessional funding from CIF to support accelerated and just energy transition, to be channeled via MDB's projects. Out of the USD 85 million, up to 10% could be allocated to grants, with the rest to concessional loans. Based on other countries' experience, the grant component is usually geared towards projects focusing on the people component and new technologies such as storage. Regarding the ACT pillars, 70% are for *infrastructural investments*, 25% for *people*, and 5% for *governance* - available for the public and private sectors. The CIF will undoubtedly expect to see private sector-related projects in the IP. The MDBs will then match additional funds primarily through loans. Thus, the ACT IP should be seen as a catalyst for other funds that can conservatively reach 350-600 million in funding for the ACT. An additional USD 0.5 million investment plan preparation grant (IPPG) is also available and can be used by the Government for specific studies and activities supporting the IP, including via MDBs. The entire design of the IP should be a Government-owned process, and the IP itself is a Government-owned investment plan that should reflect the Country's priorities regarding the accelerated coal transition. At the same time, it was underlined that the CIF ACT funding and the MDBs could not support any activities related to using gas and other fossil fuels. Finally, CIF ACT funding can only be used for projects in the coal-affected regions of Southwest and Pelagonia, linked to coal-reliant communities (e.g., Bitola and Kicevo).
13. **Mobilization of additional capital.** The MDBs and CIF representatives pointed out that during the upcoming COP 28 in November 2023, the Government could use the opportunity to feature the IP plan with an aim to mobilize further funding.
14. **Reconfirmed commitment to coal phase-out before 2030.** Government stakeholders stated that during the energy crisis, the Government underwent a complex process trying to accommodate the needs of the citizens fast. North Macedonia is still largely dependent on coal. Yet, the country is committed to shutting down Thermal Power Plants (TPPs) before 2030. Many large private RES projects to move away from coal are initiated, but additional solutions need to be provided to address the intermittency of renewables. Elektrani na Severna Makedonija (ESM), the government-owned electricity producing company, is investing 20MW PV in Oslomej and two international companies (Turkish and Bulgarian) are investing in two 50MW PV plants each. The Nationally Determined Contributions (NDC), draft National Energy and Climate Plan, informed by the Paris Agreement, and North Macedonia's commitments as EU accession country, set clear goals for closing coal fired TPPs before 2030 (current draft –2027). Bitola TPP is one of the main contributors to air pollution in the country with dust, sulphur dioxides and nitrogen oxides. As of now, the Government is in breach of the National Emissions Reduction Plan (NERP) ceilings according to the Ministry of Environment and Physical Planning's (MEPP) assessment. There are some thoughts for

desulphurization by 2026, but it is not in line with the decommissioning plans, poses risks of carbon lock in and has lack of funding. As for lignite mines, ESM has permits for operations which include the obligation for environmental remediation. This is regulated in the Environmental Law, the Chapter on Liability.

15. **Submission of the IP process** (*see also annex 7 – indicative timeline*). During the consultations with the institutions, stakeholders clarified and agreed that the ME is leading the IP process on the side of the Government. The submission of the IP will go in two phases. In the first phase, ME as the lead institution of the process on the side of the Government, will need to submit a formal letter of acceptance to be formally engaged in the ACT IP program. The ME will also submit project concepts/applications for the IPPG, developed in collaboration with MDBs. Once the Government approves the letter and IPPG applications, the ME will submit the letter and IPPG to the CIF and continue working on the IP with MDBs. Following IP draft preparation, the ME will need to conduct public consultations on the IP draft, submit the IP to the Government, receive opinions from relevant ministries, receive Government approval, and then submit the IP to the CIF. CIF representative stated that the Government and MDBs could consult with the CIF during the drafting phase of the IP, to ensure timely integration of feedback from donors, which can speed up approval process. Although the Government is committed to the IP, both Presidential and Parliamentary elections are coming up in the spring of 2024. Once elections are scheduled, at least for 100 days, the Government will not be able to take decisions. **Thus, the ME, other Government representatives, and the MDBs agreed that the IP process should move fast and aim to submit the IP to the CIF in November.**
16. **Just Transition Roadmap (JTR)**. As a departing point for the ACT investment plan, it is important to emphasize that RNM is committed to the just transition (JT). The JT involves many stakeholders. ME clarified that the Government is aiming to adopt the JT Roadmap, prepared with support from the European Union Delegation (EUD) and the EBRD soon, and projects based on the four pillars² would be prioritized. ME emphasized that the JTR should be the departing point for the IP design. The Government will also appoint monitoring bodies for the four pillars within the JTR. However, the IP consultant raised concerns that these monitoring units might take a while to be formed and operational, and they are more likely to deal with monitoring than prioritization.
17. **Single Project Pipeline (SPP)**. ME and MF pointed out that the Single Project Pipeline (SPP) at the Secretariat for European Affairs (SEA) should be considered a departure point for public energy sector projects. MF specifically stated that their role is to support projects prioritized on the SPP list. The list already includes some of the MEPSO transmission lines rehabilitation, as well solar PV and Bitola district heating projects. If other projects are considered under the IP, the MF pointed out that ME should add it to the SPP list. Currently, storage-related projects are not included in the SPP, while private sector and smaller public sector projects (e.g., energy efficiency in buildings) are outside of the SPP scope. The IP, on the other hand, will consist of projects across governance, people, and infrastructure pillars. MF additionally pointed out that the Government cannot approve private sector projects, to which it was explained that all CIF funding will be channeled via MDBs and could be used to design schemes that support private sector projects. MF also underlined that the IP should clearly state which MDB will be supporting which project and that the Government cannot submit an IP without having plans for future borrowing. MF finally pointed out that the IP should logically sequence the projects to ensure energy security, affordability and just transition of the workforce.

² These include private investments and start-up economy; green and smart infrastructure; clean energy; and skills development.

18. **Use of gas as a transition fuel.** Based on the draft National Energy and Climate Plan (NECP) and the Energy Strategy, the ME sees a role for gas as transition fuel to provide energy security and decrease import dependence in the context of volatile energy prices. To avoid carbon lock in, ME believes that the infrastructure could eventually be converted to hydrogen. One critical investment is in the gas interconnector with Greece. MF also asked about using gas as an intermittent resource, given that in their understanding, RES is insufficient for energy security. However, this could change with further analysis of storage solutions (incl. small, pumped storage and batteries) which are becoming more cost competitive. MDBs pointed out that only solutions such as batteries and storage are possible under the ACT IP, while gas projects cannot be supported under this scheme.
19. **Relevant laws, strategic documents, and policies for IP.** Various stakeholders pointed out that several laws, strategies, and roadmaps should be considered when planning the ACT IP. Besides the JTR and SPP, the IP should consider the Energy Efficiency Strategy and Action Plan (currently under revision), the integrated National Energy and Climate Plan (NECP-currently under revision), and the Climate Action Law (CAL), Strategy (CAS) and Action Plan (CAP) that is in public consultation and will be submitted to the Government in June 2023. The CAL envisions introduction of carbon tax (starting with energy sector and fossil fuels), though its level and details on implementation will later be defined in the bylaws.
20. **ESM's ongoing coal-phase-out projects.** The Elektrani na Severna Makedonija (ESM) is a state-owned enterprise (SOE) and the leading energy producer in North Macedonia. It operates 125 MW of coal-fired Thermal Power Plant (TPP) Oslomej and 633 MW (3 units) of Bitola, which are expected to be retired in line with Government timelines. This (as well as exhaustion of fields) will have a knock-on impact on the three open-pit lignite mines – Suvodol, Brod Gneotino and Oslomej. ESM pointed out that energy stability should be crucial when considering any activities under the IP. ESM is also concerned about what will happen to the coal plant assets after coal phase-out and struggles to find resources to repurpose the TPPs. It was noted that they are considering one unit of the TPP in Bitola to be replaced with a gas-fired CHP with a possibility to run on hydrogen blend, when available. ESM has also expressed interest to support RE integration. In this context, ESM is open to exploring RE and other solutions on the lignite fields and welcomed the idea of deploying LURA – a World Bank's land assessment tool. ESM already has successful project examples on mine sites, including: two 10 MW PV plant projects on Oslomej mine, financed by EBRD and fully operational. Other 10 MW in Oslomej and 20 MW in Bitola, to be tendered in 2023 and completed by the end of 2024. ESM has two private investors in Oslomej, 50MW each. ESM is planning to construct additional 160MW PV in Bitola with the support of the KfW and the EBRD and the Feasibility study and Environmental Social Impact Assessment (ESIA) are currently being prepared. Some estimates show that up to 600MW of solar PV could be deployed on mining lands, but alternative land use (e.g., small pumped hydro storage) should be also explored. ME pointed out that the Government already has done national assessment on the country's solar potential, so any further studies should see this study first. In Bitola, with KfW's financing, ESM is constructing a connection from TPP to the city, but the municipality sees additional needs in distribution network for heating. The gas transmission line to Bitola is finished and a gas distribution network is expected to be constructed as part of a PPP scheme (tender ongoing). However, the team noted that fossil fuel projects cannot be supported via CIF ACT. Instead, there is an opportunity to consider RE projects on mine sites, low carbon reconversion/decommissioning of TPP units, batteries projects and reskilling for workers to ensure just transition.

21. **MEPSO – Transmission System Operator (TSO).** It operates 400 kV and 110 kV substations and transmission lines with a total length of 2.100 km. MEPSO is entirely devoted to the green scenario as per the Energy Strategy. Hence, it is committed to deploying projects to support RE integration according to ten-year network development plans. The current plan to decommission lignite fired TPP in Bitola in 2025-2027 is reflected in the MEPSO grid development. RES applications for connection to the transmission system reached over 8.500 MW capacity in total, of which about 6.800 MW of PV plants and up to 1.800 MW of wind power plants.

MEPSO recently conducted a study for probabilistic dimensioning of system reserves, which highlighted the possibility of connecting to the system up to 1.5 GW of intermittent renewables (1,000 MW PV and 500 MW Wind) relying on existing system reserves for balancing and with little additional investment for increase of the reserves. The new transmission project in the southeast part of the Country (new 400kV substation and rehabilitation of existing 110kV substations and connecting transmission lines) will allow connection of additional 1.2 GW RES (predominantly wind farms). Construction is expected to start in 2024 and be finished in 2026/27.

In Bitola region alone, MEPSO currently has about 1 GW of connection requests, most of which are smaller than 100 MW, and only one is 260 MW. PV plants located on depleted lignite mines are planned by ESM with capacity of 280 MW, while the rest are private investors. Power of all these RE is evacuated to the transmission system by 400/110 kV substation SS Bitola 2. Evacuation capacity of SS Bitola 2 at 110 kV level is limited to 460 MW; to increase the evacuation capacity additional (third) 400/110 kV power transformer is needed. In Oslomej (Kicevo) region, there are applications for 144 MW of PV plants and one application for 35 MW of wind power plants. The existing 110 kV link between Oslomej and Bitola region is built in far 1960s and has limited rating on 93 MVA. Hence, one of MEPSO's priority projects is reconstruction of this part of the grid by upgrading the rating to at least 150 MVA.

MEPSO sees balancing as a challenge, as in the process for governmental support of RES strategic investors, most of them are asking to allocate their balancing responsibilities to ESM. Contrary, ESM is dominant provider for balancing services in the national power system and has limited capacities for this service. This may exacerbate further, as MEPSO anticipates that all countries in the region will have significant RES capacities in the mid-term, so there is an additional need for balancing reserves, as well as need to strengthen both national transmission systems and cross-border capacities.

One solution could be rewarding new intermittent projects with integrated storage capacities (e.g., fast-forwarding such projects). In terms of storage, MEPSO urgently seeks storage and system service technologies, but there is only one application as of now. MEPSO Grid Code for electricity transmission is in line with the most recent EU regulation on Requirements for Generation that also impose requirements and conditions for storage integration.

