

Social aspects of the energy transition in Macedonia

Sashe Panevski

MACEF

11 December, Tirana



Overview



NATIONAL GOALS
AND POTENTIAL



SOCIAL ASPECTS



GREEN JOB
OPPORTUNITIES

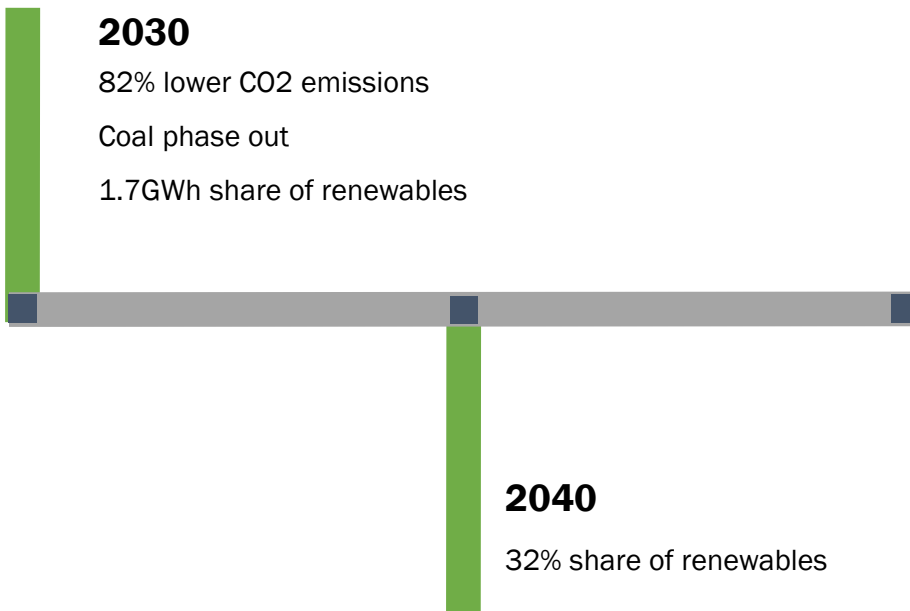


SOCIAL
MEASURES



CONCLUSION

Timeline of national goals – Green scenario



National framework

National Energy and Climate Plan of the Republic of North Macedonia, 2020

Strategy for Energy Development in the Republic of North Macedonia until 2040, 2020

Law on energy efficiency

Law on Energy

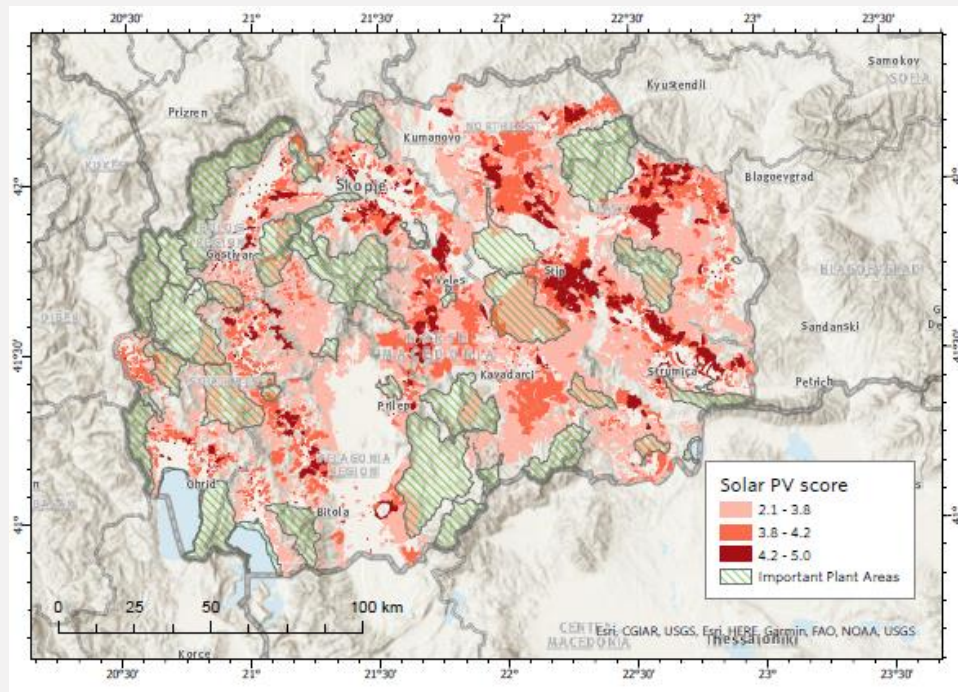
Existing mines for electricity production

