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Foster Research Excellence for Green Transition in the Western Balkans

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## List of Abbreviations

**AL:** Albania  
**BA:** Bosnia and Herzegovina  
**CO<sub>2</sub>:** Carbon Dioxide  
**CSO:** Civil Society Organizations  
**DRR:** Disaster Risk Reduction  
**EBRD:** European bank for reconstruction and development  
**EU:** European Union  
**EU ETS:** EU Emissions Trading System  
**GT:** Green Transition  
**KPI:** Key Performance Indicators  
**ME:** Montenegro  
**MK:** North Macedonia  
**MOEPP:** Ministry of Environment and Physical Planning  
**MTC:** Ministry of Transport and Communications  
**NGO:** Non-governmental organisation  
**PAR:** Public administration reform  
**QH:** Quadruple Helix  
**RS:** Serbia  
**SW:** Southwest  
**TJTP:** Territorial Just Transition Plans  
**RRI:** Responsible Research and Innovation  
**WB:** Western Balkans  
**WBC:** Western Balkan countries

(this list does not include abbreviations of mapped stakeholders, that are included in the respective tables as suggested by the report outline)





## Preface

This report is the second deliverable of WP4 – Measuring and assessing impacts and costs of a just green transition in the Western Balkan (WB), of the GreenFORCE project. It has been jointly authored by the WB project partners, as well as 2 subcontracted parties from the region.

The European Union Economic and Investment Plan for the Western Balkans outlines a comprehensive strategy to support green transition and sustainable development in the region towards a carbon-neutral economy. Such a shift will surely challenge the economies and societies in the WB. The social and policy contexts are yet fragile to allow for development and mass distribution of green transition technologies, while human resources are not prepared and/or are insufficient to produce and implement innovation. The research conducted in WP4 will inform on the readiness/potential of societal actors (industry, academia, policy makers, civic society) to embrace the pathways to transformation, and will propose a framework for continuous monitoring of impacts and costs. The key findings and lessons learnt derived within WP4 will be transferred into the scientific papers and policy briefs (WP 2 & 3) and published under the dissemination events (WP5).

The regional mapping is a key task for the research that will be conducted throughout the GreenFORCE project, contributing to initial data gathering and the refinement of the research proposals, and to the sub-question on the identification of sectors and territories affected by the transitions and current progress of transition practices. This is a participatory mapping, engaging local stakeholders and communities to reveal local knowledge. Each WB partner will produce the respective country report, and Co-PLAN will work on the final regional report.

All WB partners, as well as two subcontracted countries, have contributed to the respective country-level mapping, using a common mapping framework (Annex 1). The framework contains the type of information to be collected, the standardisation of data entry, and the tailored instruments to be deployed for accessing information.



## 1. Introduction

This report aims to give findings from comparative research on GT processes through developed policies, engaged actors, and implemented practices and initiatives, identified on the territories of five Western Balkan countries (AL, BA, ME, MK, RS). These datasets serve as indications for the prospective results of the green transition as well as the immediate and long-term effects that society can anticipate. GreenFORCE partners will be able to assess the (Just) Green Transition system's performance, ability to achieve the green transition, challenges, and areas that require development based on the findings of the analysis of the JGT system in WB. The mapping report's specific goal is to highlight the elements of the Western Balkans' Green Agenda that are more embedded to the current national policy frameworks and those that require additional support in reaching the 2030 GT targets.

### 1.1 Outline of this deliverable

The regional mapping report is authored by Co-PLAN, CEA, UB-GEF and by supporting expertise and reviewed by POLITO. The report is divided into 4 main chapters.

**Firstly**, an overview of the employed methods of mapping is presented, followed by the components of this mapping framework.

**The second chapter** is dedicated to country-level mapping and displays key findings from the mapping process on green transition policies, stakeholders and practices for each participating WB country. It is to be noted that 5 out of 6 WB countries are represented in this report.<sup>1</sup> For each national report, the authors have included an introductory summary of the main mapping techniques employed and the challenges faced. Following, the report focuses on each country's policies, stakeholders and practices with focus on green transition, as an interpretative overview of the mapped dataset (attached as Annex 2)

Some of the following questions are answered throughout these subchapters:

- Which pillar of the Green Transition policy framework is most represented?
- Which territory had the most relevant stakeholders?
- Which category of the quadruple helix was most relevant when implementing GT policies? Where?
- Are there any regional specificities in terms of typology of stakeholders engaged in GT?
- Are sufficient practices identified in general?
- What typology of practices is predominant? Where and why?
- To which sector do most GT policies belong to?

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<sup>1</sup> As per GreenFORCE grant agreement, WB partners mapped and drafted the reports for their own countries (Albania, North Macedonia and Serbia). A call was issued for subcontracted expertise to do the mapping on green transition for 2 more WB countries, and, following PRAG procedures, the 2 individuals/companies that were selected were from Bosnia and Herzegovina, and Montenegro. These experts have contributors in this deliverable in the respective national-level mapping reports.



Lastly, each partner identified some challenges, strengths, opportunities and threats for the progress in GT, and gave some general recommendations and insights on the potential funding and implementation mechanisms.

**The third chapter** illustrates a common outlook into the 5 WBC and summarizes the findings per territory, highlighting main commonalities between countries, as well as any potential outlier. This chapter is not comparative and does not aim to show the progress of each country in reaching the Green Agenda targets. However, it

Finally, **the fourth chapter** includes general remarks and recommendations for furthering the mapping, lessons learned, and the integration of the findings with other deliverables within the GreenFORCE project.

## 1.2 Search/Mapping techniques

This chapter presents the set of tools developed for mapping Green Transition of the five WBCs. With reference to the content of the mapping toolbox, it consists of **four separate mapping tools** and corresponding guidelines. The overall development, structure and content of the mapping tools take into account two major aspects: a) the features of the five WB territories that need to be mapped and examined in correspondence to Green Transition initiatives that will be implemented; b) previous literature and tools, in terms of mapping frameworks/methodologies and mapping-related procedures of other projects. It should be noted that data collected by these mapping tools are not exhaustive, nor do they provide a complete (and sole) overview of the policies, stakeholders and practices related to green transition.

The mapping tools that were employed at national level for the WB countries are:

1. Database of green transition -related practices and initiatives
2. Database of key actors involved in Green Transition
3. Database of green transition -related practices and initiatives
4. Territorial opportunities and challenges for Green Transition (SWOT analysis)

The mapping process has been designed in such a way that beneficiaries outside the project consortium can use (exploit) it. National policymakers and actors implementing GT policies and practices can obtain a better understanding of the interrelated policies and use the mapping results to benchmark and compare the situation. The rationale underlying the development of the second mapping tool refers to gaining more detailed insights on the target territories. More precisely, by mapping and collecting such information, there is an opportunity to investigate the engagement of stakeholders within practices and policies. As argued by Panciroli, Santangelo and Tondelli (2020), requiring and then collecting data on such practices and initiatives helps determining territorial 'commitment' to specific (green transition) research aspects/dimensions.



The mapping techniques employed in this report are based on the mapping conducted through the WBC-RRI.net project<sup>2</sup>, specifically *D1.1: Set of mapping tools*, highlighting RRI stakeholders, practices and policies in the Western Balkans. A series of other mapping tools and inspirations are references, as follows:

- Map of the territorial milieu, [TeRRitoria project](#)
- [The Actor and Policy Making tool](#), New Climate Institute
- [Guidelines for territorial mapping](#), CHERRIES project
- [Mapping RRI Dimensions and Sustainability into Regional Development Policies and Urban Planning Instruments](#)
- etc

Moreover, the mapping framework builds intensively on EC-s Guidelines for the Implementation of the Green Agenda for the Western Balkans<sup>3</sup>, as well as the Action Plan of the Green Agenda for the Western Balkans<sup>4</sup>.

### 1. Database of territorial policies for green transition

The first mapping tool refers to an observation of national and/or territorial policies, which are currently in place or were implemented in the last decades. These can concern: a) each pillar of green transition as defined in the Action Plan of the Green Agenda for WB; b) sectors where these green transition policies are implemented; c) implementing stakeholders; etc. While conducting the mapping process, each partner was encouraged to place a bigger focus on policies relevant to the scientific scope of their research initiative. Furthermore, the report reflects on whether and how the mapped policies can be positively capitalised for developing the research initiatives (or if they create any challenges/obstacles).

In this framework, the GT pillars mapped were as follows:

- Decarbonisation: Climate Change;
- Decarbonisation: Clean Energy Transition;
- Decarbonisation: Smart and sustainable Mobility;
- Circular Economy: Resources, Production and Innovation;
- Circular Economy: Waste and Plastics;
- Depollution: air;
- Depollution: water;
- Depollution: soil;

<sup>2</sup> [WBC-RRI.net](#) is a Horizon 2020 Project funded under Grant agreement No. 101006279, aiming at 'Embedding RRI in Western Balkan Countries through Enhancement of Self-Sustaining R&I Ecosystems'. Co-PLAN is one of the implementing partners of this project

<sup>3</sup> [https://neighbourhood-enlargement.ec.europa.eu/system/files/2020-10/green\\_agenda\\_for\\_the\\_western\\_balkans\\_en.pdf](https://neighbourhood-enlargement.ec.europa.eu/system/files/2020-10/green_agenda_for_the_western_balkans_en.pdf)

<sup>4</sup> <https://www.rcc.int/docs/596/action-plan-for-the-implementation-of-the-sofia-declaration-on-the-green-agenda-for-the-western-balkans-2021-2030>



- Sustainable Food Systems and Rural Areas;
- Biodiversity: Protection and Restoration of Ecosystems

Moreover, among the sectors that were mapped, the following were listed:

- Water; Transport; Regional Development; Environment; Climate; Spatial Planning; Education; Housing; Mobility Infrastructure; Health; Social Welfare; Agriculture; etc.

## 2. Database of key actors involved in Green Transition

This mapping tool relates to the establishment of a database of key actors for each WB territory. The aim was for each WB partner to map any Quadruple Helix (i.e. Academia/Research, Industry, Government actor, Society-Citizen representatives) territorial actors involved with policies or practices that promote green transition. The QH categorization seeks to involve all four sectors in innovation processes, thereby promoting social and economic development, as well as environmental sustainability (Höglund, et al, 2018). Within the context authors mapped the key actors found at various levels (national, territorial, regional, local).

The purpose of this mapping process was to identify and establish the relevance of stakeholders and territorial actors to green transition, and at a second stage engage them in the activities relevant to the research cases. Partners were called to reflect upon the mapped actors' influence, as well as upon the importance of engaging them in research.

## 3. Database of green transition practices and initiatives

A database of green transition related practices and initiatives constitutes the third mapping tool. In this mapping template (C), partners included examples of practices and initiatives that can be associated with any of the green transition sectors and pillars. The terms practices and initiatives refer to institutional/organisational practices (e.g. trainings/mentoring programs provided), Institutional Policies (systematized, e.g. Gender Equality/Ethics Committees), Educational courses, Declarations of Principles (e.g. statements that an organisation is an equal opportunity provider), Events (encompassing conferences, workshops etc.). It should be noted that projects (EU, national, regional etc.) should not be included in the database of practices and initiatives. These are mapped in template A (database of key actors), as a piece of information in relation to the mapped actors and as an indication of the mapped actors' innovative behaviour. However, if a course, event, institutional practice etc. was initiated within the context of a project, this can be mapped in the database of practices and initiatives (but not the project per se).

## 4. Territorial opportunities and challenges for green transition

The observation grid of territorial/national opportunities and challenges for green transition is the fourth and final tool of the GreenFORCE mapping toolbox. This observation grid is actually depicted in the form of a SWOT analysis,



which lists and explains aspects and conditions that favour or hinder green transition at a national level. The value of the SWOT analysis also lies in the fact that once completing it, partners shall make a holistic assessment of the impact of a mix of helpful and adverse influences affecting the potential of their region to implement green transition research.

The SWOT analysis was based on the following instructions:

Strengths	Weaknesses
List the <u>strengths of your region (positive internal features)</u> in terms of Green transition	List the <u>weaknesses of your region (negative internal features)</u> with reference to Green transition
Opportunities	Threats
List <u>territorial opportunities (positive external factors)</u> for green transition. These may refer to legislative frameworks, regulations, demographic aspects, research strategies, past or upcoming business plans, societal concerns, or any other aspects that favour Green Transition.	List <u>territorial threats (negative external factors)</u> for green transition. These may refer to legislative frameworks, regulations, demographic aspects, research strategies, past or upcoming business plans, societal concerns that hinder the green transition.

A summary of the dataset structures can be found in Annex 1.

### 1.3 Summary of research cases per country

The mapped policies, practices and stakeholders served, inter alia, as a background for capitalization and enhancement of the country-based research on the assessment of cost and benefits for GT in 5 WB territories. Following is a brief summary of the research proposals per country (D4.5 and D4.6)

#### 1.3.1 Albania

*Title: Assessing Benefits and Implications of Decarbonization for Climate Neutrality in Post-Communist Urban Neighborhoods of Albania through simulation of practices of Renewable Harvesting and Energy Efficiency.*

The overall objective of the research is to contribute to the preparedness of institutions and society in Albania on the implications and impacts of decarbonization for climate neutrality in the perspective of JGT. It does so, by identifying and assessing ex-ante the expected benefits and costs of transiting to zero emission buildings in



neighborhoods of pre-fabricated residential buildings (apartments, concrete pre-fabricated panels, built during 1970-1985) in Tirana.

The proposed research looks at the following socio-economic and environmental components:

- a. Building renovation schemes and modalities to increase **Energy Efficiency**;
- b. Harvesting solar energy through rooftop photovoltaics, **renewable deployment**;
- c. **Nature based Solutions (NBS)** for Energy Efficiency, Rainwater Harvesting and Depollution;
- d. Assessment of the **social-economic** profile and readiness of the families to engage with the transition, including energy poverty status for households if the case.
- e. Local and National framework to ease deployment of renewables for self-consumption purposes through feed-in tariff.

**Related GT pillars:** Decarbonisation (Climate Change; Clean Energy Transition); Circular Economy (Waste and Plastics); Biodiversity: Protection and Restoration of Ecosystems

### 1.3.2 Bosnia and Herzegovina

*Title: Assessing local economic and employment impact of JGT*

The proposed research aims at analysing the possible impact of future coal mine closure on coal sector workers as well as workers in other economic sectors linked to the coal value chain. The analysis will present a labour market perspective on the transition, focusing on jobs and skills within the BA labour market context, and especially within local labour markets.

While the research proposal for this case study is still at a preliminary phase, some following methodological tools are presented as below:

- The analysis will provide estimates on the level and characteristics of potentially affected workers (including their occupation/education profiles) and compare these with the jobs that are currently present in BA (at the entity level) as a reflection of alternative employment options for displaced workers.
- A qualitative analysis will be conducted as part of this research to better understand (i) the potential impact of coal mine closure on suppliers in the coal value chain, (ii) suppliers' perceptions of likely impacts, and (iii) their planned coping strategies in the face of future mine closures.

**Related GT pillars:** Decarbonisation (Clean Energy Transition)

### 1.3.3 Montenegro

*Title: Assessing potential of RDF – Refused Derived Fuel from Urban Waste and SRF-Solid Recovered Fuel from industrial waste that could be produced, marketed and co-processed.*



The research **aims** to assess the possibilities of using pre-defined waste streams as a source for alternative fuel production in the territory of Podgorica as a means towards green transition (Green Agenda for Western Balkans). The scope of the research will be to assess the current situation on waste management (regulatory framework, stakeholders, action plans, achievements and long-term objectives, commitments in green transition), the current state of play in applying the waste management hierarchy and circular economy, and the assessment of the potential for alternative fuel production from specific waste streams (for Podgorica region).

The outcome of the research contributes to:

- a) increased awareness of Green Transition issues related to the waste management sector in Montenegro;
- b) exploration of the potential for alternative fuel production to reduce dependency of fossil fuels;
- c) increase the competitiveness of Montenegrin businesses in international market;
- d) reduce the carbon footprint through the substitution effect with alternative fuels;

reduce the quantity of waste deposited in landfills.

**Related GT pillars:** Circular Economy (Resources, Production and Innovation; Waste and Plastics)

#### 1.3.4 North Macedonia

*Title:* Implications of Transition in the Energy Sector at the Regional Level, North Macedonia

The objective of the research is to analyze and assess the state of the 'green transition' policies and implications in North Macedonia. The scope of the research is territorially focused on the Southwest - Kichevo region, in the process towards decarbonization via retiring coal electricity production. Furthermore, the research aims to examine the state of the policy development aspiring towards the EU's Territorial Just Transition, through a focused analysis of the socioeconomic and governance implications and impacts. The research belongs to the decarbonization pillar of the green transition, precisely in just transition processes of the coal-dependent regions.

The outcomes of the research contribute to:

- a) examining the process development on a national and local level towards the aspiring EU-required Territorial Just Transition Plans (TJTP), with a special focus on the Southwest (SW) planning region in North Macedonia where one of the oldest polluters – thermoelectric power plant is located.
- b) the socio-economic and governance impact assessment for the SW planning region as a necessary part of potential preparation to mirror the EU's Territorial Just Transition.
- c) identifying and assessing the level of preparations and the approach taken so far (if any) and plans undertaken to consider the socio-economic impacts of the transition through decommissioning one of the oldest thermoelectric power plant located in the Southwest region.

**Related GT pillars:** Decarbonisation (Climate Change; Clean Energy Transition)





### 1.3.5 Serbia

*Title: Assessing the transformation of the public transport system from conventional to sustainable (green) in the framework of the Kragujevac Sustainable Mobility Strategy, Serbia*

The research aims to define a scenario (or several scenarios) with highest impact in increasing the share of public transportation use, and therefore decreasing pollution in central areas in the Municipality of Kragujevac. The scope of the case study will be to analyse how the Sustainable Mobility Strategy currently adapted by the municipality may be enhanced to employ depollution measures in the sector, and to demotivate the use of individual vehicles, ensuring highest socio-economic impact. The main result of the research will be to provide a step-by-step model for transitioning to a carbon-free public transport system in municipalities in Serbia.

Some of the research activities include:

- a) integral consideration of the legislative and planning framework as a prerequisite for quality traffic solutions. At the same time, technical solutions will be behold through the impacts on the environment (and potential reduction of air pollution in Kragujevac among other benefits in terms of switching to electric buses ), economic effects on the overall budget of the city and through behavioural changes of the people and their habits, which will lead to an increase in the overall quality of the people living in the city.
- b) input-output analysis, indicating a causal connection between the change in the type and the increase in the speed of communication and the quality and traffic safety.
- c) a cost-benefit analysis, linking the cost-effectiveness of new solutions and the selection of the site and the way in which this activity will be implemented.
- d) using indicators related to travel time, fuel consumption, destination accessibility, communication coefficients, number of transported passengers, etc. The simulation of future solutions will be discussed by setting up several initial scenarios and, finally, selecting the best solution through as objective as possible (quantified) valuation process.
- e) discussing about the effects of reducing air pollution in the city on the entire population in terms of exposure

**Related GT pillars:** Decarbonisation (Smart and sustainable Mobility); Depollution: air;



## 2. Mapping the Green Transition policies, stakeholders and practices in each WB country

This chapter presents the data that were collected with reference to each one of the WB countries participating in GreenFORCE: Albania, Bosnia and Herzegovina, Montenegro, North Macedonia, and Serbia.

### 2.1 National Mapping Report – Albania

The mapping process's goal was to collect preliminary data, develop the research plan, and identify sectors and territories affected by transitions as well as existing progress in transition practices. In Albania, the mapping identified actors, practices, and policies connected to green transition in numerous sectors. The mapping framework has included the type of information to be collected, standardization of data entry, and tailored instruments for gathering information, such as desk research, meetings with relevant actors and sectorial initiatives, and site visits to observe activities and territories that are or should be transitioning.

This report is mainly designed through desk research, which comprises domestic and international publications as well as other open source information connected to relevant domestic national and subnational legislation, policy documents, initiatives, and so on for the Green Agenda's implementation. When assessing level of importance of policies, capitalization potential of practices, and level of engagement of stakeholders, the mapping process included a wider array of contributors in informal focus group discussion.

A few interviews and references of secondary data were addressed, to validate some of the findings. Furthermore, during the interpretation of the national policies related to green transition, the authors reference some insights from the National Forum on Climate Change, organized on 28.03.2023 in the framework of the Green-AL project<sup>5</sup>. These included researcher's expertise, as well as input from dozens of environmental CSO-s, who signed a joint declaration for policy recommendations to mitigate climate change effects. Moreover, several research papers and academics were referenced for these interpretations, as part of the desk research.

#### 2.1.1. Identification of territorial policies in Albania

The general overview of the GT-related policies in Albania suggests that there is some progress attained for the implementation of the Sofia Declaration, but there is still considerable effort to be mobilized in drafting laws and bylaws based on research evidence to facilitate the transition to carbon neutrality. In the framework of this mapping process, a total of **35 policies** were identified, divided almost equally between national laws and strategies and/or plans. Most of these policies are implemented by the Ministry of Tourism and Environment at a national territorial

<sup>5</sup> 'Green-AL – Empower Grass-Root CSOs for Improved Innovative Environmental Protection in Albania' is a project implemented by Co-PLAN, CISP Sviluppo dei Popoli, VIS Albania, and COSV – Cooperazione per lo Sviluppo. and funded by SIDA the Swedish International Development Cooperation Agency

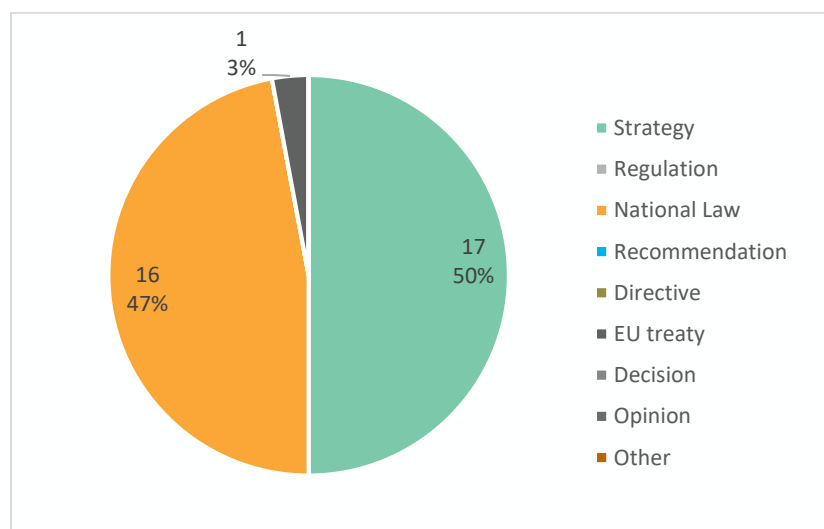


level. Only around 1/3 of the mapped policies are implemented at territorial level, either on a municipal level, or at integrated territorial level. It is to be noted that the mapping process did not consider all planning, environmental protection, DRR plans at local level, but only those initiatives that stand out, may be capitalized on, and propose an innovative approach or a roadmap to tackle the commitments from the Sofia Declaration.

The current policy for green transition in Albania aims to reduce greenhouse gas emissions, improve energy efficiency, and protect the environment, as follows:

- Promoting renewable energy sources: Albania has previously committed to increase the share of renewable energy sources in the energy mix to 38% by 2020 and 100% by 2030.
- Reducing CO<sub>2</sub> emissions: The Prime Minister has declared that CO<sub>2</sub> and GHG emissions will be reduced by 45% by 2030 and by 100% by 2050. Nevertheless, these commitments are not displayed in any policy yet.
- Improving energy efficiency: Albania targets a reduction in energy consumption by 9.6% by 2030.
- Encouraging sustainable transport: The policy aims to promote the use of electric cars and reduce the number of polluting vehicles on the roads.
- Promoting green jobs: The Green Transition Policy aims to create new green jobs in the energy sector, sustainable agriculture, and waste management.
- Protecting the environment: The policies implemented by the Ministry of Tourism and Environment emphasize the need for environmental protection and the conservation of natural resources. However recent

**Figure 1.** Total number of policies mapped per category, Albania

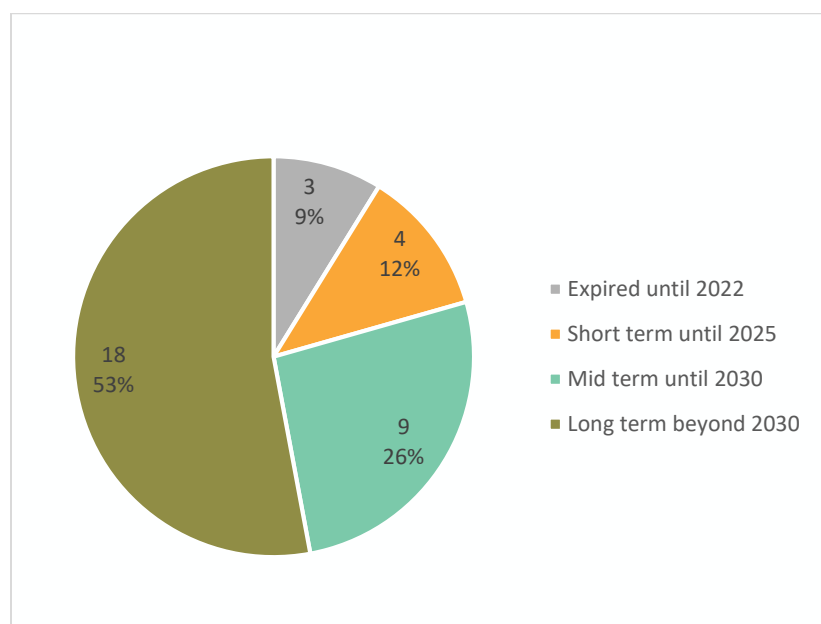


Source: Mapping dataset, Co-PLAN 2022



These commitments go in line with the mapped policy's timeframes, where most of them are national laws, therefore will be implemented in the long-term period. Out of this category of policies, the oldest ones are Law nr. 9244 dated 17.06.2004 For Agricultural Land Protection; and Law nr. 9587, date 20.07. 2006 For Biodiversity Protection; which have not been drastically updated since. Nevertheless, the efforts to develop green policies can be dated back to 2017, with the Law nr.7/2017 "For the Use of Renewable Sources of Energy Promotion"; and have expanded after the Sofia Declaration with the updated laws on civil protection and forestry, as well as Law nr 155/2020 for Climate Change. As far as strategies goes, most of the strategies in place are implemented until 2030, in line with the green transition policies. Nevertheless, since in Albania there was a significant territorial planning reform in 2014, a series of territorial plans were drafted for a 15-year time-frame. Their implementation period coincides and is aligned with the implementation period for climate, waste and energy-related strategies, such as National Strategy of Energy; National Strategy and Action Plan for Climate Change; National Sectorial Strategy of Integrated Solid Waste Management and the National Plan for Energy and Climate. A very limited number of related policies are already expired (3 out of 35), and need to be either updated, or integrated to the above-mentioned strategies mid-term review.

**Figure 2.** Total number of policies mapped per timeframe, Albania



Source: Mapping dataset, Co-PLAN 2022

The Environment sector takes up the most significant share of the mapped policies, with 9 focusing on environment as primary sector. Nevertheless, the mapping process took into consideration all sectoral and cross-cutting policies that may be influencing and interlinked with the green transition pillars, therefore the spatial planning and climate sector are well-represented (with 6 policies each), followed by the transport and water sector. Around one sixth of

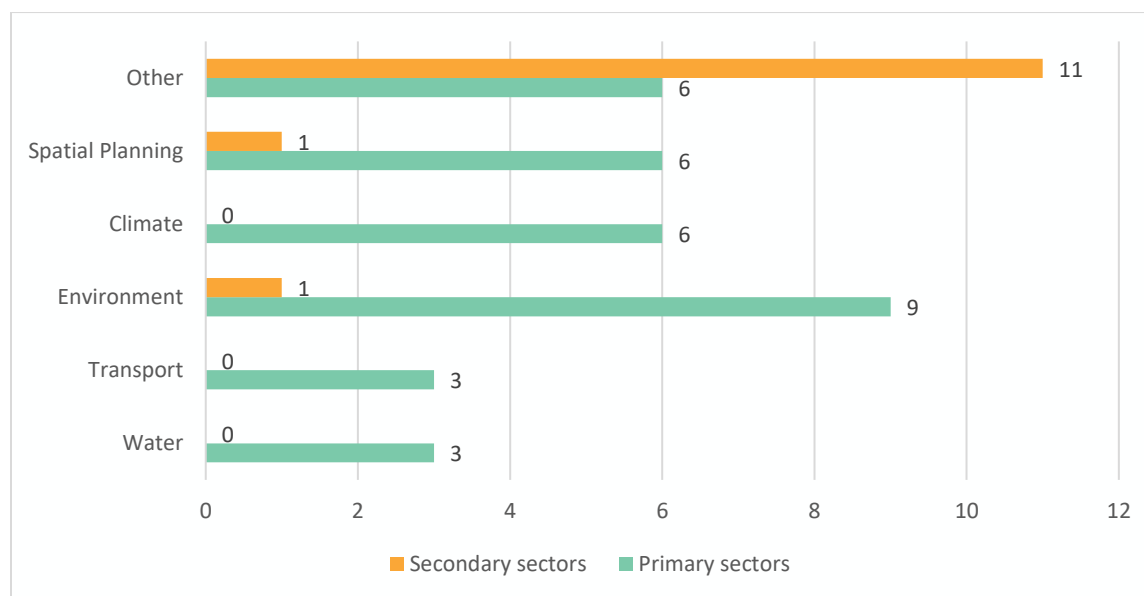


policies were too specific to be identified within one of the sectors and were mapped as 'Others'. They mainly include policies directly related to energy.

Moreover, among all policies mapped, the most common pillar of the Green Agenda that is addressed is Decarbonisation, especially in relation to climate change and clean energy transition. These policies indeed make for most of the newly established legislation and strategic framework developed in Albania in the last 5 years. These initiatives include, among others, the National Plan for Climate Change 2017-2020 and the National Energy Efficiency Action Plan 2020-2030. Furthermore, Albania is a signatory to the Paris Agreement, which is a legally binding international agreement on climate change. The agreement's goal is to limit global warming to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C. Albania has also stated its intent to transition to renewable energy sources, such as hydropower, solar, and wind energy.

The pillars of biodiversity and sustainable food systems are also well-represented in this mapping. Nevertheless, in the case of the 'sustainable food system' pillar, most policies that were mapped are cross-cutting and territorially related (for example, the Inter-sectorial integrated Plan of the Coastal Area), and do not treat specifically food production and sustainable farming. Such policies are in place in Albania but were not comprehensively included in this report.

**Figure 3.** Primary and secondary sectors mapped per policy, Albania



Source: Mapping dataset, Co-PLAN 2022

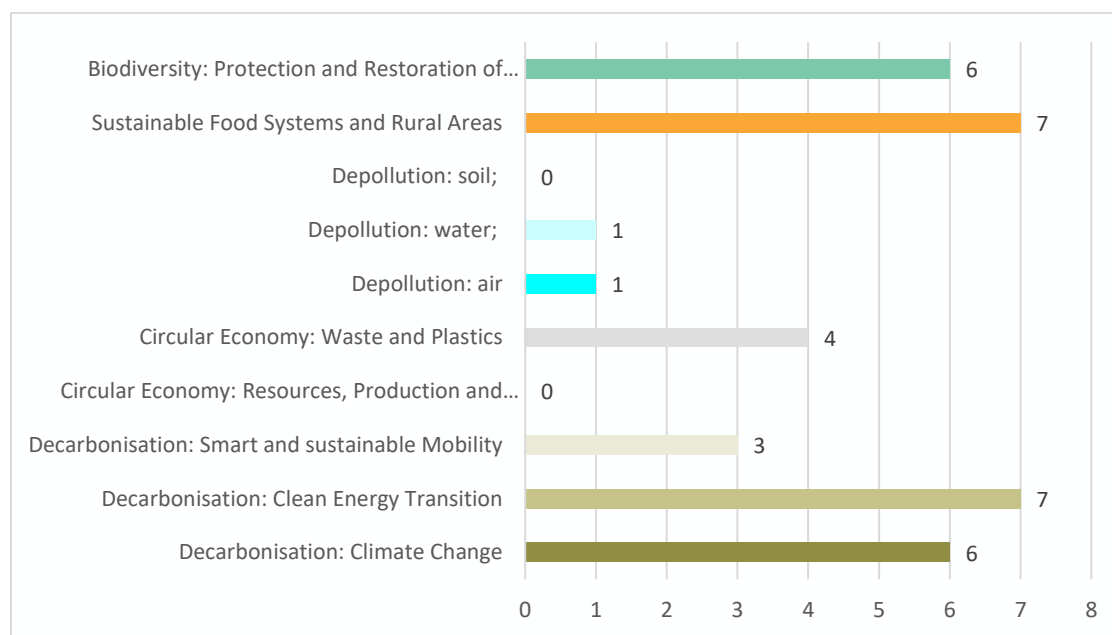
The depollution pillar is only covered through 2 policies: Law nr 111/2012 For the Integrated Management of Water Resources, and Law No. 162/2014 for the protection of air quality. Both are considered of high relevance to the green transition process, and face challenges in implementation and monitoring, as well as in development of



bylaws. Nevertheless, there are considerable efforts in developing strategies, i.e. The National Air Quality Action Plan; and The National Water Management Plan.

The circular economy pillars are well-represented by the current legislation on waste management; national strategy on integrated solid waste management, and an example of a local waste management plan, where circularity concepts are piloted at city scale. Albania does not have a specific circular economy policy, but some initiatives have been taken towards this direction. In 2018, the National Environment Agency (NEA) developed a document called "National Waste Management Strategy 2018-2027," which highlights the importance of the circular economy concept in waste management. The document aims to reduce waste generation and promote recycling and reusing, among others. Furthermore, Albania is in the process of adopting the European Union's Waste Framework Directive (2008/98/EC), which outlines the gener

**Figure 4.** Number of mapped policies per Green Transition Pillar, Albania



Source: Mapping dataset, Co-PLAN 2022

This report highlights some of the policies that have the potential to be capitalized and addressed in the research case for Albania, *Assessing Benefits and Implications of Decarbonization for Climate Neutrality in Post-Communist Urban Neighbourhoods of Albania through simulation of practices of Renewable Harvesting and Energy Efficiency*. They are shown in the table below. The level of impact of the mapped policies was assessed by the authors based on the relevance of the policy to specific green transition pillars, the level of implementation (whether it is mandatory or not), the timeframe of implementation (whether it is expired, or short/mid/long term), etc. For example, in the table we can see that the legislation on territorial development is ranked as medium in impact. This



is because it is a comprehensive law, tackling all sectors, therefore impacting green transition in general. Nevertheless, it does not set KPI-s or targets for GT specifically. In the case of the Green City Action Plan of Tirana, we have specific targets addressed for GT pillars. Nevertheless, the current implementation status of such plan is poor. This is the reason why the level of impact is ranked as medium.

**Table 1.** Overview of all policies that have potential for capitalization, Albania

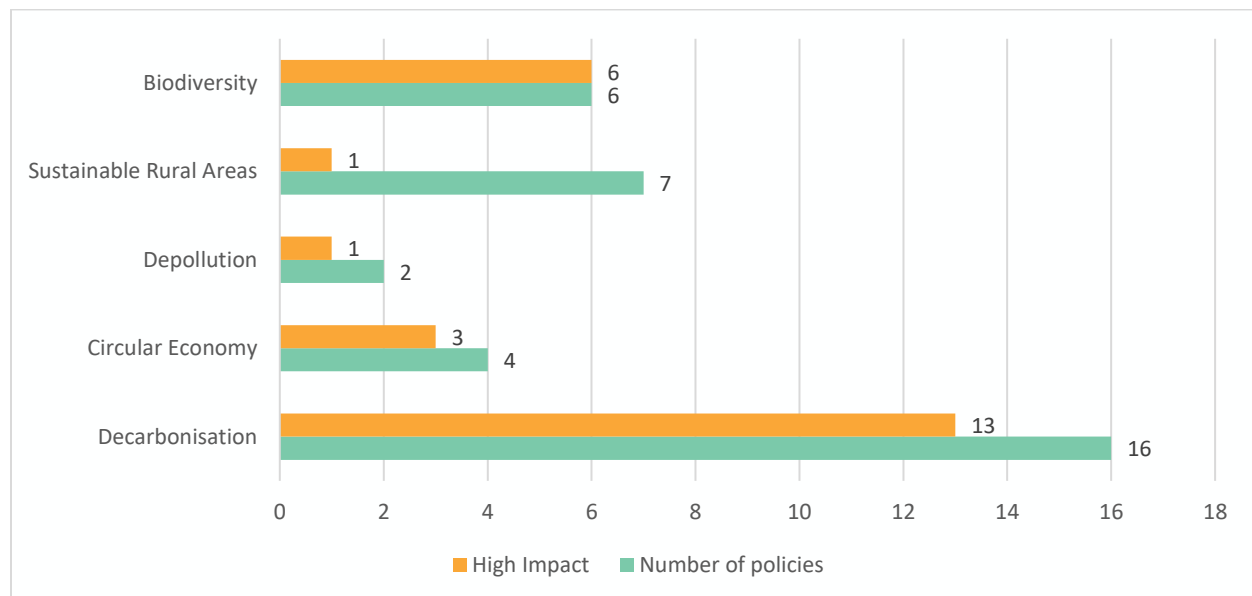
Name of policy	Main Actor Responsible	Related GT Pillars	Level of impact
<b>National Strategy of Energy</b>	Ministry of Infrastructure and Energy	Decarbonisation: Clean Energy Transition	High
<b>National Strategy and Action Plan for Climate Change</b>	Ministry of Environment and Tourism	Decarbonisation: Climate Change	High
<b>National Plan for Energy and Climate</b>	Ministry of Infrastructure and Energy	Decarbonisation: Clean Energy Transition	High
<b>Law nr.107 date 31.07.2014 for "Territorial Development and Planning"</b>	Ministry of Infrastructure and Energy	Sustainable Food Systems and Rural Areas; Biodiversity Preservation; Depollution	Medium
<b>Law nr. 138/2013 "For the Renewable Energy Resources"</b>	Ministry of Infrastructure and Energy	Decarbonisation: Clean Energy Transition	High
<b>Law nr 124/2015 "For Energy Efficiency"</b>	Ministry of Infrastructure and Energy	Decarbonisation: Clean Energy Transition	High
<b>Law nr.7/2017 "For the Use of Renewable Sources of Energy Promotion"</b>	Ministry of Infrastructure and Energy	Decarbonisation: Clean Energy Transition	High
<b>Law nr.116/2016 "For Energy Performance of the Buildings"</b>	Ministry of Infrastructure and Energy	Decarbonisation: Clean Energy Transition	High
<b>Local General Territorial Plan of Tirana</b>	Municipality of Tirana	Sustainable Food Systems and Rural Areas Biodiversity Preservation; Depollution	Medium
<b>Green City Action Plan of Tirana</b>	Municipality of Tirana	Decarbonisation: Climate Change	Medium

Source: Mapping dataset, Co-PLAN 2022



There is a myriad of policies that play an important role for the implementation of the proposed research and may be capitalized on. Most policies are related to the efforts mobilized in the country in addressing the energy sector (both energy efficiency and renewable energies), and others involve policies at territorial level (i.e. the general local plan of Tirana and the Green City Action Plan of Tirana). Therefore, it is expected that actors such as the Ministry of Infrastructure and Energy; the Ministry of Environment and Tourism and the Municipality of Tirana will play a significant role in the development of the research case, as main implementing partners of these policies.