MEPSO expressed/confirmed interest in investments and technical assistance support on the following projects, some of which are listed in the SPP pipeline:

- Transformation of thermal generation units into synchronous condensers
- ;
- Third 400kV transformer in the Bitola 2 substation;
- Reconstruct 100 km transmission line Gostivar - Oslomej - Kicevo - Sopotnica - Bitola;
- Upgrade of the 400kV interconnection with Greece (line Florina-Bitola);

- High voltage equipment on the existing substations that uses environmentally friendly insulation gas (ex. G3) instead of SF6;
 - Bitola 1 substation rehabilitation;
 - Add storage technologies such as batteries to the grid (early technical assistance needed);
22. **EVN is the privately-owned distribution system operator (DSO).** EVN already has 250MW from small PV connected and expects another 500MW in the next 2 years. The entire territory of the country is affected by this trend, particularly Stip, Probistip, and Strumica. However, over the last year over 500 new connection requests have been rejected due to inability to integrate them on the grids because of low capacity in the transmission substations. There is also increased interest from prosumers – households who can install up to 6 kW on houses and SMEs up to 40 kW. Some PV requests try to game the system by filing multiple small connection requests in the same area on distribution, rather than transmission system, as the process is easier. EVN also sees potential in batteries and other storage technologies to address the issue, but this is still a nascent area for the country.
23. **PV licensing.** The Ministry of Transport (MT) issues construction licenses for PVs (above 10MW). Previously, as a first instance in the permitting process applicants applied to MEPSO for Consent for connection to the transmission grid, now MEPSO provides Preliminary consent for connection in the early stage of permitting process including opinion on how a particular investment will affect the transmission grid. There are initiatives to ease the licensing and allow for PV plants on agricultural land from categories 5-8, land with lower quality, without urban planning requirement (repurposing to construction land).
24. **Repurposing of power plant assets.** During most consultations, stakeholders discussed the potential for repurposing energy sector assets. MDBs pointed out the example of repurposing former power plants into storage facilities, new industrial areas and other uses highlighted in the [ReACT](#) toolkit.
25. **Upskilling, reskilling, and pre-qualification of workforce.** The ESM has limited activities on the re-qualification now. A Technical Cooperation project as part of the EBRD's investment will soon start, with three components: (a) enhancing the capacity of ESM to actively contribute to the regional economic development planning process and the formulation and delivery of a strategy for the development of nationally accredited market-relevant curricula for retraining the affected local workforce; (b) supporting ESM in the development of a reskilling and redeployment initiatives; and (c) introducing gender inclusion measures and foster women's access to economic opportunities across all ESM operations, Oslomej TPP currently has about 400 employees with circa additional 440 – working on adjacent mines. Around 200 will retire or move to other companies, but at least 600 are still not taken care of, with circa 80 new joiners to come to Oslomej TPP in September. While there are some discussions and initiatives to encourage workers to move to solar Photovoltaic Power Plant (PVPPs), this is not a popular choice now, due to perceived lack of job security. New opportunities exist in the Technological Industrial Development Zone (TIDZ) in Kicevo with a new Belgian battery investor that can employ up to 600 people, and 1,500 already employed by Joyson – car airbag manufacturer.
26. **Social aspects of the coal transition.** Regarding the social factors in the process of coal phase-out, there are no specific programs for the coal-affected regions of Southwest and Pelagonia, according to the Ministry of Labor and Social Policy (MLSP). On a national level, MLSP provided

social transfers during the heating season, especially during the Covid-19 pandemic and energy crisis periods. Various projects have been trialed to support purchasing of inverter air conditioners and energy efficiency. Still, the users of social help (most vulnerable consumers) live in dire sub-standard conditions and do not see potential in improvements. There are no early retirement schemes/programs, only social pensions. The Employment Agency administers various programs for unemployed people but not exclusively for the targeted regions. The opportunities under these programs are announced publicly, trainings and info sessions are organized nationwide. There is also a right to educational transfer for youth that work in industry, equivalent to 3000 den (50 EUR) per month. The MLSP together with the Ministry of Education will be important stakeholders for delivering on the ‘people’ pillar of ACT.

27. **Complementarity with other development partners.** During the scoping mission, a meeting was held with USAID, KfW, EUD, EIB, and the Energy Community Secretariat (EnCS) as key development partners to discuss past and ongoing activities relevant for the IP. Development partners pointed out that the country has limited borrowing capacity, so the partners’ actions should be complementary. EnCS representatives noted they want to be involved and provide feedback on the strategic part of the IP. The EnCS pointed to the importance of the National Energy and Climate Plan (NECP), but the ME noted that it will not be updated before the submission of the IP. EIB pointed out the importance of using lessons learned from the Just Transition territorial planning in the EU. EIB also plans to co-finance with the EBRD ESM’s floating PVPPs project. KfW works on energy efficiency for student dorms, Bitola district heating, second stage of wind park in Bogdanci, and PVPP on existing coal mines (160MW) with the EBRD. KfW cannot support gas but only storage. The USAID Energy Program (Program) presented their activities in supporting the energy-related legislation in North Macedonia and are currently reviewing the Strategic Investment Law. The Program pointed out that the DFC – US International Development Finance Corporation is also increasingly interested in providing financing. USAID also conducted a study for organizational restructuring of ESM. From the Program’s experience, the key energy transition challenge is also the balancing capacity.
28. **Civil Society Organizations (CSOs) consultations.** The main concern was raised during the consultations with CSOs and academic representatives regarding engaging local communities in the process. The MDBs pointed out that the IP starts with a scoping mission and detailed consultations, followed by a second scoping mission and public consultations on the draft IP. Furthermore, the IP will draw on documents that have undergone public consultations, such as the national strategies. The CSOs pointed out that the Government has no structure to lead this process (IP) yet in place and there is no sound and effective consultations with municipalities and local stakeholders, which can cause a lack of buy-in later for the implementation of the IP. The CSOs highlighted an opportunity for fees linked to environmental pollution, channeled to local budgets, to be used in a more targeted way, addressing the actual community problems. The CSOs have also noted a lack of investments by central and local governments in infrastructure or reskilling efforts and lack of transparency and communications in the coal-affected regions. Conversations on closing Bitola TPP have not started, while Kicevo community is more aware of the transition. Eko-Svest pointed to an analysis of locating former coal mines and ideas for their repurposing. According to the CSOs, engaging with the local population is not easy due to political sensitivities. Furthermore, from the CSOs’ experience, people are more reactive than proactive – they would rather react to certain decisions than participate in their design. This is partly due to the lack of transparency: public discussions are announced late and on the local government webpage without any promotion among denizens. A particular Pollution coalition was mentioned as an actor to be

engaged – mothers who are activists against air pollution. The CSOs also recognize the importance of the JT Roadmap but do not see the latest draft in their disposal as very actionable. According to the CSOs, reskilling, and creating new economic opportunities, especially for vulnerable groups, is necessary (e.g., via SME accelerators). Furthermore, the overall quality of life should be improved in these regions, including opening new kindergardens and care facilities, and using tax policy to attract more people to live and invest in these regions.

29. Private Sector engagement with the IP. During the consultations with private sector representatives from the biggest chamber – The Economic Chamber of North Macedonia (ECM), it was noted that its members are the most significant private sector energy producers and consumers in the country. Companies consider PVs as quick investments, but with the decrease in energy prices, they see them as less profitable and face challenges on loan payment. Companies are interested in batteries and storage, but as of now, there is no legal basis. The Chamber is working on battery law with ME, but changes will need to happen in laws related to construction, market laws, etc. The ECM is also working with ME on the Rulebook on RES. Big companies are interested in batteries, while now there is only one applicant to MEPSO for an independent battery storage system. Companies mainly experience backlogs with the MEPSO to provide connection, while small hydropower plants are slow due to environmental issues. Asked about off-take agreements, ECM said it is a good model but should be considered case by case. Companies need support with customs, as they pay high tariffs, for instance, for inverters (15%). Companies also increasingly invest in energy audits, while not enough companies have the expertise to install and maintain EE projects. There is an outflow of energy, construction, and metallurgical workers to other countries. The skill of the remaining workforce is low, and they ask for higher salaries. Dual education models are ongoing but still without significant effect. Macedonian companies are also concerned about CBAM – they want to learn more and prepare better. The Western Balkans 6 Chamber Investment Forum (WB6 CIF) supports them now with that process. Specifically in the Bitola-Oslomej regions, there are SIDA skills projects – a Horizon project with trainings on EE and green jobs. Most other programs are at the national level. The ECM is also working on a registry of green jobs. Most of the lower skilled workers are males, while at the level of engineers, the distribution is about 50/50 male/female. The ECM also deals with potential investors in the energy sectors or green technologies, but those discussions are at the nascent levels. Investors primarily seek access to skilled labor, land, and good infrastructure, which are lacking in just transition areas (Kicevo and Bitola). The ECM expressed interest in supporting the IP process with statistics, workshops, and members' engagement.

30. Closing session. During the closing session of the Scoping mission, participants were presented with a potential timeline of the IP process and an initial list of IPPG concepts to be submitted for technical assistance. First, it was pointed out that the ME has to send a letter to the CIF accepting the invitation to prepare IP, to access up to USD 85 million of the concessional finance and to proceed with the preparation of the ACT IP. It was discussed that this letter should be approved by the Commission for Economic Council (KES) first, then in the Government session on the 13 June. To speed up the process, stakeholders agreed with the suggestion of ME that the IPPG applications should also be submitted for Government approval together with the acceptance letter. It was also underlined that the USD 85 million are catalytic funding that should mobilize additional USD 350-600 million from MDBs as a started point, and should be used in conjunction with other instruments, such as Western Balkans Investment Framework, IPA etc. From the Office of the Deputy Prime Minister in Charge of Economic Affairs (DPM), it was pointed out that when submitted to KES, the letter and IPPG will need to receive opinions from other relevant ministries, and this should be considered

during the planning of the timeline. Based on all the needs expressed during the scoping mission consultations, the following IPPG ideas were presented and preliminarily agreed upon during the final session:

31. **Proposed IPPG projects.** The IPPG should be used to scope further and conduct studies that can help design the IP. Potential IPPG projects based on the consultations were proposed during the closing session, including:
- Assessment of land reclamation and repurposing options for mine sites, including legal-economic assessment of potential competitive tendering options for private and public land, identified as optimal for deployment of solar PV and other renewables;
 - Assessment of powerplant repurposing/decommissioning options;
 - Assessment of climate-smart economic diversification opportunities in Pelagonia and Southwest regions;
 - Capacity-building support to the Ministry of Economy in the form of temporary Just Transition Coordinator;
 - Assessment of grid enhancement and storage needs to support integration of renewable sources in the Southwest and Pelagonia regions;
 - Market Analysis on energy efficiency and clean heating opportunities for coal-reliant communities.

5. Summary of documents to be considered for the IP:

- Environmental Law
- Climate Action Law
- Energy Law
- Energy Strategy and Action Plan
- Integrated Energy and Climate Plan
- Strategic Investments Law
- Single Project Pipeline
- Just Transition Roadmap
- Energy plans for municipalities – template
- Bylaws on electricity storage
- Bylaws on batteries
- MEPSO 10-year network development plan
- EVN Investment Plan 2023-2027
- MEPSO Study on transmission capacity for RES
- Rulebook on Renewable Energy Sources (Economic Chamber of North Macedonia and ME)
- Green jobs registry for North Macedonia (Economic Chamber of North Macedonia)
- Cities Climate Action Plan (World Bank)
- ESM Modernization Study (USAID)
- Analysis of former coal mines alternative economic developments and stakeholder mapping (Eko-Svest)
- Analysis of tariffs for the energy sector (Economic Chamber of North Macedonia)

6. Summary of follow up meetings to be scheduled with:

- Office of Deputy Prime Minister in Charge of Economic Affairs
- Ministry of Education
- USAID
- KfW
- EUD
- Eko-Svest and Friedrich-Ebert Stiftung

- Directorate of the Technological Industrial Development Zone
- Ministry of Transport
- Municipality of Bitola
- Municipality of Kicevo
- Regional ECM office in Bitola and Kichevo
- Mineral Resources Sector at the Ministry of Economy
- Ministry of Local Self-Government

7. Indicative Timeline:

Indicative Timeline	Key Milestones
KICK-OFF (FEBRUARY-MAY)	
February 1, 2023	Trust Fund Committee Decision
February 21, 2023	CIF Letter to the Government
April 6, 2023	Kick-off call with Ministry of Economy, Ministry of Finance, and MDBs (EBRD, IFC, WB)
May 22-25, 2023	Scoping Mission, Skopje <u>Agreement/Confirmation on:</u> <ul style="list-style-type: none"> • Scope of IPPG • Indicative timeline and next steps • Designated national entity to engage on ACT with MDBs (Ministry of Economy)
June 2, 2023	Mission report and IPPG draft finalized and circulated to the ME for further circulation, ME prepares confirmation letter to participate in CIF and confirm EBRD as the lead MDB
IP PREPARATION (JUNE – OCTOBER) *	
June 7, 2023	ME submits letter, mission report and IPPG draft to Commission of Economic Council (KES)
June 13, 2023	Government approval for the CIF and ACT program
June 16, 2023	IPPG submitted to CIF for Trust Fund Committee (TFC) approval
June 30, 2023	IPPG funding confirmed and in MDB accounts
July 20, 2023	First IP draft outline
July 31, 2023	MDB Joint Mission TOR agreed with the Government and shared with CIF to notify TFC four weeks in advance.
August 7, 2023	MDB Joint Mission TOR posted on CIF website
September 11-15, 2023	MDB Joint Mission
September 22 2023	Mission report (aide memoire) submitted to CIF for publication
September 29	Final IP draft submitted to the Government
October 2023	Public Consultation (<i>at least 2 weeks before submission to CIF</i>)
Nov 15, 2023	IP Submission by the government (Ministry of Economy) to ACT Fund Secretariat (<i>at least 6 weeks before the meeting</i>)
Nov 30-Dec 12 2023	COP event
December 15, 2023 (tbc) (Jan/Feb 2024) (tbc)	CIF meeting and ACT IP endorsement by TFC.