- PC Oslomej – East, the coal has been completely removed.
- PK Oslomej - West is in the final phase of operation.
- PC Suvodol has active exploitation

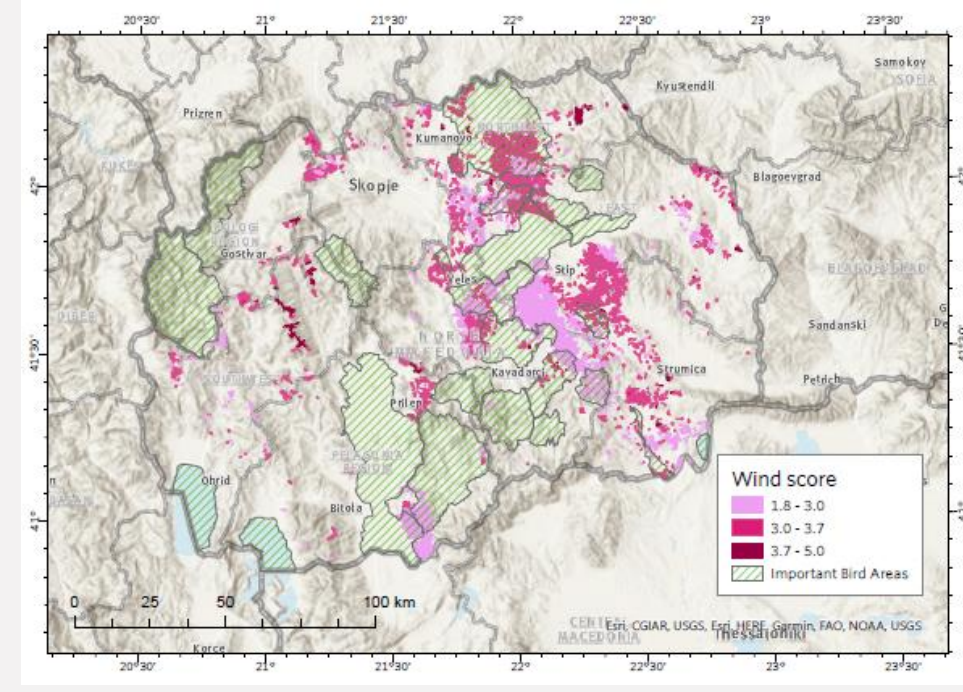


Mapping of potential for energy transition

Mapping of solar potential



Mapping of wind potential



Source: A blueprint for North Macedonia to accelerate its energy transition, The Nature Conservancy