**Figure 5.** Number of mapped policies per Green Transition Pillar / and the number of GT Policies ranked as 'high impact', Albania



Source: Mapping dataset, Co-PLAN 2022

Generally, most of the mapped policies are ranked as high impact, because of their alignment with the commitment to the Sofia Declaration. Only policies that are at very local level of influence, or outdated policies, are ranked as low, or medium impact. This was the case mostly for the sustainable food production pillar, where the mapped policies are peripherally related to the WB Green Agenda targets, and mainly cover the general sector of agriculture or rural development.

Albania can finance its green transition through various sources, including international grants, loans, and private investments. The country has already received funding from the European Union's Instrument for Pre-Accession Assistance (IPA) to implement green initiatives, such as the development of renewable energy sources and the improvement of energy efficiency in buildings. Furthermore, Albania has committed to achieving its 2030 climate targets under the Paris Agreement and has received funding from the Green Climate Fund to implement adaptation





and mitigation measures. The country can also attract private investments in renewable energy, such as hydropower, wind, and solar, which are abundant in Albania.

Albania can also mobilize funds from its domestic sources, including taxes on polluting activities, green bonds, and green banks. The Albanian government can impose taxes on carbon emissions, plastic bags, and single-use plastics, and use the revenue generated to finance green initiatives. The country can also issue green bonds to raise capital for renewable energy projects and use the proceeds to finance the green transition. Moreover, Albania can establish a green bank, similar to the European Investment Bank, to provide financing for sustainable infrastructure projects.

### 2.1.2 Key actors involved in Green Transition in Albania

In Albania, in the context of the Just Green Transition, a total of 45 actors were mapped, representing all quadruple helix stakeholders. The majority of them belong to the Government category (51%), which is responsible for steering the process of the Just Green Transition in the country, according to the engagement adhered to in the Declaration of Sophie. The other categories of actors mapped consist of 7 – 16% of the total number of actors. Generally speaking, the mapped actors are quite influential in the territory in different ways. The governmental actors are influential from a macro perspective through policies, laws and strategies. While the other categories of actors are more project or service-oriented, targeting specific areas of green transition, with the expectation of the academic actors which also have educational importance. Most actors are orientated towards the decarbonization pillar of green transition, focusing on energy transition and climate change mitigation.

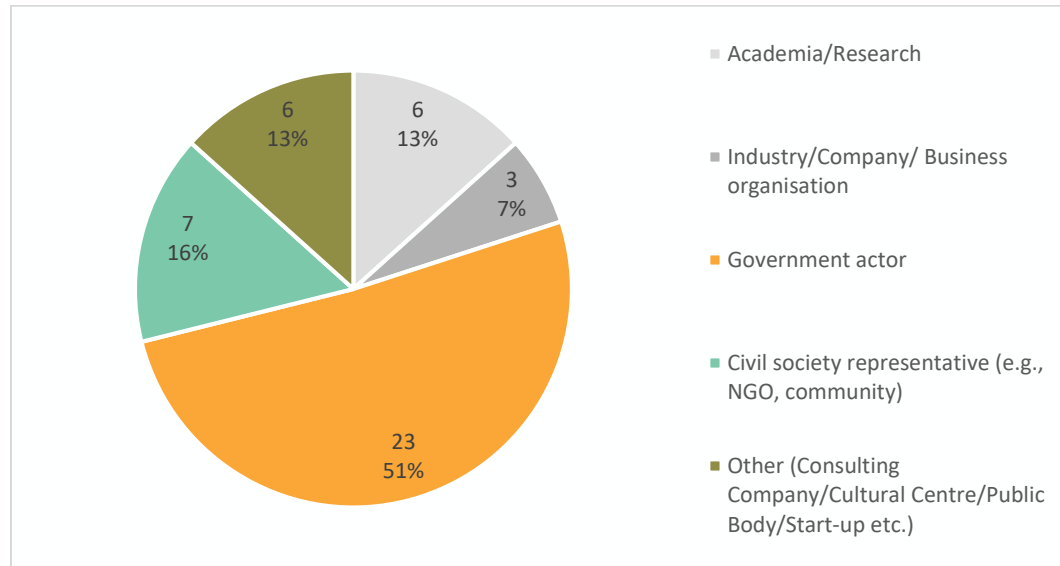
The GreenFORCE research case '*Assessing Benefits and Implications of Decarbonization for Climate Neutrality in the perspective of Just Transition with a specific focus on Renewable Harvesting and Energy Efficiency in Post-Communist Urban Contexts of Albania*' relies on local actors to engage and co-design some of the activities. From the governmental sphere, the Municipality of Tirana might be an important actor to be engaged, since the research targets collective apartment buildings from the communism period located in central areas of Tirana city. From the academia sphere, there are a few actors that have relevant experience in net-o building research, that might offer important insight for the research. This aspect is also true for some actors in the civil society category. While the actors in the industry category have the potential to offer important insight into practical methods and the relative cost to transition toward a net-o building in the specific context.

The governmental actors are mostly oriented toward projects that deliver important strategic documents, management plans for specific areas, strengthening capacities, creating databases and monitoring systems, and similar initiatives depending on their specific responsibilities, duties and expertise. A similar situation can be seen also in the academic actors, where they engage in research, projects and initiative related to specific areas of study, but they are oriented toward strengthening their educational capacities. From the civil society area, the mapped



actors usually engage in projects that have a strong territorial and environmental focus, depending on their area of expertise which can variate from biodiversity to territorial policy. The actors mapped in the industry category are a different story. In this case, it is not possible to speak specifically about projects but rather focus on the service they offer and the business model they operate. Some of them offer the implementation of renewable energy solutions like solar panels, while others have built important circular economy practices which they use in their business.

**Figure 6.** Total number of actors mapped in Albania, grouped per Quadruple Helix category, Albania



Source: Mapping dataset, Co-PLAN 2022

As stated above, from 45 actors in total, 51% of them belong to the government quadruple helix category. The mapped actors in the category of government actors mostly belong to the national level (15 actors) and vary between ministries and national agencies which have a duty to steer the process of green transition, mostly on the national and regional level. The local government actors mapped are mostly municipalities. According to the law No. 155/2020 "On Climate Change", every municipality (61 municipalities in total) has a duty to steer the green transition process at the local level (by designing climate neutrality plans and DRR plans, inter alia), but for this task only those municipalities that have taken actual actions toward this goal have been mapped (8 actors). Next in line are the civil society actors, making up 16% of the mapped actors. They are quite active regarding environmental issues through a diversified portfolio of projects, focusing on climate change mitigation, biodiversity issues, energy transition and so on.

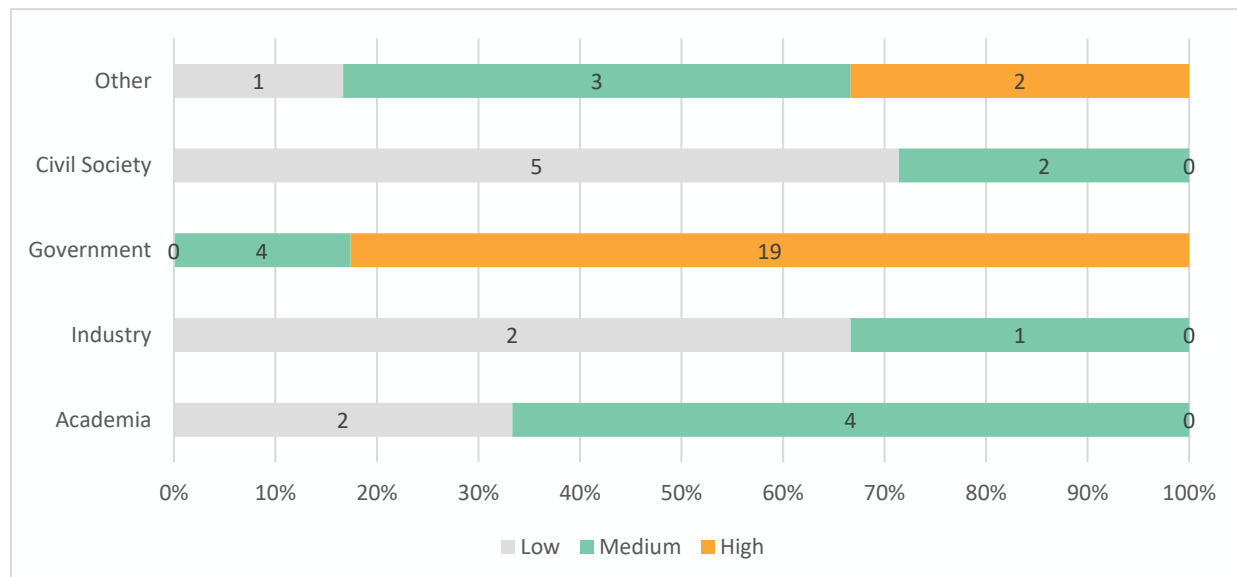
In the category of other, which consist of 13% of the mapped actors, were included international entities that operate in the region of the Western Balkan Countries. Some of those actors are founded by EU and others are development agencies (like: GIZ, etc.) from other countries which fund projects in the country. The ones that were



mapped in this task fund projects that are relevant for the process of green transition and are quite active in the political sphere. On par with this category, we find the academia quadruple helix category with 6 actors mapped. They are mostly situated in Tirana but perform research and conduct projects in different parts of the territory, depending on the project they are engaged in. A special attribute of those actors is the educational practice, through which they can educate future generations about the Just Green Transition.

Lastly, the industry QH category consist of only 7% of the mapped actors. In this case were mapped those actors that offer renewable energy services and the ones that implement circular economy practices in their business model.

**Figure 7.** Influence of GT stakeholders, per QH category, Albania



Source: Mapping dataset, Co-PLAN 2022

The mapping of stakeholders also assesses their influence and potential for engagement (see Annex 2 for the full list). This assessment is done by the authors based on the responsibility of the actor to design a specific GT policy (or practice) and how they foster the implementation of such policies. While some institutions are mandated by law to design and implement policies and plans, not necessarily they are ranked as high influence, because they may have delegated the authority to consultancy or international organizations, therefore taking little ownership of the product and limiting their efforts in the implementation phase.

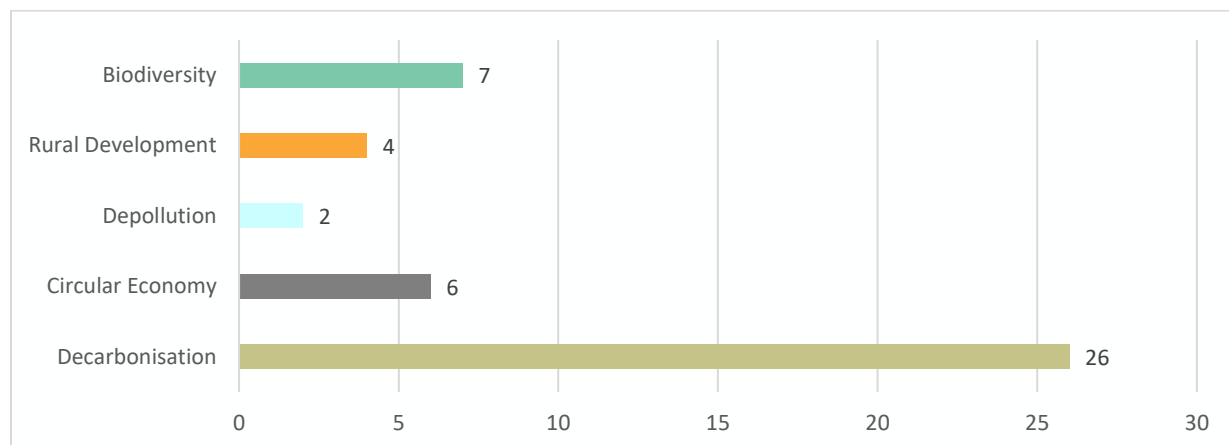
Generally speaking, the most influential actors in the context of green transition are the governmental actors, consisting of international actors that operate in Albania, national actors like ministries and national agencies and



local actors consisting of municipalities that have taken a few steps toward green transition commitments. The other actors have mostly a medium to low influence in the region. Academia actors have a consistent influence in the region, thanks to their lifelong reputation as educational institutions and experience in research activities. Civil society actors, despite their active work in the region, are not seen as highly influential actors in the country, but their experience in a variety of activities might be relevant for the research on green transition. Industry on the other hand has a low rate of influence since they are usually small or unknown enterprises, but they are strong promoters of renewable energy and sustainable business models.

Regarding the potential contribution and engagement of the mapped actors in the research proposal, the government actors are important in the role of support by legitimising the research and in the process of rising awareness among the general public about the Just Green Transition. In this context, the Municipality of Tirana might be a strong asset, but also new agencies like the Agency for Energy Efficiency can prove to be important since they still need to assert their position in the arena of actors, taking into account the fact that they do not have active projects in their portfolio. Research-oriented actors, like NGOs and universities, might offer essential insights into the co-design process, especially those that have experience in o-net buildings, clean energy research, monitoring systems, etc. While the industry could offer some relevant indicators regarding practical matters, like market values, sales for solar panels or other means of alternative energy sources through the years, challenges and opportunities for the future.

**Figure 8.** Classification of stakeholders per GT pillars (primary sector) , Albania



Source: Mapping dataset, Co-PLAN 2022

As mentioned before, most mapped actors have a strong orientation toward the decarbonization pillar of green transition (26 actors), with a focus mainly on clean energy transition and climate change mitigation. In this case, we find actors from every quadruple helix category, with a prevalence of governmental actors. Next, we have the pillar of biodiversity with 7 actors mapped. In this case, there is a prevalence of governmental actors and civil society



actors. In the pillar of circular economy, with 6 actors mapped, there is a prevalence of industry actors and international actors. The pillars with the lowest number of actors mapped are the rural development pillar (4 actors) and the depollution pillar (2 actors). In the rural development pillar, most actors are from academia, while in the depollution pillar, the public institutions have prevalently monitoring duties.

**Table 2.** National Stakeholders with high importance and high engagement potential, Albania

Full Name	Abbreviation	QH category	Primary GT sector	Secondary GT sector
<b>Durrës Municipality (BDr)</b>	B_Dr	Government actor	Decarbonisation: Climate Change	Biodiversity: Protection and Restoration of Ecosystems.
<b>GIZ Albania</b>	GIZ_AL	Other (Consulting Company/Cultural Centre/Public Body/Start-up etc.)	Circular Economy: Resources, Production and Innovation	Sustainable Food Systems and Rural Areas
<b>Institute of Geosciences (IGJEUM)</b>	IGJEUM	Government actor	Decarbonisation: Climate Change	Depollution: air
<b>Korça Municipality (BKo)</b>	B_Ko	Government actor	Decarbonisation: Climate Change	Biodiversity: Protection and Restoration of Ecosystems.
<b>Kukes Municipality (BKu)</b>	B_Ku	Government actor	Decarbonisation: Climate Change	Biodiversity: Protection and Restoration of Ecosystems.
<b>Lezha Municipality (BLe)</b>	B_Le	Government actor	Decarbonisation: Climate Change	Biodiversity: Protection and Restoration of Ecosystems.
<b>Ministry of Infrastructure and Energy (MIE)</b>	MIE	Government actor	Decarbonisation: Clean Energy Transition	Decarbonisation: Smart and sustainable Mobility
<b>Ministry of Tourism and Environment (MTM)</b>	MTM	Government actor	Biodiversity: Protection and Restoration of Ecosystems.	Decarbonisation: Climate Change
<b>National Agency of Protected Areas (AKZM)</b>	AKZM	Government actor	Biodiversity: Protection and Restoration of Ecosystems.	N/A
<b>National Agency of Territorial Planning (AKPT)</b>	AKPT	Government actor	Decarbonisation: Climate Change	Decarbonisation: Smart and sustainable Mobility



<b>National Environment Agency (AKM)</b>	AKM	Government actor	Biodiversity: Protection and Restoration of Ecosystems.	Depollution: air
<b>Shkodra Municipality (BSh)</b>	B_Sh	Government actor	Decarbonisation: Climate Change	Biodiversity: Protection and Restoration of Ecosystems.
<b>The National Agency of Natural Resources (AKBN)</b>	AKBN	Government actor	Decarbonisation: Clean Energy Transition	N/A
<b>Tirana Municipality (BTr)</b>	B_Tr	Government actor	Decarbonisation: Climate Change	Biodiversity: Protection and Restoration of Ecosystems.
<b>UNDP Albania</b>	UNDP	Other (Consulting Company/Cultural Centre/Public Body/Start-up etc.)	Decarbonisation: Climate Change	Circular Economy: Resources, Production and Innovation
<b>Vlora Municipality (BVI)</b>	B_VI	Government actor	Decarbonisation: Climate Change	Biodiversity: Protection and Restoration of Ecosystems.

Source: Mapping dataset, Co-PLAN 2022

From the table above, it is evident that the actors that have the highest rate of influence and engagement in the process of the green transition are the government actors, which steer the process at every level. At the international level, there are important agencies that offer funds for research and projects related to green transition that can be implemented in the region. Those funds engage different types of actors, from government to civil society and academia. National government actors, like ministries and agencies, steer the process at the sectorial level, through strategies, programs and projects. Local government actors steer the process at the municipality level, through strategies and development plans targeting the territory under their jurisdiction.

But, for the GreenFORCE research topic, a diverse group of actors should be engaged, since the targeted territory is at the local scale. From the government actors, it might be necessary to seek support at local level, like the Municipality of Tirana, and at national level, like a sectorial agency that targets the decarbonization pillar of green transition in its agenda (Agency for Energy Efficiency i.e.). The engagement of an academia actor in the research process could enrich the expertise in the matter since a few of them have had previous experience with this kind of topic. The industry actors might have a secondary role, where interviews can offer insights regarding renewable energy, the relative cost of its implementation and the place of renewables in the energy market. Regarding the civil society actors, Co-PLAN will fill in the role, collaborating with its network of collaborators (either CSO-s, or individual expertise)

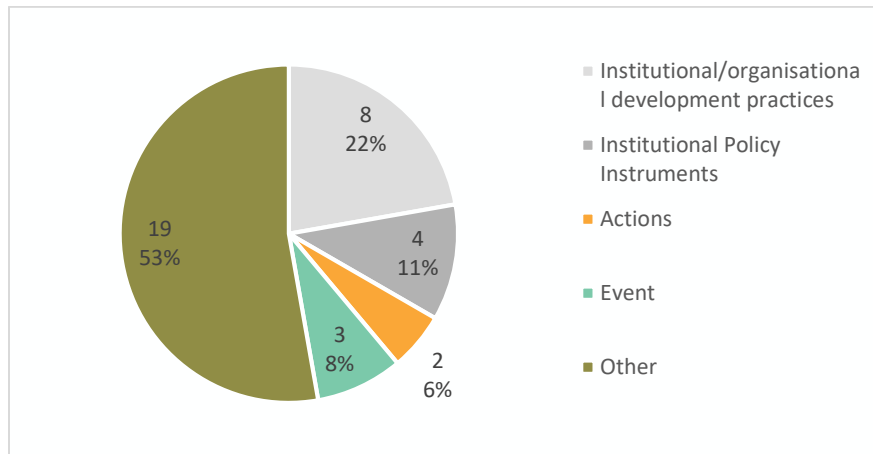
### 2.1.3 Green transition related practices and initiatives in Albania

In total, 36 practices and initiatives were mapped related directly or indirectly to green transition. The majority of the mapped practices belong to the category of other (53%), which will be analysed in more detail further on. Most of the mapped practices target the decarbonization pillar, with a greater focus on clean energy transition and climate change. Generally speaking, the mapped practices come from projects financed by European programs, such as IPA programmes, Horizon programme, EU delegation office and so on. Regarding the usefulness of the mapped practices in terms of the research proposal, key concepts can be extrapolated from them and implemented in the research process. Such concepts are related to:

- Participatory approaches
- Building a common understanding of the concept of Just Green Transition
- Joint guidelines
- Creating a common protocol
- Interactive toolbox to facilitate the transfer of knowledge
- Modules containing useful tips addressing the general public for awareness rising
- Handbook on green transition
- Creating databases containing useful knowledge on the benefits of green transition
- Emphasizing the importance of incentives
- Evaluating available funding mechanisms
- Information hub dedicated to the Just Green Transition in the WBC

Of course, not all of those concepts can be incorporated into the research process, but they give an interesting perspective on the magnitude that the research can take. In the case of 'Assessing Benefits and Implications of Decarbonization for Climate Neutrality in the perspective of Just Transition with a specific focus on Renewable Harvesting and Energy Efficiency in Post-Communist Urban Contexts of Albania', looking into participatory approaches might be useful, since we are dealing closely with the community. Hence, also interactive tools to facilitate communication, based on knowledge exchange can prove beneficial.



**Figure 9.** Classification of mapped GT practices per type, Albania

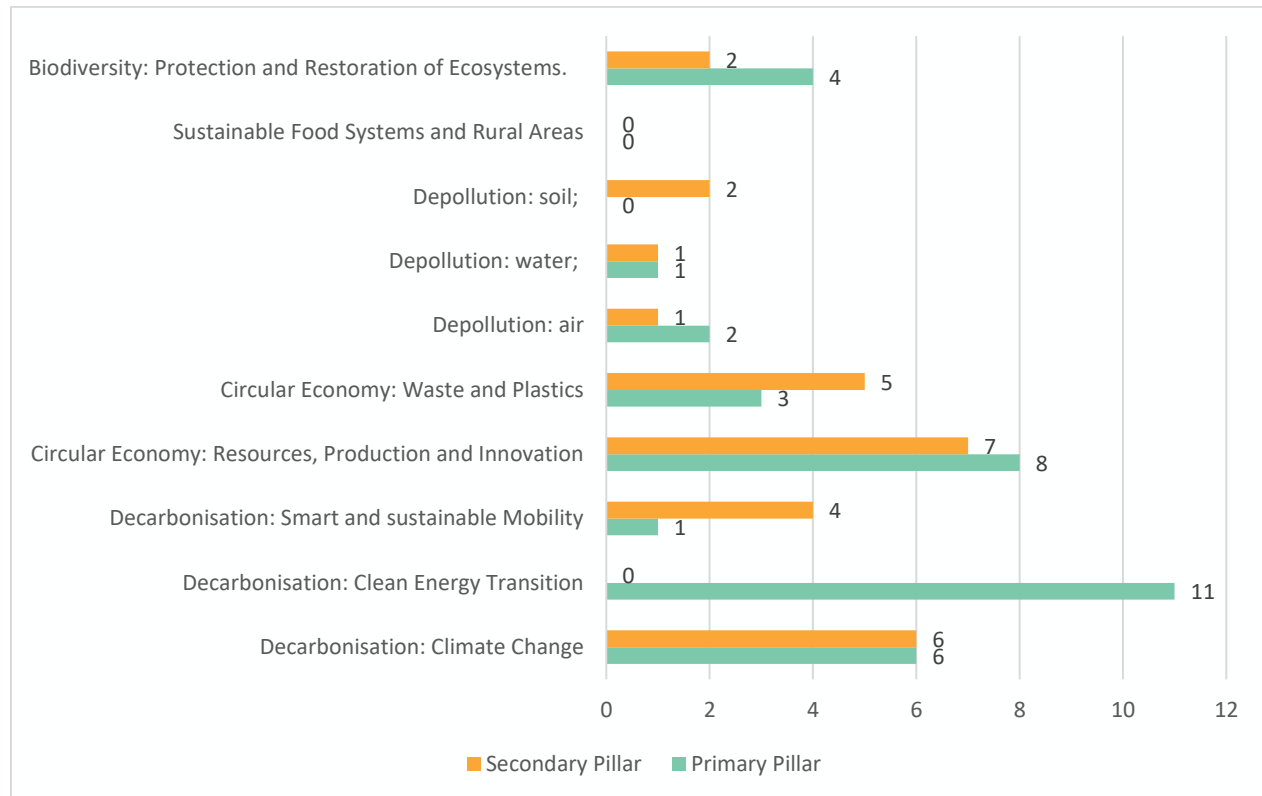
Source: Mapping dataset, Co-PLAN 2022

Building a common understanding of climate neutrality in buildings or creating joint guidelines might facilitate the transfer of knowledge on Just Green Transition. Just like this, ideas from other implemented practices and initiatives can further shape and improve the research activity.

As it can be seen in the graphic above, the majority of the mapped practices and initiatives belong to the category of "other". In this category a series of practices are mapped, that relate to a variety of practices, such as databases, toolkits, information hubs and networks, grants or even competitions which relate to green transition pillars. Such practices can offer useful insights in the long run, thinking toward the transferability of knowledge. The institutional and organizational development practices make up for 22% of the total number of mapped initiatives. In this category authors mapped practices that usually target public entities and aim to build protocols, guidelines or memorandums toward a common understanding of a specific concept. Institutional policy instruments make up 11% of the mapped practices, and they usually aim to influence policy on specific sectors or territories. Lastly 3 events and 2 actions are showcased, which mostly have an educational approach through workshops, webinars, open events and so on. Those kinds of initiatives prove quite effective in terms of visibility and dissemination.





**Figure 10.** Number of mapped practices per Green Transition Pillar (both as primary or secondary pillar), Albania

Source: Mapping dataset, Co-PLAN 2022

As mentioned before, most of the mapped practices focus on the pillar of decarbonization. More specifically, clean energy transition is mentioned 11 times as a primary pillar, climate change is mentioned 12 times (6 times as a primary pillar and 6 times as a secondary pillar), while smart and sustainable mobility is mentioned 5 times, mostly as a secondary pillar. The circular economy pillar is also very present in the mapped initiatives. Mostly the initiatives focus on resource, production and innovation (with 15 mentions), rather than on waste and plastics (with 8 mentions). In the sustainable food system and rural areas pillar there are no mapped practices, which does not mean that such projects do not exist but rather that it is mostly a tertiary pillar for the mapped practices. Also, the pillar of depollution has a low number of mapped practices, which is mentioned only in 7 practices, both as primary and secondary pillar.



**Table 3.** Mapped practices with high potential for capitalization, Albania

GT Pillar	Practices/initiative	Main implementing actor	Territorial scope	Time frame
Decarbonization	Co-design workshop in Kune-Vain-Tale Lagoon - WBC-RRI.NET Project	Co-PLAN	WBC (Albania Kune-Vain Lagoon)	2021 - 2024
	Green policy models - LOCAL4GREEN Project	Valencian Federation of Municipalities and Provinces (FVMP) - Spain	Multiple territories	2016-2019
	Small pilot projects for the energy efficiency of public buildings - ADRIA_Alliance project	Unione dei Comuni della Grecia Salentina - Italy	Multiple territories	2020 - 2021
	Guidelines For Joint Actions for Energy Efficiency - ENERJ Project	Anatoliki S. A. – Development Agency of Eastern Thessaloniki, Greece	Multiple territories	2016-2019
	Climate Smart City Elbasan Municipality	European Commission	Local	2021-2027
	Energy Efficiency training living lab - ENEA Project	Ce.F.A.S. - Centro di Formazione e Alta Specializzazione - Italy	Multiple territories	2020 - 2021
	Sustainable Energy Planning Toolbox - COMPOSE Project	Kmetijsko gozdarski zavod Maribor	Multiple territories	2017-2020
	Led Guide for Energy Upgrade of School Buildings - LED Project	National Agency of Natural Resources (AKBN) - Albania	Multiple territories	2018 - 2020
	Module 'Hints and tips for improving wellbeing in your home' - EmpowerMed Project	Focus Drustvo Za Sonaraven Razvoj - Slovenia	Multiple territories	2019 - 2023
	Western Balkans Info Hub - INCO-NET Project	Zentrum Fur Soziale Innovation GMBH - Austria	WB	2008 - 2014
	Where Finance and Green Technologies meet	European Bank for Reconstructio and Development in WB	WB	2021-2027



	Grants for Green Entrepreneurships in Tirana Municipality	Tirana Municipality	Local	2020-2023
Circular Economy	Memorandum of Understanding for the NETs (Negative emission technologies) in the South Adriatic area - LONETA Project	Fondazione Centro Euro-Mediterraneo sui Cambiamenti Climatici (CMCC) - Italy	Multiple territories	2020 - 2022
	Network in the field of green and blue economy - SME BE SMART project	Konfindustria Shqipëri (KISH) - Albania	Multiple territories	June – December 2022
	Blue Labs, Workshops, Hackathons - BLUE_BOOST Project	Croatian Chamber of Economy (CCE) - Croatia	Multiple territories	2018 - 2020
	A common Balkan Protocol for sustainable farms and production of labeled products with low environmental footprint - BalkanRoad Project	Benaki Phytopathological Institute (BPI)	Multiple territories	2017-2020
	Knowledge Providers Database - BLUE_BOOST Project	Croatian Chamber of Economy (CCE) - Croatia	Multiple territories	2018 - 2020
	Digital Ecosystem - SWAN Project	Association of Municipalities in the Attica Region – Solid Waste Management (EDSNA)	Multiple territories	2017-2020
	Replication Toolkit - INCIRCLE Project	AREA Science Park - Italy	Multiple territories	2019 - 2022
	Waste to Energy	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH	Multiple territories	2020-2022
Depollution	Regional Data Hub - GEO-CRADLE Project	Ethniko Asteroskopeio Athinon - Greece	Multiple territories	2016-2018



	Green Lungs Project	Co-PLAN Institute for habitat development	National	2018-2021
Biodiversity	Guidelines for agricultural and forestry practices and policies to harmonize and promote transboundary management for improved ecological connectivity - DINALPCONNECT Project	Agricultural Institute of Slovenia (AIS) - Slovenia	Multiple territories	2020 - 2022
	Eleven Standard Monitoring Protocols - MPA Engage Project	Consejo Superior de Investigaciones Científicas (LP) (Spain)	Multiple territories	2019-2022

Source: Mapping dataset, Co-PLAN 2022

In the table above are shown only those practices which have a high rate of capitalization in terms of the specific research proposal. The mapped practices were extracted from various projects that relate to different pillars of green transition. The majority of them targets multiple territories, not just the country or the WBC region, with an average time frame of 3 years. Key concepts from those practices can help to further elaborate the research activities anchored in the GreenFORCE project. Related to the specific research topic that will be elaborated in Tirana city, Albania, the mapping process helps to better contextualize it, to understand what the possible gaps of the research are and also to evaluate what has been done and what is still to be done in terms of climate neutrality buildings in the region.



### 2.1.4 Identification of territorial strengths, weaknesses, opportunities and challenges for Green Transition in Albania

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>• Albania has significant potential in renewable energy sources, such as hydro, solar, and wind power.</li> <li>• The country has a relatively young population that is increasingly aware of the importance of environmental preservation.</li> <li>• Albania has untapped potential in eco-tourism, which can boost the country's economy and promote sustainable development.</li> <li>• Albania has an abundance of natural resources, including forests and coastal areas, which can be utilized in a sustainable and responsible manner.</li> <li>• Increased public awareness and government commitment to transitioning towards a green economy.</li> <li>• Strong policy framework for environmental protection and sustainable development.</li> <li>• Presence of large-scale infrastructure projects such as the Trans-Adriatic Pipeline (TAP) which could potentially be utilized for low-carbon energy transportation.</li> <li>• Availability of natural resources such as forests, rivers, and lakes, which can be preserved and utilized for sustainable economic development.</li> </ul>	<ul style="list-style-type: none"> <li>• The lack of infrastructure and investment in renewable energy sources is a major hindrance to the green transition.</li> <li>• The country still relies heavily on fossil fuels, which are not only harmful to the environment but also contribute to air pollution and health problems.</li> <li>• The lack of effective policies and regulations to promote sustainable development.</li> <li>• The low level of public awareness and education on sustainability and the green transition.</li> <li>• Insufficient implementation of policies related to sustainable development and environmental protection.</li> <li>• Limited human and financial resources for investment in green industries and technology.</li> <li>• Lack of adequate infrastructure for renewable energy production and distribution.</li> <li>• Inadequate waste management systems leading to pollution and degradation of natural resources.</li> <li>• Significant efforts are needed on implementation and enforcement, especially on climate change</li> <li>• Climate-related targets are not yet institutionalized</li> <li>• The GT support sectors within governmental institutions are poorly staffed</li> </ul>



Opportunities	Threats
<ul style="list-style-type: none"> <li>• The European Union's commitment to climate change targets can serve as an opportunity for Albania to receive funding and support for green initiatives.</li> <li>• Increasing demand for eco-friendly products and services can create potential new market opportunities.</li> <li>• The growing interest in sustainability and green technology can attract foreign investors to Albania.</li> <li>• The potential for sustainable development in the tourism sector, which can generate revenue and create jobs.</li> <li>• Increasing demand for renewable energy worldwide.</li> <li>• Availability of funding from international organizations such as the European Union and the World Bank for green economic development.</li> <li>• Development of a competitive advantage in green industries such as renewable energy, eco-tourism, and sustainable agriculture.</li> <li>• Growing demand for eco-friendly products and services advocating for environmentally conscious consumption patterns.</li> </ul>	<ul style="list-style-type: none"> <li>• The lack of political will and commitment to green initiatives.</li> <li>• Potential resistance from the fossil fuel industry and other powerful economic interests in the country.</li> <li>• Natural disasters such as floods and landslides, which are becoming increasingly frequent due to climate change, can impede progress towards a green transition.</li> <li>• The potential for greenwashing - companies and organizations pretending to be eco-friendly, while still engaging in environmentally harmful practices.</li> <li>• Climate change impact posing a significant threat to the environment and vulnerable communities.</li> <li>• Limited capacity to adapt and mitigate the effects of climate change.</li> <li>• Dependence on imported energy sources contributing to energy insecurity of the country.</li> <li>• The high cost of investment in renewable energy infrastructure and technology.</li> <li>• Lack of a database on foreign aid to Albania with information that includes all projects for/related to climate change and GT regardless of whether they are co-financed</li> </ul>



Several issues are brought forth by the CSO and academic sectors to support the implementation of the Green Agenda for WB. They can be summarized as follows:

- Setting a clear target for 2030/2050
- Faster and complete transposition of the Monitoring Directive; of the Directives on the Transport and Use of Vehicles
- Monitoring of greenhouse gas emissions (National Register of GHG emissions)
- Drafting legal and sub-legal acts for Energy Efficiency (6 DCM and 11 bylaws)
- Review of the National Energy Strategy
- Review of the National Climate Change Strategy
- Green Transport Legal Initiatives
- Legal initiatives for LULUCF (Land Use, Forests)
- More engagement of CSO-s and researchers in policymaking
- Climate education and awareness programs promoting responsible and environmental behaviour
- etc

In summary, some opportunities for green transition in Albania include:

- **Renewable Energy:** Albania has a significant potential for generating energy from renewable sources, including wind, solar, and hydropower. Investing in renewable energy sources could reduce greenhouse gas emissions and increase energy independence.
- **Waste Management:** Albania generates a considerable amount of waste, and much of it ends up in landfills. Proper waste management practices, such as recycling and composting, could help reduce greenhouse gas emissions and improve the environment.
- **Sustainable Agriculture:** Agriculture is an essential sector for Albania, and it employs a significant portion of the population. Encouraging sustainable agriculture practices, such as organic farming, crop rotations, and reducing chemical use, could reduce emissions and improve the quality of soil and water.
- **Green Buildings:** Albania has a growing construction sector, and buildings are responsible for a significant portion of energy consumption. Encouraging the construction of energy-efficient buildings and retrofitting existing buildings could help reduce energy consumption and emissions.

On the other hand, Albania faces a number of challenges in implementing green transition policies due to its historical dependence on fossil fuels, limited financial resources, and weak institutional capacities.

First, Albania has historically relied heavily on fossil fuels to meet its energy needs. As a result, transitioning to greener sources of energy, such as wind and solar power, is a daunting task. The country is still heavily dependent on lignite, a type of coal, for its electricity production, and transitioning away from it will require significant



investments in both infrastructure and technology. This is particularly difficult given Albania's limited financial resources, which have been strained by years of economic and political turmoil.

Second, Albania's institutional capacities are also a challenge. The country lacks the legal and regulatory frameworks necessary to support green transition policies, including those related to environmental protection, energy efficiency, and renewable energy. As a result, it struggles to attract the necessary investments and expertise needed to implement sustainable development policies.

Finally, Albania is facing considerable opposition from local communities and businesses who are reluctant to change their behaviour and practices. They argue that greener policies are too expensive or that they will limit their competitiveness in the global marketplace. These challenges underscore the need for effective communication and engagement strategies to ensure that all stakeholders understand the benefits of transitioning to a more sustainable and resilient economy.