Scoping Mission Agenda

Time	Meeting Subject	Participants	Venue
Monday, May 22			
10:00-11:30 AM	MDB and CIF internal meeting	MDBs+CIF AU	Skopje
	Mission Kick-off meeting to introduce ACT and mission outline/objectives	Mission members <ul style="list-style-type: none"> Ministry of Economy Ministry of Finance 	Ministry of Economy, Skopje
12:00-13:00 PM	ESM	Mission members ESM Representatives	Ministry of Economy, Skopje
14:00 - 15:30 PM	Meetings with relevant ministries and state agencies	Mission members <ul style="list-style-type: none"> Ministry of Environment and Physical Planning Energy Agency Ministry of Labour and Social Policy 	Ministry of Economy, Skopje
Tuesday, May 23			
10:00-11:30AM	MEPSO (TSO)	Mission members MEPSO	Ministry of Economy, Skopje
	EVN-EDSO (DSO)	Mission members EVN	Ministry of Economy, Skopje
12:00 – 13:30 PM	Development partners	Mission members <ul style="list-style-type: none"> EUD KfW EIB EnCs USAID 	Ministry of Economy, Skopje
14:00 – 15:30	Meeting with CSOs/Academia	<ul style="list-style-type: none"> Eko-Svest Bankwatch MANU 	
Wednesday, May 24			
8:30-17:00	OSLOMEJ/KICEVO Visit	Mission members + ESM	Kicevo
Thursday, May 25			
11:00-12:30 AM	Roundtable with private sector	<ul style="list-style-type: none"> Economic Chamber of North Macedonia (ECM) Macedonian Energy Association (MEA) 	Ministry of Economy, Skopje
14:00 - 15:30 PM	Closing session	Mission members <ul style="list-style-type: none"> Office of Prime Minister Office of Deputy Prime Minister in Charge of Economic Affairs Ministry of Economy Ministry of Finance 	Ministry of Economy, Skopje
	MDB and CIF debrief	Mission members	Skopje

**Climate Investment Funds (CIF) Accelerating Coal Transition (ACT) Investment Plan (IP) preparation
for the Republic of North Macedonia
Joint Mission, September 19-22, 2023**

Based on notes and understanding from the meetings. For clarifications, please reach out to relevant stakeholders.

Hosted by State Secretary for Energy, Ministry of Economy, North Macedonia
Draft: October 19, 2023

1. Introduction

32. The Climate Investment Funds (CIF) set up the Accelerating Coal Transition (ACT) Program under the Clean Technology Fund (CTF). It is a holistic toolkit to support countries transitioning from coal, tackling challenges linked to three pillars: 1) governance, 2) people and communities, and 3) infrastructure, targeting transformational change. At the TFC Meeting on February 1, 2023, North Macedonia and the Dominican Republic were invited to participate in the program and develop an Investment Plan (IP) of up to USD 85 million each. Other countries participating in this program are India, Indonesia, the Philippines, and South Africa. The TFC also granted to North Macedonia up to USD 0.5 million as an Investment Plan Preparation Grant (IPPG) to support the preparation of the IP.
33. Given the CIF's country-driven approach, the IP is a business plan to be developed and submitted by the Government of North Macedonia in cooperation with the CIF's Multilateral Development Bank (MDB) partners, in this case the European Bank for Reconstruction and Development (EBRD – lead), World Bank (WB), and International Finance Corporation (IFC). The IP fleshes out the Government's proposals, identifies potential areas for MDBs' investments and technical assistance, and includes the potential of mobilizing complementary co-financing from bilateral, multilateral, and private sources.
34. On April 6, 2023, the MDBs held a kick-off call with the Ministry of Economy (ME) and the Ministry of Finance (MF) to (i) introduce the team, (ii) provide an overview of the program and timelines, (iii) answer questions on the expectations, process, and priorities, and (iv) discuss next steps including the scoping mission. On May 22-25, the MDBs held the first Scoping Mission in Skopje, co-organized with the Ministry of Economy (More details in [Scoping Mission 22-25 May Aide Memoire](#)).
35. During September 19-22, the State Secretary for Energy (SSE) of the Ministry of Economy (ME) of North Macedonia hosted a joint mission comprising of MDBs – EBRD, WB, and IFC to discuss the preparation and progress of the draft Investment Plan (IP), and concrete investment components. Several meetings were organized by ME between the MDBs and CIF ACT representative with key Government stakeholders, private sector representatives, development partners, civil society organization representatives (CSOs), and State-Owned Enterprises (SOEs). During the joint mission, the MDB mission team and CIF ACT representative visited the TPP in Bitola.
36. The **key objectives** of the mission were to:
 - (vii) Present and discuss a draft version of the IP, including early investment concepts;

- (viii) Stocktake existing activities, documents, studies, and plans for the preparation of IP (e.g., climate policy, electricity sector decarbonisation, renewable energy plans, regional development plans, human capital development support, just transition governance, etc.);
- (ix) Exchange views with key stakeholders, inform them of the program, and collect inputs;³
- (x) Plan upcoming public consultation for the draft IP;
- (xi) Discuss the possibility of presentation of the draft IP at COP28;
- (xii) Confirm the timeline for submission of the IP and next steps.

2. Summary of key findings:

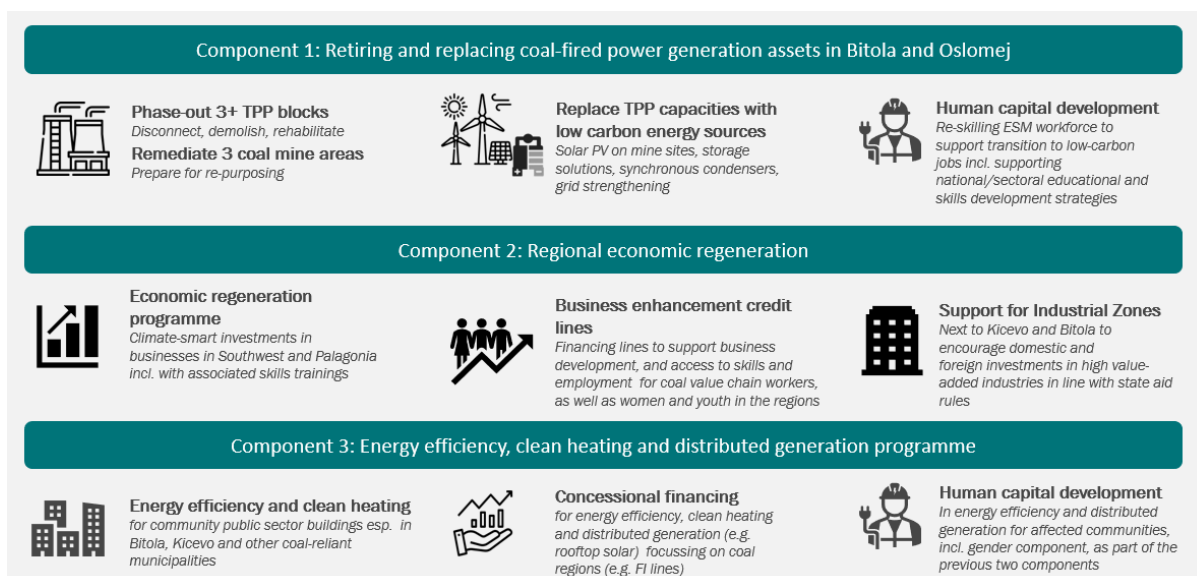
6. Political level:

- The Government remains committed to the coal-phase out before 2030, in line with the strategic documents (NDC, draft NECP, Energy Strategy) to meet the 2030 82% GHG emissions reduction target compared to the 1990 level, recently confirmed per Decision 2022/02/MC-EnC submitted to the Energy Community Secretariat;
- Ministry Kreshnik Bekteshi confirmed support for the ACT IP process and readiness to support ME staff to actively participate;
- North Macedonian Government acknowledges the opportunity and importance of being selected as an ACT IP country and receiving concessional funding for the coal phase-out;
- Given elections are coming up in the spring of 2024, the IP is to be submitted to CIF by late December (2023) or early January 2024 to meet the Trust Fund Committee's (TFC) meeting dates and avoid delays in accessing concessional resources. All stakeholders agreed to be proactive and contribute to this short deadline, confirmed by the Minister of Economy;
- ME will continue coordinating the process of drafting the ACT IP and communicating with the CIF for the North Macedonian Government, with close support from the EBRD as lead IFI, as well as IFC and World Bank.
- ME will coordinate with EBRD to present the draft ACT IP at the upcoming COP28 in Dubai end of November 2023, aiming to mobilize additional funding for the coal transition.

37. Technical level:

- Overall, stakeholders supported the presented components of the IP as a good basis for the development of the concrete IP pipeline;
- MDBs and ME will proceed with finalizing the IP draft during October 2023 and submit the draft to the Government before public consultations:

³ This should include relevant national and local government officials, companies and industry bodies, representatives from Civil Society Organizations (CSOs), academia and the development partner community.



Governance

- It remains crucial that local communities and municipalities in the affected coal regions of Southwest and Pelagonija are informed about the process and engaged closely;
- ME will engage the capacity-building consultant as soon as possible to support IP communication among Government institutions, local governments, CSOs, and other relevant stakeholders, as well as facilitate public consultations;
- European Union Delegation continues to support the establishment of the JT structure as per the Just Transition Roadmap, adopted by the Government in June 2023;
- The government working groups on reskilling, renewable energy sources and storage, and economic transition under the JT Council will be formed soon and can support the ACT IP consultation process;

Infrastructure

- The ACT IP draft public sector projects should be included in the Single Project Pipeline (SPP) of the country per the request of the Ministry of Economy;
- While there is an increased interest in renewables investments by both public and private sector that support the ACT programme's low carbon transition objectives, further grid investments are required to enable their connections and ensure stable electricity supply;
- The ongoing LURA assessment of the three mine areas will be the first of its kind in North Macedonia, giving a comprehensive overview of how the depleted coal mines and infrastructure assets in and around the coal-fired power plants can be best repurposed;
- There is a clear interest to develop and invest in energy storage infrastructure, including batteries - ME is finalizing the legislation on battery storage, and soon ESM and MEPSO will get licenses to use storage for renewable energy sources but will need technical support;
- ESM, MEPSO, and EVN will continue to contribute to the IP process with project ideas, investment needs, data, and existing studies;

People

- **IP needs to have a strong focus on economic diversification and skills programmes.** Brain drain and skills shortages are key challenges for the two JT regions, with even energy companies facing lack of engineers. Stakeholders highlighted the need for giving new opportunities to coal value chain workers, addressing skills shortages, and creating employment for those not in the labour force. This includes active labour market policies, incl. w a focus on women.

- There are no specific early retirement, upskilling, re-skilling programs for impacted workers ,except for the EBRD’s Technical Cooperation support for Enhancing the ESM’s Role in Just Transition, as part of the EBRD’s EUR 25 million loan to JSC Elektrani na Severna Makedonija (ESM) for the construction and operation of a 30 MW solar photovoltaic project across two sites, including the "Oslomej 2" expansion on the exhausted coal mine of TPP Oslomej, and the "Bitola" plant adjacent to TPP Bitola) for the people in the affected regions;

Stakeholder engagement

- The CSOs re-emphasized the importance of implementing skills programs, engaging with local municipalities and other stakeholders, including CSOs and initiative groups, and affected communities (with a specific focus on disadvantaged groups) themselves during the IP process – Eko Svest offered to support public consultations in Bitola and Kicevo;
- Private sector representatives are willing to be engaged in the IP process, providing data and feedback on private sector needs, and are interested in accessing the funding;
- The Energy Community representatives will follow the IP from the compliance with EC commitments point of view;
- IPPG consultants will work intensively on providing data, analysis, and concept notes for the IP;
- EBRD will reach out to schedule follow-up meetings with the stakeholders specified below.

3. Background and Rationale

38. North Macedonia has set a Nationally Determined Contributions (NDC) target of a net 82% greenhouse gas (GHG) emissions reduction by 2030 compared to 1990. In 2021, 39.5% of the country’s electricity generation was from indigenous coal (lignite), supplied by two thermal power plants - 125MW TPP Oslomej and 639MW TPP Bitola. North Macedonia is a net electricity importer (circa 2 TWh p/a (about 30% of consumption). Despite the energy crisis, the country has recently reinforced its commitment to an 82% reduction compared to 1990 levels by 2030, with a complete coal phase-out as the main driver.

The MDBs are already involved in supporting projects related to the IP. The European Union Delegation (EUD) and EBRD have supported the Government in developing the Just Transition Roadmap (JTR), adopted by the Government in June 2023. It aims to ensure that the transition benefits are shared and to support vulnerable regions, communities, and workers from falling behind. This document was mentioned by stakeholders as one of the key reference points for informing IP pillars.

39. **The EBRD** has directly financed new renewable energy projects, helping reduce North Macedonia's reliance on coal. Additionally, the EBRD has facilitated financing for small renewable energy projects and engaged in policy dialogue with government authorities to advance the green energy transition.