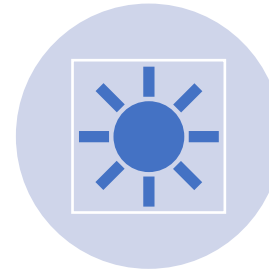
Comparison of potentials and goals



ELECTRICITY CONSUMPTION: 7.7
TERAWATT-HOUR/YEAR



CURRENT CAPACITY
SOLAR: 550MW
WIND: 30MW
HYDRO: 550MW



MAPPED POTENTIAL: 50 GW FOR
SOLAR AND 0.45 GW FOR WIND

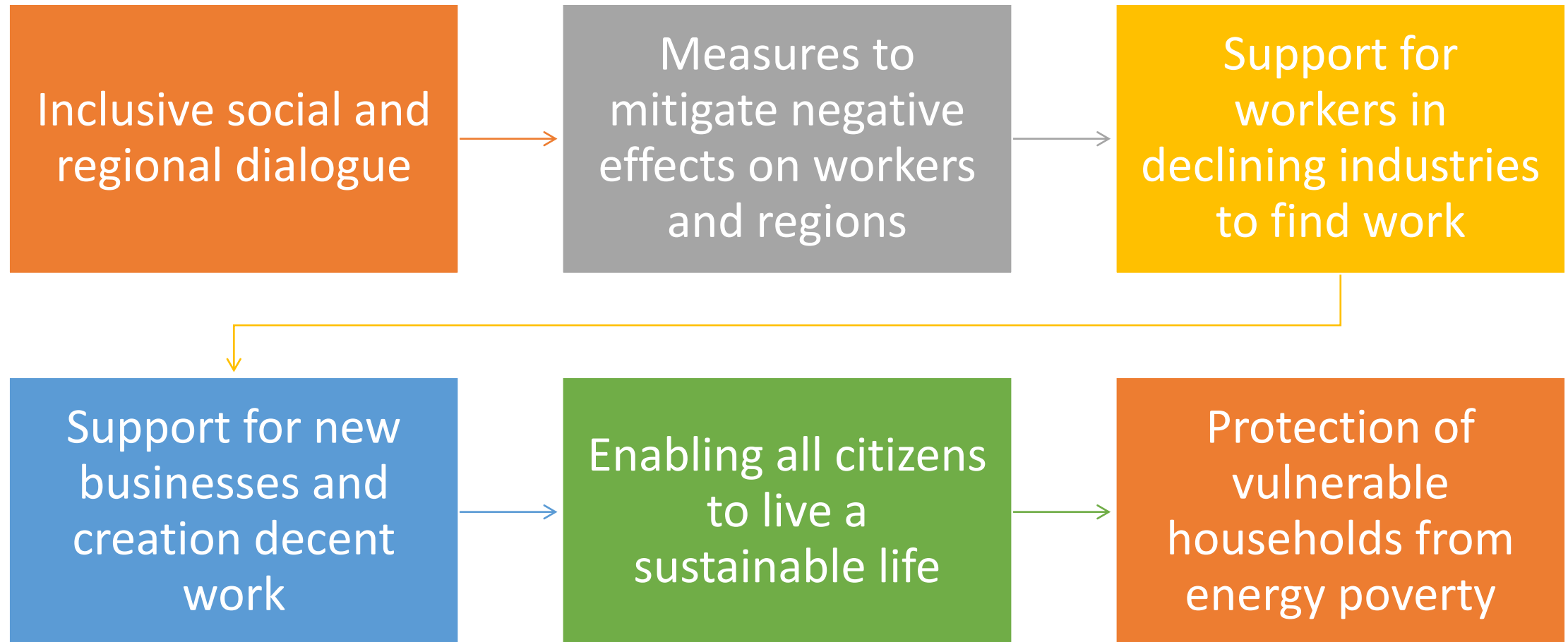


SENSIBILITY ANALYSIS: EVEN IF HALF
OF THE POTENTIAL (MINIMUM AT
11 GW FOR SOLAR PV AND 0.35 GW
FOR WIND) IS REALIZED, THE
COUNTRY WILL MEET THE
ELECTRICITY CONSUMPTION
PROJECTIONS FOR 2030