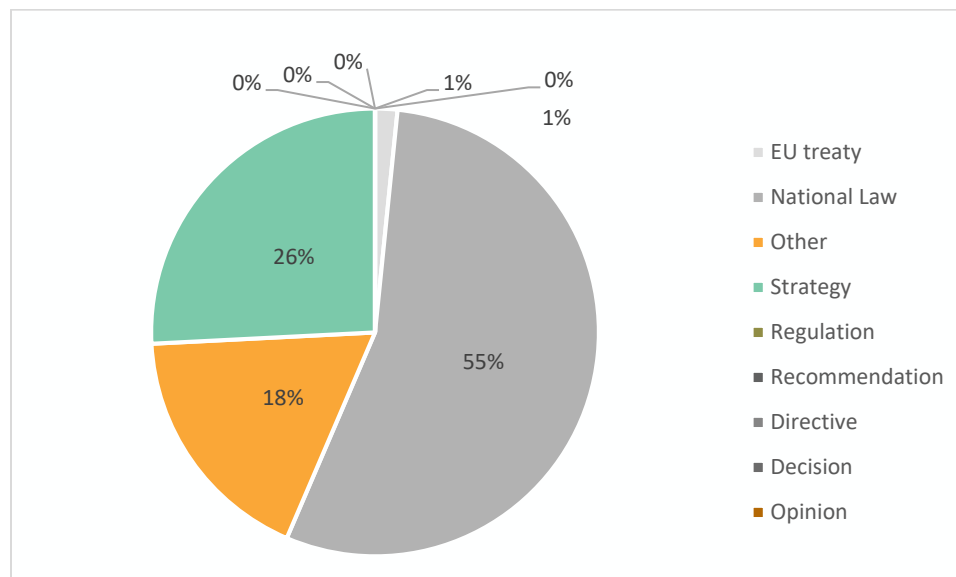


## 2.2 National Mapping Report – Bosnia and Herzegovina

### 2.2.1 Identification of territorial policies in Bosnia and Herzegovina

After completing desk research, we can see that 62 policies have been mapped. Most of the policies are national laws (55%), after which are strategies (26%). At the moment there are 18% of policies that are classified as “other” and 1% EU treaties. During the first phase of data collection, we have focused on collection of national policies, which means that the mapping can be expanded by including relevant international strategies and EU directives to enrich the dataset. For that reason, the currently analysed data seem not to be well balanced, as the share of directives and EU treaties are still low. The analysis of the collected information per sector suggests that the largest share of policies is in the “water sector” (17) and “environment sector” (15). In addition, it is worth mentioning “agriculture sector” with 11 policies, “other sector” with 11 policies and “climate sector” with 8 policies. This indicates that the policies mapped are balanced with regards to the number of policies in different sectors. In relation to the green transition pillars, the most prevalent policies are the ones in the biodiversity (16) and depollution of waters (14). Sustainable food systems (11) and clean energy transition (13) are also well represented and we can see a balance in the pillars of green transition. Circular economy policies are not well represented at the legislative level (looking at the current data) and could be a possible chance for improvement.

**Figure 11.** Total number of policies mapped per category, BA



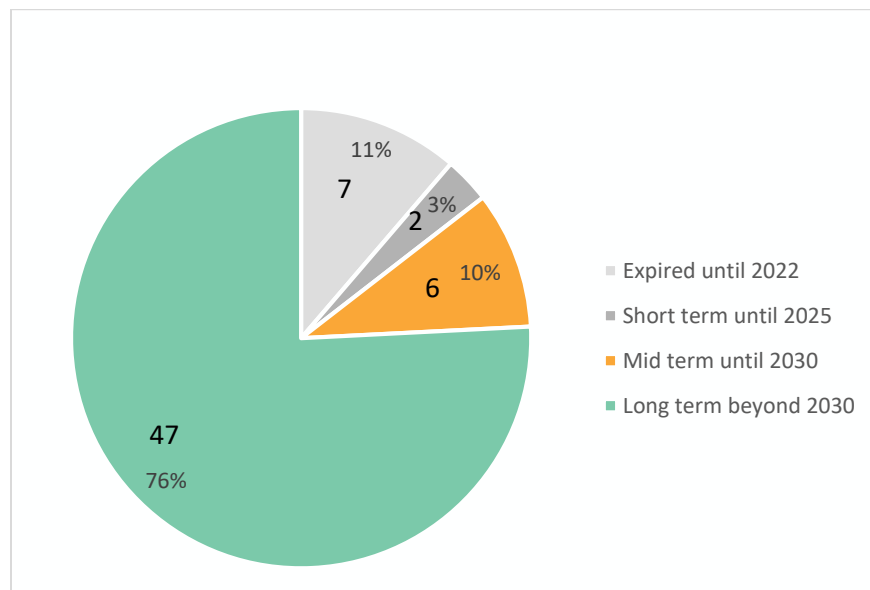
Source: Mapping dataset, CREDI 2023



The mapped policies/laws and strategies are under implementation, but many of them are outdated. According to the interviews with relevant stakeholders, the policies in a conceptualization phase are generally lacking and an awareness raising campaign for these issues are very much needed.

When it comes to the level of government, the results show that the most prevalent policies are national laws (34). Because of the specific constitutional arrangement of BA, we put policies that are at the level of canton in category of “other”. We have 11 such policies. At this point, we collected 16 strategies and only 1 EU treaty. Data is not well balanced as most of the policies are national policies, so there is room for more data collection of strategies, EU directives and EU treaties.

**Figure 12.** Total number of policies mapped per timeframe, BA



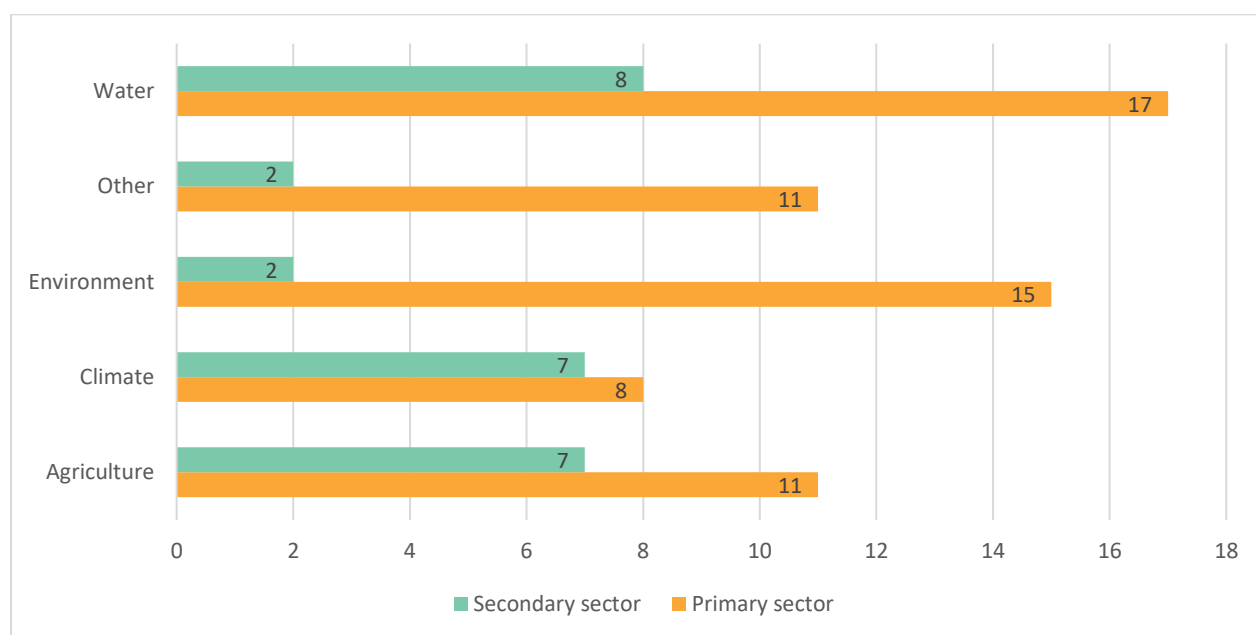
Source: Mapping dataset, CREDI 2023

After mapping the policies within their respective timeframes, we categorised them in 4 distinct categories. 47 of the policies (76%) are long term policies (mostly national laws). There are 6 (10%) mid term strategies, 2 (3%) short term policies and 7 (11%) policies that expired until 2022. We have 3 strategies that are long term, 6 strategies that are mid term, 2 short term strategies and 5 expired strategies mapped. Most of the national Taking into consideration that Bosnia and Herzegovina need to follow the green agenda plan and develop more policies in these green sectors, it can be presumed that initiatives are needed to push for other legislatives in these fields. Some policies didn't have information about the year of publishing, so we have to take that note into consideration. We also have 3 multi-annual strategies covering time periods of 2021-2027, 2022-2032 and 2021-2024.



In the figure below we can see that majority of policies have a primary sector that they cover specified. Most of the policies are in the “water sector” and the “environment sector”. Water sector has 17 policies as the primary sector and 8 policies as the secondary sector, while environment sector has 15 policies as the primary sector and 2 policies as the secondary sector. Agriculture sector is also important and very close to these two sectors in number of policies. The policies mapped under the “other” are mainly energy related policies. “Agriculture sector” and the “other sector” both have 11 policies as a primary sector, but agriculture has 7 policies as the secondary sector, and “other” has 2 policies as the secondary sector. Climate has a balanced distribution of primary and secondary sector policies, where we have 8 primary sector policies and 7 secondary sector policies.

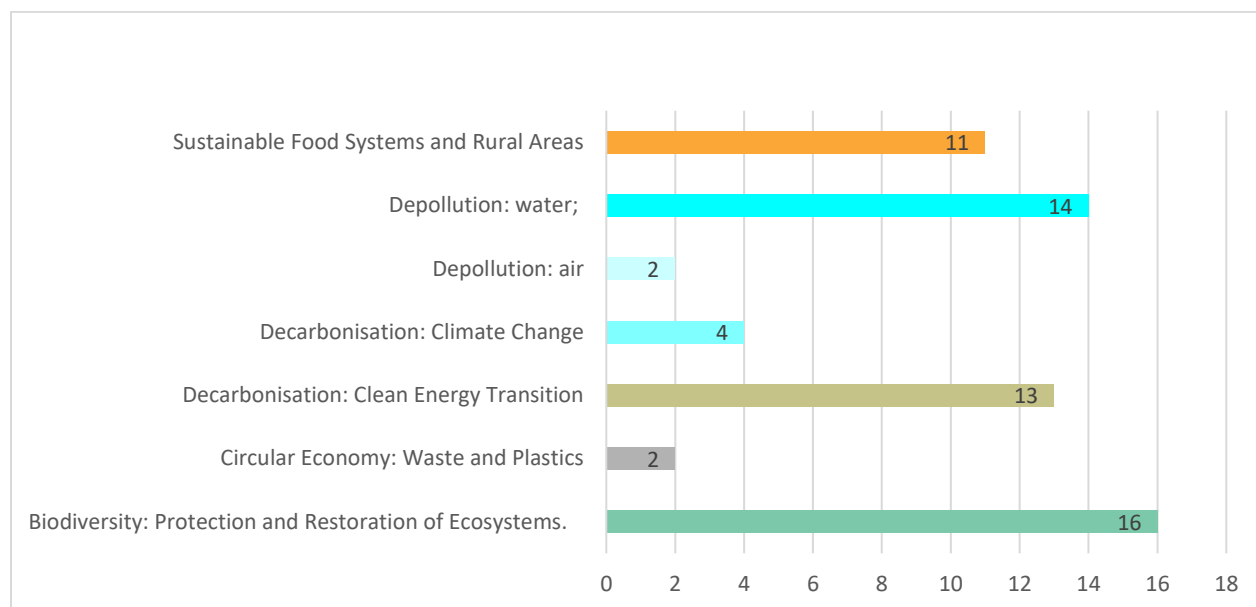
**Figure 13.** Primary and secondary sectors mapped per policy, BA



Source: Mapping dataset, CREDI 2023

Similar to the sector categories, the most prevalent green transition pillars are the biodiversity (16) and depollution: water (14). We can also see that sustainable food systems (11) and decarbonisation (4 policies about climate change and 13 about clean energy transition) are also well represented and could be considered sufficiently covered with existing number of data. Circular economy is not represented well and only two policies exist about waste and plastics. Depollution of air is also not very well represented, as it has only two policies. Other green transition pillars are not present at all with the current data (climate change, smart and sustainable mobility, depollution of soil). The table below contains the list of policies that have the potential to be capitalized on during the research case studies.



**Figure 14.** Number of mapped policies per Green Transition Pillar, BA

Source: Mapping dataset, CREDI 2023

**Table 4.** Overview of all policies that have potential for capitalization, BA

Name of policy	Main Actor Responsible	Related GT Pillars	Level of impact
<b>Law on the Use of Renewable Energy Sources and Efficient Cogeneration of Federation of Bosnia and Herzegovina</b>	Federal Ministry of Electricity, Mining and Industry	Decarbonisation: clean energy transition	High
<b>Law on Energy Efficiency in the Federation of Bosnia and Herzegovina</b>	Federal Ministry of Electricity, Mining and Industry	Decarbonisation: clean energy transition	High
<b>Law on Renewable Energy Sources of Republic of Srpska</b>	Ministry of Electricity and Mining of Republic of Srpska	Decarbonisation: clean energy transition	High
<b>The Law on Energy Efficiency of Republic of Srpska</b>	Ministry of Electricity and Mining of Republic of Srpska	Decarbonisation: clean energy transition	High
<b>Law on Environmental Protection of Federation of Bosnia and Herzegovina</b>	Federal Ministry of Environment and Tourism	Biodiversity: Protection and Restoration of Ecosystems.	High

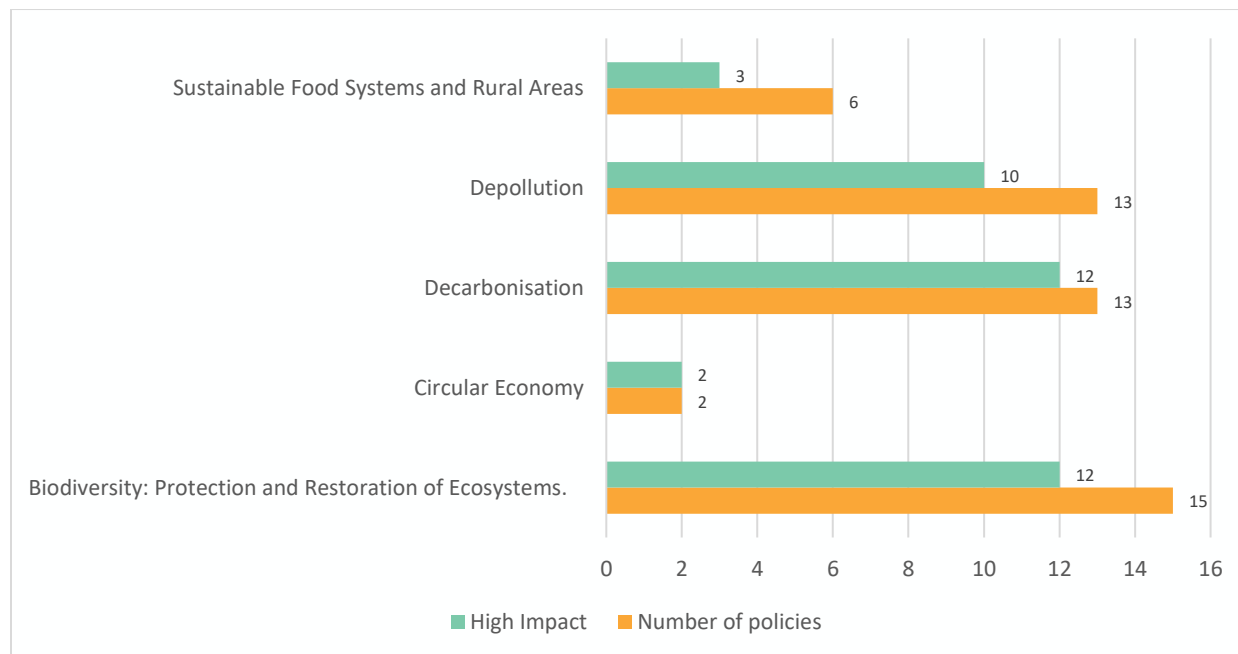


<b>Law on Waste Management of Federation of Bosnia and Herzegovina</b>	Federal Ministry of Environment and Tourism	Circular Economy: Waste and Plastics	High
<b>Law on Nature Protection of Federation of Bosnia and Herzegovina</b>	Federal Ministry of Environment and Tourism	Biodiversity: Protection and Restoration of Ecosystems.	High
<b>Water Law of Federation of Bosnia and Herzegovina</b>	Federal Ministry of Environment and Tourism	Depollution: water;	High
<b>Law on Agriculture, Food and Rural Development of Bosnia and Herzegovina</b>	Federal Ministry of Environment and Tourism	Sustainable Food Systems and Rural Areas	High
<b>Law on Agricultural Land of Republic of Srpska</b>		Sustainable Food Systems and Rural Areas	High

Source: Mapping dataset, CREDI 2023

Despite the fact the currently the laws dominate the mapping, we can already see that the issues related to clean energy transition have a high impact and the potential for capitalization and support and enhance the implementation of the planned research.

**Figure 15.** Number of mapped policies per Green Transition Pillar / and the number of GT Policies ranked as 'high impact', BA



Source: Mapping dataset, CREDI 2023



We can see here that most high impact policies are in clean energy transition, sustainable food systems and biodiversity green transition pillars. Other high impact policies are in the depollution: water and waste and plastic green transition pillars. Medium impact policies are mostly prevalent in the depollution of waters and biodiversity pillars. There are no high impact policies in the pillar of air depollution which can be a possibility for improvement in that sector. The policies need to be enhanced by including the issues of just transition, which need to be properly acknowledged. For purpose of advocating such policy developments, the envisaged research on the labour market and social impact of green transition is expected to play an important role by providing supportive empirical evidence.

Implementation of policies related to just energy transition are covering the areas of labour market transition, skills upgrading and social policies. As such, they should be funded through active labour market programs and social benefits. A research and advocacy to support design of appropriate measures can be funded through various international donor support, including EU fund as well as other funds supporting achievement of SDG goals.

### 2.2.2 Key actors involved in Green Transition in Bosnia and Herzegovina

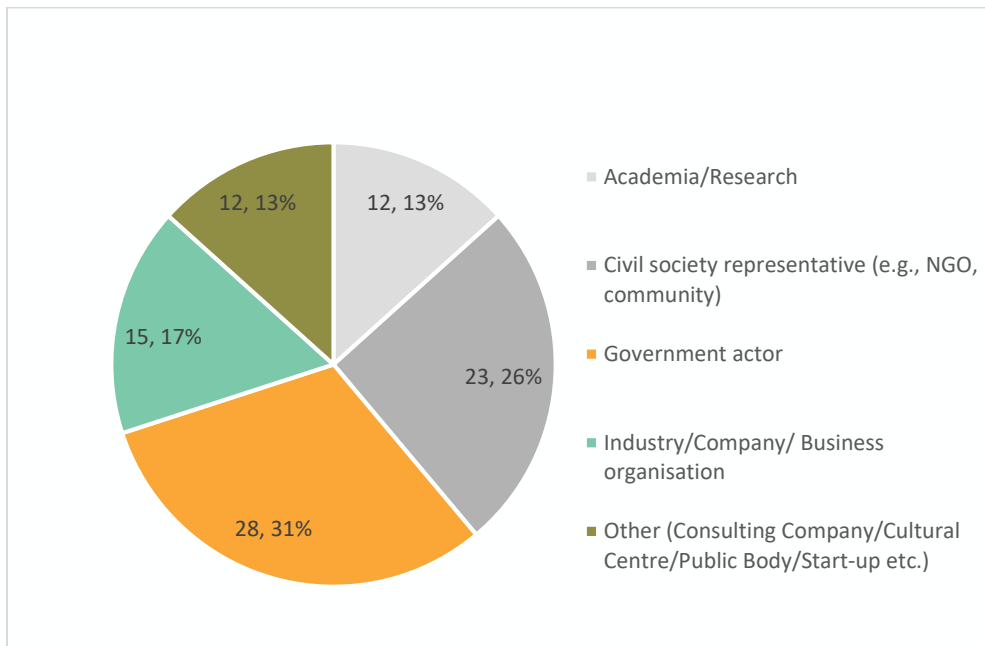
After mapping key stakeholders, the analysis of the results of mapping is presented here. The collection of information through desk research and stakeholders' interviews can be considered sufficient in terms of number of the key stakeholders mapped, as the impression is that the vast majority of key actors were identified properly. Bosnia and Herzegovina has a rather complex constitutional arrangement, and as such as a particular challenge for a proper mapping of key actors. It is composed of Federation of Bosnia and Herzegovina (with 10 cantons as administrative units), Republic of Srpska and Distrikt of Brčko. This unique configuration enables the existence of many government actors, which need to be included as stakeholders in green transition mapping. For this reason, the largest number of actors mapped are in the government actor quadruple helix type (28), after which we have the civil society representatives (23), industry/company (15), others (12) and academia/research (12);

The mapped actors mainly contribute to the biodiversity (30), the sustainable food systems (14) and decarbonisation: clean energy transition (18) GT pillars. Next are the climate change with 9 actors, circular economy: waste and plastic and depollution: water with 5 actors respectively. In the context of influence, there are 38 actors with high influence, 11 with medium influence and 41 with low influence. Most of the high influence actors are from the government sector (13). In that sense, we can say that the actors considered influential in the country are the government actors in the entities and cantons. State level institutions are usually weak and with limited authority over national issue, mainly focused on international cooperation. Thus, it opens up possibilities for engaging with these government officials to start initiatives motivated by the research. We have 9 high influence actors in the industry sector, which are mostly state energy institutions and energy companies (6), with only 3 high



influence companies in the circular economy sector. Besides the “government” and “industry” sector we have 5 high influence actors from the “other” sector. It will be very important to engage with these organisations because of the influence they have on the region and because of the experience they acquired as international organisations. There are some key “academic and research” organisations (3), as well as “NGOs” (8) that could prove to be pivotal for engagement. We also recorded that “academia/research” have the most contribution to the sustainable food research and rural areas, “NGOs” have the most contribution to biodiversity, “industry” to waste and plastic, “other” to climate change and “government” to biodiversity.

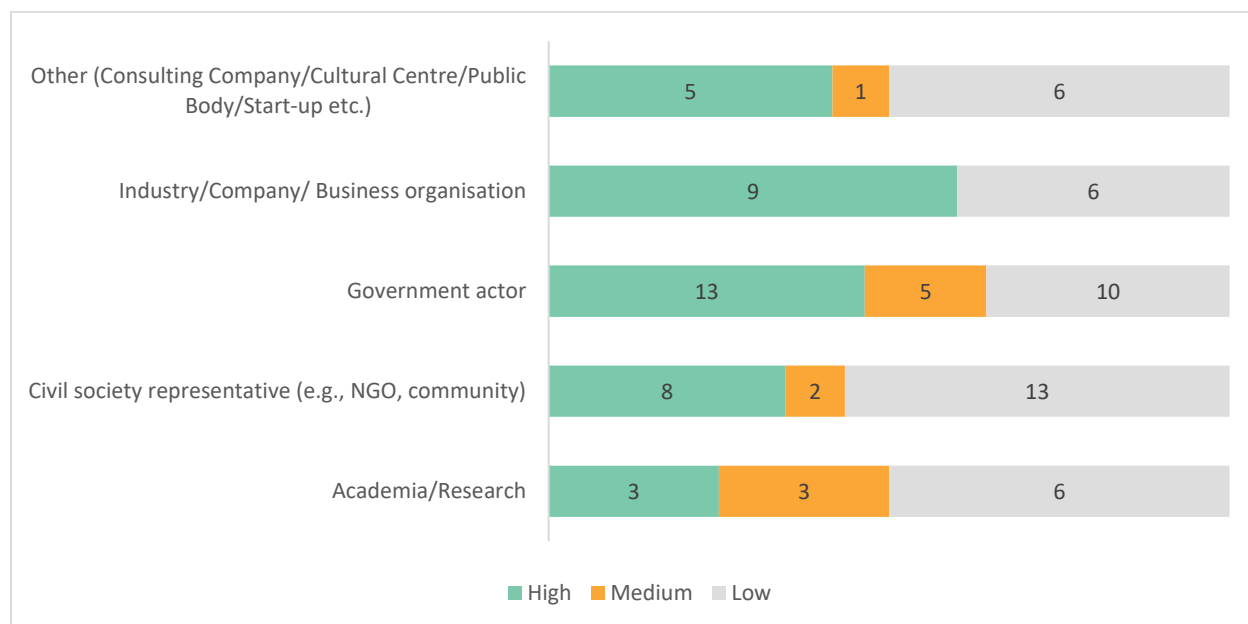
**Figure 16.** Total number of actors mapped in BA, grouped per Quadruple Helix category, BA



Source: Mapping dataset, CREDI 2023

In this figure we can see the distribution of key stakeholders in GT mapping. The largest category of actors belongs to the government actor, as we have explained before, probably due to the complex political-organisational system (28). Besides them, the most actors are in the civil society representatives (23), industry/company (15), the other (consulting company, cultural centre, start-up) and academia/research both having 12 actors.



**Figure 17.** Influence of GT stakeholders, per QH category, BA

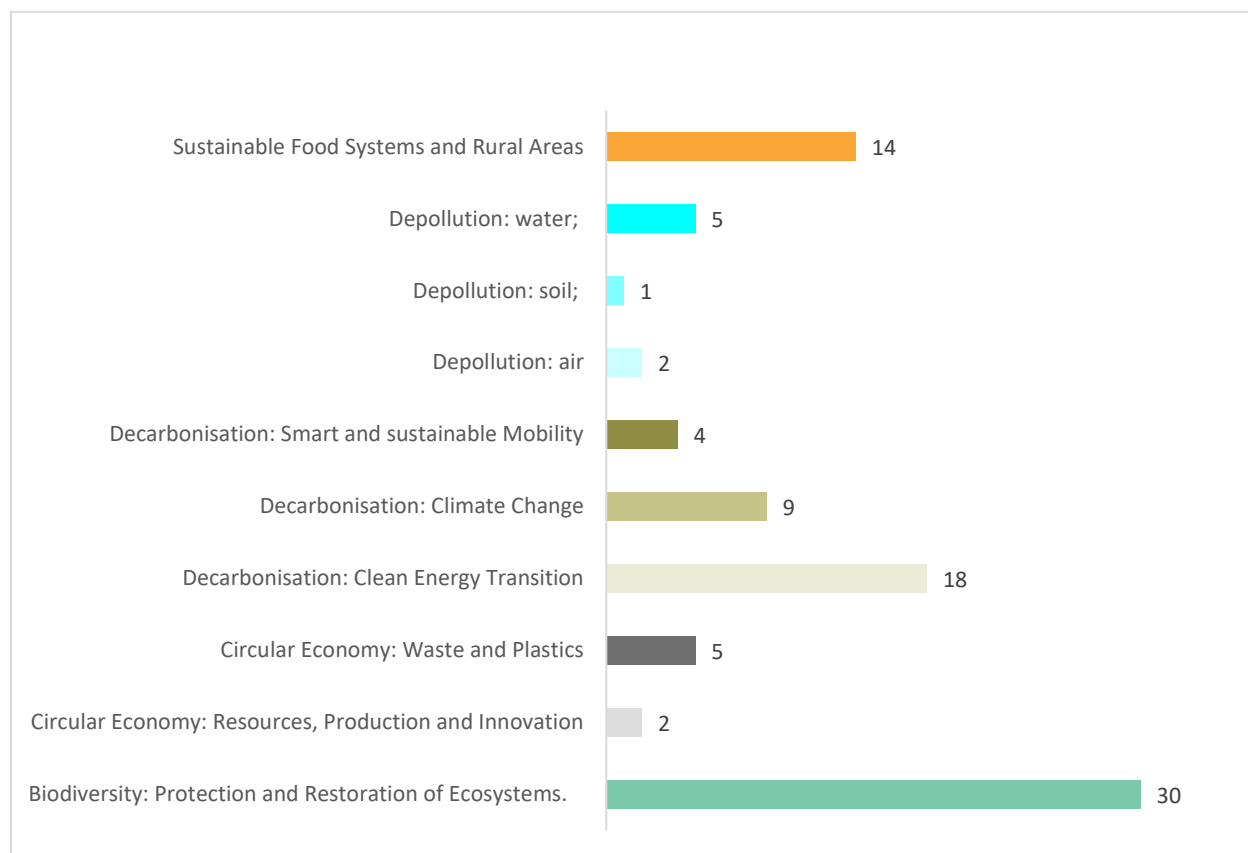
Source: Mapping dataset, CREDI 2023

In the figure above, we can see the distribution of the influence of key stakeholders (low, medium and high). In “academia/research” we can see that there are 3 high influence actors, 6 low influence and 3 medium influence actors. In “civil society representatives” there are 8 high influence actors and 2 medium influence actors and 13 low influence actors. “Other” and “industry” categories both have 6 low influence actors. Aside from that, “other” has 1 medium influence and 5 high influence, whereas “industry” has 9 high influence actors and none medium influence actors. Government actor category has 13 high influence actors, 5 medium influence actors and 10 low influence actors.

The most stakeholders are classified in the biodiversity category (30) and in the decarbonisation: clean energy transition category (18). Sustainable food systems and rural areas category has 14 actors. Other green transition sectors are not very well represented in comparison to these sectors. We have decarbonisation: climate change (9). Depollution: water and circular economy: waste and plastics have 5 stakeholders respectively. Decarbonisation: smart and sustainable mobility has 4 actors. Depollution: air and circular economy: resources, production and innovation have 2 stakeholders respectively. Finally depollution: soil has 1 actor. We can see that most of the stakeholders are in environment and rural sectors. Circular economy is not represented well at this moment, based on current data, and could be a potential for growth in the future, as well as depollution of air and soil.





**Figure 18.** Classification of stakeholders per GT pillars (primary sector) , BA

Source: Mapping dataset, CREDI 2023

The table below lists the stakeholders with both high importance and high engagement potential.

**Table 5.** National Stakeholders with high importance and high engagement potential, BA

Name of actor	Name of actor- Abbreviation	Quadruple Helix type	Main 'Green' Sector	Secondary 'Green' Sector
<b>Faculty for Agriculture and Food Science</b>	PPF	Academia/Research	Sustainable Food Systems and Rural Areas	Biodiversity: Protection and Restoration of Ecosystems.
<b>Local Development Initiative</b>	LIR	Academia/Research	Circular Economy: Resources, Production and Innovation	Biodiversity: Protection and Restoration of Ecosystems.
<b>Centre for Energy, Environment and Resources</b>	CENER	Civil society representative (e.g., NGO, community)	Decarbonisation: Climate Change	Circular Economy: Resources, Production and Innovation



Resource Centre for Environment	REC	Civil society representative (e.g., NGO, community)	Biodiversity: Protection and Restoration of Ecosystems.	Decarbonisation: Climate Change
Centre for Ecology and Energy	CEE	Civil society representative (e.g., NGO, community)	Decarbonisation: Climate Change	Biodiversity: Protection and Restoration of Ecosystems.
Coalition for river protection BIH	KZR BIH	Civil society representative (e.g., NGO, community)	Depollution: water;	
Centre for Economic, Technological and Environmental Development Sarajevo	CETEOR	Civil society representative (e.g., NGO, community)	Decarbonisation: Clean Energy Transition	Biodiversity: Protection and Restoration of Ecosystems.
Ministry of Agriculture, Water Management and Forestry of the Federation of Bosnia and Herzegovina	FMPVŠ	Government actor	Biodiversity: Protection and Restoration of Ecosystems.	Sustainable Food Systems and Rural Areas
Food Safety Agency of Bosnia and Herzegovina	AZSH BIH	Government actor	Sustainable Food Systems and Rural Areas	Biodiversity: Protection and Restoration of Ecosystems.
Federal Ministry of Energetics, Mining and Industry	FMERI	Government actor	Decarbonisation: Clean Energy Transition	
Ministry of Transport and Communications of RS	MSV	Government actor	Decarbonisation: Smart and sustainable Mobility	
Federal Institute of Geology	FZZG	Government actor	Depollution: soil;	
Ministry of Spatial Planning, Construction and Ecology of RS	MPUGE	Government actor	Decarbonisation: Smart and sustainable Mobility	
Ministry of Foreign Trade and Economic Relations of Bosnia and Herzegovina		Government actor	Decarbonisation: Clean Energy Transition	
Ministry of Energy and Mining of RS	MER/MEM	Government actor	Decarbonisation: Clean Energy Transition	Depollution: soil;



<b>Water Area Agency Sava</b>	AZVPRS	Government actor	Depollution: water;	
<b>Ministry of Urban Planning, Spatial Planning and Environmental Protection of Bosansko-podrinjski canton</b>		Government actor	Decarbonisation: Smart and sustainable Mobility	
<b>Energoinvest</b>	EI	Industry/Company/ Business organisation	Biodiversity: Protection and Restoration of Ecosystems.	Decarbonisation: Clean Energy Transition
<b>JP Elektroprivreda BiH</b>	EPBIH	Industry/Company/ Business organisation	Decarbonisation: Clean Energy Transition	
<b>ZEOS-ecosystem</b>		Industry/Company/ Business organisation	Circular Economy: Waste and Plastics	
<b>Cantonal Public Utility Company "RAD"</b>	KJKP "RAD"	Industry/Company/ Business organisation	Circular Economy: Waste and Plastics	Circular Economy: Resources, Production and Innovation
<b>GIZ Bosnia and Herzegovina</b>	GIZ BIH	Other (Consulting Company/Cultural Centre/Public Body/Start-up etc.)	Decarbonisation: Climate Change	Sustainable Food Systems and Rural Areas
<b>United Nations Development Programme BiH</b>	UNDP BIH	Other (Consulting Company/Cultural Centre/Public Body/Start-up etc.)	Decarbonisation: Climate Change	
<b>ENOVA Sarajevo</b>	ENOVA	Other (Consulting Company/Cultural Centre/Public Body/Start-up etc.)	Decarbonisation: Climate Change	Decarbonisation: Clean Energy Transition

Source: Mapping dataset, CREDI 2023

The table above show that the most prevalent quadruple helix type is government actor (10), after which we have civil society representative (5) and industry (4). We have 2 academia/research institutions and 3 that fall under the category of other. Most prevalent green transition pillars are clean energy transition (5) and climate change (5), followed by smart and sustainable mobility (3) and biodiversity (3). Water depollution, sustainable food systems,



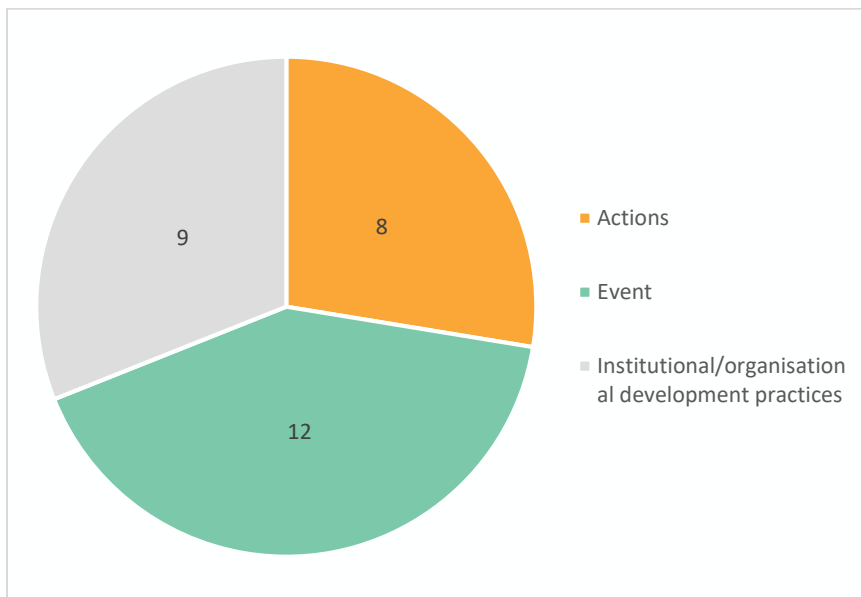
waste and plastics have 2 institutions. Finally, circular economy: resources, production and innovation have 1 institution. Decarbonisation segment of green transition pillars are the most prevalent in institutions with high impact.

### 2.2.3 Green transition related practices and initiatives in Bosnia and Herzegovina

The initial mapping of initiatives produced 30 of them. Not all mapped practices and initiatives could be proven directly useful for our research, but they could at least improve understanding of current initiatives in the country and some of them may possibly offer good practices with regards to advocacy initiatives and use of research findings. Most prevalent green transition pillar is circular economy: waste and plastics (10), after which comes biodiversity (9) and smart and sustainable mobility (3). Most of the initiatives are educating people on proper waste management, protecting natural resources and natural land and the warming of buildings. The initiatives are not very balanced and are mostly focused on 2 sectors of activity (waste and plastic and biodiversity).

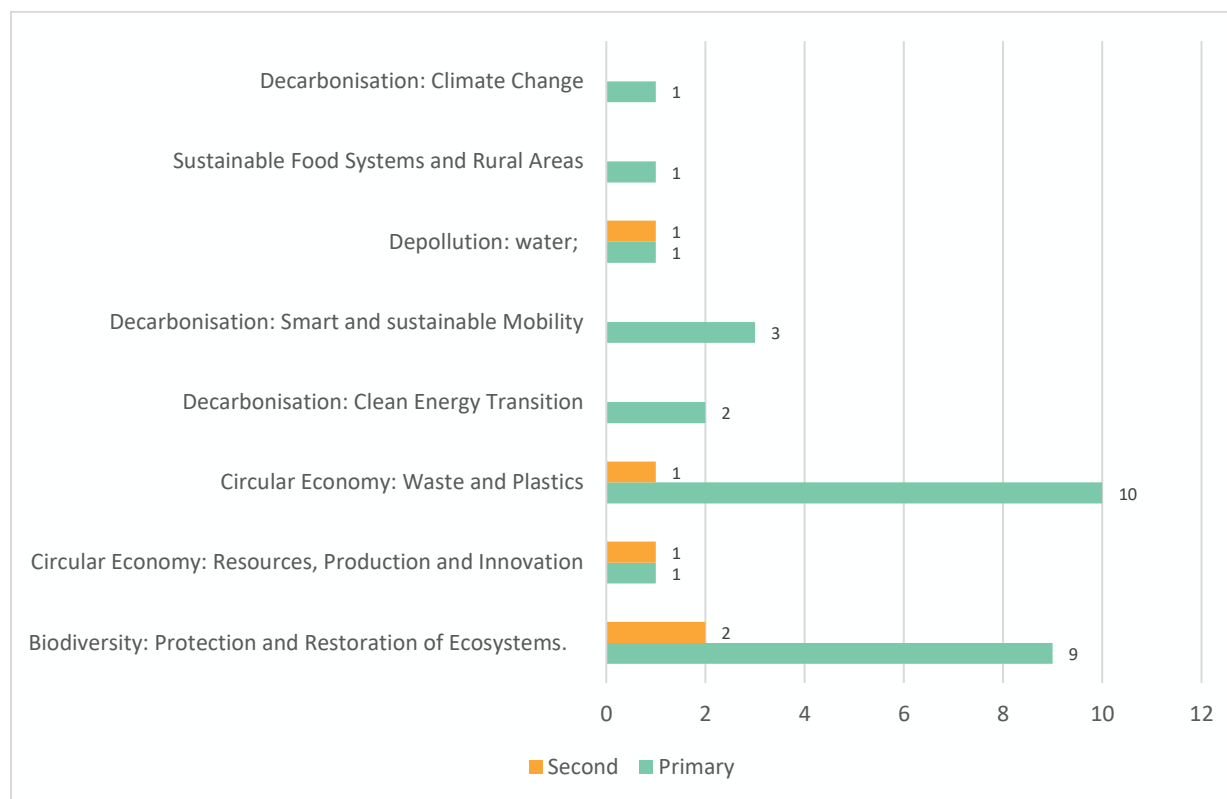
In the figure below we can see that the events are dominant, with 12 initiatives, after which we have institutional/organisational development practices (9 initiatives) and actions (8 initiatives).