The EBRD provided technical assistance to support the introduction of renewable energy auctions. This facilitated the launch of new solar tenders – the first in the region to be developed with exposure to wholesale power prices – with a combined installed capacity of 162MW.

Recently, EBRD provided EUR 5.9 million in long-term senior debt financing for constructing a 10MW PV plant adjacent to the existing TPP Oslomej. The PV plant is built on the exhausted coal mine of the TPP Oslomej, and the electricity produced is directly sold to the nearby grid.

Furthermore, EBRD provided a senior loan of up to EUR 25 million to the public electricity generation utility Elektrani na Severna Makedonija ("ESM") for implementing a 30 MW solar photovoltaic ("PV") project consisting of (i) a 10MW "Oslomej" expansion (currently under construction) on the exhausted coal mine of TPP Oslomej, and (ii) a 20MW "Bitola" expansion adjacent to TPP Bitola.

The EBRD also provided a senior loan of EUR 100 million to ESM to support the Company's liquidity needs amid the energy crises affecting North Macedonia. The proposed loan addresses an emergency liquidity gap by providing financial support to ESM and a comprehensive Action plan for the Energy Sector to address the decarbonisation ambition and the resilience of the local energy market.

The EBRD has played a crucial role in promoting regional connectivity by building electricity interconnectors, improving energy reliability, and facilitating the connection of new renewable energy sources, most notably, the construction of the first electricity interconnection with Albania, which will complete the east-west 400kV electricity connection between Bulgaria, North Macedonia, Albania, and Italy. The Bank is also providing technical support for a PPP tender for development of a hydrogen-ready national gas distribution system, promoting gasification in the country and exploring a hydrogen-ready gas interconnection to diversify and secure the gas supply and support the transition from coal.

Regarding energy efficiency, the EBRD has contributed to reducing household and business energy losses through its Green Economy Financing Facility (GEFF) program. Partner banks have offered financing for over 3,700 sub-projects, resulting in energy savings and high-performing technologies. The EBRD has also provided technical assistance to develop the energy-efficiency legal and regulatory framework, encouraging further investment in this area.

Additionally, a Green Finance Facility (GFF) is established in North Macedonia (the "GFF," the "Facility") of up to EUR 30m in favor of Participating Financial Institutions (the "PFIs") established in North Macedonia for on-lending to SMEs for investments in renewable energy (RE) and energy efficiency (EE) per the GFF Policy Statement. The GFF was developed in partnership with the UNDP, with contributions from the Joint SDG Fund and the Government of North Macedonia and is expected to start in October.

In line with the EBRD's human capital development approach, the EBRD also promotes access to alternative livelihoods for those affected by the transition process through reskilling and upskilling, within the context of addressing underlying drivers of inequality. To so, the EBRD enhances the capacity of ESM to actively contribute to the preparation of regional economic development measures, as well as the formulation and delivery of a strategy for the development of nationally accredited market-relevant curricula, to define redeployment and reskilling opportunities for affected workers.

40. The World Bank is currently implementing a EUR 25 million Public Sector Energy Efficiency Project (PSEEP) supporting energy efficiency investments in public facilities. The project includes energy efficiency investments in the healthcare buildings managed by the Ministry of Health as well as buildings and street lighting owned by municipalities. Furthermore, this

project supports the establishment and operationalization of an Energy Efficiency Fund (EE Fund) as a sustainable and revolving financing mechanism to scale up energy efficiency investments, together with the Macedonian Development Bank. Under PSEEP, there is a EUR 5 million component to support the first EE Fund investments in municipal projects once the Fund is established and operationalized. Thus far, the project has received applications from Kicevo municipality but no applications from Bitola.

The World Bank is also working on preparing a new investment project to support air quality improvements in targeted urban areas in North Macedonia, including municipalities of Bitola and Kicevo, with the highest concentration of PM emissions as part of a wider project that may support Green Agenda with a focus on air quality. The main components proposed under the project pertaining to AQ improvements will include: i) equipment for strengthening air quality measurement and monitoring network, analysis, modeling, and data dissemination and ii) incentive schemes for households to replace highly polluting solid-fuel stoves and boilers with more efficient and cleaner heating options, combined with targeted energy efficiency improvements of building.

41. IFC continued supporting the Directorate for Technological Industrial Development Zones (DTIDZ), aiming to attract investments to North Macedonia's advanced manufacturing sectors, with a focus on greening the industrial zones. Within the project mandate and scope, targeting the sustainable industrial zones to host climate friendly industries and help local companies to better integrate into global value chains, by greening their operations, IFC has prepared the final drafts of the Diagnostic and Scoping analysis of the Western Balkans region, Industrial Parks' specific Guidelines for the transition toward Eco-industrial parks (EIPs), Country-specific policy recommendations for resolving the identified regulatory and policy barriers, and submitted those to the EC.

In addition, following the desk-based diagnostics of the traditional industrial parks in the Western Balkans region, industrial parks' interviews and surveys and inputs from IFC country officers and stakeholders, IFC identified 12 (out of more than 300) industrial parks as potential candidates for Pilot implementation. Industrial zones from North Macedonia in Gevgelija, TIDZ Skopje 1 and Skopje 2, are considered among the candidates for the implementation of the Pilot program. The final selection of the 4 most prospective industrial parks to enter the EIP Pilot program will depend on the final deliverables from the consultant. In this respect, IFC has already established initial contacts with the shortlisted industrial parks and received positive feedback and great interest in the project participation. Upon the final EIP Pilot selection, IFC will sign MOU with the four prospective industrial parks and commence the activities in their retrofitting to the EIP concept. Considering the green agenda, IFC is also partnering with private sector investors in the renewable energy space to finance wind and solar investments in the country.

4. Mission Findings

42. **CIF Funding Structure.** The entire IP design is a government-owned process, and the IP itself is a government-owned investment plan that should reflect the Country's priorities regarding the accelerated coal transition. At the beginning of each session of the joint mission, it was presented that North Macedonia can access up to USD 85 million in concessional funding from CIF to support accelerated and just energy transition, channeled via MDB's projects. Out of the USD 85 million, up to USD 8 million could be allocated to grants, with the rest to concessional loans. Regarding the ACT pillars, 70% are for *infrastructural investments*, 25% for

people, and 5% for *governance* - available for the public and private sectors. CIF ACT funding and the MDBs could not support any activities related to using gas and other fossil fuels. Based on other countries' experience, the grant component is usually geared towards projects focusing on the people component and new technologies such as storage. The CIF will undoubtedly expect to see private sector-related projects in the IP. The MDBs will then match additional funds primarily through loans. Thus, the ACT IP should be seen as a catalyst for other funds that can conservatively reach 350-600 million in funding for the ACT. The IPPG, agreed with ME, has helped to already mobilise USD 0.5 million from CIF in investment plan preparation grant (IPPG) for specific studies and activities supporting the IP, delivered by MDBs. At the Investment Plan finalization stage, the MDBs must agree on which bank covers what component.

43. **Funds utilization:** Generally, once the IP is endorsed, the funds will be used through the MDBs. The intention is for the funds to mobilize additional capital. On the public sector part, a public guarantee will be needed. For the private sector, guarantees will not be required. Given that projects will be developed in detail at the IP stage, it is important to have a good idea of what MDBs can collectively do, but to not have very firm projects yet. CIF has operated for 15 years now and 1\$ investment has typically generated 7\$ from other sources. The Ministry of Economy, the MDBs, and CIF, agreed to use the upcoming COP28 in November 2023 for the North Macedonian Government to present the ACT IP draft and broader investment platform to mobilize further funding.
44. **Reconfirmed commitment to coal phase-out before 2030.** Government re-confirmed the commitment to the just transition. Many large private RES projects to move away from coal are initiated, but additional solutions need to be provided to address the intermittency of renewables. The Minister of Economy emphasized a need for investments in storage, substations, and transmission as a precondition to absorb more renewables. The projects of Elektrani na Severna Makedonija (ESM), the government-owned electricity-producing company that is investing in 20MW PV in Oslomej, and two international companies (Turkish and Bulgarian) investing in two 50MW PV plants each, are at their final stages. The same plans are envisioned for Bitola. Currently, the Government is in breach of the National Emissions Reduction Plan (NERP) ceilings according to the Ministry of Environment and Physical Planning's (MEPP) assessment. There are some thoughts for desulphurization by 2026, but it does not align with the decommissioning plans, poses carbon lock risks, and lacks funding. As for lignite mines, ESM has operations permits, including the obligation for environmental remediation. This is regulated in the Environmental Law, the Chapter on Liability. The Ministry of Education and Science, and Ministry of Labour should be actively engaged in planning, as alignment of green agendas and skills development and labor policies are critical.
45. **Investment Planning (IP) process.** During the consultations with the institutions, stakeholders reconfirmed that the ME is leading the IP process on the side of the Government. The ME, as the lead institution of the process on the side of the Government, submitted a formal letter of acceptance to be formally engaged in the ACT IP program in June 2023, together with the project concepts/applications for the IPPG, developed in collaboration with MDBs, after which funding for the IPPGs was approved and mobilized. Following IP draft preparation, the ME will need to conduct public consultations on the IP draft (November 21) in Bitola, Kicevo, and Skopje (November 22), submit the IP to the Government, receive opinions from relevant ministries, receive Government approval, and then submit the IP to the CIF. The CIF representative stated that the Government and MDBs could consult with the CIF Trust Fund Committee Members during the drafting phase of the IP to ensure timely integration of feedback from donors and a smooth process of approval. Although the Government is

committed to the IP, both Presidential and Parliamentary elections are coming up in the spring of 2024. Once elections are scheduled, at least for 100 days, the Government cannot make decisions. **Thus, the ME, other Government representatives, and the MDBs reconfirmed that the IP process should move fast and aim to submit the IP to the CIF in December 2023.**

46. **Just Transition Roadmap (JTR).** As a departing point for the ACT investment plan, it is important to emphasize that RNM is committed to the just transition (JT). The JT involved many stakeholders and was supported by the EUD and EBRD. ME informed that the Government adopted the JT Roadmap on June 13. Based on the JTR and Government conclusion from June 13th, The Ministry of Economy needs to form the following:

Just Transition Council:

- Deputy Prime Minister in Charge of Economic Affairs – Chairman
- Minister of Economy - co-chair
- Minister of Finance
- Minister of Environment and Physical Planning
- Minister of Labour and Social Policy
- Minister of Transport
- Minister of Agriculture, Forestry and Water Resources
- Minister of Local Self-Government
- Minister of Education
- Director of ESM
- Director of MEPSO
- Director of NOMAGAS

Ministry of Economy should form:

- Working group for pre-qualification and training
- Working group for economic transition
- Working group for renewable energy and storage

Minister of Economy - National Coordinator for implementation of the Just Transition Roadmap. It is recommended that the Association of the Local-Self Governments of North Macedonia (ZELS) forms regional forums for just transition in Kicevo and Bitola.

MDBs were informed that the ME is aligning the decision for forming the JT council with the Legal Secretariat of the Government, after which ME will request nominations. ME also informed that the working groups would be formed in the last week of September, where the Energy Sector will lead the renewable energy and storage groups, while relevant sectors will lead the rest in the Ministry. ME representatives pointed out that the working groups could support the organization of the public consultation for the ACT IP. EUD requested that the JT council be formed faster and asked ME to consider moving it with the ACT IP. During the meetings, it was discussed that it is better to form the regional forums under the guidance and coordination of municipalities Bitola and Kicevo rather than ZELS, given that the municipalities are much closer to the people.

47. **Single Project Pipeline (SPP).** During the first scoping mission, ME and MF pointed out that the Single Project Pipeline (SPP) at the Secretariat for European Affairs (SEA) should be considered a departure point for public energy sector projects. The relevant ministries submit relevant projects. Then, the National Investment Committee (NIC) is endorsing the projects. So, for projects from the IP to get into the SPP, there should be more concrete components. SPP is for public sector projects. For the private sector, the Government (MF) endorsement is

needed. It was discussed that the IP projects will overlap with those projects, but new public projects from the IP will also be added to the SPP list accordingly. It was also pointed out that the SPP is especially relevant for WBIF funds. For instance, storage-related projects are currently not included in the SPP, while private and smaller public sector projects (e.g., energy efficiency in buildings) are outside the SPP scope. The Ministry of Finance also underlined that the IP projects must be included in the fiscal strategy. Implementing the projects under the IP will be effective from 2024-2030, but the public projects must be reflected in the SPP long list. Therefore, there should be a discussion of what goes into the SPP.

48. Investment Planning Preparation Grant (IPPG) assessments. The MDBs informed on the status of the technical assistance underway, which all assessments should support the IP drafting and concrete project pipeline. All assessments should provide input and analysis by the end of October when the IP draft should be finalized and further refined and extended.