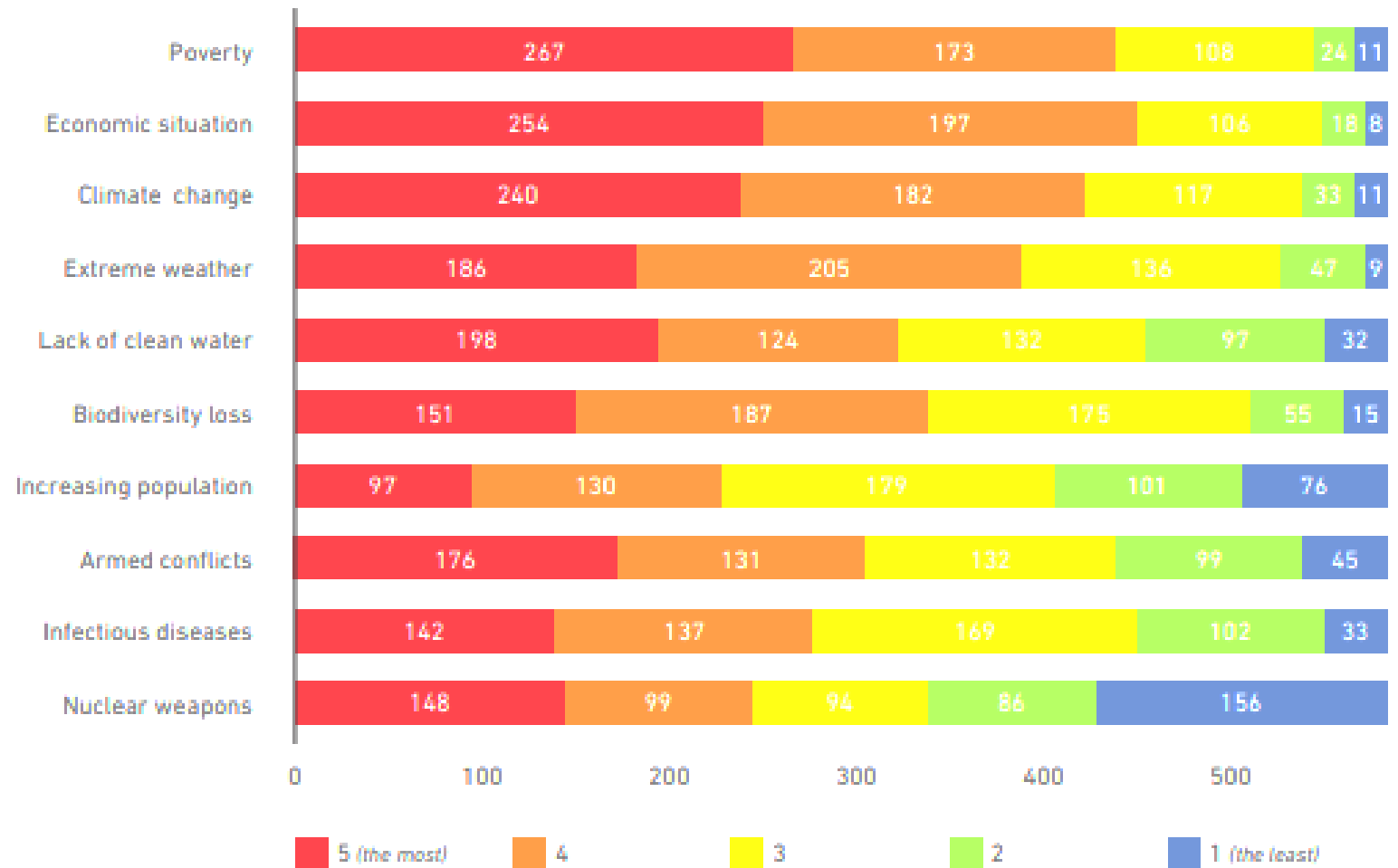
- “A **Just Transition** secures the future and livelihoods of workers and communities by transitioning to a low-carbon economy. It is based on social dialogue between workers, trade unions, employers, government and communities. The Just Transition Plan provides and guarantees better and more decent jobs, social protection, more training opportunities and greater job security for all workers affected by global warming and climate change policies.”

Necessary elements of Just Transition



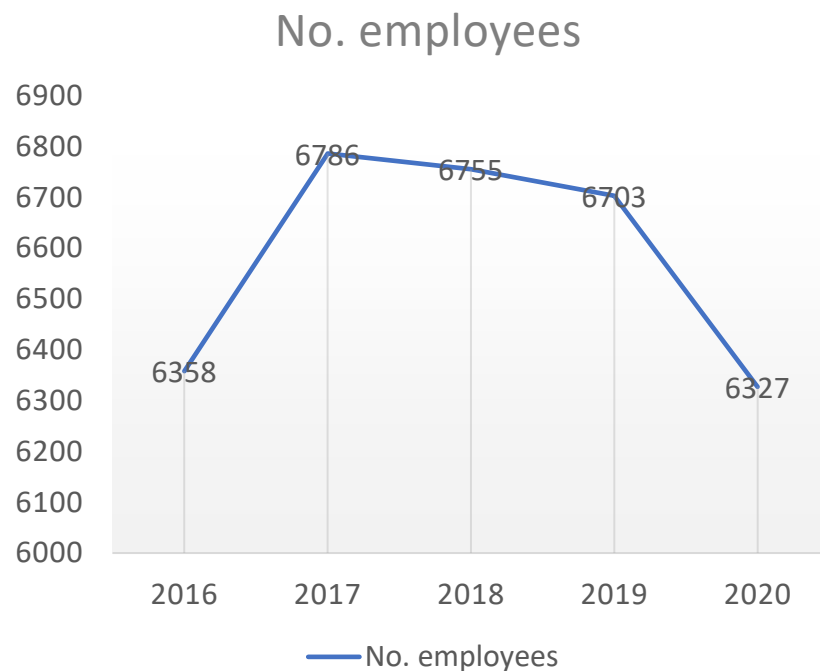
Perceived seriousness of different social problems