**Figure 19.** Classification of mapped GT practices per type, BA



Source: Mapping dataset, CREDI 2023



**Figure 20.** Number of mapped practices per Green Transition Pillar (both as primary or secondary pillar), BA

Source: Mapping dataset, CREDI 2023

From the figure above we can see that most of the practices have primary pillar they focus on. Most primary pillars are in the circular economy: waste and plastics, in which one initiative has a secondary pillar of focus. Biodiversity is the second most prevalent sector with initiatives, with 9 primary pillars and 2 secondary pillars. Smart and sustainable mobility (3) and clean energy transition (2) have only primary pillars of focus.

The table below list the stakeholders with high importance and high engagement potential.

**Table 6.** Mapped practices with high potential for capitalization, BA

GT Pillar	Practices/initiative	Main implementing actor	Territorial scope	Time frame
Decarbonization	Capacity building and education on climate change of farmers from the municipalities of Hadžići and Ilijaš	CENER 21	Local	6 months



Circular Economy	„Primjena cirkularnih rješenja za unaprijeđenje poslovanja u poljoprivredno-prehrambenom sektoru, sektoru namještaja i sektoru obrade metala	CETEOR	National	20.02.2023.
	Action for development and promotion of renewable energy sources and energy efficiency in the Municipality of Olovo	CENER 21	Local	6 months
Biodiversity	Free the Rivers Summer School 2021	Arnika	National	2.09.- 5.09.2022

Source: Mapping dataset, CREDI 2023

As the table suggests, some of the high potential initiatives are related to energy sector and circular economy.

#### 2.2.4 Identification of territorial strengths, weaknesses, opportunities and challenges for Green Transition in Bosnia and Herzegovina

In this section, the SWOT table for BA is presented, briefly explaining BA's potential and capacity to promote and implement green transition. Key strengths, weaknesses, opportunities and challenges detected are listed in the table, while the conclusions that can be drawn from the table are presented in the remainder of this section.



Strengths	Weaknesses
<ul style="list-style-type: none"> <li>- Rich environmental potential for green transition</li> <li>- Strong legislation in water management</li> <li>- Largest exporter of electricity in the region</li> <li>- Potential for use of biomass</li> <li>- Strong non-formal education sector</li> <li>- Expanding IT sector that could support transition</li> </ul>	<ul style="list-style-type: none"> <li>- Complex organisation of the country, combined with a low level of coordination between various actors, as well as missing political will for any reforms</li> <li>- No clear plans and strategies yet developed for green transition</li> <li>- Low level of awareness of importance of green transition among citizens</li> <li>- Low level of education in green skills in the formal education system</li> <li>- Dependency on carbon-based resources;</li> <li>- Bosnia and Herzegovina is significantly lagging behind in establishing the legal framework and necessary institutions for business operations in the liberalized energy markets of the mentioned energy sources</li> <li>- Unsustainable environmental practices</li> <li>- Limited fiscal space for financing green transition</li> </ul>

Opportunities	Threats
<ul style="list-style-type: none"> <li>- A considerable number of NGOs and other organisations involved in green transition;</li> <li>- Small and medium enterprises;</li> <li>- Possible investments;</li> <li>- Large diaspora that can be involved in transition</li> <li>- Opportunities for new job creation in the green energy sector</li> </ul>	<ul style="list-style-type: none"> <li>- Geopolitical developments affecting change in prices of energy</li> <li>- Energy poverty and low access to clean energy</li> <li>- A risk of social unrest and influence of different lobbies that can slow down transition</li> </ul>

The analysis of the challenges for green transition suggests that the most important challenge to be addresses is the awareness among both institutions and wider population. The raised awareness is an important prerequisite for



starting the necessary reforms and development of strategies and policies needed for green transition. Such efforts will require improved coordination between institutions, as well as enhanced consultations with CSOs and citizens, in a transparent and effective manner. Furthermore, BA needs to invest more in producing skills required to implement green transition. Phasing out coal is an important step to be done, which will require appropriate set of policies in the area of labour market and social policies in order to assure just transition. Social policies should also cover the measures to address energy prices volatility.





## 2.3 National Mapping Report – Montenegro

### 2.3.1 Identification of territorial policies in Montenegro

In the case of Montenegro, it was proposed that research and data collection for Mapping Green Transition for the Western Balkan Agenda on Green Transition Pillar 2: Shifting to a Circular Economy be conducted. As a result, the majority of the identified initiatives were related to the circular economy, with a particular emphasis on waste management.

With the Action plan for the implementation of the State Waste Management Plan aims and activities were defined in the line with the Law on Waste Management and obligations of the country in the process of EU integration including the current situation and results achieved in the waste management including:

- improvement of the existing legislative and legal system at the state and local level;
- establishing a planning framework at the local level;
- improvement of the waste management system;
- introduction of the separate waste collection;
- provision of technical support in terms of consultations and preparation of necessary studies and technical documentation;
- provision of technical support in building the necessary infrastructure.

Municipal waste management is the responsibility of the local self-governments (Municipalities) and it is carried out in a manner that it is being disposed of at sanitary landfills, temporarily stored at temporary locations, disposed of the unregulated landfills and to a small extent selectively separated for reuse and recycling.

Sanitary landfills are placed in Podgorica and Bar. In the sanitary landfill, “Livade” in Podgorica waste from Podgorica, Danilovgrad, Plužine, Cetinje and Šavnik is being disposed of, while in sanitary landfill “Možura” in Bar waste from Bar, Ulcinj, Budva, Tivat and Kotor.

Preparation of the new Law on waste management based on the requirements of EU Directives and the needs of the country started in 2017. Public debate on this law was implemented in 2018, but the law is still not adopted.

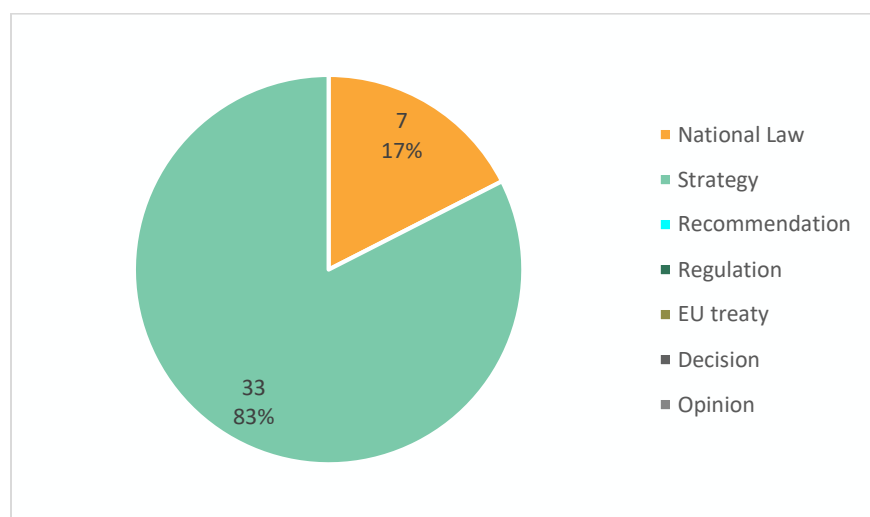
Moving towards a circular economy in the area of waste management is quite a new topic in the country. Waste management is one of the most visible ecological issues in Montenegro. Around 1% of waste is recycled while most of the waste is being disposed of in sanitary landfills and/or in illegal/temporary landfills all over the country. In terms of just transition and circular economy, activities are in the initial phase with very limited results for now. A strategy for circular economy and Road map was recently adopted.



The listed State Waste Management plan and all local waste management plans are outdated. Most of them were relevant for the period from 2016 – 2020. The Line Ministry is in the phase of preparing of new State Waste Management plan and respective local plans should be prepared later on.

The Montenegrin government has taken steps towards transitioning to a green economy in other sectors as well, including the adoption of the National Sustainable Development Strategy 2030, which includes goals to increase the share of renewable energy and improve energy efficiency. The government has also developed a National Energy Development Strategy, which sets targets for increasing the share of renewable energy in the energy mix. Additionally, the government has established the Ministry of Ecology, Spatial Planning and Urbanism, which is responsible for implementing policies and programs related to environmental protection and sustainable development.

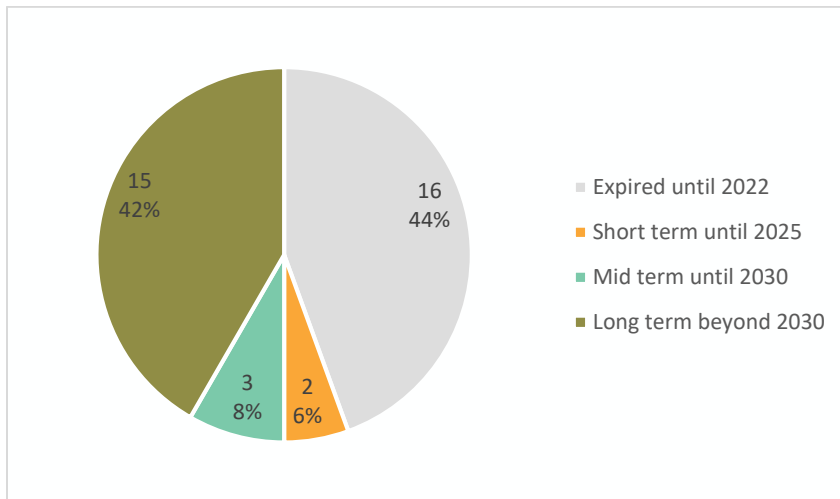
**Figure 21.** Total number of policies mapped per category, Montenegro



Source: Mapping dataset, A.Vukovic, 2023

In total **40 policies** were mapped. Most of them are Strategies including State Waste Management Plan and Roadmap to Circular economy. Municipal local Waste Management plans were also listed as well as relevant Laws including Law on waste management (Official Gazette of Montenegro, No. 064/11 from 29.12.2011, 039/16 from 29.06.2016), Law on Communal activities (Official Gazette of Montenegro, No. 055/16 from 17.08.2016, 0/74 from 01.12.2016) and Law on Environment (Official Gazette of Montenegro, No. 12/96, 55/00).



**Figure 22.** Total number of policies mapped per timeframe, Montenegro

Source: Mapping dataset, A.Vukovic, 2023

As for the timeframe, State Waste Management Plan and all local waste management plans expired since most of them were created for the period from 2016 – 2020. Law on waste management, Law on Communal Activities and Law on environment were considered as a short term in this table having in mind the fact that Montenegro is in the process of the alignment of the laws and procedures with the EU acquis and transposes different directives into its own laws. This specially refers to the Law on waste management which is already in the phase of changing and new law is already drafted and is expected to be adopted during 2023.

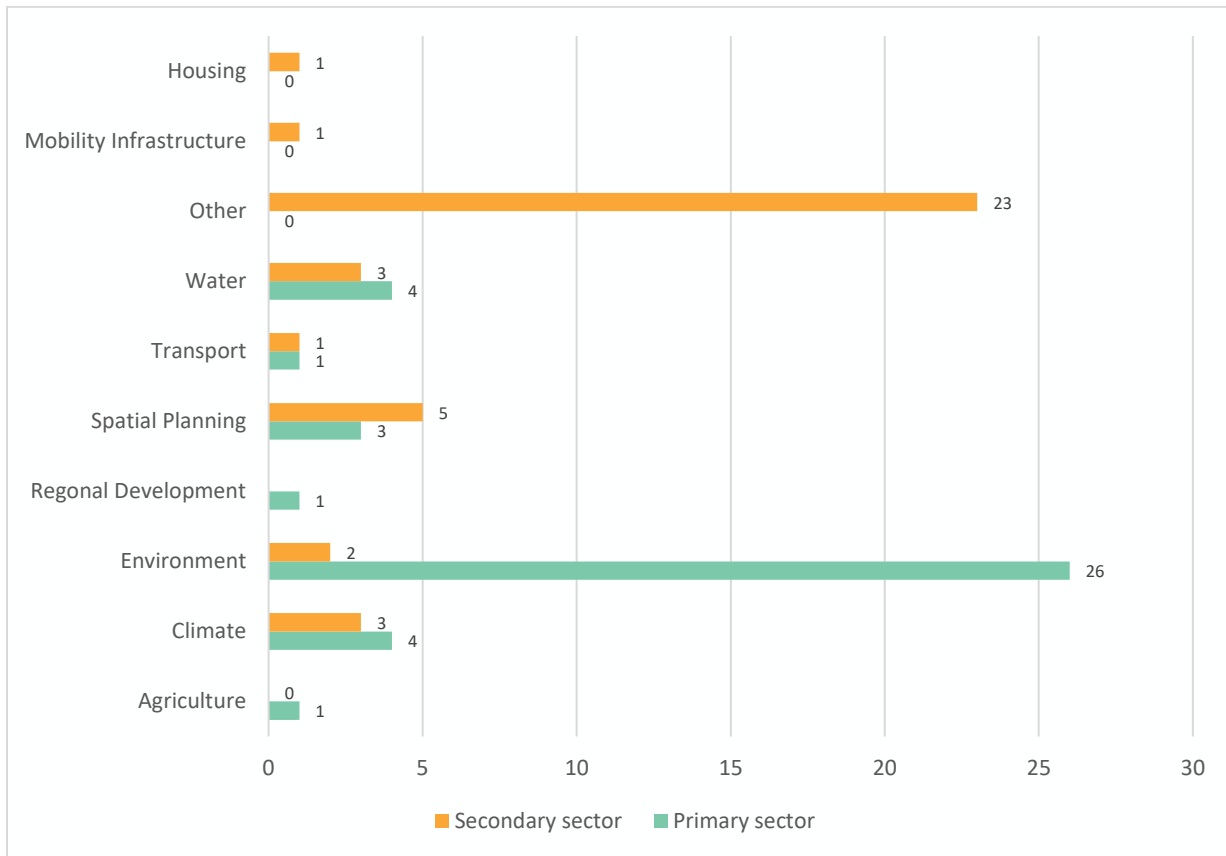
On the other side, Roadmap to a circular economy was prepared as a long-term document showing further steps towards a circular economy in Montenegro.

Mapped Policies are primarily from the sector of environment. Furthermore, these policies are related to the waste management and circular economy. Most of the listed Policies are relevant to the Green Transition Pillar on Circular economy.

In regard to Decarbonisation, Roadmap towards circular economy contributes to the Decarbonisation pillar of the Green Agenda concerning the building sector. It is emphasizing the circulation of construction materials from waste and demolition/reconstruction waste, the introduction and use of sustainable and circular materials, brownfield instead of greenfield investments and the revitalization of old and abandoned buildings.

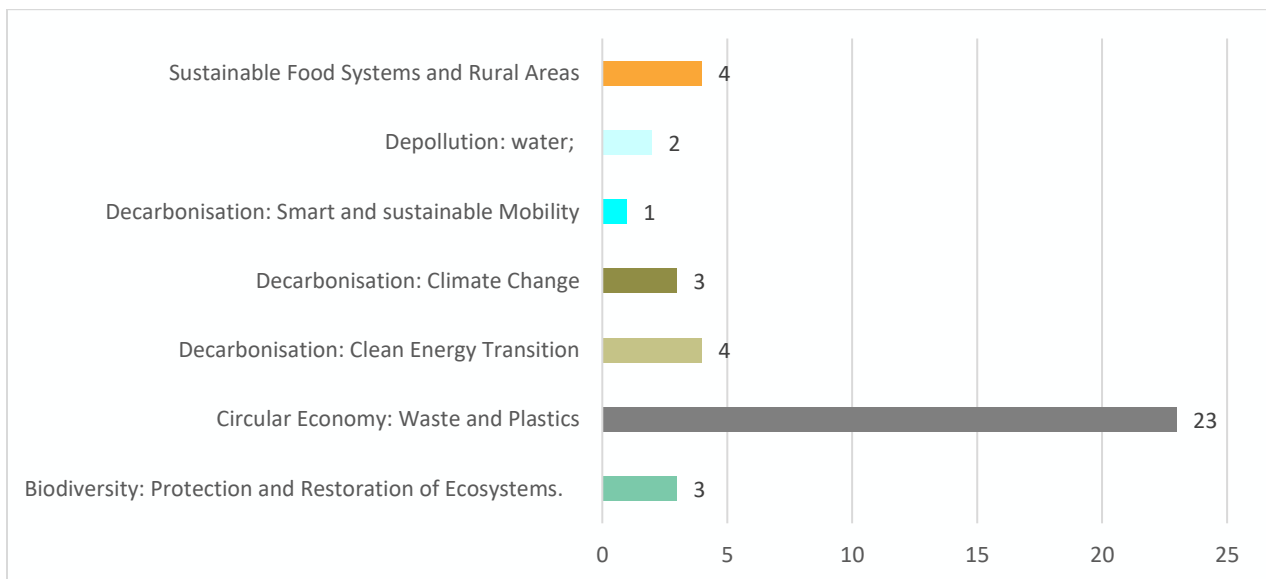


**Figure 23.** Primary and secondary sectors mapped per policy, Montenegro



Source: Mapping dataset, A.Vukovic, 2023

**Figure 24.** Number of mapped policies per Green Transition Pillar, Montenegro



Source: Mapping dataset, A.Vukovic, 2023



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As for the Circular Economy, Law on waste management regulates this area, but it is in the process of change since 2017. Roadmap towards the circular economy is specifically designed for aspects of the circular economy within this pillar of the Green Agenda.

State Waste Management Plan and all local waste management plans for Municipalities mention Circular Economy as a principle, however, none of these strategies does provide any specific actions that would contribute to this principle in practice.

**Table 7.** Overview of all policies that have potential for capitalization, Montenegro

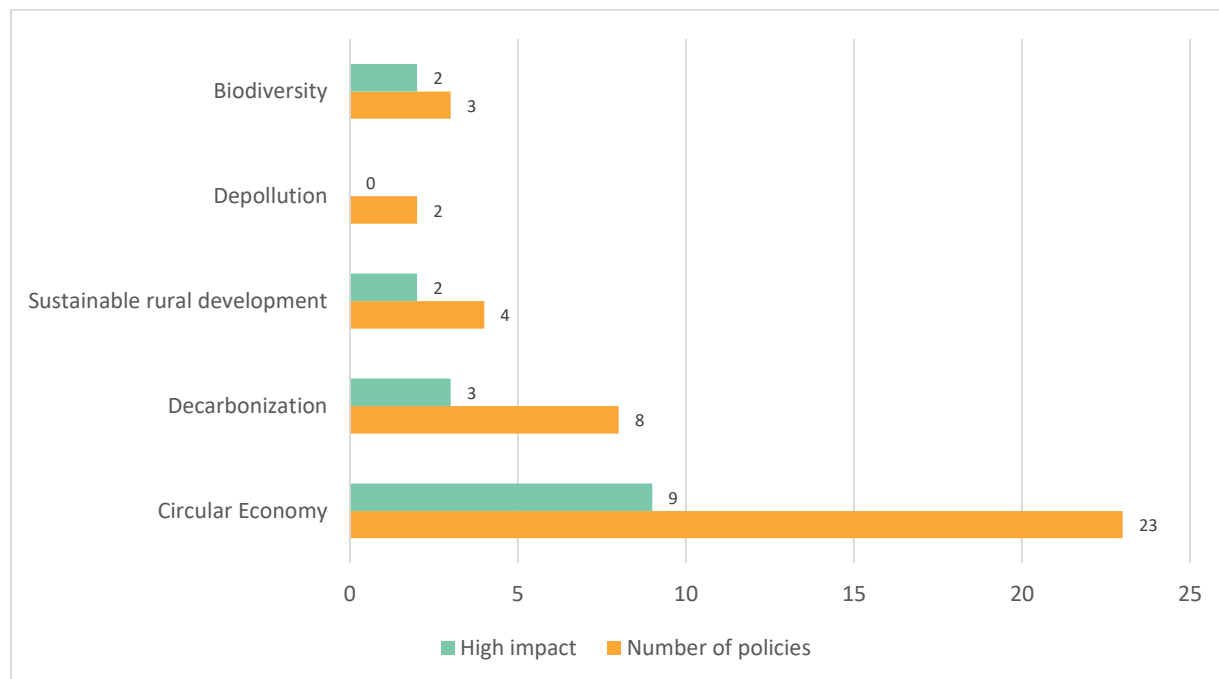
Name of policy	Main Actor Responsible	Related GT Pillars	Level of impact
<b>Law on waste management</b>	Ministry of ecology, spatial planing and urbanism	Circular economy	High
<b>Roadmap towards the circular economy in Montenegro</b>	The Chamber of Economy of Montenegro	Circular economy	High
<b>State waste management plan</b>	Ministry of ecology, spatial planning and urbanism	Circular economy	High
<b>Municipal Waste management plan</b>	Municipalities	Circular economy	High

Source: Mapping dataset, A.Vukovic, 2023

The highest potential for capitalisation is in the fact that the Law on waste management has to be changed and is in the process of preparation/adaptation since 2017. Public debate on this law was organized in August 2018. Since then, the draft law was changed/adopted several times but it was not adopted yet. Added to this, the National Strategy on waste management has to be renewed, since the last one was for the period from 2016 – 2020 and the Ministry of Ecology, Spatial Planning and Urbanism is preparing the new one. Once the State Waste Management Strategy will be adopted, local/Municipal Waste Management plans will be adopted.



**Figure 25.** Number of mapped policies per Green Transition Pillar / and the number of GT Policies ranked as 'high impact', Montenegro



Source: Mapping dataset, A.Vukovic, 2023

In regards to the funding mechanisms, the actual Law on waste management is defined that the owner of the waste pays the cost of collection, transportation, and processing of the waste by the “polluters pay” principle. The cost of waste management is also borne by producers, importers and distributors of the products from which the waste originates. In practice, the system defined by the law does not work properly and is not being implemented when it comes to the producers, importers and distributors from which the products originate.

Montenegro can finance its green transition through a combination of funding sources, including:

- **International funding:** Montenegro can access funding from international organizations such as the European Union (EU) and the United Nations Development Programme (UNDP) to support its green transition. For example, the EU provides funding through its Instrument for Pre-Accession Assistance and the Green for Growth Fund, which supports renewable energy and energy efficiency projects in the Western Balkans.
- **Public-private partnerships (PPPs):** Montenegro can partner with private sector entities to finance green projects, particularly in the renewable energy sector. PPPs can provide access to capital and technical expertise, which can be crucial for the success of green projects.



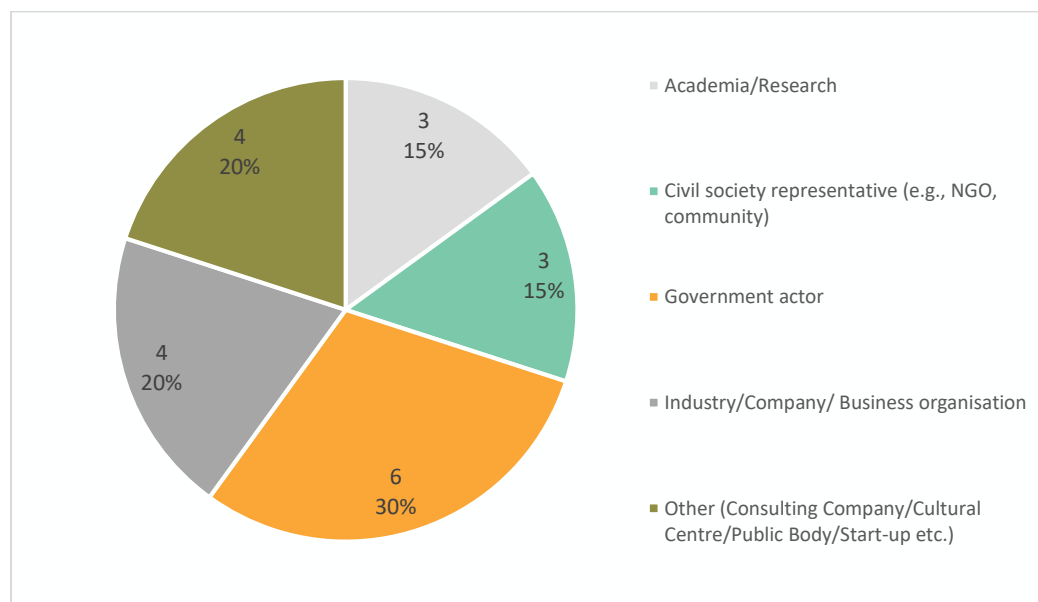
- National and international grants: Montenegro can apply for grants from national and international organizations to support its green transition. For example, the Global Environment Facility provides grants for projects that address global environmental issues, including climate change mitigation and adaptation.

### 2.3.2 Key actors involved in Green Transition in Montenegro

Several key actors are involved in the green transition in Montenegro, including the Montenegrin government, international organizations, private sector entities, and civil society organizations. A total of 20 stakeholders were mapped, ranging from governmental actors, to research and academic sector, and community-based organizations. International organizations, such as the European Union and the United Nations Development Programme (UNDP), are also playing a significant role in the green transition in Montenegro. The private sector is also actively involved in the green transition in Montenegro, particularly in the renewable energy sector. Several private companies have invested in renewable energy projects, including wind and solar power plants. These investments have been supported by favorable policies and incentives provided by the government.

Civil society organizations are also important actors in the green transition in Montenegro. These organizations are advocating for more ambitious climate and environmental policies and promoting sustainable practices among citizens and businesses. Some of these organizations include NGOs such as Green Home, Zero Waste Montenegro, etc, which are working to raise awareness and promote sustainable development practices in the country.

**Figure 26.** Total number of actors mapped in Montenegro, grouped per Quadruple Helix category, Montenegro



Source: Mapping dataset, A.Vukovic, 2023



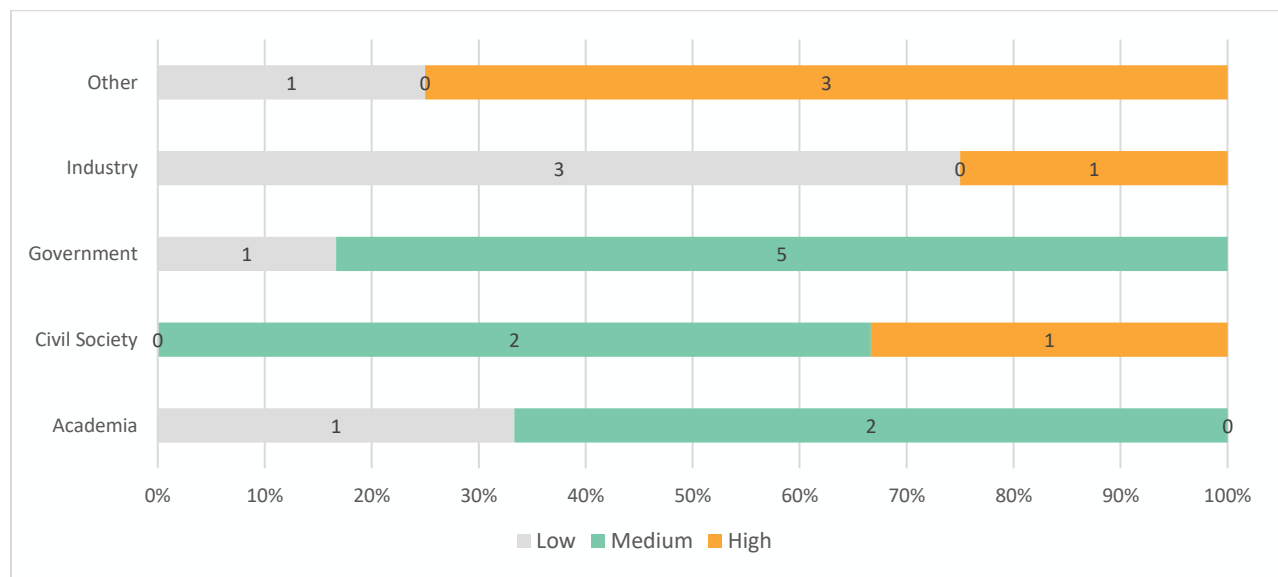
An equal distribution of actors per QH category was mapped, with a good representation of academic stakeholders, civil society representatives, government actors, industry actors, and others. The Montenegrin government plays a crucial role in promoting and implementing policies and regulations that support sustainable development and green transition. This includes the development of national strategies and action plans, the establishment of incentives and subsidies for renewable energy and energy efficiency, and the implementation of environmental standards and regulations.

The private sector in Montenegro, particularly in the renewable energy sector, can drive the green transition through investment in sustainable infrastructure and technology, and the adoption of environmentally-friendly practices. The industry can also work with the government to develop policies and regulations that support sustainable development.

Academic institutions in Montenegro can contribute to the green transition through research, education, and innovation. This includes developing new technologies and solutions for sustainable development, providing training and education to the workforce, and conducting research on environmental issues.

Lastly, Civil society organizations, including non-governmental organizations, community groups, and environmental activists, can raise awareness and promote public engagement in sustainable development and green transition. They can advocate for policies and regulations that support environmental protection and hold government and industry accountable for their environmental impact.

**Figure 27.** Influence of GT stakeholders, per QH category, Montenegro



Source: Mapping dataset, A.Vukovic, 2023



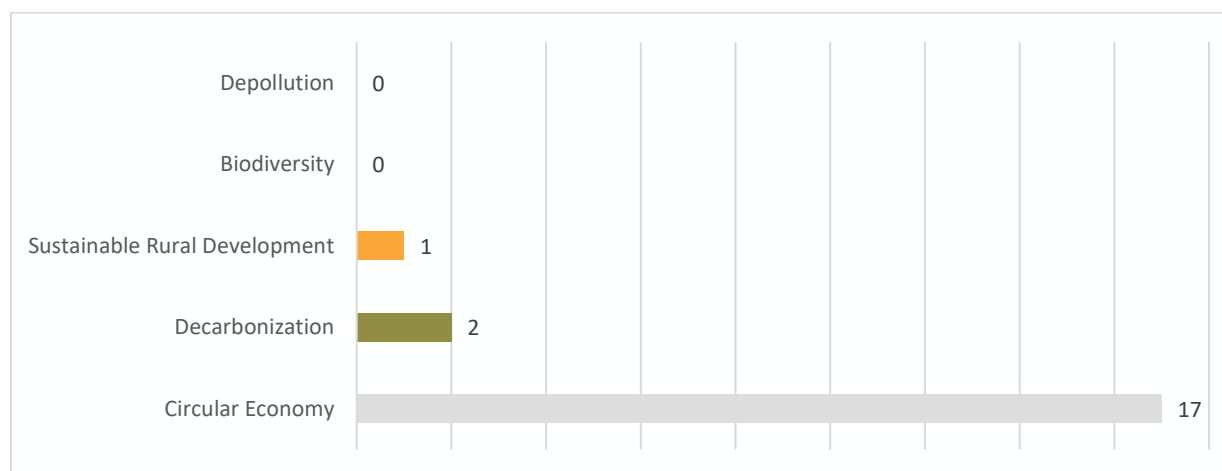
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In the figure above, we can see the distribution of the influence of key stakeholders (low, medium and high) throughout the quadruple helix. Generally, the stakeholders considered of the highest relevance fall outside of the quadruple helix categories, as others. Governmental actors are mainly considered of medium impact, as well as the majority of civil society actors and academia actors. The industry sector is mostly represented by low-impact stakeholders, nevertheless, if their efforts are capitalized duly, they are prone to become of medium and high importance.

**Figure 28.** Classification of stakeholders per GT pillars (primary sector), Montenegro



Source: Mapping dataset, A.Vukovic, 2023

The most stakeholders are classified in the circular economy category (17) because of the focused scope of mapping. Decarbonisation and sustainable food production and rural development are only represented with 2 and 1 stakeholders respectively.

**Table 8.** National Stakeholders with high importance and high engagement potential, Montenegro

Full Name	Abbreviation	QH category	Primary GT sector	Secondary GT sector
Ministry of ecology, spatial planning, and urbanism	MEPG	Government actor	Decarbonisation: Climate Change	Biodiversity: Protection and Restoration of Ecosystems
Ministry of Economic Development and Tourism	MEK	Government actor	Circular Economy: Resources, Production, and Innovation	Circular Economy: Waste and Plastics
Statistical Office of Montenegro – MONSTAT	MONSTAT	Government actor	Circular Economy: Resources, Production, and Innovation	Circular Economy: Waste and Plastics

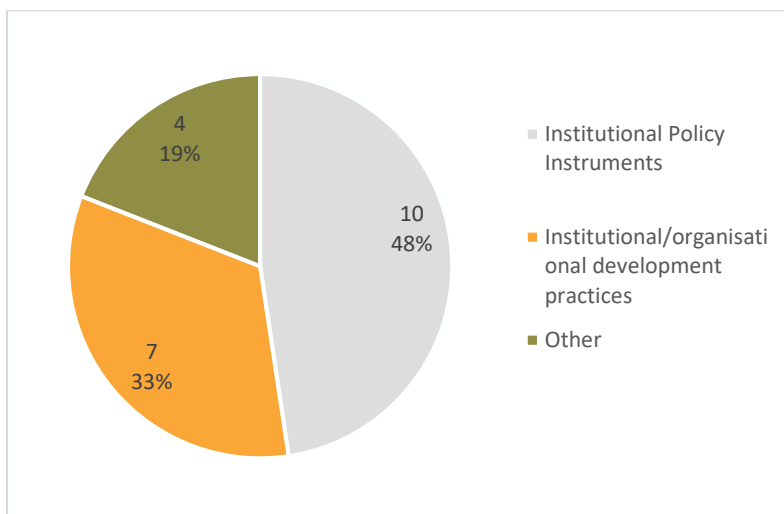
Source: Mapping dataset, A.Vukovic, 2023

The table above shows that the most prevalent quadruple helix type is government actor, which may be a factor for potential engagement with the research case. Most prevalent green transition pillars are Circular Economy: Resources, Production, and Innovation; Circular Economy: Waste and Plastics; and Decarbonisation: Climate Change. The actors that are considered as high engagement and high importance have the potential to be integrated fully in the research case and, to date, are significant in the process of implementation of green transition policies in Montenegro.

### 2.3.3 Green transition related practices and initiatives in Montenegro

A total of 21 relevant practices were identified, including: Institutional/organisational development practices; Institutional Policy Instruments; and Others. The mapped practices can generally be considered useful in relation to the Montenegrin research case study, especially practices belonging to the Circular Economy pillar.

**Figure 29.** Classification of mapped GT practices per type, Montenegro

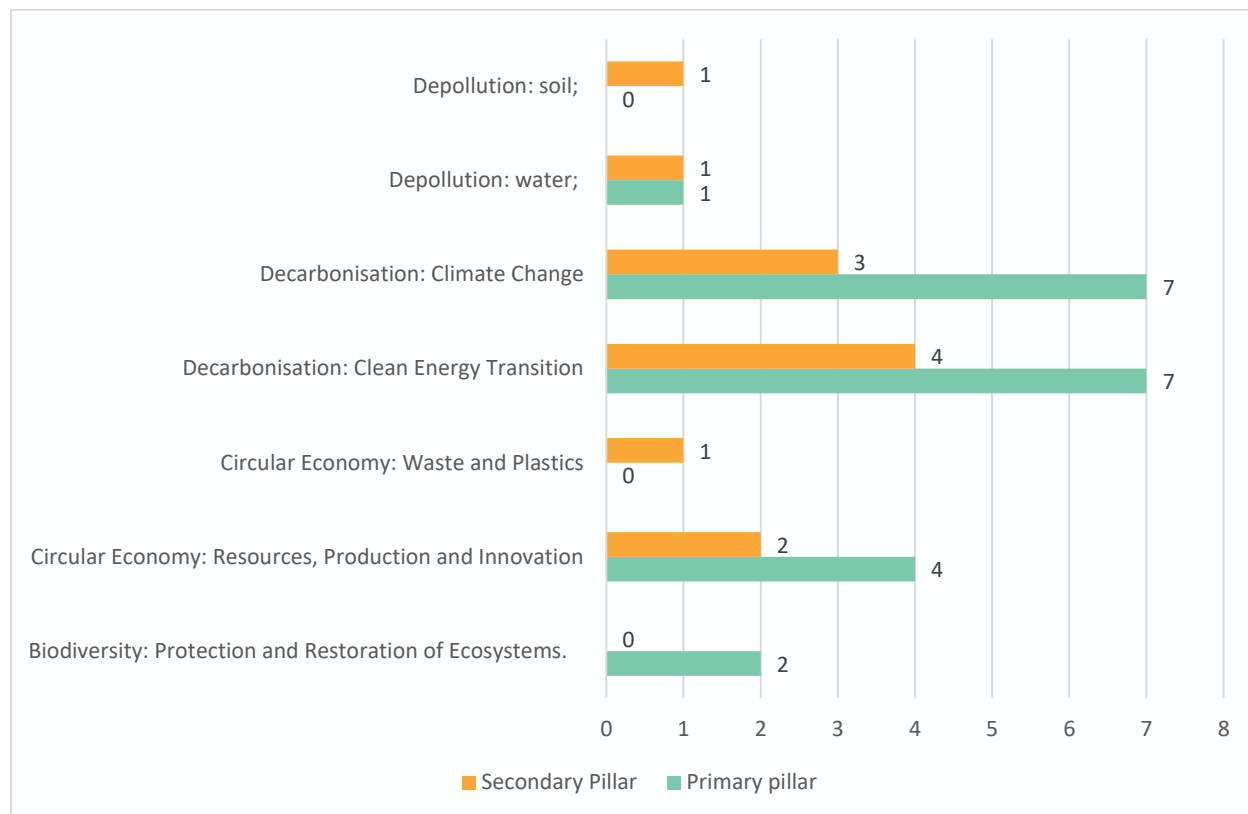


Source: Mapping dataset, A.Vukovic, 2023

Most mapped practices are aligned with international cooperation projects, and funded under IPA cbc calls, or other EU-supported programs. In general these practices and initiatives address renewable energy initiatives, energy efficiency, waste management and sustainable tourism. Most of the mapped practices fall under the Decarbonization pillar, especially for the subsector of clean energy transition and climate change. Nevertheless, there are considerable practices that may contribute directly to the research case in adaptation of methods and baseline research data, and they are implemented under the circular economy pillar: resources, production and innovation.