1) LURA assessment on TPP plants and mine repurposing led by the World Bank will assess the mine sites of Bitola, Suvodol and Oslomej and provide optimal repurposing scenarios. On the LURA assessment, Minister of Economy Bekteshi expressed interest in learning about the concrete findings and suggestions of the assignment. ESM director of TPP Bitola and his team have also been informed and supportive of the assessment, which will assume intensive data sharing geospatial, topographic, and economic analysis. It is important to consider re-skilling opportunities for mine and supply workers in green projects. Ministry of Environment and Physical Planning (MOEPP) representatives emphasized that according to the permits, ESM must remediate the ash deposit, classified as a landfill. It is, however, not treated at the technological level it should be; thus, there is an aerial dispersion of ash. According to them, the energy sector is well regulated, but there are additional issues with waste management outside of the sector. MOEPP suggested that support for remediation is also envisioned under the IP before planning to repurpose. All agreed that contamination must be removed, and legally binding, and legal analysis should also be included in LURA. Finally, MOEPP reminded ESM of the obligation to report on hotspots and contaminated areas. In parallel, the EBRD will provide internal bank capacities for the auction model, given that North Macedonia has the momentum to use auctions, given high-RES interest.

2) Climate-Smart Industrial Zones assignment will assess the economic potential of the region for attracting foreign and domestic investors, sectorial advantages, potential needs for financial packages for business and start-up support, most relevant and in-demand skillsets to accelerate climate-smart business and need for new industrial zones. TIDZ representative pointed out that it was the perfect time for TIDZ for this analysis. Not only the technological zones, but also the industrial zones are of great interest. TIDZ is now piloting an eco-zone in Gevgelija, but this model can be applied elsewhere. The eco-zone in Gevgelija will require significant investments, as pointed out by the IFC. There is a process to readjust the state aid support for investors to support green investments increasingly. The Fund for Innovation and Technological Development (FITD) is also working on a new financial scheme related to the Green Deal to provide additional funds for the private sector. TIDZ will also try attracting new foreign investors and developing modern supply chains.

3) Energy Efficiency, Clean Heating and Distributed Energy Programme assessment led will take stock of news and opportunities for investment and support for EE in public, commercial, and residential buildings, and skills development needs. Both Bitola and Kicevo suffer from high air pollution. There is an ongoing discussion between the World Bank and the MOEPP, which shows that there are programs for air pollution in more polluted municipalities. On the other hand, the municipalities need to develop the Municipal Energy Efficiency Action Plans submit to the Energy agency. The Energy Agency noted that MEEAPs are not being done and they are not monitored. Furthermore, the Agency representatives

mentioned there was support for municipalities to put together contracts for the ESCO agreement. Unfortunately, there is no progress, and municipalities do not want to use this mechanism.

4) The Grid Strengthening assessment should investigate the grid capacities, enhancement needs, storage, and power plant repurposing. For MEPSO, priority investments include a synchro-compensator for MEPSO and ESM, rehabilitation of substation Bitola 1, synchronic condensers, two power transformers, and a need for a third. MEPSO does not deal with storage but might be interested in small ones for frequency control and secondary regulation. During the previous scoping mission, it was discussed that there is a large interest in RES connections but limitations on connections capacity. When investors come to EVN to ask for connection, EVN follows technical rules and assesses based on that. EVN also tries to find spots for investment where investors can share the connection costs, but now the capacity is filled in some locations. MEPSO representatives pointed out that they lack engineers (+100) from all levels and the level of brain drain is high. EVN has an internal training center in Makedonski Brod, completely equipped, with scholarships and training provided. An increasing number of students go to electrical high schools in EVN's experience, but the general problem remains that the salaries in the industry are below average. EVN suggests that all companies with power engineers can be pre-qualified to work in the energy sector. EVN also needs support in further developing its Vocational Education Training (VET) programs. Finally, in MEPSO and EVN observation, private companies also lack engineers.

5) Finally, part of the IPPG is the **capacity-building support for the ME**, where candidates have submitted CVs, and the selection process is being finalized.

49. **IP Components.** During all meetings with stakeholders, three specific components for the IP were presented, following the JT Roadmap identified pathways, as well as discussions during the First Scoping Mission. **The three components include** 1) Retiring and replacing coal-fired power generation assets in Bitola and Oslomej; 2) Regional economic regeneration; 3) Energy efficiency, clean heating, and distributed generation program, with subcomponents (Presented in Figure 1). Stakeholders agreed with the components and pointed out that they reflect the overall needs for the just coal transition. Stakeholders emphasized that it will be very important to see further how the components will be developed and allocate funds per component. Among others, stakeholders expressed support for the people dimension and the fact human capital development and gender aspects are present under each component, which are critical part of just transition.

Component 1: Retiring and replacing coal-fired power generation assets in Bitola and Oslomej



Key pillar
Infrastructure



MDBs
EBRD, World Bank, IFC



Focus
Public and private



Objectives:

- Enable full accelerated coal phase out by decommissioning of 125MW Oslomej and 639MW Bitola TPPs
- Ensure effective land use of former coal mining lands, including through RE deployment
- Facilitate stable electricity supply by investing in grid strengthening, synchronous condensers and storage solutions in affected regions including through power plant repurposing
- Create opportunities for ESM workers in new low carbon energy opportunities in the region

Components



Phase-out 3 TPP blocks
Disconnect, demolish, rehabilitate
Remediate 3 coal mine areas
Prepare for re-purposing



Replace TPP capacities with low carbon energy sources
Solar PV on mine sites, storage solutions, synchronous condensers, grid strengthening



Human capital development
Re-skilling ESM workforce to support transition to low-carbon jobs; Supporting gender-responsive and green national/sectoral educational and labour market policies and frameworks

Ongoing support

- Scoping study on grid investments, storage needs and power plants repurposing potential
- Coal mine land repurposing assessment
- Auction support for RE (in-house)
- Skills and Employment support: Enhancing ESM's role in just transition

Counterparts



ESM



MEPSO and EVN



Government



Private RE developers



Training providers

Component 2: Regional economic regeneration



Key pillar
People



MDBs
EBRD, IFC



Focus
Private (and very limited public)



Objectives:

- Attract climate-smart investments into Southwest and Pelagonia regions to support economic regeneration (e.g. smart agriculture, batteries etc)
- Create new sustainable job opportunities in green and climate-smart business segments
- Support development of local companies and start-ups
- Enhance workforce skills to facilitate better local employment prospects and attract employers

Components



Economic regeneration programme
Climate-smart investments in businesses in Southwest and Pelagonia incl. with associated skills trainings



Business enhancement credit lines
Financing lines to support business development, and access to skills and employment for coal value chain workers, as well as women and youth in the regions



Support for Industrial Zones
Next to Kicevo and Bitola to encourage domestic and foreign investments in high value-added industries in line with state aid rules

Ongoing support

- Assessment of climate-smart economic diversification opportunities in Pelagonia and Southwest regions

Counterparts



Companies



Local communities



TIDZ directorate



Municipalities of Bitola and Kicevo



Training providers

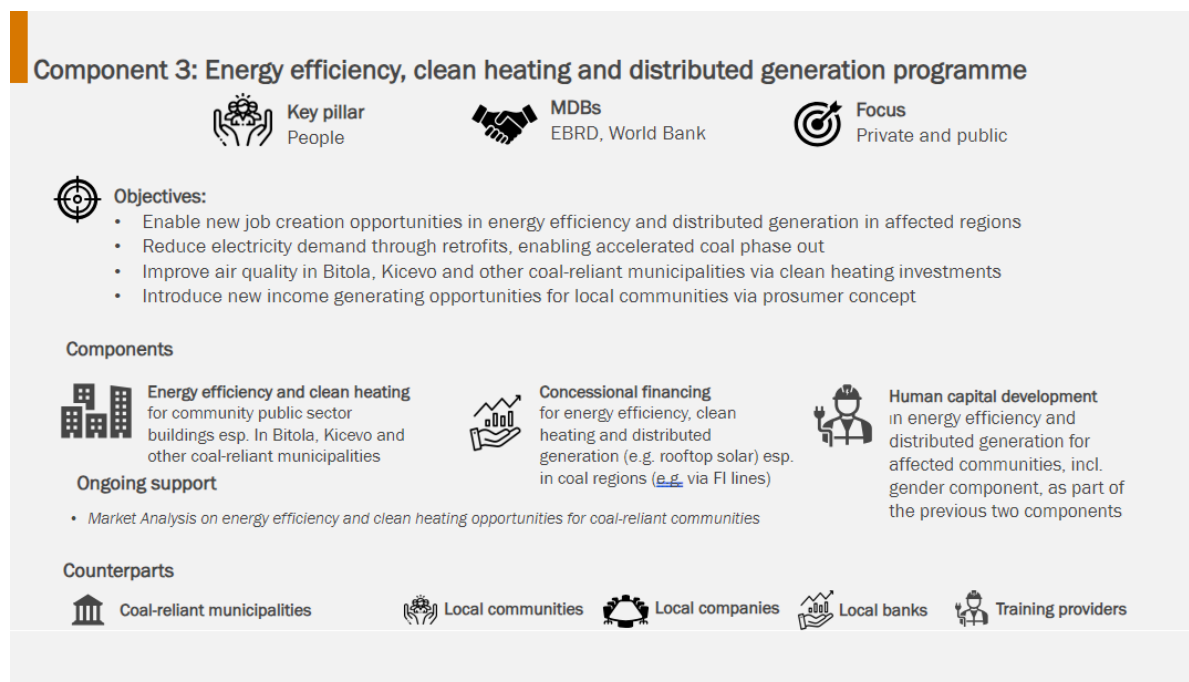


Figure 1 IP Draft Components

50. **ESM’s feedback.** The IP components were presented during the discussion with the Elektrina na Severna Makedonija (ESM) - a state-owned enterprise (SOE) and leading energy producer in North Macedonia. The ESM requested additional time to provide detailed feedback, while the overall components were accepted. It was confirmed that the plan for floating PVs is ongoing with EIB and the EBRD. The projects with KfW are ongoing, with some implementation challenges. KfW should finance a **50 MW** PV plant and co-finance with the EBRD an additional 100 MW in Bitola. There is also discussion about the potential of an additional 50 MW wind power plant in Miravci. ESM is also interested in mini pump storage hydro in Bitola and storage, which should provide stability. At the same time, ESM expects the electricity price during the day to drop significantly in the next 2-3 years due to high PV influx. ESM presented the idea for a mixed hydro-gas PP that should offer stability to the system. ESM in Bitola has investment plans for 150MW, 20MW, and another 100MW PV plants. LURA will explore the possibility of small pump storage potential in the depleted mines. In terms of workforce skills gaps, ESM representatives in Bitola pointed out that they are facing labor shortages due to the outflow of engineers; thus, ESM plans to employ more people. ESM TPP Bitola director pointed out that they plan to re-skill workers to be able to work according to the green scenarios for ESM, which is supported by the EBRD’s Technical Cooperation Assistance. Furthermore, the ESM Bitola director pointed out that most current employees will be reskilled to work within the company on non-coal activities. On the other hand, the overall ESM needs support in labor screening, reorganization, and strategy to attract more young people. From WBIF, ESM has commitments for grants to study batteries, hydro, and floating PVs, but these funds are not yet mobilized. ESM also needs a new SCADA system and a new SAD system.

51. **MEPSO – Transmission System Operator (TSO).** MEPSO reiterated the conclusions from the first scoping mission, adding that there is a training center for MEPSO employees in Ohrid that might be of interest to the ACT IP. This center is now being reactivated and should have regional outreach. MEPSO anticipates that all countries in the region will have significant RES

capacities in the mid-term, so there is an additional need to balance reserves and strengthen national transmission systems and cross-border capabilities. MEPSO continues to seek storage and system service technologies, but only one application exists.

52. **EVN, the distribution system operator (DSO), reiterated the points discussed during the First Scoping Mission.** EVN already has 250MW from small PV connected and expects another 500MW in the next two years. The entire territory of the country is affected by this trend, particularly Stip, Probistip, and Strumica. However, over the last year, over 500 new connection requests have been rejected due to the inability to integrate them on the grids because of low capacity in the transmission substations. There is also increased interest from prosumers – households who can install up to 6 kW on houses and SMEs up to 40 kW. Some PV requests try to game the system by filing multiple small connection requests in the same area on distribution rather than the transmission system, as the process is easier. EVN also sees potential in batteries and other storage technologies to address the issue, but this is still a nascent area for the country.
53. **Upskilling, reskilling, and pre-qualification of workforce.** The ESM has limited activities on the re-qualification now. As part of its two investments, the EBRD is supporting the Company in addressing the human capital gaps. A Technical Cooperation project launched in 2023 envisions: (a) enhancing the capacity of ESM to actively contribute to the regional economic development planning process and the formulation and delivery of a strategy for the development of six nationally accredited market-relevant curricula for retraining affected local workforce; (b) supporting ESM in the development of a reskilling and redeployment initiatives; and (c) introducing gender inclusion measures and foster women's access to economic opportunities across all ESM operations. As part of the second Technical Cooperation assistance program, the EBRD will support ESM to build project management and electricity trading capacity through the development and implementation of two new certified training programs for at least 72 employees, of which at least 25% will be female. The training initiative should target young workers to enhance their access to market-relevant skills in the sector and include cooperation with a specialised national or international college. The stakeholders voiced that the IP needs to focus intensely on economic diversification and skills development programs. Brain drain and skills shortages are critical challenges for the two JT regions, with even energy companies lacking engineers. The Stakeholders highlighted the need to give coal value chain workers new opportunities, address skills shortages, and create employment for those not in the labour force. This includes active labour market policies, including a focus on women.
54. **Meeting with the Ministry of Education and Science (MOES).** MOES representatives highlighted the importance of cooperation between educational institutions and the private sector and the engagement of private sector more actively in the governance of TVET institutions; recognizing those successful cases where private sector participates in VET program development. The importance of aligning with labour market policies, environmental and other policies were highlighted, as well as the need of having a focal person for Just Transition at the Ministry. The Ministry also highlighted the need of organizing the donor coordination working group to better coordinate ongoing and upcoming interventions in the JT context. There are several projects supported by the EU and other organisations like USAID, GIZ, Swiss Agency for Development and Cooperation (SDC), Regional Challenge Fund (RCF), etc, that promote strengthening of the VET educational system. Finally, improving the

accessibility of TVET, institutional development of TVET institutions, improving regulatory framework, inclusive VET program design - were outlined as priority areas for the Ministry.