Perceived seriousness of different social problems



Source: Biennial Update Report, Ministry of environment and physical planning, 2018

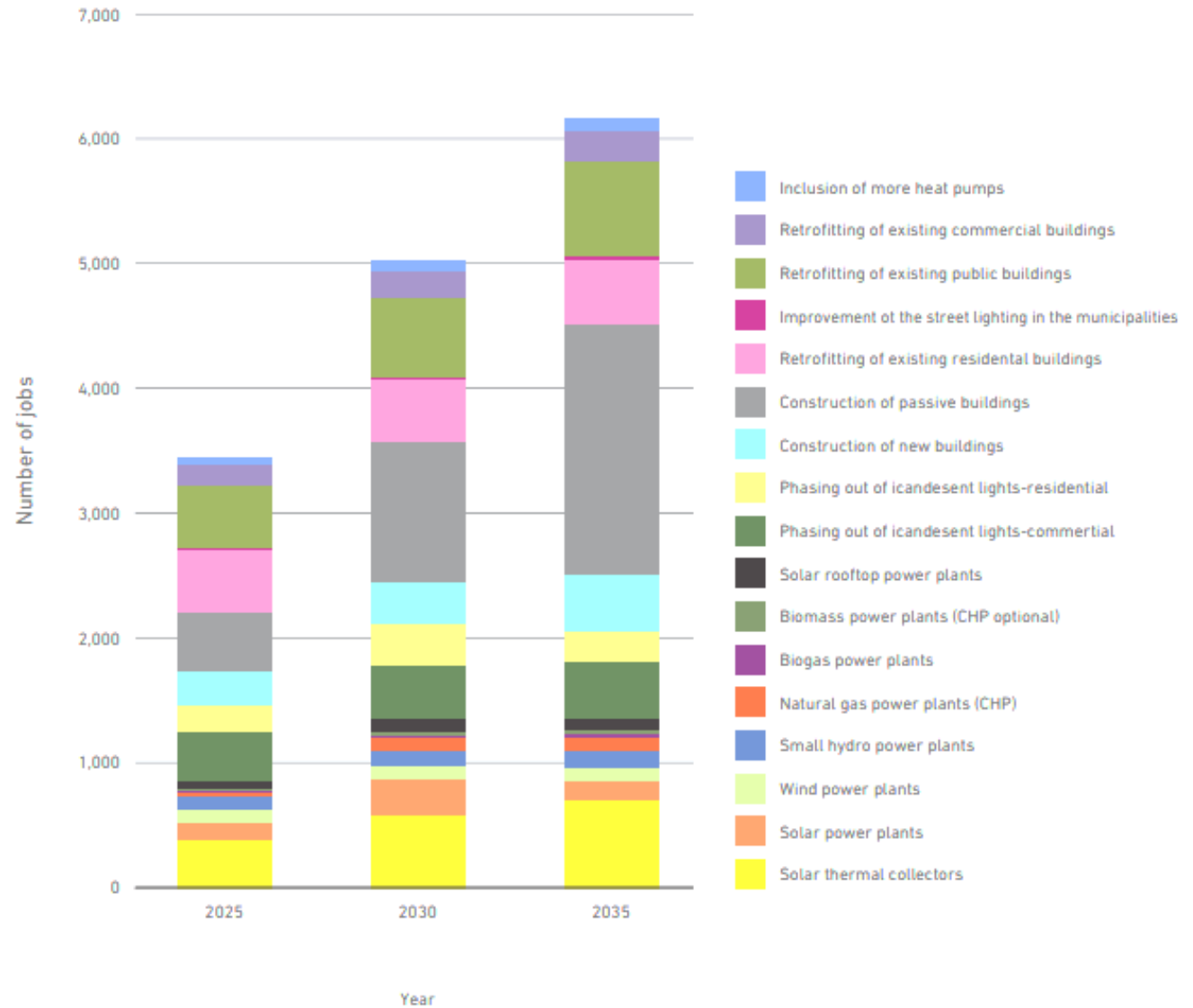
BRIEF REVIEW OF MINING CONDITIONS



Wages 2021 [EUR]	
Mining and extraction of stone	625
Extraction of coal and lignite	353
Extraction of metal ores	649
Extraction of other ores and stone	622
Auxiliary service activities in mining	481