**Figure 30.** Number of mapped practices per Green Transition Pillar (both as primary or secondary pillar), Montenegro



Source: Mapping dataset, A.Vukovic, 2023

**Table 9.** Mapped practices with high potential for capitalization, Montenegro

GT Pillar	Practices/initiative	Main implementing actor	Territorial scope	Time frame
Decarbonization	Project Solari 3000+	EPCG	Montenegro	2021/2022
	Energy Efficiency living lab - ENEA Project	Ce.F.A.S. - Centro di Formazione e Alta Specializzazione - Italy	Italy / Albania / Montenegro	2020/2021
	On-grid and off-grid photovoltaic systems	Eco fund	Montenegro	2022
	Energy Efficiency projects in households	EBRD	Montenegro	2022
Circular Economy	Circular Economy Regional Initiative in	European Bank for Reconstruction	Montenegro	ongoing



	Turkey and the Western Balkans	and Development (EBRD)		
	Memorandum of Understanding for the NETs (Negative emission technologies) in the South Adriatic area - LONETA Project	Fondazione Centro Euro-Mediterraneo sui Cambiamenti Climatici (CMCC) - Italy	South Adriatic area	01/10/2020 to 31/03/2022

Source: Mapping dataset, A.Vukovic, 2023

The most relevant practices mapped are focused on the Montenegrin territory, but have a high potential for replication and adaptation in other contexts, especially for the GreenFORCE research cases.

#### 2.3.4 Identification of territorial strengths, weaknesses, opportunities and challenges for Green Transition in Montenegro

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>• Montenegro has abundant renewable energy sources, including solar, wind, and hydropower, which can be harnessed to transition towards a green economy.</li> <li>• The government has demonstrated its commitment to sustainable development through the adoption of the National Sustainable Development Strategy 2030 and the National Energy Development Strategy.</li> <li>• The country has received funding and technical support from international organizations to implement sustainable development policies and programs.</li> </ul>	<ul style="list-style-type: none"> <li>• Montenegro is heavily reliant on fossil fuels for energy, particularly coal, which poses a significant challenge to the green transition.</li> <li>• The country faces economic and social challenges, including high unemployment rates and low GDP per capita, which can limit the resources available for investing in sustainable development.</li> <li>• The lack of awareness and engagement among the public and businesses can also hinder the transition to a green economy.</li> </ul>



Opportunities	Threats
<ul style="list-style-type: none"> <li>• Montenegro can attract foreign investment in renewable energy projects through favorable policies and incentives.</li> <li>• The country can develop a circular economy, which can reduce waste and increase resource efficiency.</li> <li>• The green transition can create new employment opportunities and stimulate economic growth, particularly in the renewable energy sector.</li> </ul>	<ul style="list-style-type: none"> <li>• The lack of political will and support for sustainable development policies can hinder the transition to a green economy.</li> <li>• The dependence on foreign funding and technical support can limit the country's ability to implement sustainable development programs independently.</li> <li>• Climate change impacts, such as droughts and floods, can have significant negative impacts on the country's economy and environment.</li> </ul>



## 2.4 National Mapping Report – North Macedonia

The purpose of the mapping process is to gather initial data, refine the research proposal, and identify sectors and territories that are affected by transitions and current progress in transition practices. The mapping has identified actors, practices, and policies related to green transition in various sectors in Republic of North Macedonia (RNM). The mapping frame has included the type of information to be collected, standardization of data entry, and tailored instruments that are used to gather information, such as desk research, meetings with relevant actors and sectorial initiatives, and site visits to observe activities and territories that are or should be subject to transition.

The Green Transition (GT) mapping process focuses on collecting information about policies, actors, and practices related to green transitions in North Macedonia. There is a territorial scale and the sectoral perspective in this mapping report. The sectoral perspective is important in understanding the advancement of green transitions in different territorial contexts, so the mapping process also identifies policies, actors, and practices by sector.

The mapping toolbox<sup>i</sup> was developed by all partners using their previous knowledge from other mapping processes and adapting the observation frames to key European initiatives such as the European Green Deal, New European Bauhaus, and the Green Agenda for the Western Balkans.

In methodological terms, two types of activities have been undertaken:

**Desk research**, which includes domestic and international publications and other information published on line related to the relevant domestic national and subnational and EU legislation, policy, policy documents, initiatives, etc. for the implementation of the Green Agenda.

**Site visits** to observe activities and territories that are or should be subject to transition.

The purpose of this approach is the identification of legal and policy obligations for the establishment of monitoring and reporting systems and the status of their practical implementation. In other words, to identify whether any established systems performance monitoring and reporting in an organized and systematized manner, based on established criteria, metrics, and defined indicators. The identification of institutions and/or other organizations in charge of implementing a certain specific activity, the way that those institutions/organizations follow the implementation.

The challenges to be noted for undertaking this data mapping process were as follows:

- Poor information for project initiatives.



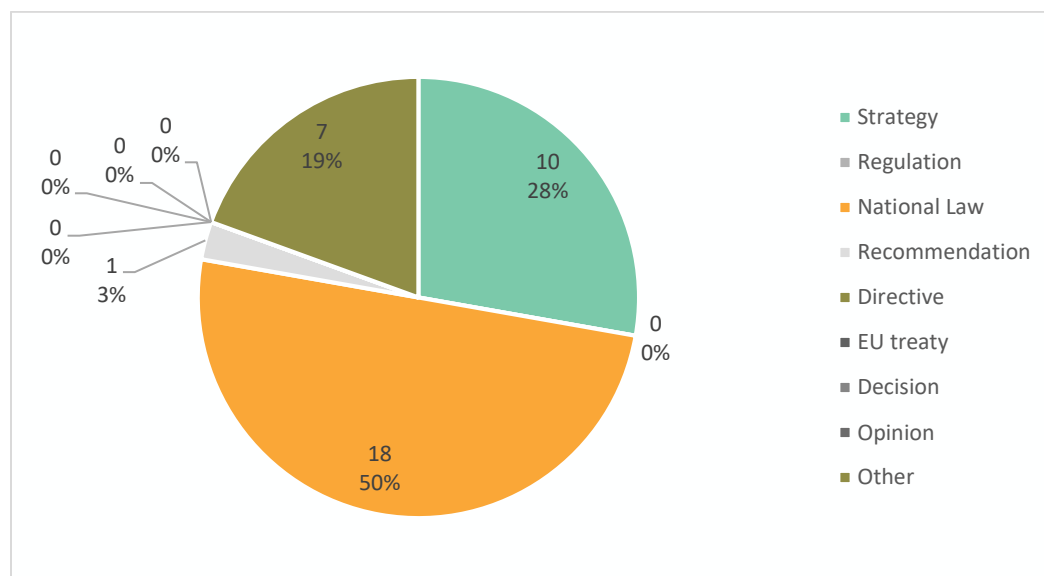
- Many of the official legislation are not available on the official public authority websites and it is necessary to pay a fee to get the latest changes.
- Unavailable public data and unavailable public authorities for interviews.

#### 2.4.1 Identification of territorial policies in North Macedonia

In the general overview of the concerning subject policies in North Macedonia, it can be concluded that the mapped (identified) policies are primarily and largely composed of national laws and strategies. Most notably, the Environment sector takes up the most significant share of the mapped policies, with 12 of the 36 identified focusing on the environment. Moreover, of the total 36 mapped policies, the most common pillar of the Green Agenda is Decarbonisation, as 12 of the identified policies are concerning decarbonization. This is followed by 8 policies related to Circular Economy, 6 related to Biodiversity, 5 associated with Depollution and also 5 with Sustainable Rural Areas.

With regards to the time frame validity of the policy documents, most of the mapped green transition policies are with a mid-term validity i.e., until 2030, representing 64% of the total identified. This is followed by those with a short-term expiration date, up until 2025, which make up 19% of the mapped policies. Some of the documents that have been identified in the mapping process have largely expired and substituted with updated versions have not been considered. Rather the 6% are concerning those policy and strategic documents which have not been replaced by new ones. Additionally, 11% of the mapped policies are long-term oriented, beyond 2030.

**Figure 31.** Total number of policies mapped per category, North Macedonia



Source: Mapping dataset, CEA 2022



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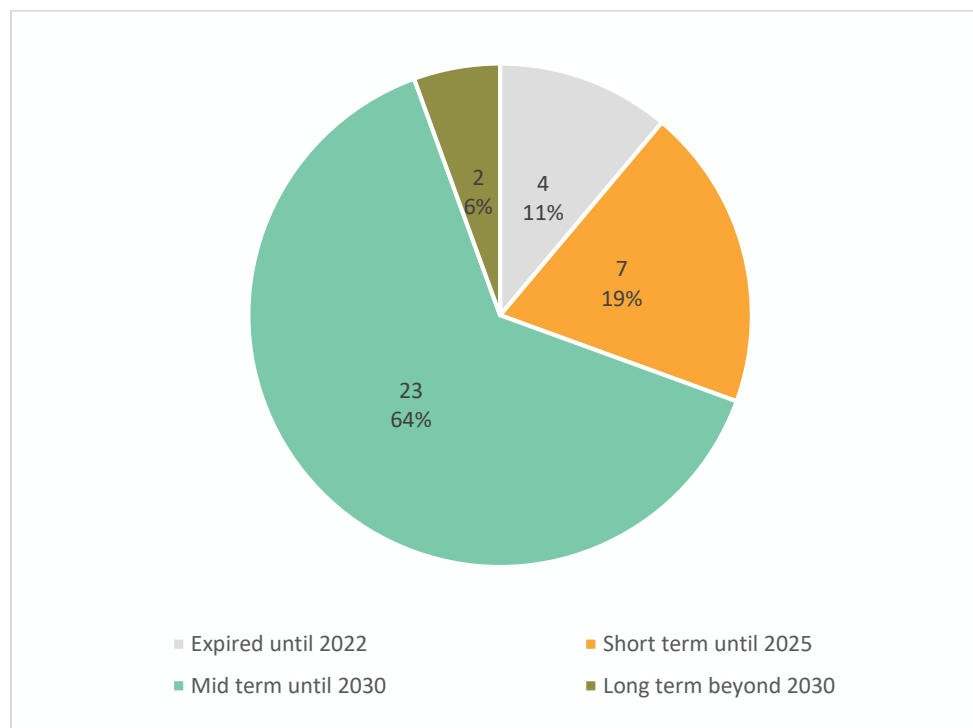
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The mapping of green transition policies in North Macedonia reveals that a significant proportion of these policies take the form of national laws, representing 50% of all mapped policies. This highlights the government's commitment to legal frameworks as a means of driving the green transition. Additionally, strategies specifically related to the green agenda comprise 28% of all mapped policies, indicating a concerted effort to proactively address environmental issues through these strategic plans.

Furthermore, other policy instruments such as national action plans, regional plans, and national programs that pertain to various sectors of the green transition account for 19% of all mapped policies, demonstrating a comprehensive approach to implementing the green transition across various sectors and regions.

It's noteworthy to mention that only one recommendation was identified in the mapping process, which is the "Document for Enhanced Nationally Determined Contribution" which highlights the country's commitment to reducing its greenhouse gas emissions in line with its obligations under the Paris Agreement.

**Figure 32.** Total number of policies mapped per timeframe, North Macedonia



Source: Mapping dataset, CEA 2022

The mapping of green transition policies in North Macedonia shows a predominance of medium-term policies, with 64% of all mapped policies being valid until 2030. This indicates a focus on implementing sustainable practices shortly, however, it also raises questions about the long-term vision and sustainability of these policies and whether they will be enough to address the pressing environmental challenges.



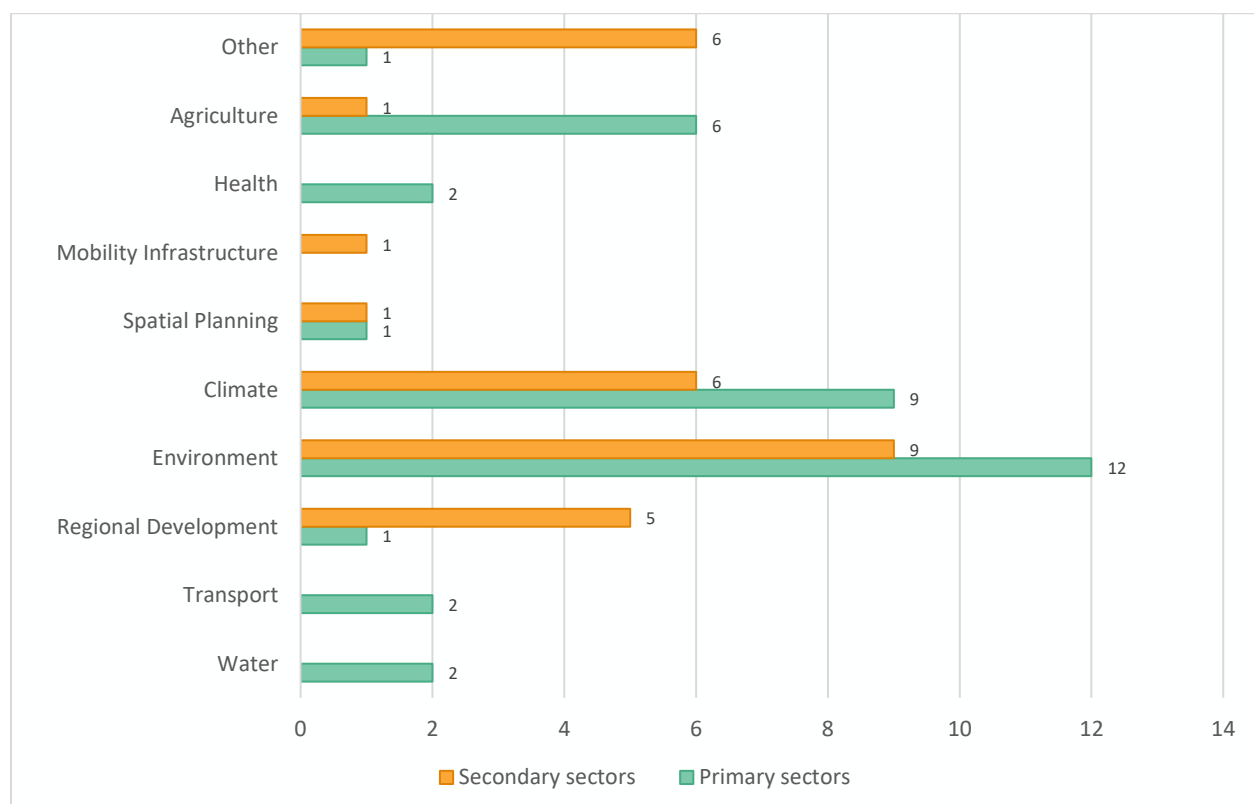


19% of the policies are short-term with an expiration date up to 2025, which is commendable for addressing the immediate actions that need to be taken, but the lack of long-term policies raises concerns about the ability of the country to maintain the progress made in the short-term and to ensure a sustainable future. Furthermore, the lack of a long-term vision of the overall policies that will pertain to the political and governance context but a consensus on the future direction regardless of the changing contexts.

Moreover, 6% of the policies expired by 2022 and 11% of policies are classified as long-term policies with a timeframe beyond 2030, which could be considered as not enough to ensure a sustainable future. It may be implied that according to our knowledge, the balance between short-term and long-term policies to have a comprehensive approach to addressing environmental challenges may be improved.

It seems that North Macedonia needs to focus on creating long-term policies and strategies that will secure a sustainable future, and not just address the immediate environmental challenges.

**Figure 33.** Primary and secondary sectors mapped per policy, North Macedonia

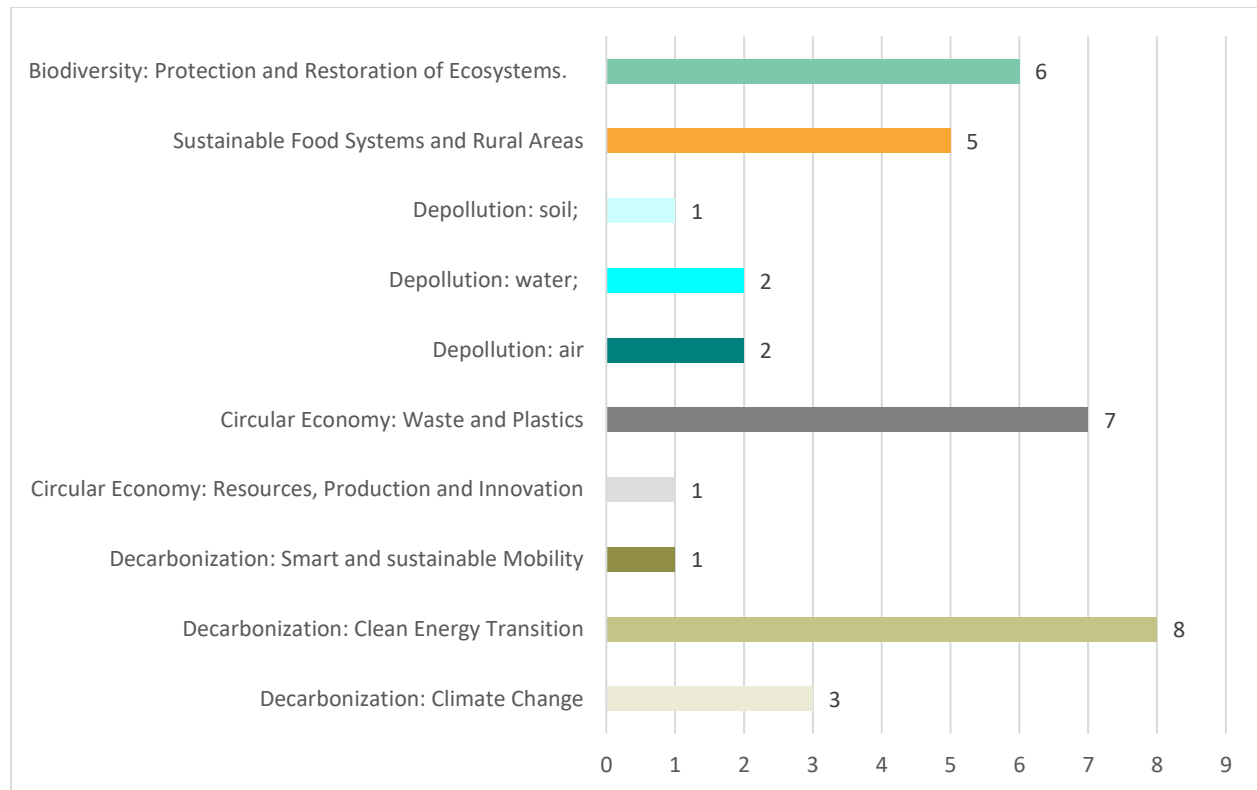


Source: Mapping dataset, CEA 2022



The analysis of the green transition policies in North Macedonia indicates a strong emphasis on the environment sector, with one third i.e. 12 from 36 of the mapped policies primarily focusing on this sector. Furthermore, the environment sector is also a common secondary focus for 9 of the mapped policies, highlighting the importance of this sector in (potentially) driving the green transition.

**Figure 34.** Number of mapped policies per Green Transition Pillar, North Macedonia



Source: Mapping dataset, CEA 2022

Climate change is also a significant focus, with 9 policies straightforwardly and specifically addressing this issue. Additionally, the agricultural sector is identified as priority, with 6 policies focusing on this area. This highlights the government's commitment to addressing a wide range of environmental issues across different sectors and suggests a comprehensive approach to driving the green transition. However, it is also important to note how effectively these policies are being implemented and if they are sufficient to address the environmental challenges in the country.

The analysis of green transition policies in North Macedonia reveals that the majority of policies are aligned with the Decarbonization: Clean Energy Transition pillar, underscoring the country's commitment to transitioning to clean and sustainable energy sources. This is an important step towards reducing greenhouse gas emissions and addressing the pressing issue of climate change.



Additionally, the Circular Economy: Waste and Plastic, as well as Biodiversity: Protection and Restoration of Ecosystems, are also prominent pillars of the country's green agenda. The emphasis on these pillars is commendable as they play a crucial role in promoting sustainable development, protecting natural resources and preserving biodiversity.

However, it is important to note that there is a lack of attention given to certain aspects of the green transition, such as Depollution in general, Depollution: Soil, Circular Economy: Resources, Production and Innovation, and Decarbonization: Smart and Sustainable Mobility. The underrepresentation of these areas in the currently available and accessible policies raises concerns about the country's ability to address these important issues and achieve a comprehensive green transition. Therefore, North Macedonia must take steps to develop and implement policies that address these underrepresented pillars to ensure a sustainable future.

To capitalize on the potential of these policies, the table below contains only those policies that have been identified as having the potential to be capitalized on during the research case studies, it will give a more in-depth understanding of the potential impact of these policies and how they can be utilized to drive the green transition forward.

**Table 10.** Overview of all policies that have potential for capitalization, North Macedonia

Name of policy	Main Actor Responsible	Related GT Pillars	Level of impact
<b>Program for the realization of the Strategy for the development of energy 2021-2025</b>	Ministry of economy	Decarbonization: Clean Energy Transition	High
<b>National Strategy for the Transport Sector</b>	Ministry of transportation and communications	Decarbonization: Smart and sustainable Mobility	High
<b>National energy and climate plan of the Republic of North Macedonia</b>	Ministry of economy	Decarbonization: Clean Energy Transition	High
<b>Strategy for energy development in the Republic Of Macedonia until 2040</b>	Ministry of economy	Decarbonization: Clean Energy Transition	High
<b>4th National action plan for energy efficiency (2020-2022)</b>	Ministry of economy	Decarbonization: Climate Change	High
<b>The law on energy efficiency</b>	Ministry of economy	Decarbonization: Clean Energy Transition	High



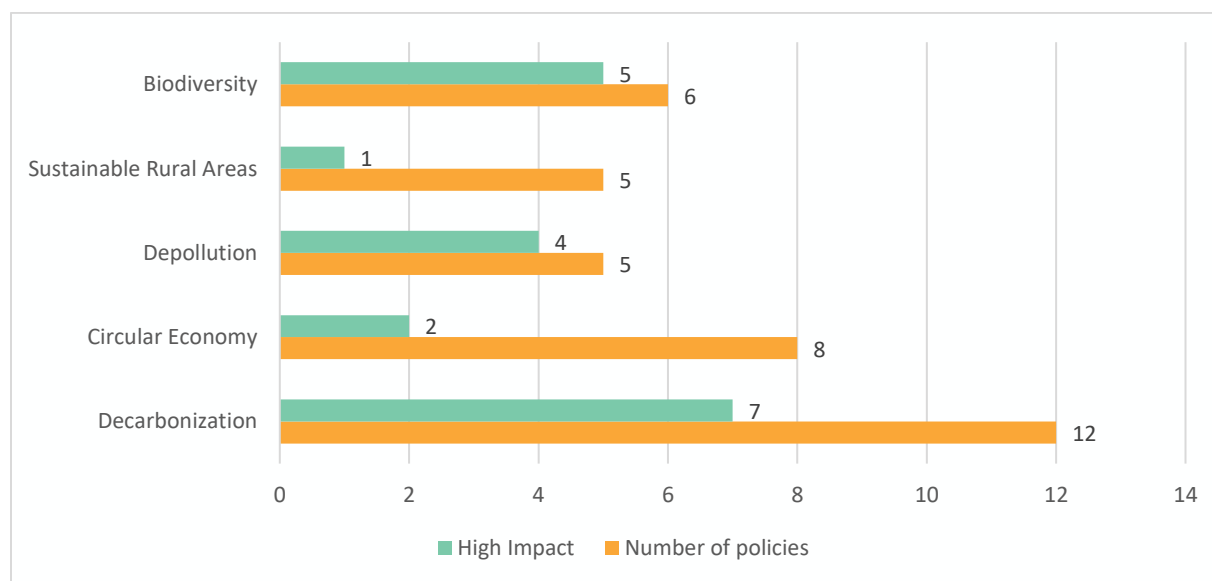
<b>The law on energy</b>	Ministry of economy	Decarbonization: Clean Energy Transition	High
<b>Enhanced Nationally Determined Contribution</b>	Ministry of environment and physical planning	Decarbonization: Climate Change	Medium

Source: Mapping dataset, CEA 2022

8 out of 36 mapped policies have the potential to be capitalized on during the research case studies. As it can be referred by from the table, only one policy has medium impact whereas the rest have high impact.

The research case for North Macedonia is focused specifically on the decarbonization i.e. energy transition in a specific territory thus the fact that the policies (primarily national as it concerns energy) as also viewing this decarbonization in energy as with high impact the research may capitalize on the momentum to raise interest for the output but also generate knowledge that will be in line with the priorities. Furthermore, the energy as a sector with high impact on every aspect of the economy and competitiveness of the country is another aspect that coincides with the national economic priorities that can be capitalized as well.

**Figure 35.** Number of mapped policies per Green Transition Pillar / and the number of GT Policies ranked as ‘high impact’, North Macedonia



Source: Mapping dataset, CEA 2022

On the other hand, most of the policies covering the Circular Economy have a medium level of impact in the country and region, indicating that while these policies are important and have a significant impact on the country's sustainable development, they may not have as much of an impact as Decarbonization and Biodiversity policies.



It's important to note that the level of impact of policies can be influenced by various factors such as the policies' implementation, enforcement, and the availability of resources, and it's important to evaluate and monitor the impact of these policies to ensure their effectiveness.

### **Funding mechanism of the mapped policies**

From the mapping data, it is possible to conclude that the data shows the different funding mechanisms used for the green agenda-related policies in North Macedonia and the number of policies that fall under each mechanism. IPARD funding mechanism is used for 4 policies as a primary mechanism, with a total of 5 policies being funded or co-funded through this mechanism.

Similarly, the GGF funding mechanism is used for 1 policy as a primary funding mechanism, with a total of 3 policies being funded/co-funded through this mechanism.

The most commonly used primary funding mechanism is National funding, with 35 from a total of 36 policies being funded or co-funded through this mechanism.

The table also shows that several policies fall under the "Other" funding mechanism, with a total of 19 policies being funded through this mechanism (British Embassy of Skopje, SIDA, Swiss Agency, Swiss Confederation, UNDP).

Additionally, the EIC, European Investment Bank, IPA (III) and Other international funding mechanisms are not widely used yet, however with potential to be further explored.

It's important to note that the availability and accessibility of funding mechanisms have a big impact on the implementation of green agenda-related policies and the level of their impact, so it's important to have a diverse range of funding mechanisms to ensure that the policies are effectively funded and implemented

The top 3 mechanisms for implementation built upon chapter 7 of the WB Green Agenda are:

- **Environmental governance, implementation and enforcement: 25 policies categorized either as a primary or secondary implementation mechanism.**

Environmental governance refers to the processes and institutions through which decisions are made and actions are taken to manage and protect the natural environment. The implementation of environmental governance typically involves the development of policies, regulations, and laws, as well as the creation of institutions and programs to enforce them. The green agenda is a set of policies and initiatives aimed at promoting sustainable development and protecting the environment. It includes measures such as reducing greenhouse gas emissions, protecting biodiversity, and promoting the use of renewable energy sources. Enforcement mechanisms for environmental governance and the green agenda can include a range of tools such as fines, penalties, and legal



actions for non-compliance, as well as incentives and subsidies for environmentally friendly practices. In addition, monitoring and reporting systems, as well as public engagement and education efforts, can also play a key role in ensuring compliance and achieving the goals of the green agenda.

- **Public Administration Reform: 13 policies are categorized either as a primary or secondary implementation mechanism.**

Public administration reform continued to be the focus of overall reforms that North Macedonia implements, particularly in the context of the NATO Alliance and in light of the initiation of accession negotiations with the European Union. As part of a wider obligation to sustainable development, the EU has a longstanding commitment to addressing environmental concerns in its assistance programmes. The public administration reform has a positive impact on addressing the environmental challenges in future in several ways: 1). By strengthening the public administration in general, which is the driver of the reforms in the environmental sector as well; 2). By strengthening the inspection services, including the Environmental inspection body, and 3) By improving the transparency of the administration and introducing transparency standards, which also means easier access to environmental information.

Public administration reform (PAR) refers to the process of improving the efficiency, effectiveness, and accountability of government institutions and systems. In the context of the green agenda, PAR mechanisms may include measures such as:

1. Integrating environmental considerations into government decision-making and policy development: This can include the creation of dedicated environmental agencies or departments, as well as the establishment of environmental impact assessment processes for proposed policies and projects.
2. Strengthening institutional capacities for environmental governance: This can include training for government officials and employees on environmental issues, as well as the development of specialized technical expertise within government institutions.
3. Improving transparency and accountability: This can include measures such as the creation of independent bodies to monitor and report on government performance on environmental issues, as well as the establishment of citizen participation mechanisms to allow for public input into decision-making processes.
4. Streamlining regulations and procedures: This can include measures such as simplifying administrative processes and reducing bureaucratic hurdles, to make it easier for individuals, businesses, and organizations to comply with environmental regulations.
5. Promoting sustainable public procurement: This can include encouraging the use of environmentally friendly products and services by government agencies, as well as the development of green procurement guidelines and standards.



6. Encouraging coordination and cooperation between different levels of government and between different sectors: This can include measures such as the establishment of inter-agency working groups and the creation of partnerships between government, private sector, and civil society organizations.

Overall, PAR mechanisms are essential to ensure that public administration systems can effectively support and implement the green agenda.

- **Public Finance Management mechanism: 12 policies are categorized either as a primary or secondary implementation mechanism.**

Public finance management (PFM) refers to the processes and systems through which governments raise and allocate financial resources. In the context of the green agenda, PFM mechanisms can play a critical role in ensuring that the necessary funding is available to support environmental protection and sustainable development initiatives.

Some key PFM mechanisms that can support the green agenda include:

1. Green budgeting: This involves incorporating environmental and sustainability considerations into the budget planning and allocation process, including the identification of specific funds and resources for environmental initiatives.
2. Environmental and natural resource taxation: This can include the use of taxes and charges on activities that have a negative impact on the environment, such as carbon taxes on fossil fuel use or levies on plastic bag usage.
3. Eco-taxation: This can include the use of taxes and charges on activities that have a negative impact on the environment, such as carbon taxes on fossil fuel use or levies on plastic bag usage.
4. Green bonds: These are debt securities issued by governments and companies to finance environmentally beneficial projects, such as renewable energy and sustainable infrastructure.
5. Green procurement: This refers to the practice of using public funds to purchase environmentally friendly products and services, as well as promoting sustainable production and consumption.
6. Carbon pricing: This can include the use of a carbon tax or cap-and-trade system to put a price on carbon emissions and encourage businesses and individuals to reduce their greenhouse gas emissions.
7. Innovative financing: This can include the use of new financial instruments, such as crowdfunding, impact investing, and green bonds, to mobilize private sector capital for environmental projects.

Overall, PFM mechanisms can play a critical role in ensuring that the necessary funding is available to support the green agenda and promote sustainable development.



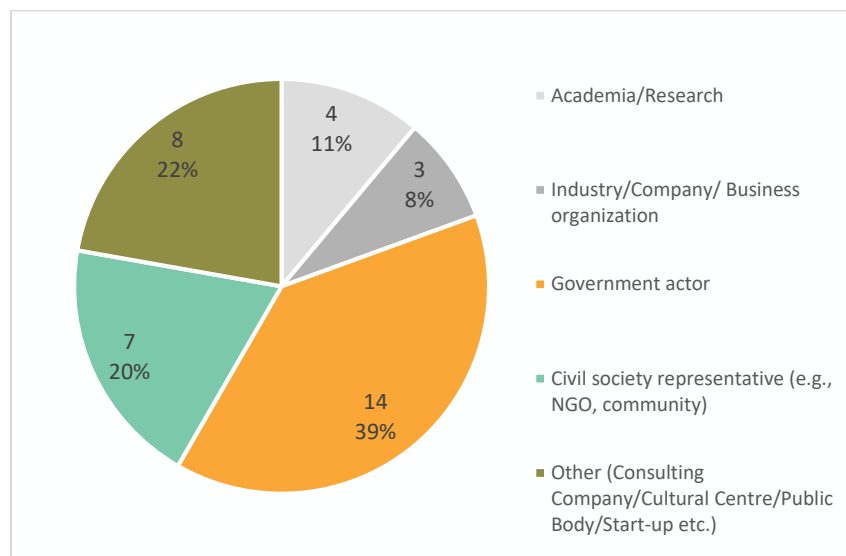
### 2.4.2 Key actors involved in Green Transition in North Macedonia

In North Macedonia, a total of 36 actors have been identified as relevant to the green transition. These actors are categorized into five groups, with government actors making up the largest group at 36%. These government actors play a vital role in shaping policies and regulations that support the green transition and decarbonization. The second-largest group, at 22%, is categorized as "Other" actors, which include consulting companies, public bodies, and start-ups. Civil society representatives, including NGOs and community groups, constitute 20% of the actors. Finally, the academia and research sector make up 11% of the actors.

Collaboration and coordination among these actors are essential to ensure a successful transition to a low-carbon economy. Most of the actors, or 14 out of 36, are government actors responsible for the implementation of the green agenda.

It seems that the country's green agenda is being led by specific Ministries individually rather than with a holistic and horizontally coordinated approach (based on the research within the scope of the mapping process and the publicly available information). A comprehensive analysis of the actors involved in the green transition in the country has revealed that out of a total of 36 actors, 17 have been identified as particularly relevant to the decarbonization pillar, with a focus on the clean energy transition.

**Figure 36.** Total number of actors mapped, grouped per Quadruple Helix category, North Macedonia



Source: Mapping dataset, CEA 2022

A total of 36 actors in North Macedonia have been identified as being relevant to the green transition. These actors are categorized into five groups, with government actors making up the largest group of 36%. Government actors





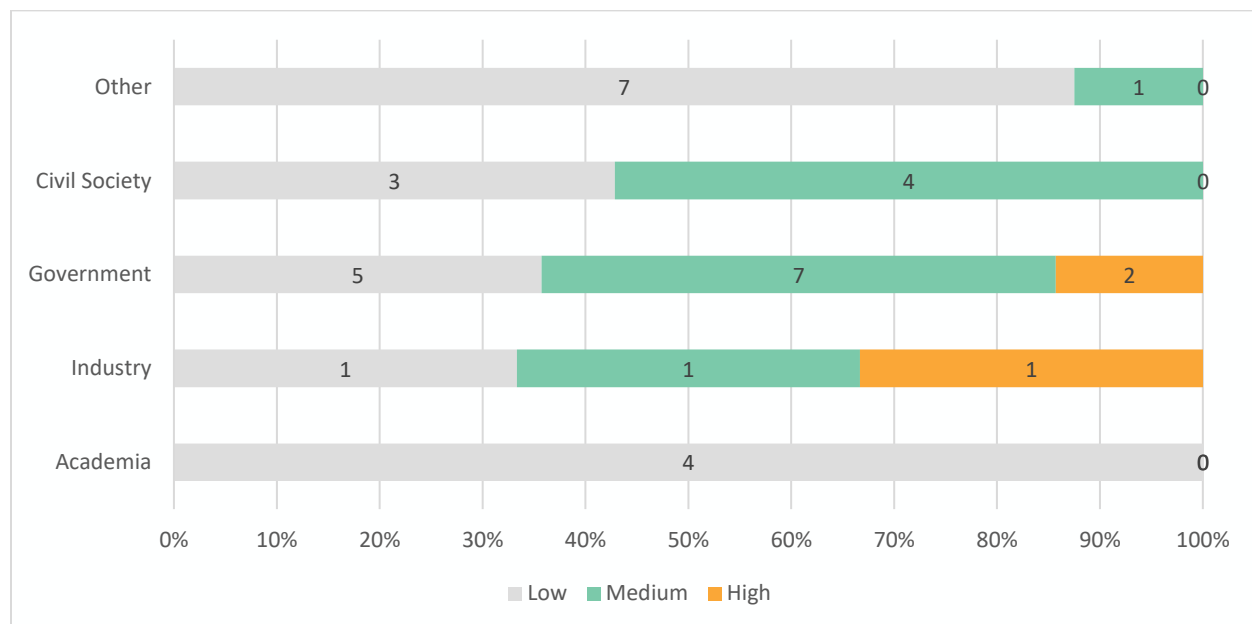
play a vital role in shaping policies and regulations that support the green transition and decarbonization. They are responsible for creating the framework for sustainable development and the implementation of the green agenda. The second-largest group, at 22%, is categorized as "Other" actors, which include consulting companies, public bodies, and start-ups. These actors play a crucial role in the green transition by developing and deploying new technologies, as well as promoting sustainable business practices. They can provide innovative solutions for the transition and support the implementation of the green agenda.

Civil society representatives, including NGOs and community groups, constitute 20% of the actors. They play a critical role in raising awareness and building public support for the green transition, as well as monitoring the actions of government and private sector actors and holding them accountable.

Finally, the academia and research sector make up 11% of the actors. Researchers and academics contribute to the green transition by researching new technologies and sustainable practices, as well as providing expert analysis and advice to policymakers and other actors. Their knowledge and expertise are essential to support the implementation of the green agenda and the transition to a more sustainable future.