55. **Complementarity with other development partners.** During the joint mission, a meeting was held with EUD, EIB, and the Energy Community Secretariat (EnCS), UNDP and GiZ development partners to discuss past and ongoing activities relevant to the IP, where most of the projects by partners were presented and considered. EIB emphasized their City Climate Finance Gap Fund, which can help (a group of) Municipalities with several tasks, including project definition and pre-feasibility work. The facility is up and running, and assignments could thus be launched swiftly in response to requests from municipalities. A clustering of municipalities would be beneficial to allow for scaling-up, and prospective funding (such as the CIF Investment Plan) is considered a pre-condition for engagement to make sure that the Gap Fund can play its role as a real investment accelerator (and is not offering yet another feasibility study with no concrete follow-up). It could fit well with the geographic and coal transition focus of the Investment Plan to facilitate the implementation of investments by any financier in Municipalities. UNDP presented their support for municipalities for energy efficiency, while GiZ who conducts the Readiness preparation for the Green Climate Fund (GCF), informed that under GCF, North Macedonia will access funding for energy efficiency in public buildings led by the Agence Française de Développement (AFD) Group funds.
56. **Civil Society Organizations (CSOs) consultations.** CSO supports the process of the ACT IP drafting and emphasizes the need for early engagement with all affected communities: workers, miners, and local government officials. CSOs were interested in the training programs envisioned under the economic regeneration component and emphasized the need for thorough assessment before training is offered. Skills development programs should be provided according to CSOs on a regional level and encompass all municipalities in the Pelagonija and Southwest region. At the same time, targeted scholarships can be provided for the desired and needed degrees. CSOs suggested a dedicated person in the municipality of Bitola, Kicevo and other affected communities that would engage with citizens on the just transition, just as a capacity building dedicated person is planned for the Ministry of Economy. This could be supplemented by municipal transition information centers. CSOs also commented that the economic regeneration packages should be mindful of which industries are supported and that their supply chains do not track down to additional mining. CSOs emphasized that the technical assessment consultants should look into local and regional development strategies. Although CSOs are not envisioned as part of the JT Council, they asked if they can be observers.
57. **Meeting with the Mayor of Bitola and his team.** During the joint mission, the mission team met with the Mayor of Bitola, Dr. Toni Konjanovski, the general secretary, the head of urban planning, the head of economic development, the director of industrial zone Zhabeni, and the energy advisor. The team presented the ACT IP process and the draft IP components during the meeting. The mayor and the general secretary expressed support for the IP but emphasized the need for early communication with the municipality. They do not consider that Bitola was engaged in the just transition roadmap planning sufficiently, nor that the Ministry of Economy communicates with the Municipality at the desired level to achieve the just transition jointly. They plead to central Government institutions for timely engagement. On the IP, the municipal representatives expressed support that the IP will surely benefit the region, and they support the timely and dedicated communication on the IP. The components

were generally supported, but the municipal representatives requested a technical-level meeting with the MDBs and ME team to discuss the components and express the needs of Bitola and the surroundings. In a follow up meeting with the municipality, three priorities were pointed out: 1) need for investment in infrastructure in the Zhabeni industrial z

58. **Public discussion on the ACT IP in Bitola with CSOs and business representatives.** During the Bitola municipality visit, the mission team engaged in a public discussion with business and CSO stakeholders from Bitola, facilitated by the Municipality of Bitola, featuring over 25 attendees. The IP process was presented together with the specific components, and the first feedback was received. Representatives from training providers mentioned the great need for businesses to prepare for the just transition by investing in a change management business model change to become part of new green supply chains. It was expressed that companies are no longer reluctant, but slow to accept the necessity of these changes and need support. There is also a need to revise the curricula at the university level available in the affected regions, given that engineering talent is mainly missing. A few ongoing projects relevant to the IP were mentioned, including a cross-border project with Greece on green jobs, where a strategy should be published by the end of September. This project aims to foster green jobs and green practices in businesses. Another project was mentioned for land repurposing in Bitola. On vulnerable groups' engagement, it was noted that, unfortunately, there is no existing and active environmental organization in Bitola. Not much is done with vulnerable groups, and no plans are in place for engaging them with the just transition. Business representatives were interested in when the funding will be available and how the financing will get to the companies, to which it was presented that the funding will hopefully be available mid-2024. At the same time, some funding for green projects is available via existing EBRD programs.
59. **Private Sector engagement with the IP.** During the consultations with private sector representatives from the biggest chamber – The Economic Chamber of North Macedonia (ECM) and the newly established Macedonian Renewable Energy Association (MARES). Companies are generally interested in what types of RES funding will be available and how the lending will occur. ECM trust that the Investment plan will be prepared on a high level and will consider the challenges that the investors in RES are facing. Considering the decommissioning of TPP Bitola and TPP Oslomej, ECM recognizes the importance of reskilling and upskilling of workers in these regions as a top priority. Additionally, ECM considers that the installation of new RES will affect the energy system as a whole and will increase the need to install storage systems in the whole country, and not only in that particular region. Therefore, ECM argues that while some topics are more important to be initially addressed locally, the matter of storage systems should be addressed and supported throughout the whole country.
60. **Upcoming public consultation on IP.** The public consultations to follow on the IP took a central role in many stakeholder discussions. Eko Svest offered support for the public consultations on the IP, while UNDP was also pointed as a good partner for public consultations. Greater publicity is also needed via the media, interviews, videos, etc. The National Climate Coalition was also suggested as a good partner for public consultations. All engaged stakeholders asked for the document to be available in advance and for a broad outreach to affected communities. Most stakeholders expected the Ministry of Economy to communicate actively on the JT and the ACT IP so that all relevant voices are heard. Otherwise, stakeholders warned of the risk of no buy-in, which can harm the IP process. The mission team explained that the scoping and joint mission has been extensive, engaging multiple relevant stakeholders.

Communication is ongoing with many of them between missions to ensure all relevant information is accounted for. However, all sides agree that the key communication should come from the Ministry of Economy and the Government, as the IP is a government-owned process and plan.

61. **Closing session.** During the closing session, the mission team and the Ministry of Economy agreed upon the IP timeline. It was discussed that the working groups to be formed under the JT process could support the public consultation, and the ME confirmed response and engagement with capacity-building consultants in the joint mission week to follow.

6. Summary of follow-up meetings to be scheduled with:

- Minister of Economy
- Office of Deputy Prime Minister in Charge of Economic Affairs
- Municipality of Bitola
- Municipality of Kicevo
- EUD

7. Indicative Timeline:

Indicative Timeline	Key Milestones
KICK-OFF (FEBRUARY-MAY)	
February 1, 2023	Trust Fund Committee Decision
February 21, 2023	CIF Letter to the Government
April 6, 2023	Kick-off call with Ministry of Economy, Ministry of Finance, and MDBs (EBRD, IFC, WB)
May 22-25, 2023	First Scoping Mission, Skopje
June 2, 2023	The mission report and IPPG draft are finalized and circulated to the ME for further circulation. ME prepares confirmation letter to participate in CIF and confirm EBRD as the lead MDB
IP PREPARATION (JUNE – OCTOBER) *	
June 7, 2023	ME submits a letter, mission report, and IPPG draft to the Commission of Economic Council (KES)
June 13, 2023	Government approval for the CIF and ACT program
June 16, 2023	IPPG submitted to CIF for Trust Fund Committee (TFC) approval
June 30, 2023	IPPG funding is confirmed and in MDB accounts
July 20, 2023	The first IP draft outline
July 31, 2023	MDB Joint Mission TOR agreed with the Government and shared with CIF to notify TFC four weeks in advance.
August 7, 2023	MDB Joint Mission TOR posted on the CIF website
September 19-22, 2023	MDB Joint Mission in Skopje and Bitola
October 3, 2023	Follow-up meeting with ME Minister on COP28 engagement
Week of 9 Oct 2023	MDB status update and informal consultation with ACT TFC member
October 20, 2023	Joint mission report (aide memoire) submitted to CIF for publication
Early November 2023	Draft IP submitted to the Government
November 6-9, 2023	CIF meetings
November 15, 2023	Draft IP published on the Ministry of Economy website
November 20, 2023	Public consultation Bitola and Kicevo
November 21, 2023	Public consultation Skopje
Mid/end Nov 2023	Draft for CIF public disclosure (at least two weeks before submission to CIF)
Nov 30-Dec12, 2023	COP28 event
Early December 2023	Government approval before CIF submission
IP SUBMISSION (DECEMBER 2023 – JANUARY 2024)	
Formal submission of IP by the government (MoE) to the CIF AU at least six weeks before the meeting	
Mid-February 2023 (TBC)	Presentation of ACT IP North Macedonia at the inter-sessional meeting for approval (TBC)

Joint Mission Agenda and participants

<i>Time</i>	<i>Meeting Subject (Planned)</i>	<i>Participants</i>	<i>Venue⁴</i>
Tuesday, September 19			
10:00 – 11:00	Meeting of MDBs with Ministry of Economy Representatives	Mission members Minister Kreshnik Bekteshi Ismail Luma Valentina Stardelova	Ministry of Economy, Skopje
11:30-13:30	Mission Kick-off meeting to introduce mission outline/objectives with all key stakeholders (e.g., the Ministry of Economy, Finance, Deputy Prime Minister's and Prime Minister's Office), Ministry of Environment, Energy Agency, Regulatory Commission Presentation of IP draft (10 slides PP shared in advance) plus separate concepts	Mission members Ministry of Economy Ismail Luma Jeton Kuci Florent Cice Ministry of Finance Andrija Aleksovski Dragana Filipovska Ministry of Environment and Physical Planning Lendita Dika Besa Tateshi Energy Agency Ordan Kaevski DTIRZ Tanja Ilievska	Ministry of Economy, Skopje
14:00 16:00 PM (Rescheduled for Friday 13:00)	<ul style="list-style-type: none"> Ministry of Labour and Social Policy AND Employment Service Agency (ESA) Ministry of Education AND VET Center, AND Centre for Adult Education Ministry of Local Self-Government, Secretariat of European Affairs Present IP status and concepts	Meriem Kobbala – EBRD Ministry of Education Nuran Kadriu Xhambazi Nadica Kostoska Shermin Mamut	Ministry of Economy, Skopje
Wednesday, September 20			
09:00-10:30 PM	ESM Present specific concepts	Mission members ESM Blagoj Gajdardziski Blagojche Trpovski Dusica Seizovska	Ministry of Economy, Skopje

⁴ Blue stands for session moderator

11:00- 12:30 AM	MEPSO (TSO) Present and discuss specific concepts EVN-EDSO (DSO)	Mission members MEPSO Erol Kecap Branka Vasikj EVN Oliver Mirchevski Viktor Dimitrievski	Ministry of Economy, Skopje
13:00 – 15:00 PM	Development partners (joint/parallel meetings) <ul style="list-style-type: none"> • EUD • KfW • EIB • EnCs • USAID • UNDP • FAO • WBIF • Swedish Embassy • UK Embassy Present IP status and concepts	EUD Katerina Kus-Ivanova Dimitar Malinkovski EIB Bjorn Gabriel Energy Community Rozeta Karova GiZ Daniel Josifovski UNDP Darko Crvenkovski WBIF-IFICO Orhideja Kaljoshevska	Ministry of Economy, Skopje
Thursday, September 21			
6:30	Depart from Marriot	Mission Members	
10:00-11:30	Meeting with the Mayor of Bitola Energy Sector Urban Planning Industrial zone Zhabeni	Mission Members Municipality of Bitola Mayor Toni Konjanovski Borche Dimitrov Emilija Sarafska Venco Shishkan Ljubica Migulovska Vlado Talevski Ministry of Economy Pance Atanasovski	Municipality of Bitola
11:00-12 :30	Meeting with local CSOs and business representatives	Coordinated with Municipality of Bitola – Emilija Sarafska	Municipality of Bitola
13:00-16:00	TPP BITOLA and mines Visit	Mission Members Consultants - PointPro ESM Pece Matevski Ilija Dimovski Dragan Siljanovski Metodija Kunovski Ministry of Economy Pance Atanasovski	Municipality of Bitola
16:00	Dinner and debrief	Mission Members + ME + Bitola	Bitola
Friday, September 22			