	REK Bitola	REK Oslomej
Total employees	3116	1150
Mines	1514	554

Green Jobs potential



Source: Biennial Update Report, Ministry of environment and physical planning, 2018



Diversifying the economic model to become more knowledge-intensive and resource-efficient

Providing case- and place-specific incentives to attract foreign businesses in the regions.

Removing infrastructure barriers to scale up foreign investments in the regions.

Increasing the role of innovation in the local economy.



Making the regions more attractive for young people and enterprises

Green infrastructure

Smart cities

Innovation

Promotion of investments



Detaching the country's power production sector from increasingly uneconomic fuels

Increasing the clean energy storage capacity for creating jobs and balancing the country's energy system.

Increasing renewables penetration rates and the role of energy prosumers and communities in the energy system of North Macedonia.

Addressing mines' reclamation and repurposing.



Supporting people and communities affected by coal phaseout

Improving the skills of the existing labour force.

Increasing the employment potential of women and young people, including NEETs.

Enhancing the employability capacity of SMEs.

Improving training and employment services provided.

National Just Transition Roadmap - Needs and objectives

Needs	Objectives	Pathways	Expected results ⁴⁶
Diversifying the economic model to become more knowledge-intensive and resource-efficient	<ul style="list-style-type: none"> • Providing case- and place-specific incentives to attract foreign businesses in the regions. • Increasing the role of innovation in the local economy. • Removing infrastructure barriers to scale up foreign investments in the regions. 	<ul style="list-style-type: none"> • Private Investments and Startup Economy Pathway 	<ul style="list-style-type: none"> • Cumulative GDP (gain) • Employment change (increase) • (Energy) Import dependency (reduction) • Energy-related CO2 emissions (reduction) • Non-energy-related CO2 emissions (reduction) • Overall RES share (increase) • Energy savings in final energy consumption (increase)
Making the regions more attractive for young people and enterprises	<ul style="list-style-type: none"> • Improving the quality of life in cities and settlements. 	<ul style="list-style-type: none"> • Green and Smart Infrastructure Pathway 	
Detaching the country's power production sector from increasingly uneconomic fuels	<ul style="list-style-type: none"> • Increasing the clean energy storage capacity for creating jobs and balancing the country's energy system. • Increasing renewables penetration rates and the role of energy prosumers and communities in the energy system of North Macedonia. • Addressing mines reclamation and repurposing. 	<ul style="list-style-type: none"> • Clean Energy Pathway 	
Supporting people and communities affected by coal phaseout	<ul style="list-style-type: none"> • Improving the skills of the existing labour force. • Increasing the employment potential of women and young people. • Enhancing the employability capacity of SMEs. • Improving training and employment services provided. 	<ul style="list-style-type: none"> • Skills Development Pathway 	