In conclusion, the green transition in North Macedonia involves a wide range of actors, each with their unique roles and responsibilities. Collaboration and coordination among these actors are essential to ensure a successful transition to a low-carbon economy.

**Figure 37.** Influence of GT stakeholders, per QH category, North Macedonia



Source: Mapping dataset, CEA 2022



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Most of the mapped actors, or 14 out of 36, are government actors responsible for the implementation of the green agenda and take initiatives and activities to contribute to green transitioning. Hence, most of these government actors have a medium level of impact on the green agenda, while only two of them, the Ministry of Environment and Physical Planning and the Ministry of Transport and Communications, have a high impact on the implementation of the green agenda in the country. This highlights the significant role that government actors play in the implementation of the green agenda and the transition to a more sustainable future. It also suggests that most of the government actors have a moderate level of impact on the green agenda, meaning that they are actively contributing to the green agenda, but their impact is not as strong as The Ministry of Environment and Physical Planning and the Ministry of Transport and Communications which have been identified as having a high impact, indicating that they are likely to be the crucial main drivers or leaders in the implementation of the green agenda in the country. The country's green agenda is being led by specific Ministries rather than by a horizontal and holistic approach.

The green transition and decarbonization process involves a wide range of actors, each with unique roles and responsibilities. Some potential factors that may be engaged in the process include:

- Governments: National, regional, and local governments play a critical role in shaping policies and regulations that support the green transition and decarbonization. They can also play a role in providing funding and other resources to support the transition.
- Private sector: Businesses, particularly those in the energy, transportation, and manufacturing sectors, play a key role in the green transition by developing and deploying new technologies, as well as adopting sustainable business practices.
- Civil society: non-governmental organizations, community groups, and other civil society actors can play a key role in raising awareness and building public support for the green transition. They can also act as watchdogs, monitoring government and private sector actions, and holding them accountable.
- International organizations: The United Nations and other international organizations can play a role in setting global standards and goals for the green transition, as well as providing funding and technical assistance to support the process.
- Financial institutions: Banks, investment funds, and other financial institutions can play a key role in providing the funding needed for the green transition and decarbonization, and also encouraging companies and governments to adopt sustainable practices.
- Researchers and academics: Researchers and academics can contribute to the green transition by researching new technologies and sustainable practices, as well as by providing expert analysis and advice to policymakers and other actors.

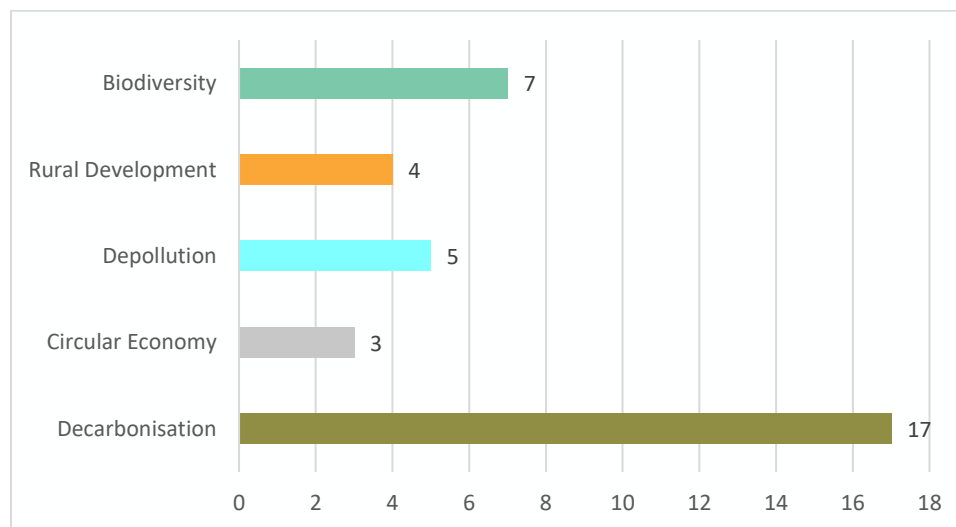


It is important to consider the potential engagement of the mapped actors in the research on the implications of the transition in the energy sector in the Southwest region of North Macedonia. The engagement of the mapped actors can take place during different stages of the research process.

- **Co-design:** The mapped actors, particularly government actors, private sector actors, and civil society representatives, can be engaged during the co-design stage of the research to provide input and feedback on the research design and methodology. This can ensure that the research is relevant and addresses the needs and concerns of the different stakeholders involved.
- **Implementation of specific activities:** During the implementation of specific research activities, such as data collection and analysis, the mapped actors can be engaged to provide information and data, as well as to participate in focus groups and interviews. This can help to ensure that the research is grounded in real-world experiences and perspectives.
- **Dissemination:** The mapped actors can also be engaged during the dissemination stage of the research to ensure that the research findings are communicated effectively and in a way that is accessible to different stakeholders. This can include organizing workshops and seminars, as well as publishing research reports and articles in relevant publications.

The engagement of the mapped actors throughout the research process can help to ensure that the research is relevant, grounded in real-world experiences, and effectively communicated to different stakeholders. The level and type of engagement may vary depending on the specific actors and the stage of the research.

**Figure 38.** Classification of stakeholders per GT pillars (primary sector) , North Macedonia



Source: Mapping dataset, CEA 2022



A comprehensive analysis of the actors involved in the green transition in the country has revealed that out of a total of 36 actors, 17 have been identified as particularly relevant to the decarbonization pillar, with a focus on the clean energy transition. This emphasis on the clean energy transition highlights its significance as a key aspect of the decarbonization pillar and the role of these actors in supporting this transition. The analysis further breaks down these actors by specific relevance, with 11 actors specifically relevant to the clean energy transition, 5 to climate change, and 1 to smart and sustainable mobility.

This breakdown illustrates that while climate change and smart and sustainable mobility are also important aspects of the decarbonization pillar, they are not as relevant in terms of the actors involved as the clean energy transition. This may indicate that the clean energy transition is considered a priority or a more pressing issue in terms of decarbonization efforts in the country. Overall, the analysis emphasizes the significance of the clean energy transition as a key driver for decarbonization and the critical role of the identified actors in supporting this transition.

North Macedonia has revealed that 7 out of 36 actors have been identified as particularly relevant to the biodiversity: protection and restoration of the ecosystem. This highlights the importance of biodiversity conservation and restoration in the country and the significant role that these actors play in supporting these efforts. However, it is also important to note that 7 actors out of 36 are only a small proportion of the total number of actors, which could indicate that the biodiversity conservation and restoration pillar is not being given the priority it deserves in the country's green transition efforts.

Additionally, 5 out of 36 actors have been identified as relevant to the Depollution, with a focus on air and water depollution. While it is important to address pollution as a key aspect of the green transition and the role of these actors in supporting these efforts, it is also important to note that there are only 5 actors out of 36 that are involved in depollution, which could indicate that this aspect of the green transition may not be as high a priority as it should be.

On the other hand, only 4 actors have been identified as relevant to Rural development, which could indicate that this aspect of the green transition is not being given the attention it deserves in the country. Similarly, only 3 actors have been identified as relevant to the Circular economy, which could indicate that this aspect of the green transition is also not being given the attention it deserves.

This analysis suggests that decarbonization and biodiversity conservation and restoration are considered more pressing issues in the green transition in North Macedonia, while depollution, rural development and circular economy may not be as prioritized. However, this doesn't mean that these other aspects are not important, it could



imply that the country may need to strengthen its efforts in these areas and engage more actors to support the transition in these fields. The analysis also indicates that the number of actors involved in specific aspects of the green transition may vary, and not all the aspects are equally important or prioritized in the country.

It is crucial for the country to critically examine its priorities and allocate resources accordingly to ensure a comprehensive and effective green transition.

**Table 11.** National Stakeholders with high importance and high engagement potential, North Macedonia

Full Name	Abbreviation	QH category	Primary GT sector	Secondary GT sector
Ministry of environment and physical planning	MOEPP	Government actor	Decarbonization: Climate Change	Decarbonization: Clean Energy Transition
Ministry of transport and communications	MTC	Government actor	Decarbonization: Smart and sustainable Mobility	Decarbonization: Clean Energy Transition
European bank for reconstruction and development EBRD	EBRD	Industry/Company/Business organization	Decarbonization: Climate Change	Decarbonization: Clean Energy Transition
Ministry of Economy	ME	Government actor	Decarbonization: Clean Energy Transition	Circular Economy: Resources, Production and Innovation

Source: Mapping dataset, CEA 2022

The data presented in the table is a list of national stakeholders that have been identified as having high importance and high engagement potential in green transition in North Macedonia. These organizations are key actors in the country's efforts towards decarbonization and a circular economy.

The Ministry of Environment and Physical Planning (MOEPP) is a government actor that plays a crucial role in the country's efforts to address climate change. This MOEPP has focused on the "Decarbonization: Climate Change" and "Decarbonization: Clean Energy Transition" sectors, which are vital to reducing carbon emissions and promoting clean energy sources. As a high-importance stakeholder, MOEPP is expected to have a significant impact on the country's decarbonization efforts and should be engaged in any relevant initiatives.

The Ministry of Transport and Communications (MTC) is also a government actor with a focus on the "Decarbonization: Smart and Sustainable Mobility" and "Decarbonization: Clean Energy Transition" sectors. MTC



is responsible for the development of sustainable transportation systems and the promotion of clean energy sources. As a high-engagement potential stakeholder, MTC plays a critica

l role in the country's efforts to reduce carbon emissions and should be engaged in any relevant initiatives.

The European Bank for Reconstruction and Development (EBRD) is categorized as an "Industry/Company/Business organization" and is focused on "Decarbonization: Climate Change" and "Decarbonization: Clean Energy Transition" sectors. This institution plays a key role in supporting the transition to a low-carbon economy through investments in clean energy and climate-related projects via funding, primarily loans. As a high-importance stakeholder, EBRD has significant potential to support the country's decarbonization efforts and should be engaged in any relevant initiatives.

The Ministry of Economy (ME) is a government actor and is focused on the "Decarbonization: Clean Energy Transition" and "Circular Economy: Resources, Production, and Innovation" sectors. This ME plays a vital role in promoting sustainable resource use and production by supporting the transition to a clean energy economy and implementing circular economy principles. As a high-engagement potential stakeholder, ME should be engaged in any relevant initiatives to ensure the country's decarbonization and circular economy goals are met.

In summary, the data presented highlights the key national stakeholders that are critical to the country's efforts towards decarbonization and a circular economy. These organizations have been identified as having high importance and high engagement potential and should be engaged in any relevant initiatives to ensure the country's decarbonization and circular economy goals are met. They are actively working to address the challenges of climate change by implementing policies and investments towards a low-carbon economy.

### 2.4.3 Green transition-related practices and initiatives in North Macedonia

The total of 36 practices and initiatives that have been mapped in North Macedonia as part of the green transition which is still in the implementation phase show that the majority of efforts are primarily focused on the Decarbonisation pillar, with a significant emphasis on Decarbonization: Clean Energy Transition and Climate change. Specifically, 14 and 13 practices and initiatives respectively are being implemented in these areas. This suggests that there is a strong focus on reducing greenhouse gas emissions and transitioning to cleaner energy sources in the country.

However, it is important to note that while a significant number of practices and initiatives are being implemented in the areas of Decarbonization: Clean Energy Transition and Climate Change, there are relatively few practices and initiatives in other areas. Specifically, only 3 practices are being implemented in the areas of Depollution: water and Depollution: soil. This suggests that there may be a need to increase efforts in these areas to address issues related



to water and soil pollution. It is also worth mentioning that the data on the practices and initiatives may not be comprehensive and there may be other practices and initiatives that have been implemented at the national level that have not been included in the data. Therefore, it is important to consider the possibility of additional practices and initiatives that are not reflected in the data.

In conclusion, North Macedonia is showing significant efforts to support the green transition, and Decarbonization: Clean Energy Transition and Climate change are the pillars on which the country is focusing. However, it is important to consider the limitations of the data and to conduct additional research and analysis to fully understand the effectiveness and impact of the practices and initiatives that have been implemented. Also, to ensure that resources are allocated effectively, and that progress is being made towards a more sustainable and eco-friendly society, the country should conduct a comprehensive strategic plan for green transition and make sure to address all the pillars that are important for a sustainable future.

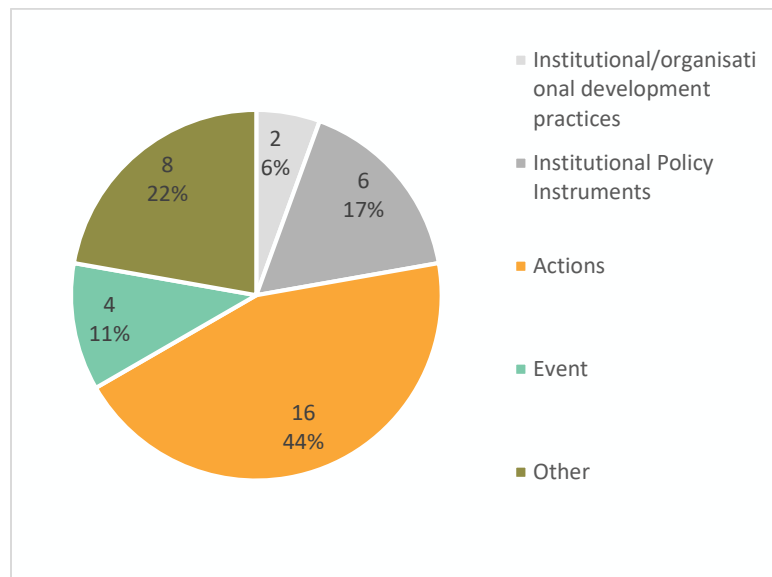
On the other hand, The European Union (EU) has supported the implementation of several policies and initiatives to support the green transition across all the pillars of sustainable development including decarbonization, circular economy, sustainable transportation, energy efficiency, and sustainable food systems.

In the Decarbonization pillar, the EU has set ambitious targets to reduce greenhouse gas emissions, increase the share of renewable energy in the energy mix, and implement the EU Emissions Trading System (EU ETS) which is the world's largest carbon market. In the Circular economy pillar, the EU has implemented policies and initiatives to promote resource efficiency and the transition to a circular economy, such as the Circular Economy Action Plan, which aims to boost recycling and reduce waste.

In the sustainable transportation pillar, the EU has implemented policies and initiatives to promote sustainable transport, such as the Alternative Fuels Infrastructure Directive, which aims to increase the availability of alternative fuel infrastructure, and the Clean Vehicles Directive, which aims to increase the market share of clean vehicles.

In the energy efficiency pillar, the EU has implemented several policies and initiatives to promote energy efficiency and reduce energy consumption, such as the Energy Efficiency Directive and the Energy Performance of Buildings Directive. These policies and initiatives aim to improve the energy efficiency of buildings and reduce energy consumption in the residential and commercial sectors. In the Sustainable food systems and rural areas pillar, The EU has implemented policies and initiatives to promote sustainable food systems, such as the Organic Production Regulation, which sets standards for organic food production and labelling, and the Common Agricultural Policy (CAP) which aims to support sustainable food systems by promoting environmentally friendly farming practices.



**Figure 39.** Classification of mapped GT practices per type, North Macedonia

Source: Mapping dataset, CEA 2022

Of the practices and initiatives identified, 44% are actions, whereas 22% are categorized as "other" such as projects at a national and international level primarily aimed at decarbonization and clean energy transition. A small portion also contributes to the circular economy and depollution. 17% of the practices and initiatives are institutional policy instruments, which are the government-enforced rules and regulations that organizations must abide by., whereas 11% are events, which focus on gathering and networking, seminar, or conference that is organized to discuss or promote specific policies or practices.

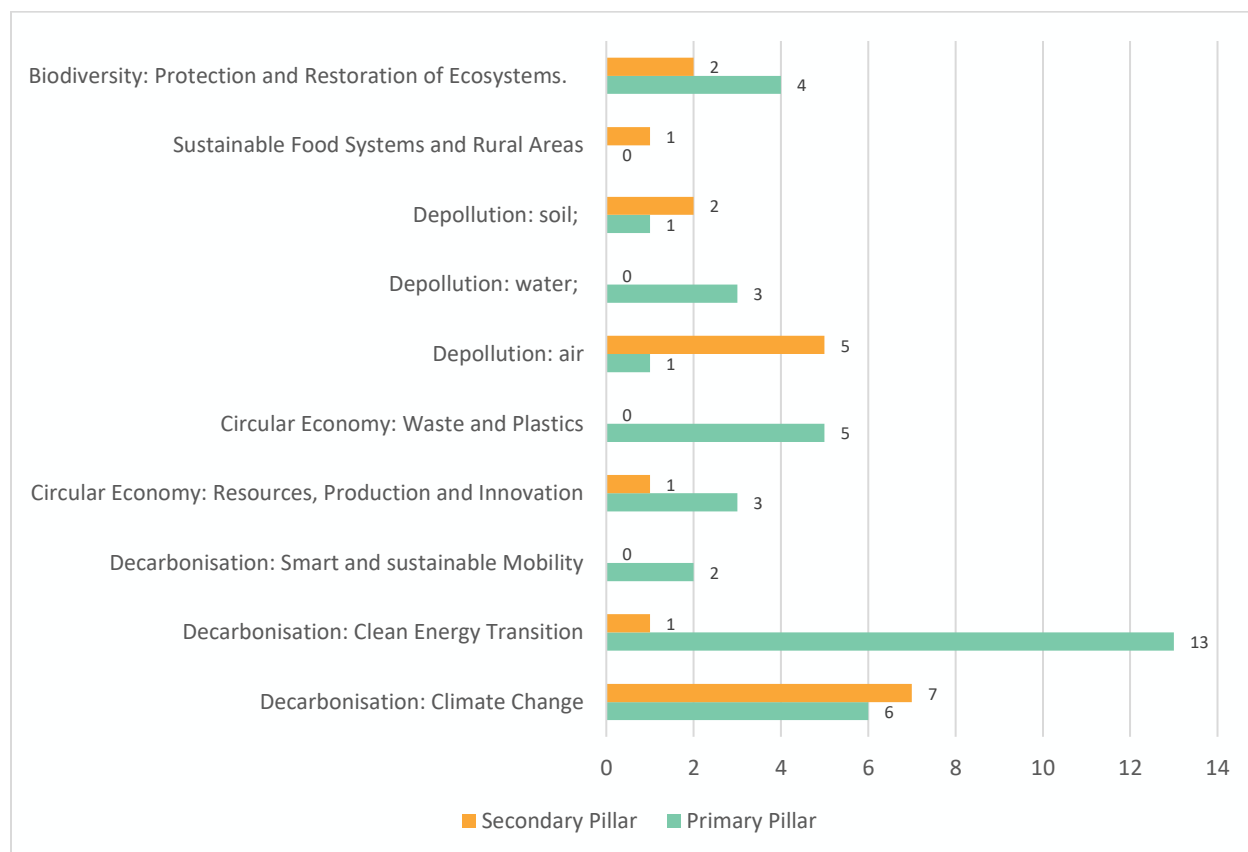
Only 6% of the practices and initiatives focus on developing the capacity of public administration and private sector organizations through organizational development. This includes training and capacity-building programs that aim to improve the performance and effectiveness of the organizations.

The majority of the practices and initiatives that have been mapped out are primarily focused on the Decarbonization pillar, with a significant emphasis on Decarbonization: Clean Energy Transition and Climate change. Specifically, 14 and 13 practices and initiatives respectively are being implemented in these areas. However, it is worth noting that the country is not putting as much effort into the Depollution: water and Depollution: soil areas, with only 3 practices accordingly being implemented in these areas. This suggests that the country is placing a higher priority on decarbonization and clean energy transition but may not be as focused on depollution issues.





**Figure 40.** Number of mapped practices per Green Transition Pillar (both as primary or secondary pillar) , North Macedonia



Source: Mapping dataset, CEA 2022

The Sustainable Food Systems and Rural Areas pillar is the least common area where the country is focusing, with only a few initiatives being taken to improve conditions. This suggests that the country may not place as much importance on these areas as they do on decarbonization, clean energy transition, and climate change. It could be beneficial for the country to consider implementing more initiatives in these areas to ensure a more holistic and comprehensive approach to sustainability.

**Table 12.** Mapped practices with high potential for capitalization, North Macedonia

GT Pillar	Practices/initiative	Main implementing actor	Territorial scope	Time frame
Decarbonization	The Climate Promise	UNDP	National	2021-2030



	The instrument for green financing from North Macedonia	SDG	National	2022-2040
	GreenFORCE – Foster Research Excellence for Green Transition in the Western Balkans	Co-Plan, Albania	Multiple territories	2022-2024
	Co-Design Workshops on the Conceptualization of the Green Transition in the Western Balkan	Co-Plan, Albania	Multiple territories	2022-2024

The Climate Promise is a project implemented by the United Nations Development Programme (UNDP). The project aims to support countries in their efforts to achieve their Nationally Determined Contributions (NDCs) under the Paris Agreement on climate change. The project aims to accelerate climate action in the following areas:

- **Renewable Energy:** The project aims to increase the share of renewable energy in the energy mix and promote a clean energy transition.
- **Energy Efficiency:** The project aims to improve energy efficiency in buildings, industry, and transport sectors.
- **Low-Carbon Transport:** The project aims to promote low-carbon transport systems and alternatives to fossil-fuel-based transportation.
- **Adaptation and Resilience:** The project aims to support the development of resilient communities and infrastructure, as well as to strengthen the capacity of countries to adapt to the impacts of climate change.
- **Climate-Smart Agriculture:** The project aims to promote sustainable agricultural practices and to help farmers adapt to the changing climate.
- **Sustainable Land Use:** The project aims to promote sustainable land use practices to reduce greenhouse gas emissions and enhance carbon sequestration.

#### *The instrument for green financing from North Macedonia*

This program is supported by the Common Fund for the SDGs and aims to create a new financial instrument that will provide access to cheaper financing for small and medium-sized enterprises, as well as individuals and



households. This is an important initiative as it will support the transition to a greener and more sustainable economy, by making it easier and more affordable for these groups to invest in renewable energy sources and energy efficiency solutions.

This financial instrument will likely take the form of loans, bonds, or guarantees, which will be provided at a lower cost than traditional financing options. This will make it more attractive for small and medium-sized enterprises, individuals, and households to invest in renewable energy sources and energy efficiency solutions. By providing access to cheaper financing, this program will help to overcome one of the main barriers to the deployment of renewable energy and energy efficiency solutions. Overall, this program is an important step forward in supporting the transition to a greener and more sustainable economy. Providing access to cheaper financing for small and medium-sized enterprises, individuals, and households, will help to increase the deployment of renewable energy sources and energy efficiency solutions, which will in turn help to reduce greenhouse gas emissions and support the fight against climate change.

#### **2.4.4 Identification of territorial strengths, weaknesses, opportunities and challenges for Green Transition in North Macedonia**

In this section, partners will complete the SWOT table at National Level. The partner will then report some general observations on the country's potential and capacity to promote and implement green transition. For example, based on the sum (and 'nature') of the strengths, weaknesses, opportunities and challenges detected, it could be argued whether there is a positive or negative disposition for GT. Some of the SWOT entries that need particular elaboration can be quoted, further explained and justified in this section.



Strengths	Weaknesses
<p>North Macedonia has a relatively low level of industrialization, which means that the country has a lower carbon footprint and less entrenched fossil fuel-based infrastructure to replace.</p> <p>The country has a significant potential for renewable energy, particularly in hydropower, solar, and wind energy.</p> <p>The Government of North Macedonia has committed to reducing its greenhouse gas emissions and has set ambitious targets for increasing the share of renewables in the energy mix.</p> <p>There is a growing awareness and interest in sustainability and green issues among the general population.</p>	<p>The country has a relatively small economy and limited resources to invest in the development and implementation of green technologies.</p> <p>The country has a lack of policies and regulations for supporting the green transition, as well as a lack of adequate infrastructure to support the development of renewable energy sources.</p> <p>The energy production sector of the country still has a high dependence on fossil fuels, particularly coal, which will be a barrier to the implementation of a green transition.</p> <p>The country has a weak legal framework for protecting the environment and promoting sustainable development.</p> <p>Lack of technical know-how for producing eco-friendly products.</p> <p>Lack of inter-institutional collaboration in this field.</p> <p>Resistance among older individuals to adopt new technologies that support the shift towards a more sustainable and eco-friendly society.</p>



Opportunities	Threats
<p>The EU integration process provides an opportunity to access funding and technical assistance to support the green transition.</p>	<p>The country's economy is heavily dependent on the steel and mining industry, which are significant sources of greenhouse gas emissions.</p>
<p>The country has a significant potential for developing renewable energy sources, which can be a source of economic growth and job creation.</p>	<p>The country has limited resources to invest in the development and implementation of green technologies.</p>
<p>The green transition can provide an opportunity to improve the country's energy security and reduce dependence on fossil fuel imports.</p>	<p>The lack of regulations and policies to support the green transition could be a significant barrier to the implementation of a green transition.</p>
<p>The green transition can provide an opportunity to improve the country's air and water quality, as well as protect biodiversity.</p>	<p>The country is still in the process of building the necessary infrastructure to support the green transition, which could be a significant barrier to the implementation of a green transition.</p>
<p>The implementation of green initiatives can attract foreign investment and create new jobs in the country.</p>	<p>The lack of political will and resistance from industries and businesses may hinder progress on the green transition.</p>
<p>Adopting sustainable practices can improve the country's reputation and competitiveness in the global market.</p>	<p>The country's economic instability and lack of resources may make it difficult to implement costly green initiatives.</p>
<p>Large customer base from EU countries for healthy and eco-friendly products.</p>	<p>The lack of an overall strategic plan for green transition in North Macedonia can make it difficult to prioritize and coordinate efforts.</p>
<p>Tax deduction and stimulation for designers' adoption and developing eco-innovation.</p>	<p>Lack of subnational policies (and authority) related to decarbonization or other aspects of green transition</p>



In summary, North Macedonia has several strengths as part of its SWOT analysis for transitioning to a more sustainable and eco-friendly society. These strengths indicate as such: a relatively low level of industrialization, which results in a lower carbon footprint and less entrenched fossil fuel-based infrastructure to replace; significant potential for renewable energy, particularly in hydropower, solar, and wind energy; a government commitment to reducing greenhouse gas emissions and ambitious targets for increasing the share of renewables in the energy mix; and a growing awareness and interest in sustainability and green issues among the general population. These strengths create a foundation and provide opportunities for the country to develop its renewable energy sector, reduce emissions, improve energy security, and create jobs in the green economy. Moreover, it will have a positive impact on the environment and the country's reputation in the international market.

North Macedonia has several weaknesses that need to be addressed to successfully green transition.

Firstly, the country has a relatively small economy and limited resources, which can make it difficult to invest in the development and implementation of green technologies. This can be a barrier to the adoption of new technologies and the implementation of sustainable practices.

Secondly, the country currently has a lack of policies and regulations for supporting the green transition. This lack of government support can make it difficult for organizations and individuals to invest in sustainable practices and technologies. Additionally, the country lacks adequate infrastructure to support the development of renewable energy sources, which is necessary for a successful transition to a green economy.

Thirdly, North Macedonia still has a relatively high dependence on fossil fuels, particularly coal. This dependence on fossil fuels will be a barrier to the implementation of a green transition as it will be difficult to reduce the use of fossil fuels without proper policies, regulations, and infrastructure in place.

Fourthly, the country has a weak legal framework for protecting the environment and promoting sustainable development. This can make it difficult to enforce sustainable practices and hold organizations and individuals accountable for their environmental impact.

Fifthly, the country lacks the technical know-how for producing eco-friendly products. This can be a barrier to the development of a green economy as it will be difficult to produce and export eco-friendly products without proper knowledge and skills.

Lastly, there is a lack of inter-institutional collaboration in the field of sustainability and green transition. This can make it difficult to coordinate efforts and achieve a holistic approach to sustainability.



Finally, there is resistance among older individuals to adopt new technologies that support the shift towards a more sustainable and eco-friendly society. This can be a barrier to the adoption of new technologies as it will be difficult to implement sustainable practices without the support of the general population.

For North Macedonia to successfully transition to a more sustainable green country it will be important for the government to address these weaknesses through policies and regulations, infrastructure development, and investment in renewable energy sources and green technologies. Additionally, a strong legal framework for protecting the environment and promoting sustainable development is necessary. Furthermore, increasing technical know-how and fostering inter-institutional collaboration, as well as addressing the resistance among older individuals to adopt new technologies, will also be important.

North Macedonia has several opportunities that can be leveraged to support its transition.

One of the main opportunities is the EU integration process, which provides access to funding and technical assistance from the European Union to support the green transition. This funding can be used to invest in renewable energy sources, energy efficiency, sustainable transportation, and sustainable land use. The technical assistance provided by the EU can also help to build capacity and expertise in these areas, which will be necessary for a successful transition to a green economy.

North Macedonia also has significant potential for developing renewable energy sources, particularly hydropower, solar, and wind energy. This potential can be leveraged to create new jobs and economic growth in the country. Developing renewable energy sources will also help to improve energy security and reduce dependence on fossil fuel imports. The green transition also provides an opportunity to improve the country's air and water quality, as well as protect biodiversity. This can be achieved by reducing greenhouse gas emissions and investing in sustainable land use practices.

The implementation of green initiatives can also attract foreign investment and create new jobs in the country. This will be important for supporting economic growth and creating new employment opportunities. Adopting sustainable practices can also improve the country's reputation and competitiveness in the global market. As more and more companies and countries are prioritizing sustainability, it is becoming increasingly important for countries to adopt sustainable practices to be competitive in the global market.

One of the main threats is the country's heavy dependence on the steel and mining industry, which are significant sources of greenhouse gas emissions. This dependence on fossil fuels-based industry can make it difficult for the country to reduce its emissions and transition to a green economy. This sector is also the base of the country's economy and any policy changes or investment in new technologies may harm the economy.



Limited resources to invest in the development and implementation of green technologies is another threat. This can make it difficult for the country to upgrade its infrastructure, invest in renewable energy sources and make sustainable changes in different sectors. It also means that the country may not have the financial resources to provide the necessary support for businesses and individuals to adopt sustainable practices.

The lack of regulations and policies to support the green transition is another significant barrier to the implementation of a green transition. This lack of government support can make it difficult for organizations and individuals to invest in sustainable practices and technologies. Additionally, the country lacks adequate infrastructure to support the development of renewable energy sources, which is necessary for a successful transition to a green economy.

The country is still in the process of building the necessary infrastructure to support the green transition, which could be a significant barrier to the implementation of a green transition. This includes upgrading the energy grid, building new renewable energy projects, and providing access to sustainable transportation options.

The lack of political will and resistance from industries and businesses may hinder progress on the green transition. This can be seen in the opposition from some sectors to new regulations or taxes that support the transition to a green economy, as well as a lack of willingness from some politicians to take bold actions in this field. The country's economic instability and lack of resources may make it difficult to implement costly green initiatives. This can make it difficult for the government to invest in new technologies, infrastructure, and regulations that support the green transition.

The lack of an overall strategic plan for green transition in North Macedonia can make it difficult to prioritize and coordinate efforts. This makes it difficult to ensure that resources are allocated effectively, and that progress is being made towards a more sustainable and eco-friendly society.





## 2.5 National Mapping Report – Serbia

The aim of this report is to present results of comparative research on just green transition processes through formulated policies, involving actors and implemented practices and initiatives, identified on the territory of the Republic of Serbia, which form a wider framework of support for the achievement of JGT goals. Their presence and status are indicators for the potential outcome of the green transition, as well as for the impact that societies should expect from the transition in the short and long run. The results of the analysis of the JGT system in Serbia will give us the opportunity to draw conclusions about its performance, potential to implement the green transition, shortcomings and needs for improvement. The special aim of mapping report is to show which pillars of the Green Agenda for the Western Balkans are more strongly supported in already existing framework, and which pillars has to be supported more intensively by the development of new instruments.

Mapping the green transition (GT) implied the collection of initial data on the impacts of the GT in Serbia. Through mapping, the sectors and territories affected by the green transition and the current progress of transition practices have been identified. The basis of the report is the data collected during the mapping process on three large groups of participants in the acceptance, understanding and implementation of the green transition in Serbia. These are policies, actors, practices and initiatives. The text part of the report is accompanied by ten figures and three tables. The territorial scope of the policies, the participation of actors and the applied practices are the key information we received. We analyzed the territory based on the level of relevance and potential for engagement in the green transition. We also identified policies, actors and practices by sector.

### Search/Mapping techniques

The most frequent searching technique we employed during the mapping process was desk research, but in several cases, we consulted experts from certain fields (energy, pollution, urban mobility etc.).

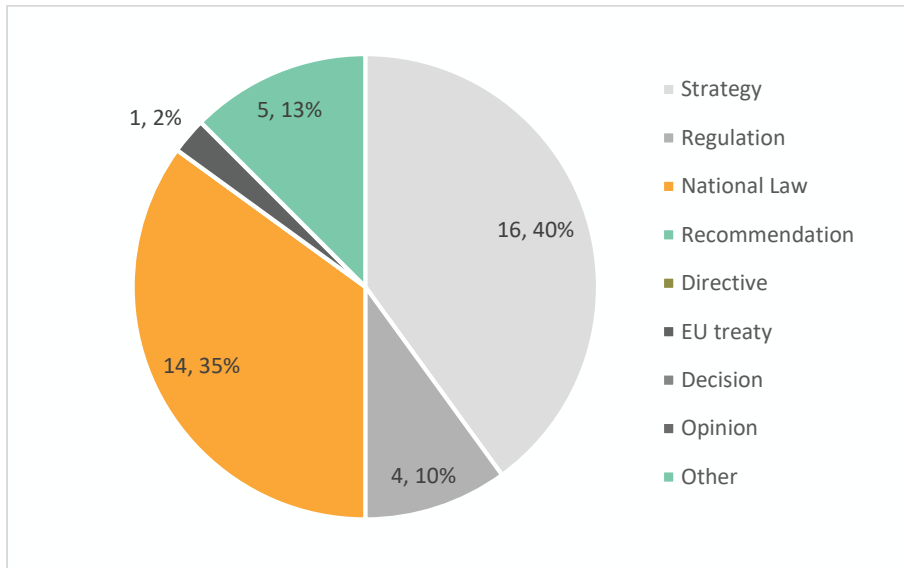
#### 2.5.1 Identification of territorial policies in Serbia

In the mapping exercise, 40 relevant policies were identified. Those policies consist of policy documents, laws, strategies, recommendations, directives, regulations and others. Among identified territorial policies relevant to GT, half are national laws adopted by the government. Slightly more than a quarter are strategies related to the national level. They are in the form of recommendations in our country, unlike binding laws. Numerous documents do not belong to any of the offered categories. Most of the mapped policies refer to GT pillars of Decarbonization and Circular economy and the smallest number to the pillar of Depollution.