09:00-11:00	Meeting with CSOs/Academia Present IP status and concepts	Bankwatch Nevena Smilevska Davor Pehcevski Eko-Svest Elena Nikolovska MANU Verica Tasevska Gjorgievska CEA Elena Gotovska	Ministry of Economy, Skopje
11.00-13:00 AM	<i>Roundtable with</i> <ul style="list-style-type: none"> Economic Chamber of North Macedonia (ECM) Macedonian Energy Association (MEA) RES Association Macedonian Chambers of Commerce (MCC) Economic Chamber of North-West Macedonia (ECNWM) incl. Women in business group DTIRZ 	Mission members Consultants – PointPro Economic Chamber of Commerce Kristina Kuzeska MARES Association Violeta Nikolova	Ministry of Economy, Skopje
13:30 -15:00 PM	Closing meeting with PM Office, DPM Office, Ministry of Economy and Ministry of Finance Present IP draft and separate concepts Depending on presence, work in groups	Mission members Ministry of Economy Valentina Stardelova Ismail Luma Ministry of Finance Dragana Filipovska EU delegation Katerina Kus-Ivanova Dimitar Malinkovski	Ministry of Economy, Skopje
	MDB and CIF debrief	Mission members	Skopje

Stakeholder engagement at local level

- 1) Municipality of Bitola, September 21, 2023
- 2) Municipality of Kichevo, October 26, 2023
- 3) Pelagonia Development Region, October 27, 2023
- 4) Southwest Development Region, November 3, 2023

Stakeholder consultations on the ACT IP in Bitola with CSOs and business representatives took place on September 20th at the Municipal Council Hall – Bitola featuring over 30 attendees, after a meeting with the mayor and the municipality representatives. The IP process was presented together with the specific components, and the first feedback was received. Representatives from training providers mentioned the great need for businesses to prepare for the just transition by investing in a change management business model to become part of the new green supply chains. It was expressed that companies are no longer reluctant but slow to accept the necessity of these changes and need support.

There is also a need to revise the curricula at the university level, available in the affected regions, given the deficit of engineers. A few ongoing projects relevant to the IP were mentioned, including a cross-border project with Greece on green jobs. It was noted that unfortunately, there is no active environmental organisation in Bitola. Not much is done with vulnerable groups, and no plans are in place for engaging them with the just transition. Business representatives were interested in learning when the funding will be available and how the financing will get to the companies.

The conclusions drawn from the stakeholder consultations with the Municipality of Kichevo and with the municipalities from Pelagonia and the Southwest regions regarding the investment plan for the accelerated transition from coal, exhibit a high degree of similarity concerning the context, objectives, and specific feedback received. The main objective of these consultations was to introduce the process of developing the investment framework for the municipalities affected by the coal phase out and to encourage them to contribute to the definition and structure of potential investments, actions, and interventions.

The Kichevo municipality, being one of the most significantly impacted areas, is currently concentrating its efforts on diversifying the economy. Their primary focus is on attracting new private investors to create ample employment opportunities for the local population, thereby mitigating or potentially eliminating economic losses from transition. To achieve this, they are keen on resolving existing ownership rights and enhancing the development of industrial zones. They consider it vital to receive support from the national authorities to implement relevant measures and incentives aimed at attracting foreign investors to both the Southwest and Pelagonia regions. Furthermore, they anticipate a review of the measures and incentives to encourage local/domestic companies to invest in these zones.

The municipalities in the Pelagonia region have expressed their keen interest in actively participating and contributing to the formulation of the investment framework. Several municipalities in this region have emphasised their focus on the two key areas. First, they are willing to explore the potential to construct storage facilities at the local and regional levels, with the aim of securing grant support for these facilities. Second, they see a possibility in distributed generation, including to establish small energy communities. These communities would take on the responsibility of developing renewable energy projects for both industrial purposes and households. Furthermore, the consensus among most municipalities is that the financial structure and available funding sources, ready to be mobilized, play a vital role in the successful implementation of these initiatives, as well as having the right resources and capacities to apply for such funds.

The main concern of the municipalities in the Southwest region evolves around finding alternatives for economic activity following the decommissioning of TPP Oslomej. The region is dedicated to identifying investments and projects that can enable a sustainable economic transition and provide stable employment opportunities for its residents. Some municipalities have stressed the necessity of having the right expertise and resources within the local government to support them in project development and the identification of financial resources for implementation.

Stakeholder engagement with CSOs, academia and trade unions

Civil society organizations (CSOs) which are active in the field of climate, energy and environment, were actively engaged and played an active role in the formulation of the investment plan framework, participating in consultations and providing input based on their research and studies. They contributed to two scoping missions conducted from May 21 to May 25, 2023, and from September 19 to September 23, 2023. CSOs were invited to provide feedback on the mission reports, and their comments were incorporated into the development of the investment plan. Additionally, relevant

CSOs assisted in the public consultation process by furnishing a list of relevant CSOs and sharing information about the overall process. Throughout the IP development process, the IP team engaged in informant interviews with various CSOs, including ESE - the Association for Emancipation, Solidarity and Equality of Women, Rural coalition from Kichevo, Preda Plus from Bitola and others, to evaluate gender-related topics, and to consider local aspects from the regions mainly affected by the coal transition.

Additionally, the IP team collaborated with additional organizations to uphold a transparent and inclusive process. On November 14, 2023, a meeting was held with representatives from the following unions: the Federation of Trade Unions in North Macedonia, the Union for Energy, Mining, and Industry, and the Union for Agriculture, Food Processing, and Tobacco. The objective of the meeting was to familiarize them with the IP structure, content, and overall process. They articulated concerns regarding potential job losses and emphasized the significance of generating employment and fostering economic opportunities in regions affected by coal transition. Representatives from the unions were also extended invitations to participate in the public consultation process.

Last but not least, the Macedonian Academy of sciences and arts (MANU) was actively involved in the developing, drafting, reviewing and commenting the IP. Through the Research Center for energy and sustainable development, MANU actively contributes to the field of energy and climate change in North Macedonia.

Stakeholder engagement via JTR Working groups

Regarding the Just Transition (JT) process, the energy sector team within the Ministry of Economy (MoE) has identified and established the three working groups (WGs) outlined in the governance structure of the Just Transition roadmap. These include the WG for prequalification and training, the WG for economy transition, and the WG for energy transition (Renewable Energy Sources (RES) and storage). The decisions were finalized by the MoE in collaboration with nominated representatives from various ministries and public enterprises, officially signed on November 3, 2023. The initial meetings were conducted on November 21, 2023, for RES and storage, and on November 28, 2023, for prequalification and training and economy transition. As a result of the discussions during the inception meetings, additional institutions were identified to participate in the WGs, including the Employment Agency, Energy Agency, Directorate for Technology and Industrial Zones, JP Strezevo, Agency for Entrepreneurship, regional chambers, technical faculties, and NGOs and the donor community on an as-needed basis. On January 12, 2024, the second meetings of both the WG for prequalification and training and the WG for economy transition took place. Various projects outlined and proposed in the Just Transition roadmap, particularly those pertaining to informal adult education, Vocational Education and Training (VET), and on-the-job training, were deliberated by the representatives of the WG for prequalification and training. During these discussions, specific measures and actions were suggested with the aim of effecting changes in the existing legal framework. The WG for economy transition directed its discussion toward startups and the startup community in the affected regions. Additionally, attention was given to waste management and the potential for smart city projects. The representatives agreed to propose the development of a framework for incentives targeting local companies; conducting supply chain analysis and implementing supportive measures. Furthermore, it was agreed to engage with the Fund for Innovation and Technology Development (FITR) to gain a better understanding of their plans, resources, and future actions, with a focus on directing these efforts toward the two regions. The discussion also encompassed opportunities for waste management in the two regions and the municipalities' capacity to undertake smart city projects.

As outlined in the governance structure presented in the Just Transition Roadmap, the Ministry of Economy (MoE), with support from ZELS, is tasked with establishing regional forums. Representatives

from these forums are expected to actively provide local insights from the Pelagonija and Southwest regions on topics related to energy transition, economy transition and local labour market. The MoE has already distributed requests for nominations to municipalities in these regions. The key goal is to convene the initial meetings with the regional forums by the end of January 2024.

7. Public consultations - ACT IP North Macedonia

Three public consultations took place on the IP draft in North Macedonia: Bitola and Kichevo - as the municipalities most affected by the coal transition, and Skopje - the capital, which hosts most of the institutions, development banks and partners, business chambers, academia and CSOs.

The consultation in Bitola took place in the Municipality of Bitola Municipal Hall from 10:00-12:00; the Kichevo consultation took place in Hotel Kichevo from 14:00 - 16:00 on December 12, while the Skopje consultation took place in Skopje - Government of North Macedonia Official Hall from 10:00-12:00 on December 13th.

The call for different consultations with invitations, agenda and Draft IP plan was published on the Ministry of Economy website, and invitations were also sent to all stakeholders previously engaged in the IP drafting, their referrals, and additional relevant stakeholders.

All consultations were held in Macedonian, with simultaneous translation available in Albanian and English.

The consultations were attended by: representatives from ministries including the Ministry of Environment, Ministry of Agriculture, Forestry and Water Management, Ministry of Education, Ministry of Finance, Ministry of Local Self-Government, Secretariat for European Affairs, Energy Agency; public enterprises including ESM, MEPSO, and NOMAGAS, TPP Bitola and Oslomej, Directorate for Technological Industrial Development Zones; representatives from municipalities from the urban planning sector, economic development sector, energy unit, mayor of Bitola, business and academia representatives, CSO representatives, development partners, European Delegation, World Bank, IFICO/WBIF, representatives of the Chamber of Commerce, CEE Bankwatch, associations and the private sector.

All consultations followed the same agenda:

1. Brief presentation of the IP by the Ministry of Economy representative
2. Presentation of the draft investment plan by Olimpija H. Zaevska - IP consultant
3. Discussion following questions and comments from the attendees

The public consultations began with an introductory address by representatives from the Ministry of Economy, who emphasized the need for decarbonization of the economy, as well as compliance with the international agreements signed by the Republic of North Macedonia, which refer to the individual contribution of each country to the reduction of global emissions of greenhouse gases, the care for the health of the citizens, but also the economic benefits, the possibility of jobs creation, and thus greater economic activity and the possibility of participation in the private sector.

The introduction was followed by a presentation of the draft investment plan by Olimpija H. Zaevska, a consultant responsible for drafting the IP plan and stakeholder engagement. The consultant first briefly introduced the Climate Investment Fund, the process of preparing the Investment Plan, the stakeholder engagement process, the connection of the IP with other strategic documents and commitments by the Government, and the Just Transition Roadmap of the country. The consultant

then presented the three components of the investment plan, its subcomponents (Table below), and the financial distribution across components. Finally, the consultant presented the timeline of the IP drafting, its relation to COP28, and the deadline to comment on the IP Draft in written form by December 29th, 2023. The presentation was followed by a discussion open for all participants.

Discussion: Municipality of Bitola

Representatives of the Municipality of Bitola raised several issues for discussion related to the sustainability of the local economy during and after the completion of the energy transition process. Namely, they pointed out the practices of other countries that are more advanced and have established funds for new jobs. Following that practice, a fund should be established for TPP Bitola employees to support the opening of new companies. Still, when they apply to receive certain subsidies or use for specific measures, they, as stakeholders, should have priority. They also referred to the industrial zones and the need for preferential treatment, while more investments are needed and insufficient in the IP for municipal zones. The Municipality of Novaci representative believe that the funds that are currently allocated in the draft IP for the industrial zones are very low, considering that the municipal zones need to be revitalized, but also to create additional conditions for a more significant number of facilities that will be able to absorb a more substantial number of workers.

A question was also raised about whether the TPP will be closed entirely or if the TPPs can be reactivated in case of need. They also pointed out that analysing how much it costs to maintain the blocks is necessary, given that they are already old and will further depreciate.

A discussion was also opened by representatives of the Public Enterprise for Urban Planning of Bitola. They pointed out that a new detailed urban plan is being developed; thus, the accelerated transition from coal and the planned investments in various infrastructures must encourage inter-institutional cooperation to cover all possible areas that need to be intervened and taken into account. They also pointed out that enhanced involvement of the Ministry of Transport and Communication is necessary to develop project documentation and investment implementation smoothly.