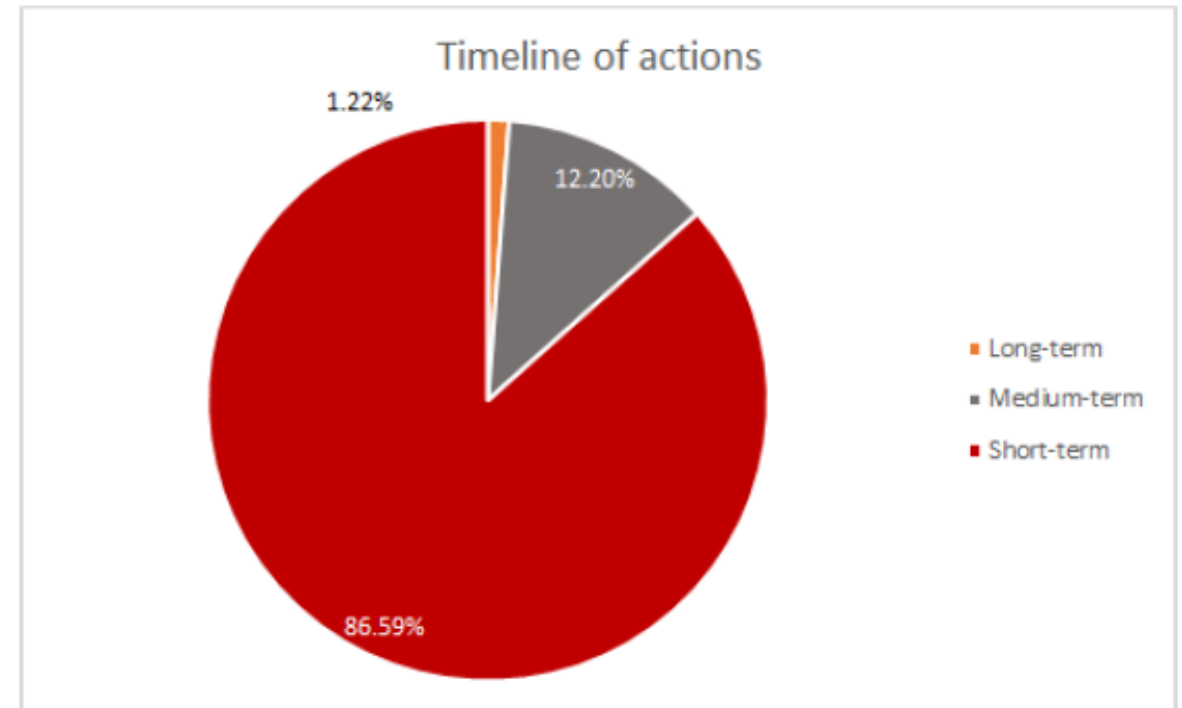


National Just Transition Roadmap - Pathways

Source: Just Transition Roadmap, Planet, Ministry of Economy, 2023

Timeline and cost (until 2050)

- Depending on scenario range between EUR 29.40 million/ year (in total EUR 1,088.1 million) to EUR 44.55 million/ year (in total EUR1,648.4 million)



	Unit	Baseline (2050)	Green(er) scenarios (2050)
Gains in cumulative GDP (2025-2050)	per cent (compared to the Baseline)	0	(-)0.1 - (+)0.54
Employment change	Number of jobs (compared to the Baseline)	0	(+)26,810 – (+)34,770
(Energy) Import dependency	%	77.5	22.2 - 32.8
Energy-related CO ₂ emissions	Mt	6.038	0.612 - 1.207
Non-energy-related CO ₂ emissions	Mt	1.072	0.783 - 0.883
Overall RES share ⁹³	%	24.4	67.4 - 87.1

	Unit	Baseline (2050)	Green(er) scenarios (2050)
Energy savings in final energy consumption	as % (compared to FEC of Baseline)	-	(-)25.1 - (-)32.2
Heat pumps ⁹⁴ in heating & cooling	as % of useful energy	0	10-50
Solar thermal collectors & heat pumps in water-heating	as % of useful energy	2.5	5.6-10

National Just Transition Roadmap - Indicators

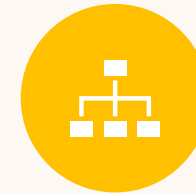
National Just Transition Roadmap - Model



Specific commitments on coal phaseout – Governmental decisions



Council for Just Transition - composed of relevant ministries that will politically steer the just transition



Just Transition Secretariat – composed of relevant institutions and experts to overcome any bottlenecks in the communication between entities of the same tiers and entities in different tiers of the governance system and speed up just transition.



Working groups - stakeholder consultation



Regional Fora – similar to the Council but on regional level



National Investment Committee - a body to negotiate a partnership agreement with international donors

Summary



National goals

To phase out coal until 2030



Potential

The potential is sufficient to ensure the national goals



Social aspects to energy transition

There is influence, both positive and negative to energy transition – needs to be addressed as early as possible



Green jobs opportunities

The energy transition will create opportunities – cca. 7000 green jobs



Measures to ensure Just Transition

Necessity

Thank you for your attention



Sashe Panevski



sashe.panevski@gmail.com