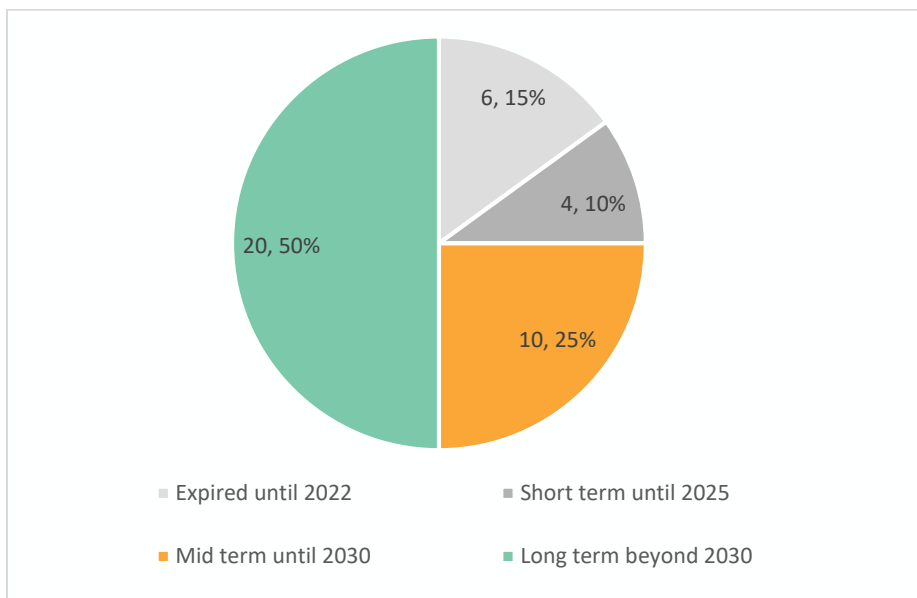
The results of the analysis of policies according to the time frame show the dominance of long-term documents whose time horizon is recognized beyond 2030. This is in line with the dominance of national laws among mapped territorial policies. The observation frame of territorial local and national policies showed slightly more than one-fifth of the documents referring to the period up to 2030, several documents referring to 2025, and some of the relevant identified policies already expired

**Figure 41.** Total number of policies mapped per category, Serbia



Source: Mapping dataset, UB-GEF 2022

**Figure 42.** Total number of policies mapped per timeframe, Serbia

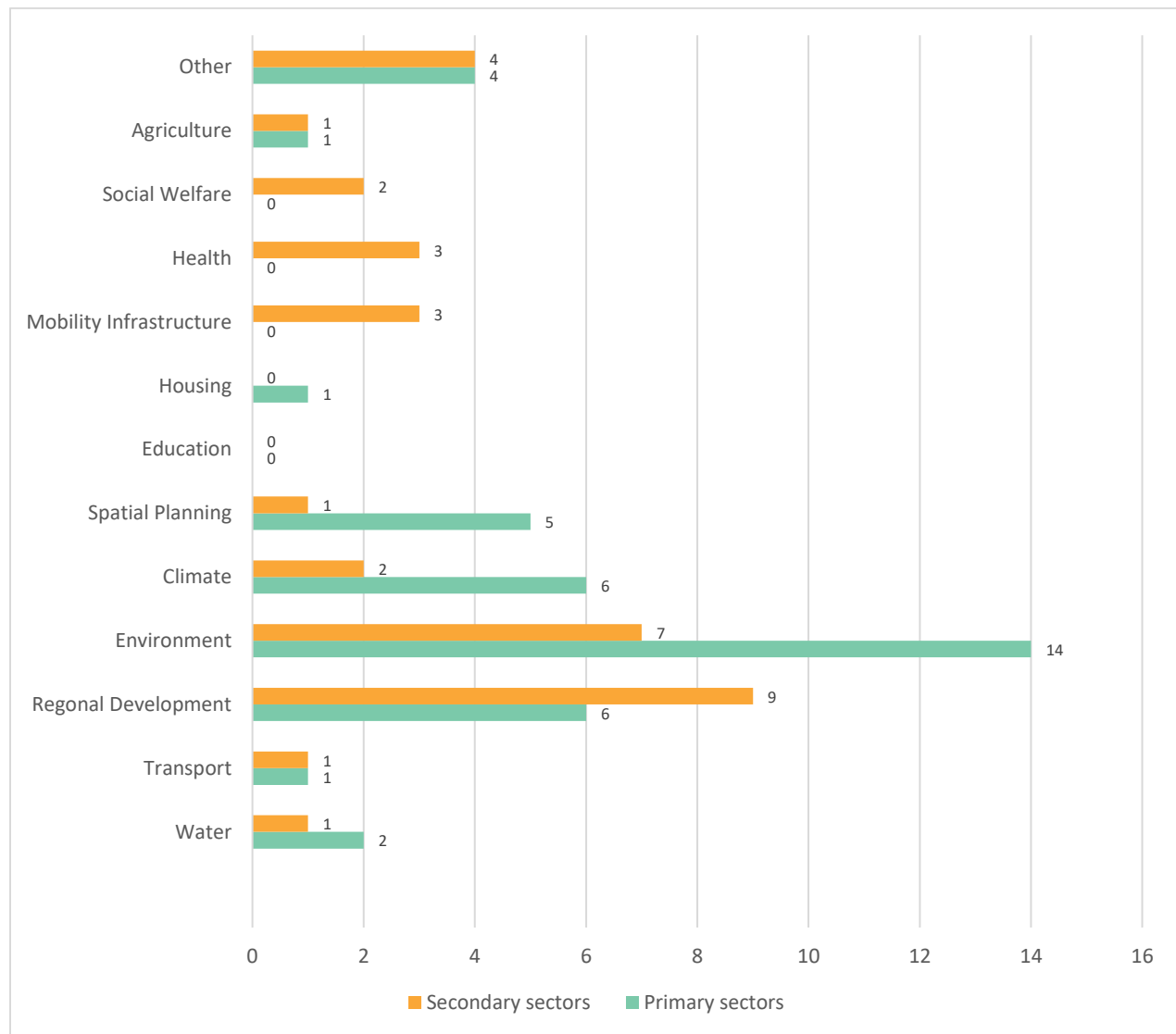


Source: Mapping dataset, UB-GEF 2022



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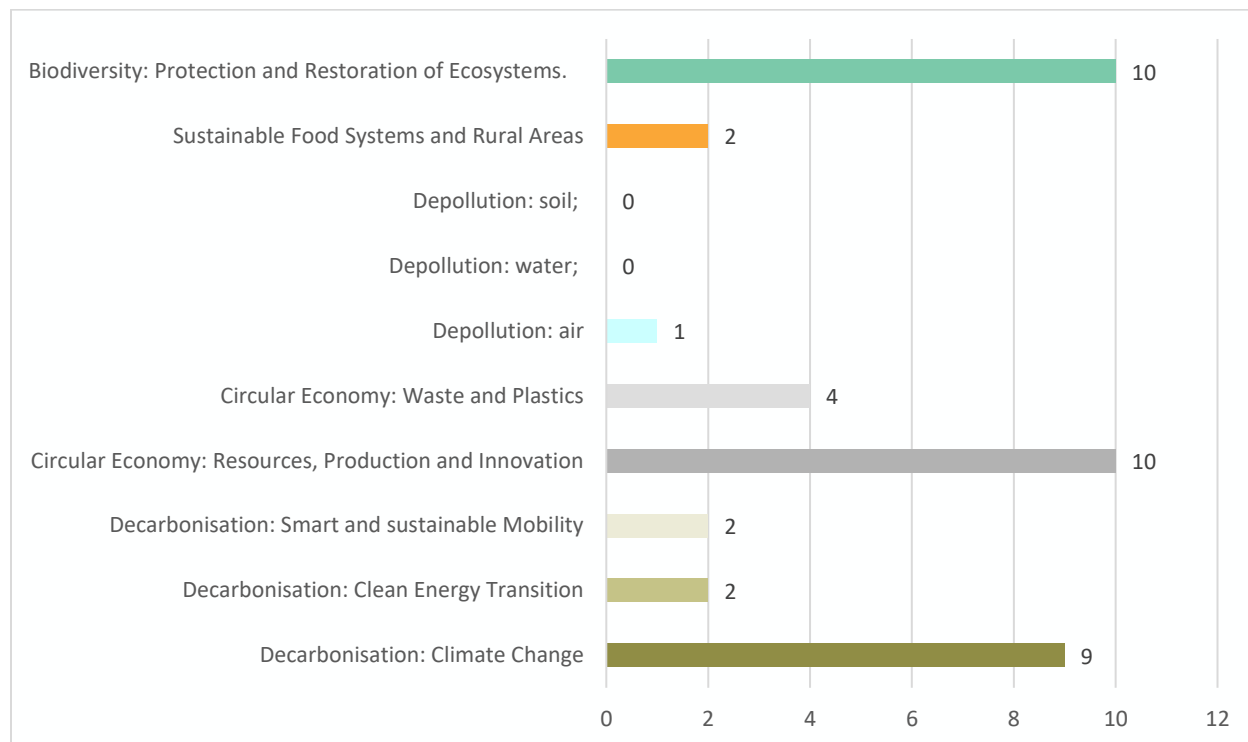
*Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Research Executive Agency (REA). Neither the European Union nor the granting authority can be held responsible for them.*

**Figure 43.** Primary and secondary sectors mapped per policy, Serbia

Source: Mapping dataset, UB-GEF 2022

The environment is the primary sector to which most of the mapped policies refer. A significant number of mapped policies also refer to Regional Development, Climate and spatial planning. The secondary sectors in terms of representation among the mapped policies are Regional Development, Environment, Mobility Infrastructure and Health. The least covered sectors are Agriculture, Housing, Transport and Water.



**Figure 44.** Number of mapped policies per Green Transition Pillar, Serbia

Source: Mapping dataset, UB-GEF 2022

Decarbonization is the green pillar to which most of the mapped policies refer. The second green pillar in terms of representation among the mapped policies is circular economy. Within the green pillar of decarbonization, most of the policies are related to climate change, while within the green pillar circular economy most of the policies are related to Resources, Production and Innovation. A significant number of mapped policies also refer to Biodiversity: Protection and Restoration of Ecosystems. The least represented green pillars are Depollution and Sustainable Food systems and Rural Areas.

**Table 13.** Overview of all policies that have potential for capitalization, Serbia

Name of policy	Main Actor Responsible	Related GT Pillars	Level of impact
<b>The Law on planning and construction</b>	Ministry of Construction, Transport and Infrastructure	Sustainable food systems and rural areas	Low
<b>Sustainable urban development Strategy of the Republic of Serbia until 2030.</b>	Ministry of Construction, Transport and Infrastructure	Decarbonisation: Smart and sustainable Mobility	Medium



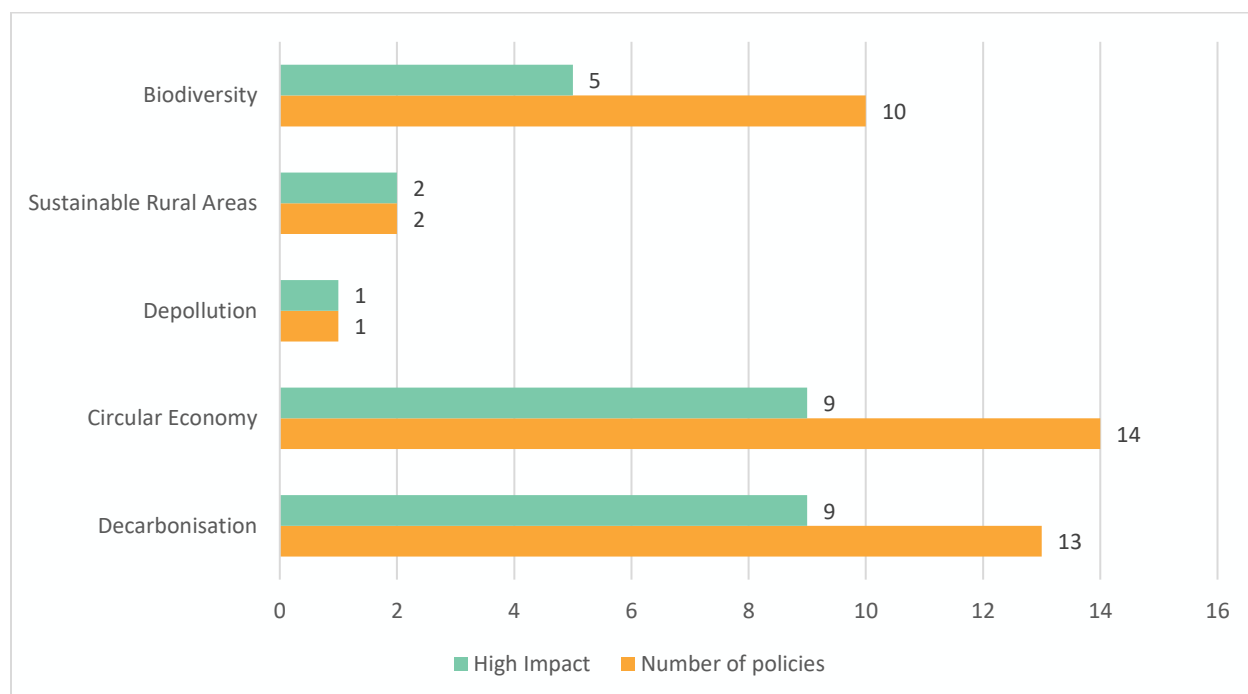
<b>The Law on Environmental Protection</b>	Ministry of Environmental Protection; Environmental Protection Agency	Biodiversity: Protection and Restoration of Ecosystems.	Medium
<b>Strategy of integral urban development of the central city zone - Kragujevac 2030</b>	Government of the City of Kragujevac	Decarbonisation: Smart and sustainable Mobility	High
<b>Law of climate change</b>	Ministry of Environmental Protection	Decarbonisation: Climate Change	Medium
<b>Program of local economic development of the City of Kragujevac for the period 2021–2023</b>	Government of the City of Kragujevac	Circular Economy: Resources, Production and Innovation	High
<b>Low Carbon Development Strategy with Action Plan</b>	Ministry of Environmental Protection	Decarbonisation: Climate Change	Medium
<b>Spatial Plan of the City of Kragujevac</b>	Government of the City of Kragujevac	Sustainable food systems and rural areas	High
<b>Urban Plan for Kragujevac urban settlement 2015.</b>	Government of the City of Kragujevac	Decarbonisation: Smart and sustainable Mobility	High
<b>Sustainable development strategy of the City of Kragujevac 2013-2018</b>	Government of the City of Kragujevac	Sustainable food systems and rural areas	Medium

Source: Mapping dataset, UB-GEF 2022

Taking into account the fact that our GT research is focused on the local level, more specifically the central city zone of the urban settlement of Kragujevac, local policies and strategic documents/plans such as Strategy of integral urban development of the central city zone - Kragujevac 2030, Program of local economic development of the City of Kragujevac for the period 2021–2023, Spatial Plan of the City of Kragujevac and Urban Plan for Kragujevac urban settlement 2015. These documents have high impact and will be the subject of detailed analysis because they represent the basis of the key study and their new/amended versions will be of higher quality and more in line with the principles and guidelines of the Green Deal and the Green Agenda for the Western Balkans.



**Figure 45.** Number of mapped policies per Green Transition Pillar / and the number of GT Policies ranked as 'high impact', Serbia



Source: Mapping dataset, UB-GEF 2022

The mapped policies at the national level are mostly of medium (Sustainable urban development Strategy of the Republic of Serbia until 2030, The Law on Environmental Protection, and Law of climate change etc.) importance for the key study. These policies will be analyzed in detail in the context of our research, but the proposed measures, instruments and methods of monitoring are important for defining our recommendations and implementation programs. For example, as defined in the table (Annex 1, row A10), technical-technological and other proposed measures for CO<sub>2</sub> emission reduction and monitoring of the impact of polluted air on human health and the environment, from the Law on Environmental Protection, will be of great importance for the key study. The same is the case with the Law on Climate Change and Sustainable Urban Development Strategy of the Republic of Serbia until 2030.

Our own self-assessment on the level of impact of the mapped policies has had or is expected to have in Serbia shows the dominance of policies with high impact in all green pillars. This is in line with the dominance of national laws adopted by the government, among mapped territorial policies. The results of the analysis of policies according to the degree of influence of territorial local and national policies showed one third of the documents with medium impact. Therefore, it can be concluded that most of the mapped policies can support and improve the implementation of GT in Serbia.



Potential mechanisms for implementation of most of these policies are Environmental governance, implementation and enforcement and Public Administration Reform (as Primary or Secondary Mechanism of implementation). Beside that mechanisms that also have the potential are, Involving Local and Regional Governments, Capacity Building, Greening Economic Reform Programmes and Research and Innovation. Regarding the funding opportunities for all the above-mentioned policies, National funding is the primary funding mechanism, but in addition, there are funding opportunities through some of the following: Western Balkans Info Hub, Western Balkans Fund, Horizon Europe, Global Fund for Environmental Protection, UNDP and Green Climate Fund – through national institutions (Ministries and Agencies).

### 2.5.2 Key actors involved in Green Transition in Serbia

27 relevant actors were identified, including all Quadruple Helix category: Academia/Research, Industry/Company/Business organisation, Government actor, Civil society representative (e.g., NGO, community), and others (Consulting Company/Cultural Centre/Public Body/Start-up etc.). The mapped actors can generally be considered influential for the country, especially actors belonging to the government sector. Most of the mapped actors refer to GT pillars: decarbonization and circular economy, which is consistent with the policy mapping results. Most of these actors are national government actors and it is certainly more difficult to establish cooperation with them and engage them in our GT research. Institutions such as the Ministry of Environmental Protection (together with the Environmental Protection Agency as its integral part) and the Ministry of Construction, Transport and Infrastructure (especially with the sectors for spatial planning and urban planning, for road transport, roads and traffic safety, as well as with the sector for housing and architectural policy, communal activities and energy efficiency) are of great importance for our research. Establishing close cooperation with them and engaging them in our research will be important.

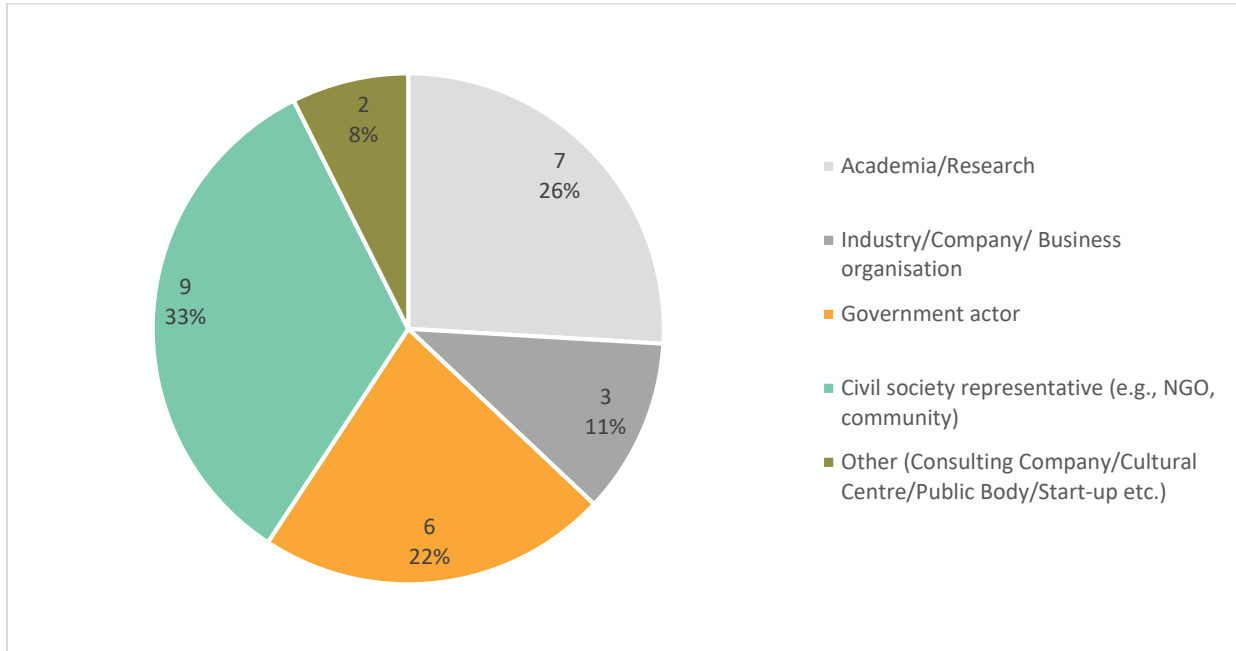
Actor(s) at the local level are of highest importance. The local self-government, the City of Kragujevac (together with its Departments for Spatial and Urban Planning, the Department for Transport as well as with local public enterprises) is the most important actor for our research and will be practically a partner in the preparation and implementation of the analysis, but also later during the implementation of the proposed measures and monitoring.

Most of the GT projects that were implemented by the mapped actors in the region are related to Decarbonisation (Climate Change, Clean Energy Transition as well as Smart and sustainable Mobility), Biodiversity (Protection and Restoration of Ecosystems) and Circular economy (Waste and Plastics). Projects are in most cases international / transnational projects (Strategic documents with or without Action plans, Reports, Publications, Applications etc.)



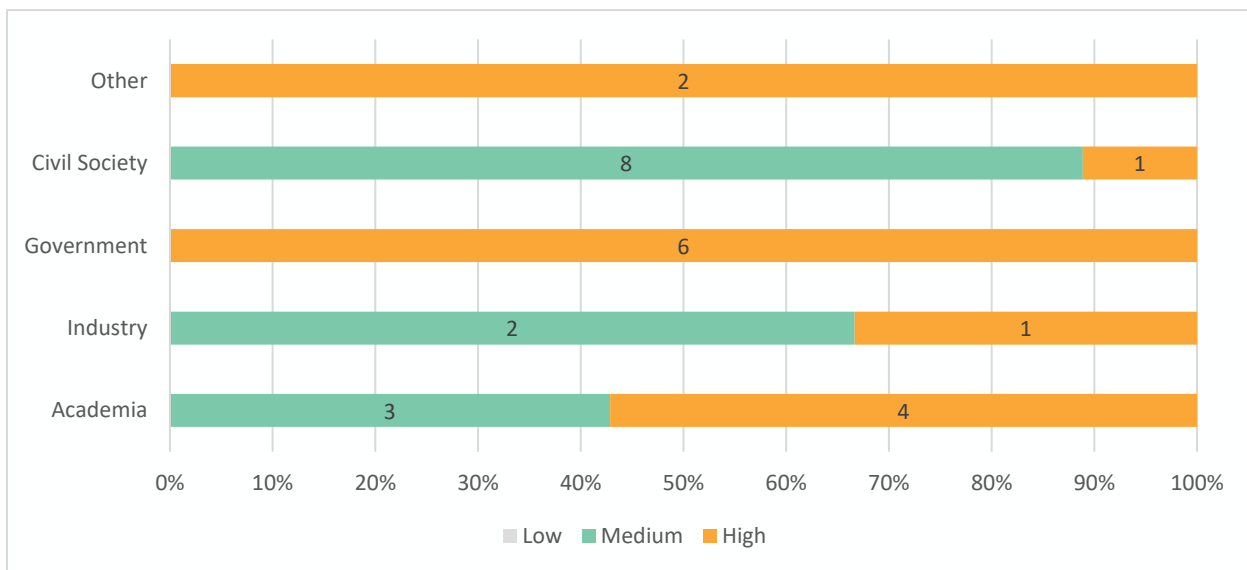
financed by different funding mechanisms (such as Adriatic IPA Cross Border Cooperation, European Union; Friedrich Ebert Foundation, GCF, GEF, UNDP etc.).

**Figure 46.** Total number of actors mapped in Serbia, grouped per Quadruple Helix category, Serbia



Source: Mapping dataset, UB-GEF 2022

**Figure 47.** Influence of GT stakeholders, per QH category, Serbia



Source: Mapping dataset, UB-GEF 2022

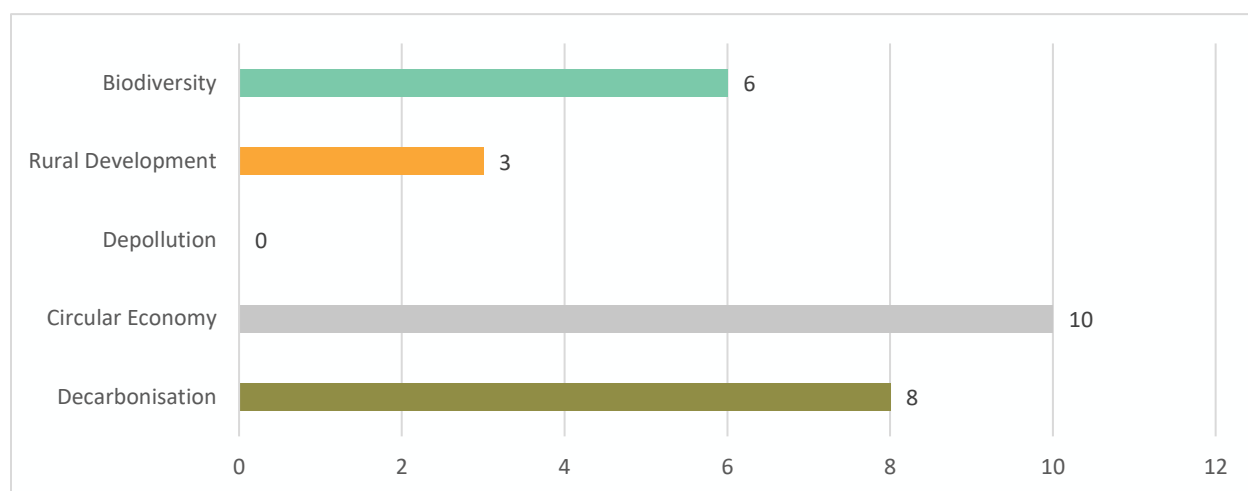




All categories of quadruple helixes are almost equally represented: civil society representative, academia and government actor, business organisation with about one quarter to one-third and Civil society representative and others with slightly less. Most of mapped actors are national and are very centrally located in Belgrade, the capital of the Republic of Serbia.

The mapped actors can generally be considered influential for the country, especially actors belonging to the government sector. Our own self-assessment on the level of impact actors mapped in civil society has had or is expected to have in Serbia shows the dominance of actors with medium impact. Among the actors belonging to the academic sector, half are with high and half with medium impact.

**Figure 48.** Classification of stakeholders per GT pillars (primary sector) , Serbia



Source: Mapping dataset, UB-GEF 2022

Among identified relevant stakeholders, circular economy is the green pillar to which most of the mapped actors refer. The second green pillar in terms of representation among the mapped stakeholders is Decarbonization. A certain number of mapped actors also refer to Biodiversity and Rural development. There is no mapped stakeholders refer to depollution. This is consistent with the representativeness of policies by pillars and the least number of mapped policies related to depollution.

**Table 14.** National Stakeholders with high importance and high engagement potential, Serbia

Full Name	Abbreviation	QH category	Primary GT sector	Secondary GT sector
Ministry of Environmental Protection of the Republic of Serbia	MEP	Government actor	Decarbonisation: Climate Change	Circular Economy: Waste and Plastics



<b>Ministry of Construction, Transport and Infrastructure</b>	MGSI	Government actor	Decarbonisation: Clean Energy Transition	Circular Economy: Resources, Production and Innovation
<b>Serbian Environmental Protection Agency</b>	SEPA	Government actor	Decarbonisation: Clean Energy Transition	Circular Economy: Waste and Plastics
<b>Standing Conference of Towns and Municipalities – National Association of Local Authorities in Serbia</b>	SCTM	Civil society representative (e.g., NGO, community)	Decarbonisation: Smart and sustainable Mobility	Decarbonisation: Climate Change
<b>UNDP Serbia</b>	UNDP_RS	Other (Consulting Company/Cultural Centre/Public Body/Start-up etc.)	Circular Economy: Resources, Production and Innovation	Decarbonisation: Climate Change
<b>Belgrade Open School</b>	BOS	Civil society representative (e.g., NGO, community)	Decarbonisation: Smart and sustainable Mobility	Circular Economy: Resources, Production and Innovation

Source: Mapping dataset, UB-GEF 2022

Actors/stakeholders at the national level, whose involvement in our research is very important, are institutions such as the Ministry of Environmental Protection (together with the Serbian Environmental Protection Agency) and the Ministry of Construction, Transport and Infrastructure (especially the sectors for spatial planning and urban planning, for road transport, roads and traffic safety as well as with the sector for housing and architectural policy, communal activities and energy efficiency) because these are the government institutions that should initiate all changes in regulations but also draft guidelines/policies and strategic documents of importance for the JGT. In addition to these, there are also UNDP Serbia, the Standing Conference of Towns and Municipalities – National Association of Local Authorities in Serbia and the Belgrade Open School. These are stakeholders who have been active in the process of green transition for a long time and who have already implemented several, projects in the field of green transition, mostly related to the pillar of decarbonization (climate change, smart and sustainable mobility and clean energy transition).

The Standing Conference of Towns and Municipalities – National Association of Local Authorities in Serbia has been providing active support to cities in Serbia for several years in the process of initiating, developing and adopting Sustainable urban mobility plans (primarily through trainings, seminars and workshops) and their potential engagement in our research will be of great importance. The experience of the Belgrade Open School in the realization of more than 50 projects in the field of environmental protection, climate change and the like would be

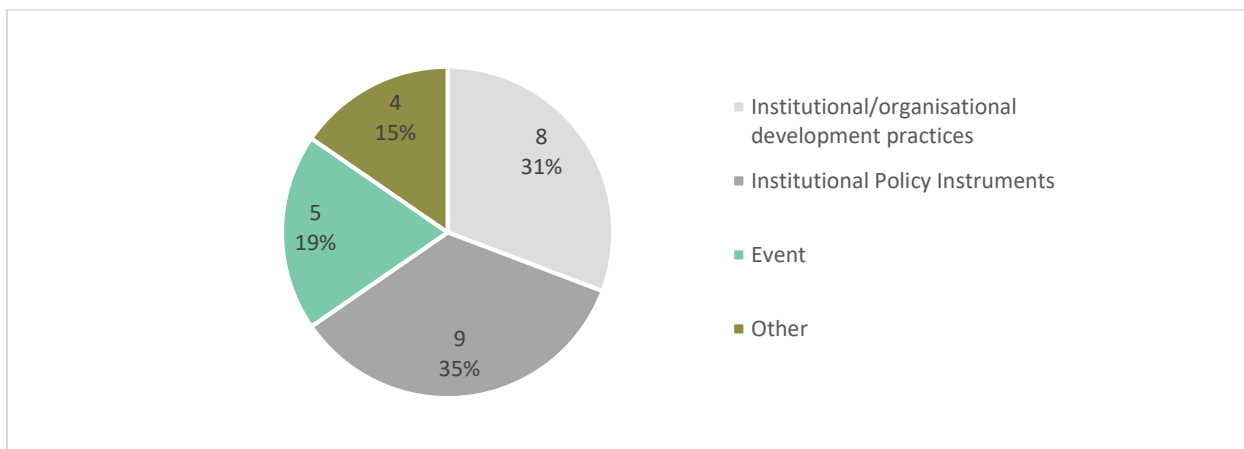


of great importance for our research. Therefore, their potential engagement would certainly contribute a lot to our GT research.

### 2.5.3 Green transition related practices and initiatives in Serbia

In total, 26 relevant practices were identified, including all types: Institutional/organisational development practices; Institutional Policy Instruments; Actions; Events and Other. The mapped practices can generally be considered useful concerning our research case study, especially practices belonging to the Decarbonisation pillar (Climate Change and Smart and Sustainable Mobility). Most of the mapped practices refer to GT pillars: decarbonization and circular economy, which is consistent with the policy and actor mapping results.

**Figure 49.** Classification of mapped GT practices per type, Serbia

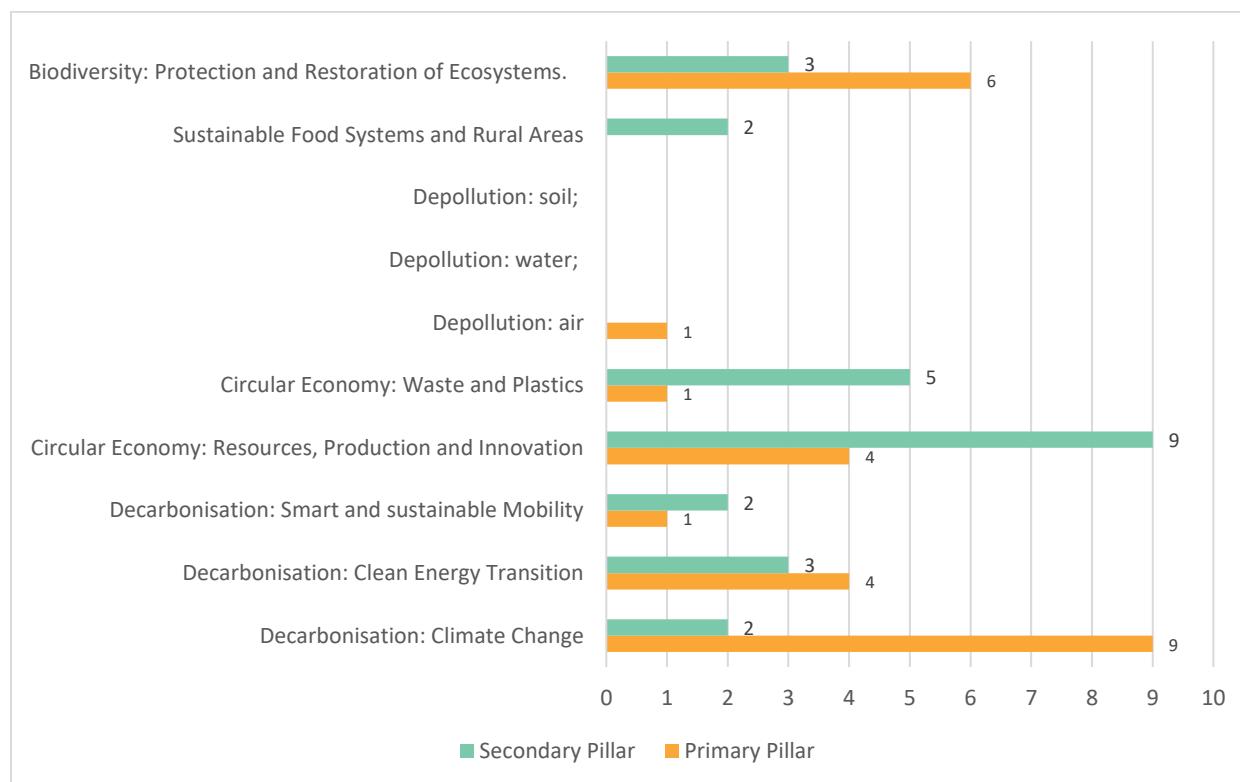


Source: Mapping dataset, UB-GEF 2022

Among identified practices/initiatives relevant to GT, all types are almost equally represented. Institutional Policy Instruments and Institutional/organisational development practices cover two-thirds, and events and other types of practices cover the rest. The main actors are responsible for the practice. The main actors responsible for the largest number of practices are some of the ministries.

Decarbonization: Climate change is the primary green pillar to which most of the mapped practices refer. The secondary green pillar in terms of representation among the mapped practices is Circular economy: Resources, Production and Innovation. A significant number of mapped practices also refer to Biodiversity: Protection and Restoration of Ecosystems and Circular economy: Resources, Production and Innovation, in terms of the primary green pillar. The least represented green pillars are Depollution and Sustainable Food Systems and Rural Areas.



**Figure 50.** Number of mapped practices per Green Transition Pillar (both as primary or secondary pillar) , Serbia

Source: Mapping dataset, UB-GEF 2022

**Table 15.** Mapped practices with high potential for capitalization, Serbia

GT Pillar	Practices/initiative	Main implementing actor	Territorial scope	Time frame
Decarbonization	EU FOR GREEN AGENDA IN SERBIA	Ministry for environment protection	Serbia	January 2022 - December 2023
	ADVANCING MEDIUM AND LONG-TERM ADAPTATION PLANNING IN THE REPUBLIC OF SERBIA	Ministry of Agriculture, Forestry and Water Management	Serbia	2021-2030
	Action plan for the Implementation of the urban development Strategy of The Republic of Serbia until	Ministry of Construction, Transport and Infrastructure	Serbia	2021-2030



	2030 for the period from 2021 to 2022			
	Report on a Roadmap for Just Transition for Serbia	UNDP		
Depollution	Green City Action Plan for the City of Belgrade	City of Belgrade	City of Belgrade	2020-2030

Source: Mapping dataset, UB-GEF 2022

#### 2.5.4 Identification of territorial strengths, weaknesses, opportunities and challenges for Green Transition in Serbia

Strengths	Weaknesses
<p>Strategic national orientation towards just and strategically planned Green Transition;</p> <p>Good quality of the adopted strategies, laws and other documents directly supporting the Green Transition;</p> <p>Strong scientific support towards Green Transition;</p> <p>Official EU oriented national policy;</p> <p>Skilled workforce;</p>	<p>Depopulation</p> <p>Missing strategies, laws and other documents for some of the sectors;</p> <p>Slow and uncertain process of Accession negotiations;</p>
Opportunities	Threats
<p>Financial Support of the EU, donors as well as donors from Japan, USA, UNDP etc.;</p> <p>Know-how support from the most developed states of the Europe and beyond;</p> <p>Synergistic effect of the initiatives, actions and know-how exchange in the WB;</p> <p>WB is important market for the EU and a transit area for European and international goods;</p> <p>New jobs creation</p>	<p>Actual energy crisis and re-activation of the fossil fuel usage as well as nuclear energy;</p> <p>Slow and uncertain process for WB to getting closer the EU Single Market;</p>

By adopting the 2030 Agenda, the Republic of Serbia, together with other UN member states, changed the traditional understanding of sustainable development. The Government of the Republic of Serbia has indivisible and undivided responsibility for the national achievement of the 2030 Agenda and the achievement of its 17



Sustainable Development Goals (SDG). When compared with the 2011 Census, the total population fell by 495,975, i.e., by 6.9%. All regions have lost population except for Belgrade where the population grew by 1.6%, according to the website of the Statistical Office of the Republic of Serbia. Depopulation, as well as the overall population ageing, significantly can slow down the quality of the GT process in Serbia. Implementation of the numerous initiatives related to GT is strongly connected to highly educated and well-trained professionals and experts, and a lack of human resources can slow down or even jeopardise the overall process.

With almost 20 state-owned and private universities, more than 70 scientific and research institutes, the Academy of Sciences, several science and technology parks etc., Serbia has a large potential to scientifically support the implementation of the GT. These institutions, with a significant number of scientists, students and researchers following the contemporary trends in science and research and represent an excellent foundation for know-how transfer as well as for the production of new knowledge.

The International Labour Organization (ILO) estimates that “changes in energy production and use to achieve the 2°C goal can create around 18 million jobs throughout the world economy. These changes include a shift towards renewable energy sources and greater efficiency, the projected adoption of electric vehicles and construction work to achieve greater energy efficiency in buildings. This net job growth results from the creation of some 24 million new jobs and the loss of around 6 million jobs by 2030.”

Based on the Declaration of the Chamber of Commerce and Industry of Serbia “Trained personnel, as expected, will be most sought after in the fields of renewable energy sources, as well as circular economy and “green” and sustainable business. It will be necessary to boost the development of new educational programs and profiles and the training of pupils and students for “green” professions through the further development of the dual education system, the intensification of professional practices, master training and other forms of acquiring practical knowledge and skills for the new “green” and digital age in industry 4.0.

Targeted training in the most affected sectors can help workers acquire the necessary competencies and skills to properly implement the transition and be more innovative and resilient to change. Training is especially important for retaining and upskilling the existing workforce when new technologies are adopted, without jeopardizing existing jobs and positions. It is also necessary to adapt the curriculum at faculties, primarily faculties of economics and the ones dealing with sustainable development so that they include new disciplines such as climate change finance and climate change accounting as well as the circular economy.”



Decarbonization is the green pillar to which most of the mapped policies refer. The second green pillar in terms of representation among the mapped policies is the circular economy. On the other hand, sectors like Agriculture, Housing, Transport and Water urgently need to be covered by an adequate legal framework.

Economic and Investment Plan for the Western Balkans, as a part of the Green Agenda for the Western Balkans, as support for a long-term socio-economic revitalisation of the region, is going to support the economic growth, implementation of the necessary reforms and support to the WB economy for adaptation and accession to the Europe and global market.

According to the Serbia 2022 Report “Under the Instrument for Pre-accession Assistance 2021 – 2027 (IPA III) a first financing decision of EUR 122.14 million was adopted at the end of 2021, providing support in connectivity and energy efficiency, strengthening private sector development, trade, research and innovation, as well as improving the healthcare system. This first set of programmes, complemented by a significant package of multi-country programmes and the rural development programme IPARD III, provide a significant contribution to kick-start the implementation of the Economic and Investment Plan for the Western Balkans and the Green Agenda. Serbia participates also in cross-border cooperation programmes, transnational cooperation programmes and Union programmes. Serbia benefitted under IPA II from participation in the following Union programmes, with IPA support: Horizon 2020; COSME; Erasmus+ and Creative Europe; Europe for Citizens; Employment and Social Innovation.”

According to the An Economic and Investment Plan for the Western Balkans[i] “With a population of nearly 18 million people, the region is an important market for the EU and a transit area for European and international goods, with a skilled workforce for companies ready to invest.

