



# Integrating Climate change into the energy sector

BRIEFING PAPER





## KEY ISSUES

- Even though greenhouse gas (GHG) emissions in North Macedonia are roughly 30% lower per capita than the EU average, GHG emissions per unit of GDP are five times higher.<sup>1</sup>
- Two thirds of GHG emissions come from fossil fuel combustion, especially heat and power production, energy for industrial production, and fuel for transport.
- There is a great potential in North Macedonia to save both money and energy.
- There are major political and economic benefits to sustainable energy policies and measures.

## LEGAL & STRATEGIC FRAMEWORK

### LEGAL FRAMEWORK

### STRATEGIC FRAMEWORK

#### ENERGY IN GENERAL

[Energy Law \(2018\)](#)

National Energy and Climate Plan (under development, it is expected to be completed in 2020)  
[The Strategy for Energy Development in RNM until 2040 \(2019\)](#)

#### RENEWABLE ENERGY

[Rulebook on Renewable Energy Sources \(2019\)](#)  
[Decree on the measures for support of the electricity generation from renewable energy sources \(2019\)](#)  
[Decision on the total installed capacity of the preferential producers of electricity \(2019\)](#)  
[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 \(2019\)](#)

The Strategy for Renewable Energy of Macedonia until 2020 (2010)  
 Program for financial support for generation of electricity from preferential producers who use premium for 2019 (2019)

#### ENERGY EFFICIENCY

[Law on Energy Efficiency \(2020\)](#)  
[Rulebook on Marking Energy Consumption and Other Resources for Energy Products \(2016\)](#)  
[Rulebook on amending the Rulebook on energy performance of buildings \(2015\)](#)  
[Rulebook on the maximum amount of the fee for issuing a certificate confirming that the minimum requirements for energy efficiency contained in the core design are in accordance with the minimum requirements for energy efficiency set out in the Rulebook on energy performance of buildings and the maximum amount of compensation for issuance of a certificate for the energy characteristics of a building \(2015\)](#)  
[Rulebook on Energy Control \(2013\)](#)  
[Decree on eco product design \(2011\)](#)

Strategy of Improvement of Energy Efficiency in the Republic of North Macedonia until 2020 (2010)  
 The Third Energy Efficiency Action Plan (EEAP) of the Republic of Macedonia (2016-2018)  
 The Fourth Energy Efficiency Action Plan (EEAP) until 2021 is under preparation

#### ENERGY MARKETS

[Rulebook on the manner and procedure for monitoring the functioning of energy markets](#)

#### ENERGY BALANCES

[Rulebook on energy balances and energy statistics](#)

[Statistical research program for the period of 2018-202](#)

#### ENERGY POVERTY

[Program for protection of vulnerable energy consumers for year 2020](#)

For more information regarding the country's legal, strategic and institutional framework for climate change at the national level, international agreements that the country has adopted, as well as the integration of climate change in sectoral policies and national reporting, please refer to the **General Booklet** and/or visit the [link](#).

<sup>1</sup> 2014 data

# Climate Change Mitigation and Energy in North Macedonia

North Macedonia is currently moving forward on a decarbonization pathway that supports national development. It is the first contracting party of the Energy Community to adopt an **Energy Strategy** based on the five pillars of the EU Energy Union: energy efficiency, integration and security of energy markets, decarbonisation, R&I, and competitiveness. The goal of the strategy is a modern, competitive and climate-neutral economy by 2050.

Three scenarios--Reference, Moderate Transition and Green (named differently in different documents<sup>2</sup>)--reflect different trajectories of the energy transition and provide flexibility in the Macedonian response to EU policies and governance. A fourth scenario (Extended Mitigation Scenario, or Climate champion/e-WAM), was developed as part of the reporting process to the UN Framework on Climate Change.

Extensive analysis of climate change mitigation and energy has been conducted through the development of the [Strategy for Energy Development up to 2040](#) and the [Third Biennial Update Report on Climate Change \(TBUR\)](#). In the TBUR, **32 mitigation policies and measures** were identified in the energy sector. Each is backed by supporting information, and their progress can be tracked with **Sustainable Development Goals (SDG) indicators**.

Indicators	SCENARIO			SCENARIO			SCENARIO		
	SURVIVAL	SAFE WAY	CLIMATE CHAMPION	SURVIVAL	SAFE WAY	CLIMATE CHAMPION	SURVIVAL	SAFE WAY	CLIMATE CHAMPION
	Average annual increase (%) by 2040 compared to 2017			Total increase by 2040 compared to 2017			Absolute values - year 2040		
Final energy (Mtoe)	2%	1.5%	1.2%	56.1%	42.2%	31.8%	2.8	2.6	2.4
Electricity consumption (TWh)	2.1%	1.7%	1.6%	61.2%	47.8%	44.5%	10	9.2	9
Electricity production (GWh)	1.9%	1.4%	1.6%	52.4%	38.1%	44.4%	10.9	9.7	10.2
Installed capacity (TW)	3.4%	3.7%	3.7%	114%	128.5%	130.4%	3.8	4	4.1
Gross inland consumption (Mtoe)	1.4%	0.4%	0.1%	38.4%	10.7%	2.6%	3.5	2.8	2.6
GHG Emissions (Tg CO <sub>2</sub> - Eq)	0.4%	-1.6%	-2.4%	9.2%	-30.6%	-42.2%	9.8	6.2	5.2

The most ambitious is the **Climate Champion** scenario, which could reduce GHG emissions by 42% in 2040 compared to 2017.

## Key Messages/ Recommendations



**MOST OF THE MEASURES IN THE MITIGATION SCENARIOS ARE WIN - WIN (WITH NEGATIVE COSTS). OVER A 20-YEAR PERIOD, THESE DECARBONIZATION SCENARIOS ARE CHEAPER THAN THE FOSSIL FUEL BASED SCENARIO**

**ENERGY NEEDS COULD BE MET ENTIRELY BY RENEWABLE ENERGY SOURCES COMBINED WITH INTENSIVE ENERGY EFFICIENCY, MEANING NO COAL**

**THE WEM SCENARIO REQUIRES €13,308 MILLION IN INVESTMENT, OF WHICH ABOUT 99% IS INVESTMENT IN THE ENERGY SECTOR. THE E-WAM SCENARIO WILL REQUIRE €24,481 MILLION**

**IMPLEMENTING THE POLICIES AND MEASURES FROM THE E-WAM SCENARIO WILL PROVIDE 9,895 GREEN JOBS BY 2035**

**SECTOR COUPLING (ELECTRIFICATION OF THE HEAT AND TRANSPORT SECTORS) CAN PLAY A CONSIDERABLE ROLE IN DECARBONIZING THE ECONOMY**

**INVESTMENTS IN RENEWABLE ENERGY WILL INCREASE ENERGY INDEPENDENCE AND ENERGY SECURITY**



<sup>2</sup> Strategy for Energy Development up to 2040: Reference Scenario (Without Measures - WOM), Scenario with moderate transition (With existing measures - WEM) and Green scenario (With additional measures - WAM).  
3rd Biennial Update Report on Climate Change: Business as usual = WOM, Survival = WEM; Safe Way = WAM, and Climate Champion scenario = e-WAM

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**The document was prepared in the framework of the project “Strengthening Institutional and Technical Macedonian Capacities to Enhance Transparency in the Framework of the Paris Agreement” implemented with financial and technical support from GEF and UNDP.**

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