Clarification was also sought regarding the process of approving and financing projects - whether it will be possible to propose specific projects and what the method of prioritization is if several projects have been proposed simultaneously from different areas with different objectives and potential impacts. The mayor of the Municipality of Bitola commented on the sensitivity of the topic, mainly because it affects the citizens/households the most and proposed for the IP to provide more funds to be accessible to municipalities so that they can deploy these funds to the most affected communities and address most pressing needs. Furthermore, the mayor called for continuous and transparent discussions on the coal transition so that as many stakeholders as possible participate and contribute to the discussions and decisions.

Representatives from the private sector were interested in how the project selection/financing process would be conducted as they indicated several mature projects that could be implemented if financial resources were secured.

Discussion – Municipality of Kichevo

On the part of the Kichevo municipality, a discussion was opened regarding the issue of the employees of TPP Oslomej. They asked for a detailed analysis of what has been done and what is planned with the employees. They also believe that ways should be found in which private sector enterprises will be motivated to absorb employees from RECs. As one option, they pointed out the possibility for the enterprises, which would conditionally receive funds from the funds for financing investments, projects, etc., to be conditional on hiring a certain number of employees. At the moment, the

municipality, together with the employees, receives an inflow of 16 to 18 million EUR from TPP Oslomej, which is currently being channelled into the local economy, and it is necessary to find a way to replace it with new investments and in which areas. There was a remark about the inclusion and direct eligibility to use funds like the most affected municipalities, Kichevo, Bitola, and Novaci.

The municipality has no dialogue with TPP Oslomej, and they pointed out that they need to act in a coordinated manner and be engaged with the municipality. They pointed out that the TPP Oslomej and the ESM management need to be intensively involved in the whole process and improve communication with the municipality. Representatives from the Municipality also discussed the conditions in the municipal zones and that they should be conceptualized in a way that would be more attractive for foreign and domestic investors.

The private sector representatives emphasized the need to form energy cooperatives. Following the experience in the EU, it is possible to get access to EU funds to establish energy cooperatives. Still, it is necessary to pass a law on energy cooperatives to regulate their establishment, way of functioning, and operation. One of the representatives indicated that they expected a more significant number of representatives from the private sector, given the importance of this process and the opportunities that can be used to improve operations and expand them. According to them, providing adequate access to finance to the private sector is necessary, given that many local enterprises are already over-indebted and may not be eligible for funds if the conditions are not more flexible. They also pointed out that only 2-3% of the employees of TPP Oslomej can move to the private sector under the same conditions they have now. The rest have a higher salary than what the companies can offer.

Representatives from the regional chamber of commerce had several comments regarding adopting the main strategic documents, such as the annual energy plan. They said timely information and transparency are needed for documents of this type. Several models for the protection of employees in TPPs implemented in Greece and Spain were mentioned. They proposed reviewing and, if possible, applying the models that are implemented in regions such as Slovenia. From the point of view of the closure of the TPPs, before proceeding to their complete closure, they pointed out the need to ensure the reliability of the electricity supply.

There was also a remark on the unavailability of the document in the Macedonian language, given that Macedonian is the official language for communication. On this point, it was explained that the translated document will be available in Macedonian on December 15, right after the consultation, and all stakeholders can comment on the document by December 29th.

Discussion – Skopje:

During the discussion, a Ministry of Local Self-Government representative referred to using appropriate terms when defining the regions and their jurisdiction. Namely, most of the activities will be implemented in the two regions - defined as administrative regions - but the regions are at the level of statistical planning entities (according to the State Statistics Office) and are not administrative - in the future, when planning the activities, it should be taken into account that the competences are at the level of the municipality and the central Government according to the Law on Local Self-Government and not at the regions.

A representative from the private sector who works in environmental protection proposed the introduction of monitoring indicators for measuring the impact of the transition on the environment. For example, to set up monitoring stations where there will be a replacement of coal and to determine if there is an environmental improvement in pollution. The draft plan can include such indicators, but the same can also be defined for measuring economic impacts.

A representative from CEE Bankwatch had several remarks. First of all, from the aspect of the process itself, more time should be given, and all parties should be included to comment and make suggestions in a timely manner. They also pointed out that it is not clear with this plan which alternative is chosen to close the TPPs. No decision is made at the level of the plan - it is not said who and when will decide on the closure of the blocks, what procedures will be implemented, the structure of the plan, etc. They also pointed out that the final plan cannot be adopted before the Environmental Impact Assessment (EIA) for the IP is approved. The document should be published in the Macedonian language. However, 15 days for public consultation is not per the legislation - 120 days are needed for this document, according to the CSOs. They also raised the question of when the decision on further procedures will be made, whether based on the revised National Energy and Climate Plan or at the level of the revised energy strategy. Finally, they emphasized that this was a presentation, and the question was raised whether there would be additional public consultations.

A representative from ESM commented on the time frame – it is unclear when the Government plans to close the TPPs. He pointed out the need for such a plan/study to be part of a law that will facilitate the implementation of the transition procedure or to adopt a decree to implement the process itself. The question was also raised about how 75% of ESM's income will be compensated if the blocks are closed. In terms of financing, ESM emphasized the need for more grants, not just loans, to request access to EU funds that will partially support the transition.

A representative from the Ministry of Agriculture, Forestry and Water Management opened the topic of the state-owned enterprise (SOE) Streževo and what is planned with this enterprise, which is almost completely dependent on the operation of TPP Bitola. The question was raised whether SOE Streževo, which currently supplies technical water for cooling the turbines, can divert the same system for land irrigation. It is necessary to analyse and investigate how much agricultural land is used and how much is irrigated. With such an irrigation system, people/households can be encouraged to engage in agriculture. In addition to the benefit to households/farmers, the sustainability of Streževo, which will charge for irrigation, will be ensured. If it is necessary to invest additionally, the same can be foreseen in the transition plans. The Ministry also pointed out that the drainage is owned by AD Stopanstvo - Bitolsko pole. There is a need to purchase new machinery - a new and larger capacity for maintaining the irrigation canals and for the construction of new canals, which will further support the development of agriculture in the Pelagonian region.

Representatives/consultants from the private sector discussed the possibility, capacity and potential to absorb 3 billion euros in the transition process. Municipalities also have a problem with credit capacity and how much they can borrow. Given that a UNDP project is currently being implemented for opportunities to create green and digital skills in the Pelagonian region, it has been established that the municipalities are not at all familiar with the energy transition process and its possible effects. The problem with the demographic structure of the population was pointed out, given that a large proportion of working-age people in those regions is 57 years old, and the younger generations are less numerous and do not stay to live and work in the region. The seriousness of the extinction of Prespa Lake was also pointed out. If the focus is on tourism development, it must be sustainable and create conditions for a continuous economic branch. However, according to the analysis, tourism as a branch is a marginal contributor. The insufficient involvement and engagement of farmers in the regions was also noted. The municipalities in Slovenia that receive a huge amount of grants to cope with the transition were pointed out. In municipalities in North Macedonia, it will be a big challenge to determine which additional industrial branch should be developed to ensure a sustainable local economy. The question was also raised: How will the base energy be compensated if gas is not considered a balancing fuel?

The Association for Renewable Sources – MARES - has raised several questions about investments in renewable sources and new technologies. Namely, defining an exact program that foresees measures

is necessary, and each project should be carefully considered. From the point of view of where the funds are placed - it is essential to consider conversion from coal, that is, introduction of new technologies, support of foreign investors and provision of access to finance for private investors. Considering that the electricity market has been subject to significant changes in the past years, what was profitable is no longer. Therefore, the support mechanisms must be redefined to encourage investments.

The Ministry of Transport and Communications indicated that this plan does not include gas as a base energy option. They also pointed out that the Ministry of Finance should have an analytical and detailed approach to financing and borrowing and not just accept suggestions from financial institutions. It should be considered that the Energy Development Strategy is the primary document based on which future projects will be planned and implemented. Another aspect that was pointed out is how the institutions will have the opportunity to get the funds and use them and how the funds from the financial institutions will be processed to implement the process.

Summary of key comments	Integrated	Not integrated	Explanation
Governance			
Inclusion of IP projects in the Single Project Pipeline		X	The IP key projects will be integrated by the Ministry of Economy under the SPP list hosted in the Secretariat for European Affairs
Urban planning units, Ministry of Transport should be more involved to support needed permitting and timely policymaking and policy implementation enabling ACT IP implementation	X		Ministry of Transport together with local governments (urban planning units) are mapped as key stakeholders in the IP for the IP implementation. Via policy support, Ministry of Transport will be engaged early on in the process.
Local governments lack capacity and expect support for engaging more actively with the IP and just transition over all	X		Local governments will be eligible to receive policy support under Project 2 and 3, and the IP has been consulted with wide range of donors, that can further support local governments to engage with the just transition topic.
120 days for IP public consultation			The IP is not a type of document that needs to be consulted 120 days under the national legislation. Moreover, since the initial Scoping Mission in May 2023, the IP is continuously consulted with all stakeholders, and all stakeholders has contact to ask questions and suggestions for the IP. The IP was published for public discussion on December 5 on the Ministry of Economy website with deadline for comments by December 29, 2023 The IP had another round of public discussion under the Environmental Impact Assessment (EIA) on January 15 th , 2024.

People			
Support for municipal industrial zones	X		Integrated under Project 1, Component B: Revitalize. This component is entirely developed to support municipal industrial zones to be able to attract climate smart investments.
Significant support for coal value chains workers	X		The entire IP is designed to create economic opportunities for coal value chain workers.
Social transfer per the example of Greece – EU funds		X	The Government does not see the IP as the place to allocate funding for social transfers, given that the IP has an infrastructural, economic, and human capital development aspect that should bring sustainable economic development and coal transition. However, the Government works actively under other social programs to develop packages for most affected workers, early retirement schemes etc.
All instruments should prioritise people from affected regions	X		All projects and components are design with eligibility having only entities from Pelagonia and Southwest region. Additionally, in detailed project development phase, projects will further set criteria where most affected entities (e.g. from Novaci, Oslomej, Bitola etc.) receive higher evaluation points.
There is little funding allocated for municipal industrial zones		X	Within the IP, the MIZ are in the focus, intending to put it higher on the agenda so funds from other sources can further be mobilized. At the same time, the IP projects will serve as pilots to understand better what MIZ need.
Kichevo is disproportionately affected by the energy transition and has no private sector to uptake new opportunities.	X		Not only for Kichevo, but also across components, this fact I taken into consideration. The IP focuses on comprehensive economic support via training and access to finance, to ensure that the local economies at the end of the IP investment cycle, end in improved economic condition.
Infrastructure			
Focus on opportunities for revitalisation of agriculture	X		Agri-sector is included under Project 2, the socio-economic revitalisation by providing funding for private sector climate smart-investments and trainings relevant for Agri sector
More concrete TPP repurposing options were expected in the IP		X	The IP suggests few options for TPP repurposing, intending to support development of detailed TPP repurposing options as the very first projects to be implemented under the IP. Provided current updates of the National Energy and Climate

			Plan and the Energy Law (ongoing revision), which will have an effect on the TPP closure and repurposing dynamics, the IP will address the details of the TPP repurposing In dedicated plans, considerate of latest changes in the NECP and Energy Law.
TPP reproping with gas		X	Although there is discussion on powering one block in Bitola TPP with gas, given ACT IP criteria, these suggestions are not integrated.
Energy security should be paramount, no project should be implemented at the expense of losing energy security	X		The IP identifies this as key priority. The IP projects will therefore be stages as to create enabling environment – (grid enhancement, RES investments and integration, etc.) before TPP decommissioning.
More indicators can be included on how the IP will impact the environment	X		Additional indicators were integrated, as well as an Environmental Impact Assessment analysis is available for the IP.

Environmental Impact Assessment (EIA) of IP – Public consultation

On January 15th, in the Ministry of Economy, an Environmental Impact Assessment was presented by expert Slavjanka Petrovska. During the public consultation, a total of 35 participants were present, providing valuable feedback and insights. The participants represented a diverse range of institutions, including Ministry of economy, Ministry of finance, Ministry of environment and spatial planning, Ministry of agriculture, non-governmental organizations active in the field of climate and environment, local NGOs active in the affected municipalities, energy sector players such as ESM (ESM AD and TEC Bitola), EVN, NOMAGAS, and representatives from affected municipalities such as Kichevo and Novaci. The active participation from a wide spectrum of stakeholders ensured a comprehensive and inclusive consultation process. The EIA presented how the IP is aligned with other strategic documents and policies of the country, as well as presented indicators for monitoring of the IP environmental impact. A key discussion revolved around the place of the IP in the overall policy context in North Macedonia, and it was concluded that this investment plan presents an operationalization of the measures envisioned under the NECP on plant decommissioning and clean energy transition. Participants also pointed to the importance of Government monitoring of the IP, timely inclusion of relevant institutions and stakeholders in the individual projects to be supported under the IP.



The Climate Investment Funds

The Climate Investment Funds (CIF) were established in 2008 to mobilize resources and trigger investments for low carbon, climate resilient development in select middle and low income countries. To date, 14 contributor countries have pledged funds to CIF that have been channeled for mitigation and adaptation interventions at an unprecedented scale in 72 recipient countries. The CIF is the largest active climate finance mechanism in the world.

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