The Western Balkans have therefore a key role to play in the global value chains that supply the EU, and this role could be further reinforced. In the long term, this will also contribute to the EU's strategic autonomy. This Economic and Investment Plan sets out a substantial investment package for the region. It is built on the foundations of a performance-based and reform-oriented proposal for an Instrument for Pre-accession Assistance III (IPA III) and reinforced instruments to foster public and private-sector investment. An Economic and Investment Plan for the Western Balkans.”



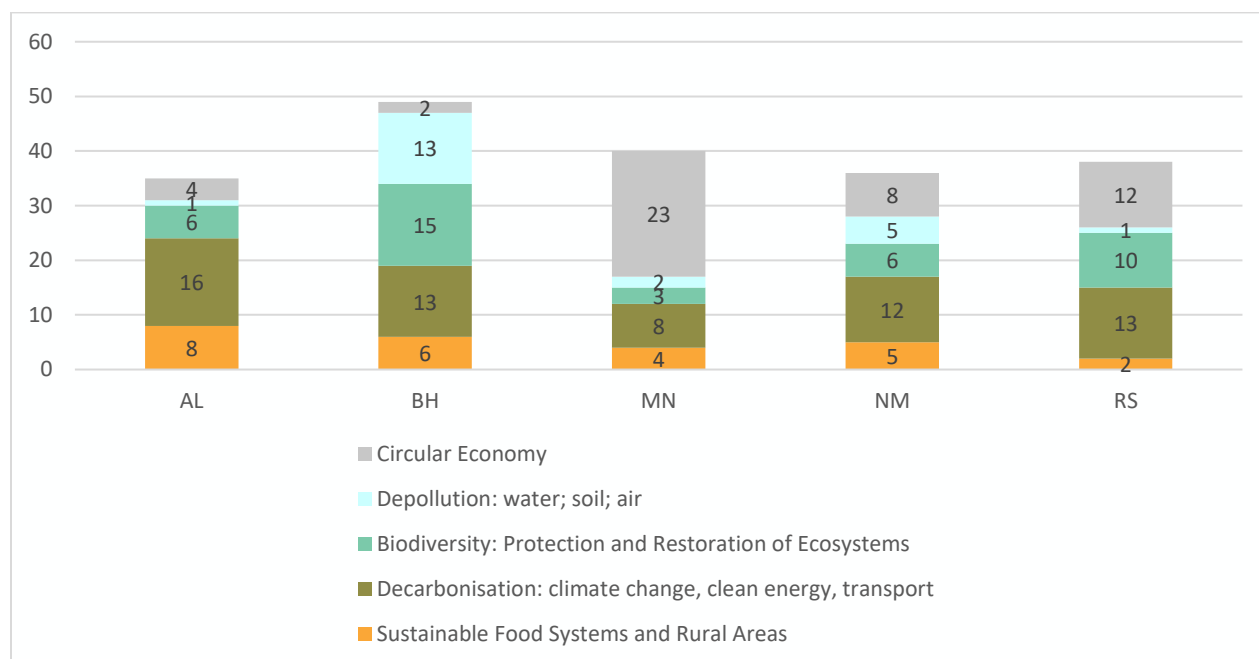
### 3. Summary data for Green Transition in the target WB countries

#### 3.1 Identification of territorial policies

During this mapping process, **202 relevant policies** were mapped in the WB countries, ranging from 30 to 50 policies per country. Some of them (the bulk) were national policies that targeted every level of each participating WB country, while others (few) specifically addressed subnational territories and were under the implementation of local stakeholders (or regional ones in the case of BiH). When it comes to these official policies, their significance was seen as being particularly important for:

- the overall green transition research conceptualization of the WB territories/countries;
- a preliminary baseline assessment of the current status of the green transition
- the integration of some specific Green Transition indicators and pillars in the implementation of the research case studies on assessing GT costs and benefits.

**Figure 51.** Number of policies (202) that mainly address each green transition pillar, per country



Source: GreenForce, 2023

In light of the aforementioned:

- In the case of Albania, the most pertinent policies were those that focused on climate neutrality and energy transition; as well as sustainability in the rural development food-related sector.

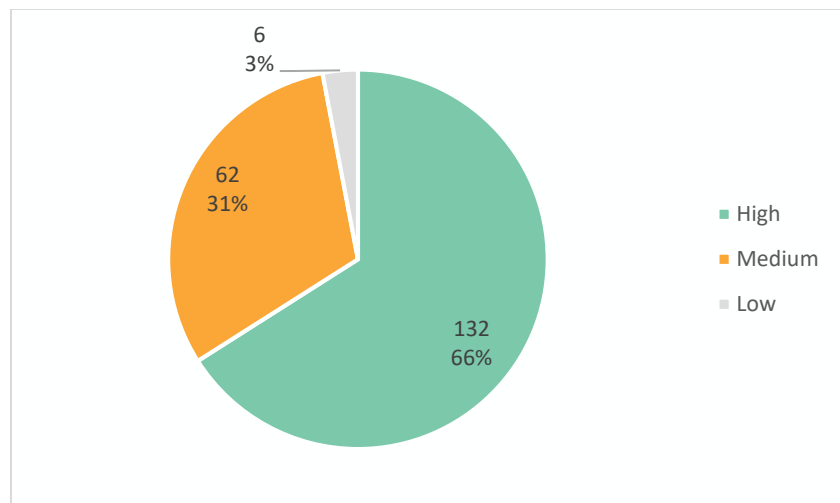




- In Bosnia and Herzegovina, the laws and strategies focus equally on depollution, decarbonization policies, and biodiversity protection. This is mostly relevant at the national and regional levels, as the progress towards climate neutrality is seen as a priority at all governmental levels.
- Concerning Montenegro, the sustainable development policies, and the scientific research activity strategy appeared to be genuinely pertinent for assisting the circular economy progress.
- The policies that focused on decarbonization were at the core of the assessment conducted by North Macedonia.
- Lastly, in Serbia progress on green transition policy implementation has been high, and evidenced mostly in the biodiversity, circular economy and decarbonization sectors.

Lastly, it should be noted that the distribution of mapped policies according to specific green transition pillars is not of the utmost importance in this case as the goal has been to determine whether the current legal system in the WBs can support green transition and the implementation of the scientific research agenda on GT as a whole. Overall, the Western Balkan countries have made progress in their green transition, but still face challenges related to the lack of investment and regulatory framework in the renewable energy sector, as well as issues related to air and water pollution.

**Figure 52. Level of impact mapped per Green Transition policy in all 5 countries**



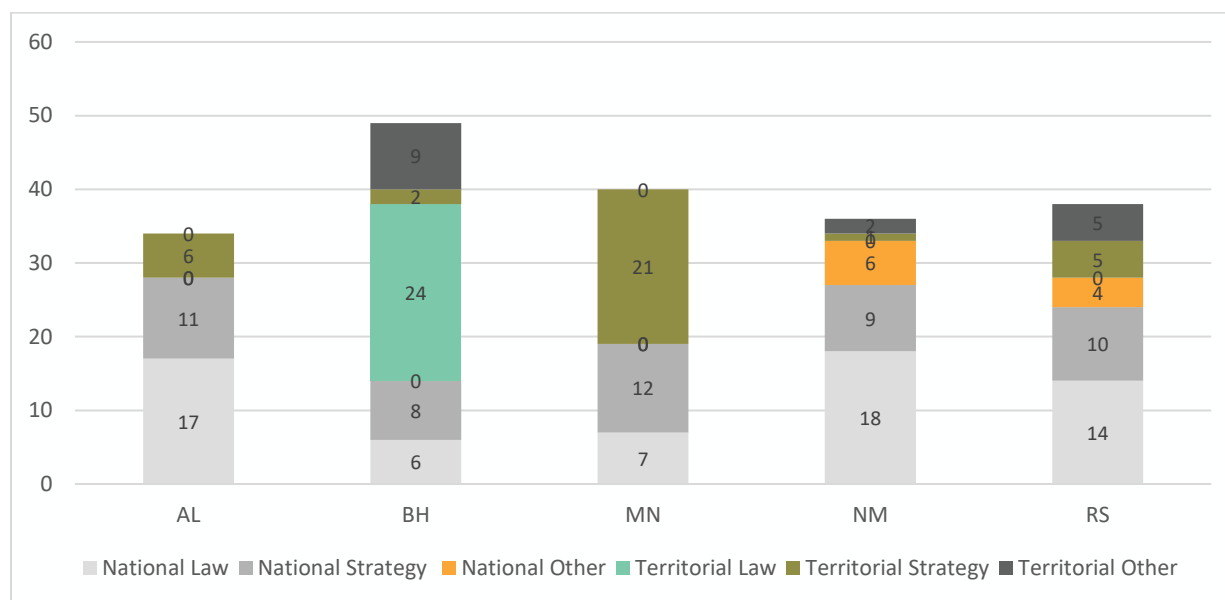
Source: GreenForce, 2023

Generally, the mapped policies were considered of high impact, mostly because of their mandatory regulatory nature (either as laws or normative acts or as national strategies). Nevertheless, the level of importance indicates how this policy is coherent and influences other horizontal (and vertical) policies and is not a measure of relevance for the research cases.



Except for Bosnia and Herzegovina, where laws on green transition are implemented at national and regional (territorial) levels, the rest of the WBC-s follow up on this commitment mostly at the national level. It is to be noted that for the specific research conducted per territory, significant relevance was put to capitalization from local policies, i.e., strategies for waste management, strategies of sustainable urban mobility, green city plans, etc. This emphasizes once again the context into which this mapping takes place, indicating a certain focus on the research pillars that are most relevant to each of the WB partners.

**Figure 53. Number of policies mapped per country, according to the type and territorial level**



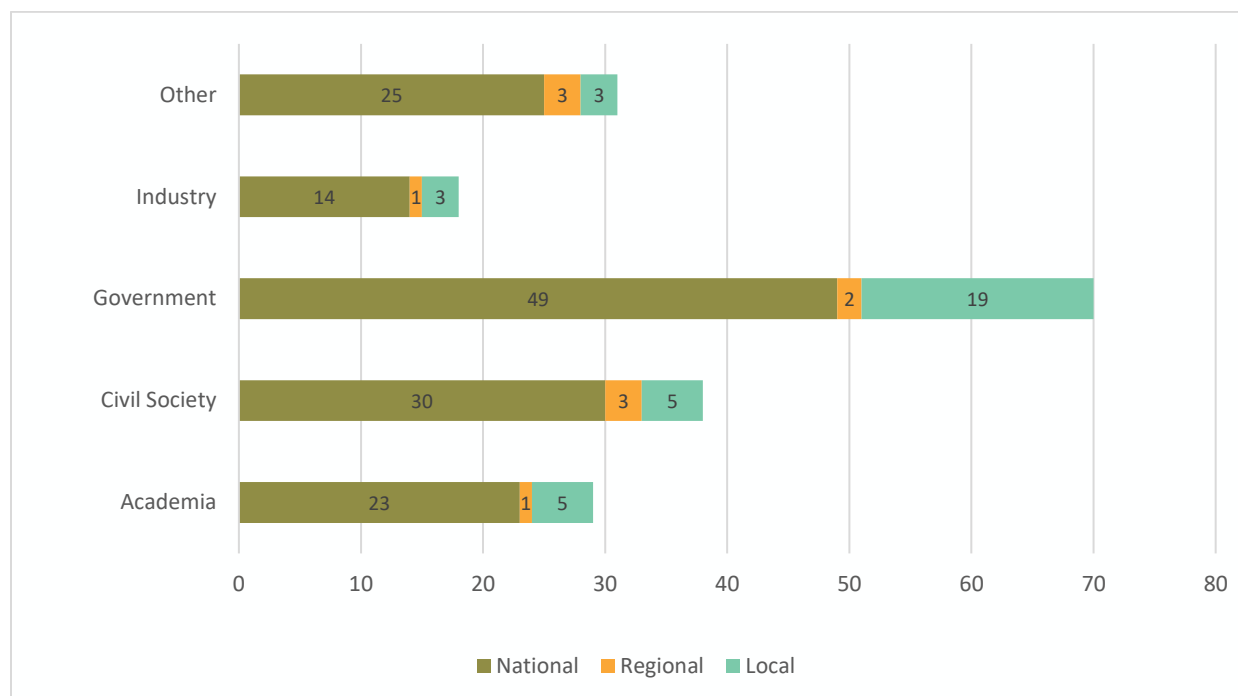
Source: GreenForce, 2023

### 3.2 Key actors involved in Green Transition

A total of **188 actors** have been mapped, with the majority of them (with minor variations) representing government actors at national level. Figure 54 shows the stress that the mapped players of each country (i.e., their relation) place on each GT pillar at each territorial level.

Examining the graph, one can see that the national stakeholders prevail over all local (and regional) ones. This was mostly due to the centralized structure of GT sectors governance in most WB countries, but also because not all regional deconcentrated stakeholders (for example regional agencies) were deemed relevant to map for this exercise.



**Figure 54.** Actors mapped in the WBCs, distributed per Quadruple Helix type and level

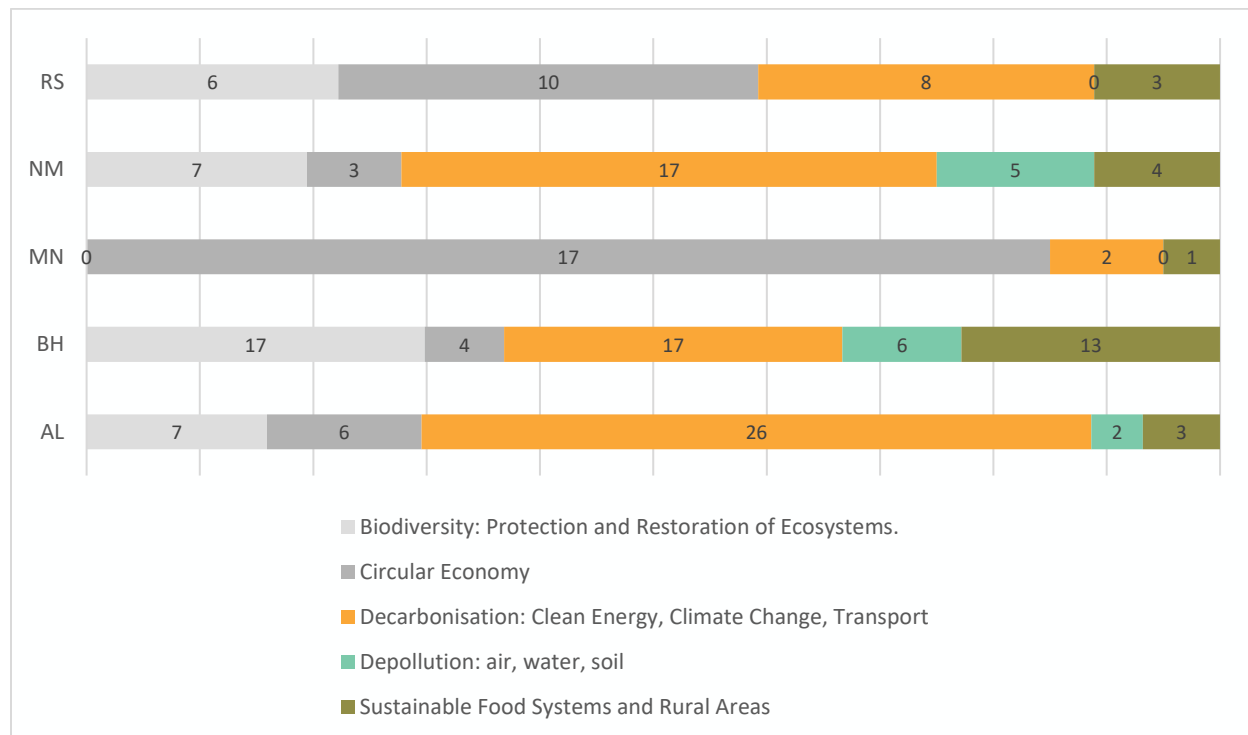
Source: GreenForce, 2023

Since academic actors are involved in research on GT, the mapped number of academic and research stakeholders does not paint a particularly good picture in this regard. This is mostly because the GT sectors are limited and usually only a few universities or HIE-s have the expertise to engage in those areas of research.

The civil society representatives, on the other hand, present quite a strong representation. Since CSOs can approach communities and involve them directly in green transition practices, detection and outreach efforts for CSOs should be further prioritized. CSO-s are also to be viewed as proper facilitators between governance and academia, as well as the industry in some cases.

Although they make up for the smallest share among stakeholders, the industry sector is well-represented in this mapping, given the generally scarce presence of relevant, regionally influential businesses in the WB area. Nevertheless, most industry GT-relevant actors were mapped in Montenegro, because of the specificity of the research conducted on the circular economy.



**Figure 55.** Actors mapped in the WBCs (188), distributed per their relation to green transition pillars

Source: GreenForce, 2023

The GT pillar that received the most emphasis is decarbonization, followed by circular economy; while the one less represented is depollution. This does not strongly reflect institutional setups in the respective countries, rather than the deconcentration of relevant actors and mapping of both national and local ones that were of relevance to the research cases. Nevertheless, it is to be pointed out that the implementation of the Green Agenda for WB called for eminent legal and institutional changes in the field of energy efficiency, renewable energies, and climate change. Therefore, it comes as no surprise that more actors were mapped throughout these sectors. This was especially relevant for Albania and North Macedonia. In the case of Montenegro, there is a strong 'bias' in mapping circular economy actors, with high importance for the specific research case.

A few other preliminary points that may be made regarding the aforesaid distribution refer to the fact that participants and pertinent activities in the WBs mostly focus on the individual GT contents rather than a common strategy for green transition research that is holistic for all the territories.

There appear to be favourable circumstances for the future development of the GT network in the WBs; since numerous players already deal with GT-related issues, even if they do so unintentionally or without referring to it as GT. Many initiatives should be launched concurrently to reach out to more stakeholders and actors involved in the holistic, responsible approach or to host pertinent multi-stakeholder discussions in the WB region. Such

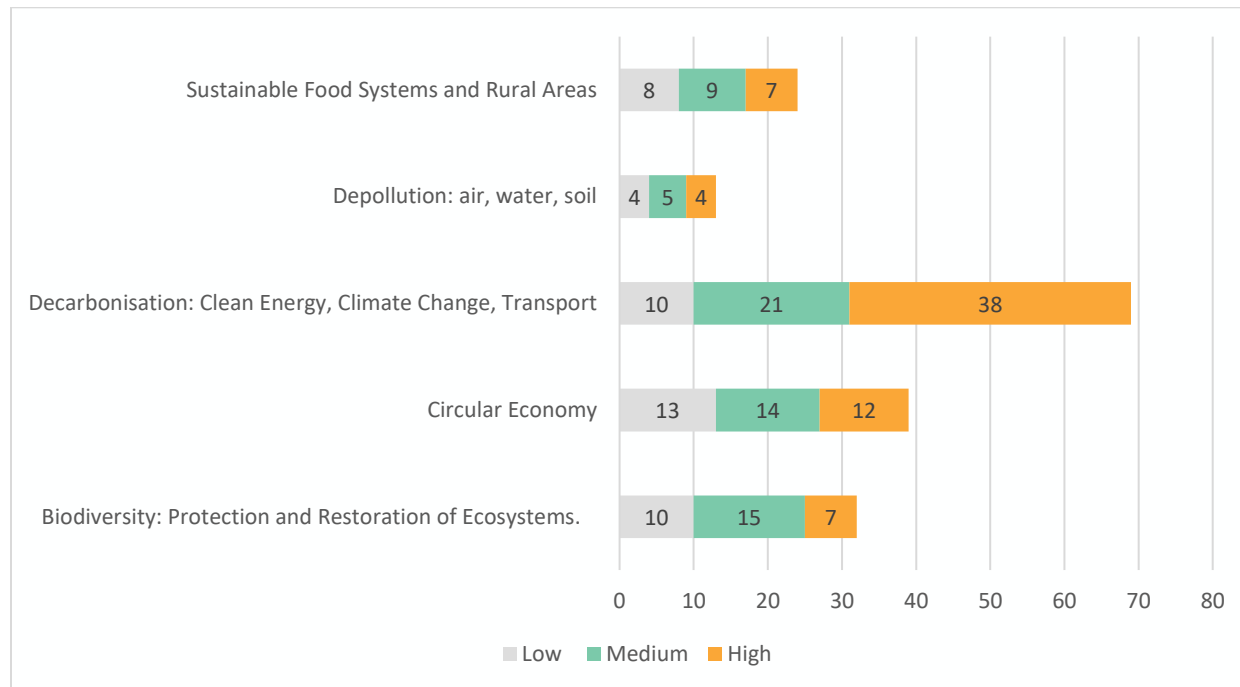


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horizontal discussions in particular make up a crucial component of GreenFORCE and give hints as to the impact that will be made in the WBs in the forthcoming project time.

**Figure 56. Representation of actors per importance and GT pillars**

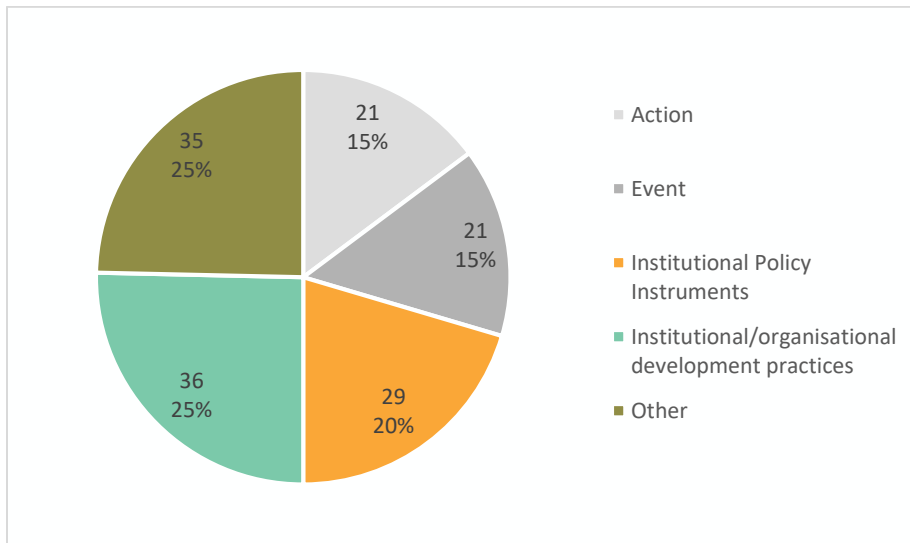


Source: GreenForce, 2023

### 3.3 Green transition related practices and initiatives

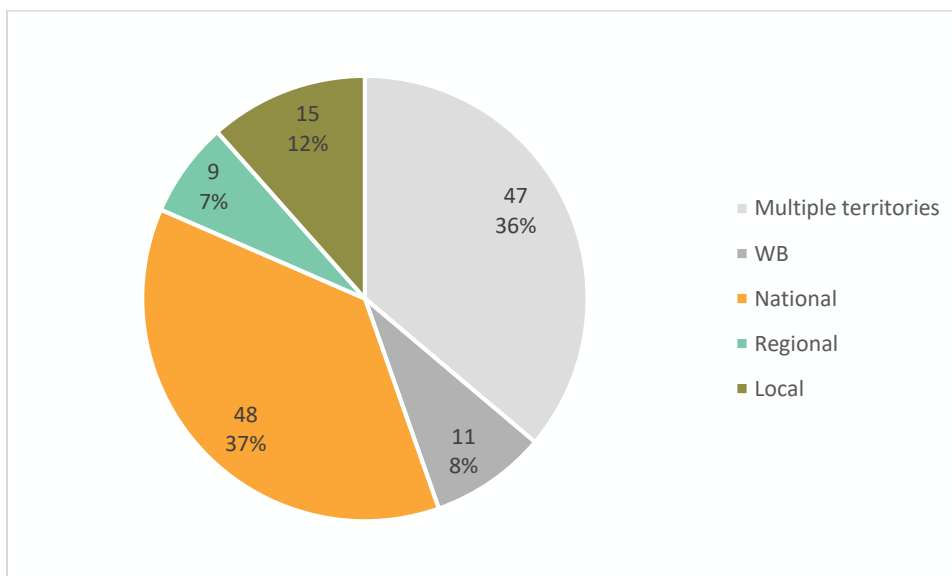
The mapping exercise revealed that there were **142 practices** in the WB region overall. The majority of practices addressed the pillar of decarbonisation, following the same pattern (and corresponding justification) as with the mapping actors. The majority of the practices on the maps were classified as being part of institutional development practices, but with no significant difference from the other types. This distribution shows the baseline data collection that has been completed thus far; however, more systematic efforts are now feasible and will be further started in the next WPs, exactly referencing (and enriching) the baseline data shown in this report. The distribution of mapped practices is shown in more depth in the picture below.



**Figure 57.** Practices/initiatives mapped in the WBCs, separated per type

Source: GreenForce, 2023

As the 'others' category is very present in the typological distinction within practices, no specific insights could be drawn into what subcategories are included there. As seen in the above figure, institutional policies and practices (which are systematized in an organization) were particularly prominent, in contrast to singular practices or events, which means that the mapped initiatives are more likely to be sustainable outside their implementation time-frame.

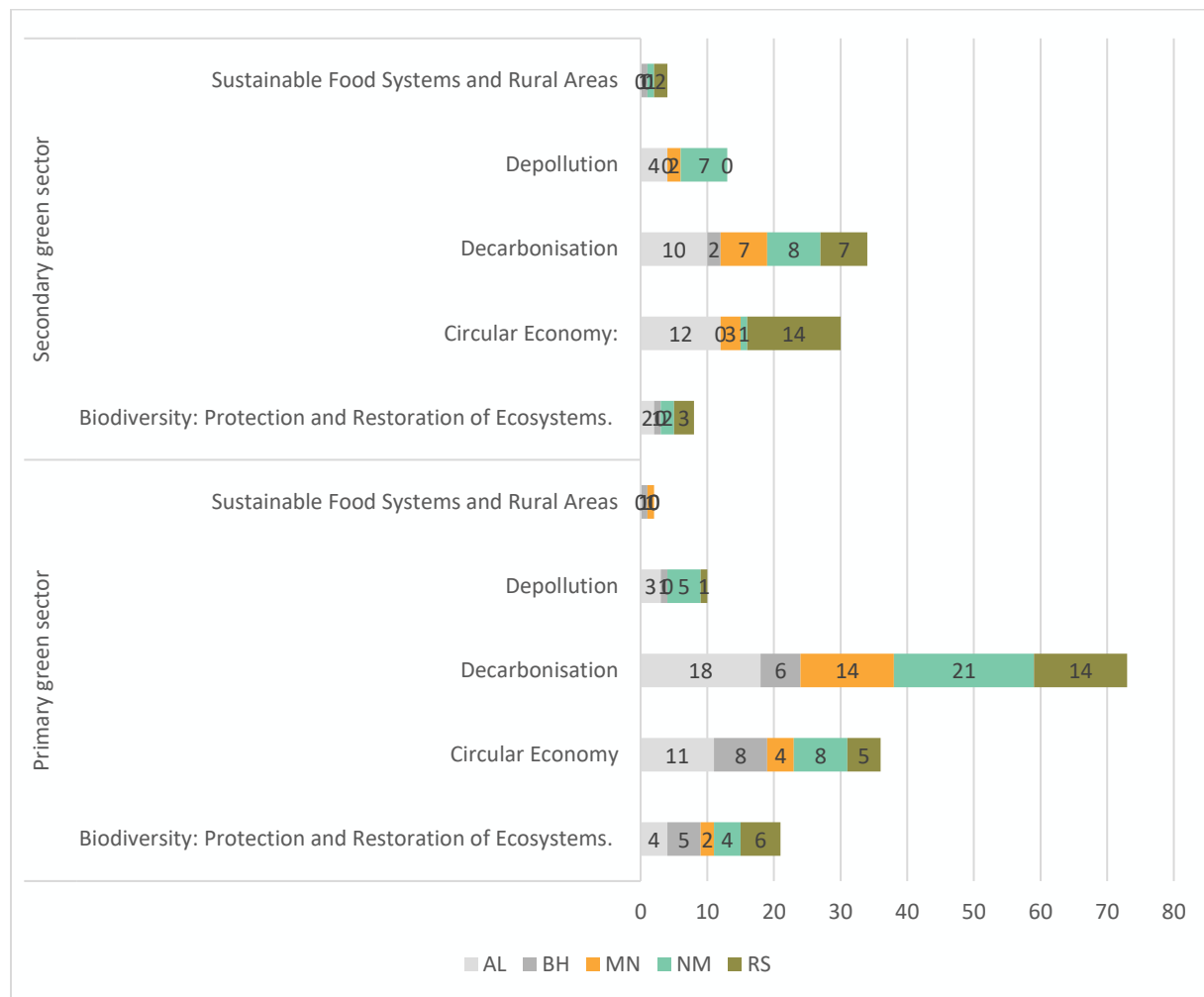
**Figure 58.** Practices/initiatives mapped in the WBCs, per level/scale of implementation

Source: GreenForce, 2023



It is worth mentioning that these practices may have both, a national and highly localized focus, as well as a multi-territorial dimension. In the first case, as indicated for more than 55% of mapped practices, there is potential for capitalization within the country, as they are of national or local relevance. Nevertheless, the rest of 40% of mapped practices belong to best cases of implemented projects within a larger territorial scope (WB or EU-wide), and are promoted and implemented already by international stakeholders. In this regard, the potential to capitalize on their methods, datasets, networks and knowledge is more diverse and evident.

**Figure 59.** Practices/initiatives mapped in the WBCs, per primary and secondary green transition pillar



Source: GreenForce, 2023



### 3.4 Favouring and hindering factors for green transition in the target WB countries

The existence of both favourable and deterring factors for Green Transition in the WB region is discussed in this part in broad terms. These justifications apply to both the five national SWOT studies as well as insights gained via parallel processes and discussions with local stakeholders.

Beginning with the enabling factors, the mapping exercise results show that several green transition pillars already are well advanced and being promoted to some level in the WB area. For instance, the sizeable stakeholder community that has been identified and mapped, as well as the accompanying practices that have been found, may serve as evidence of this. The fact that significant work has already been completed at the policy level indicates that research activities conducted on Green Transition may be well-anchored to the existing context.

Going a step further and focusing on the specific SWOT analysis conducted, it appears that it is possible to divide the territorial strengths, weaknesses, opportunities and threats into 3 main sections: societal, economic, and environmental.

From a societal point of view, the Western Balkan countries have a relatively Skilled Workforce, particularly in the fields of engineering, science, and technology. This talent pool can be harnessed to drive innovation and development in the green economy, particularly in the areas of renewable energy, circular economy, and sustainable agriculture. Moreover, Civil society organizations play a crucial role in promoting environmental and social sustainability in the Western Balkans. These organizations can serve as advocates for the green transition, mobilizing public support, and holding governments and businesses accountable for their environmental impact. Lastly, the Western Balkan countries share a rich cultural heritage that can be leveraged to promote sustainable tourism and preserve natural and cultural resources. By promoting eco-tourism and sustainable cultural practices, the region can create new economic opportunities while preserving its unique heritage.

From an economic perspective, the Western Balkan countries are eligible to receive funding from the European Union to support their transition to a low-carbon economy. By accessing these funds, the region can invest in green infrastructure, promote sustainable business models, and enhance its energy efficiency. Moreover, The Western Balkans is strategically located at the crossroads of Europe and Asia, with access to major transportation routes and markets. By investing in green transportation infrastructure, such as railways and ports, the region can enhance its connectivity and competitiveness in the global marketplace.





From an environmental point of view, the Western Balkan countries share a rich array of natural resources, including renewable energy sources such as wind, solar, and hydropower. By investing in these resources, the region can reduce its dependence on fossil fuels and create a more sustainable energy system.

As some partners have pointed out, several WB institutions collaborate with well-known EU institutions to carry out joint projects and initiatives, which paves the way for the beginning of joint GT-related activities or, going further, for the involvement and support of these EU institutions in the facilitation of research.

The key challenges and roadblocks to green transition in the WB are a few well-known problems, which can be channelled into societal factors and economic ones.

Aside from EU funding, the Western Balkan countries have limited access to financing for green investments, which can make it difficult to finance large-scale green projects. This is especially true for smaller businesses and rural areas. Most of the countries suggest a lack of technological capacity to implement green solutions, such as renewable energy and circular economy practices. This can result in high costs and difficulties in scaling up green initiatives. Although policies are well in place to diminish this, the Western Balkan countries are still heavily reliant on imported fossil fuels, which can make it difficult to transition to a low-carbon economy. This is due to the lack of domestic sources of renewable energy and limited infrastructure for energy storage.

Most importantly, there seems to be a lack of coordination between different sectors and government agencies that can hinder the implementation of green policies and initiatives. This can result in inefficiencies and difficulties in achieving the desired outcomes. Lastly, the Western Balkan countries have a large informal economy, which can make it difficult to track and regulate environmental impacts. This can make it challenging to enforce environmental regulations and ensure compliance with green policies.

As regards GT research in particular, universities should be better prepared to better integrate GT concepts into their modes of operation, and research infrastructure should be further upgraded. Brain drain is a key problem for the GT industries in all WB nations, which affects the requirement for engaging in specific green transition sectors. Moreover, even though many actors and activities focus on GT (as demonstrated by the mapping exercises), it appears that this concentration is somehow accidental. For instance, there is a general interest in waste management, a general interest in biodiversity protection, and so on. According to what has already been said, while this is good and allows for follow-up activities, it also necessitates more deliberate efforts to integrate the focus of societal actors into a holistic point of view and to encourage further coordination within stakeholders from governmental and other quadruple helix actors.



#### 4 General remarks and conclusions

Due to the various typologies of the targeted research areas and the unique characteristics of the chosen initiatives, the mapped actors at the territorial level differ for each of the WB nations partaking in the project. In general, the territories have vastly distinct characteristics and sizes, making comparisons between them neither feasible scientifically nor suitable. Nevertheless, a total of **188 stakeholders** were mapped, with various relevance (mostly high) to green transition policies and research. Each category of the Quadruple Helix was well-represented among the mapped stakeholders. The stakeholder groups with the highest presence at the level of the target territories are government actors (70 of the total), civil society (38 of the total), and academia (29 of the total). It is important to note that this disparity in category representation does not represent a general trend for all WB countries, because the industry sector is well-represented in some cases, like Montenegro.

This report also highlights some key policy developments related to GT in WB countries, re-affirming a relatively good policy setup in implementation of the WB green agenda. A total of **202 policies** were mapped, which highlight key instruments to implement the GT targets for all WB countries by 2030. The problem of implementation of these policies remains a joint challenge for all 5 countries included in this report.

Overall, it can be stated that the outcomes of the five mapping activities and the analysis that followed in this report succeeded to offer some insights into the Green Transition overview of the WBs as well as a set of baseline information for the GT ecosystems of the WB region. They also offer helpful hints for the development of the GT network and the formulation of a shared research agenda in the WB region, with specific reference to this baseline data.

Additionally, it is believed that GreenFORCE has a great potential to significantly influence the WB-wide research based on the data that has been gathered thus far, which will be further exploited through the 5 research cases (D4.5 and D4.6); through a comparison of GT governance challenges (D4.3); through the establishment of a GT database of green transition practices and challenges in GT (D4.4) and a thorough monitoring framework for GT in WB, based on enhanced, realistic KPI-s (D4.7). This report serves as a support and initial framework for the above, and has been developed in parallel to one of the key documents of this WP: Conceptualization of Green Transition in the Western Balkans, capitalizing on best practices.

A few restrictions on the mapping exercises and their outcomes should also be stated. The mapping findings do not give a complete and exclusive picture of the WB region because the data used in the mapping process was purposefully gathered based on what the mapping tools needed to know and based on author's own expertise.



Since the goal was to gather the necessary amount of information in order to assess the potential and disposition of the WBCs towards implementing enhanced green transition research, they instead offer insights into the current state of affairs in terms of the visibility of 'green aware' ecosystems. As a result, they do not provide a complete (or sole and exhaustive) overview of the green transition in the WBCs. In a similar viewpoint, partners have additionally attempted to map facts that are pertinent and helpful to their own research activities while carrying out their mapping exercises. The importance of particular GT pillars may have partially emerged in correspondence to the content of the research case studies to be executed in each WB region, as was already mentioned in earlier subsections. The baseline information about the larger GT picture, however, is one of the main contributions of this report.



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## 6 Annexes

**Annex 1:** Guidelines of mapping datasets (see on the next page)

**Annex 2:** Content of mapping datasets per country (available online, at Zenodo, links below)

- Database of mapped Green Transition Policies, Stakeholders and Practices in Albania  
<https://doi.org/10.5281/zenodo.7782047>
- Database of mapped Green Transition Policies, Stakeholders and Practices in Bosnia and Herzegovina  
<https://doi.org/10.5281/zenodo.7786685>
- Database of mapped Green Transition Policies, Stakeholders and Practices in Montenegro  
<https://doi.org/10.5281/zenodo.7785619>
- Database of mapped Green Transition Policies, Stakeholders and Practices in North Macedonia  
<https://doi.org/10.5281/zenodo.7785647>
- Database of mapped Green Transition Policies, Stakeholders and Practices in Serbia  
<https://doi.org/10.5281/zenodo.7785692>



**Annex 1: Guidelines of mapping datasets**

Mapping table for Green Transition related policies:

ID	Name/Title	Description and Guidelines
A1	Name of policy	Write the name of the policy, as mentioned in the official policy document. This includes approved policy documents, regional or national strategies that affect the specific territory, spatial plans of the municipality/region or national territory, laws, etc.
A1.1	Link to the policy's website	Insert the link to a website where the policy is officially published (if not applicable, to a website describing the policy).
A1.2	Time frame	Insert year enforced and final year of being in force, i.e., 20xx – 20yy.
A1.3	Jurisdiction (territorial scope)	Indicate whether this is an exclusively territorial policy, or national. Some policies may also apply at EU or international level, thus encompassing the territorial and national level. A drop-down menu provided.
A1.4	Responsible actor/institution	Write the name of the institution (full name and popular abbreviation in brackets) primarily responsible for the initiation and implementation of the policy. In this case, we mostly refer to a public authority, policy-maker or government actors.
A1.5	Other relevant actors	Mention other key actors (full name and popular abbreviation in brackets) involved in the initiation and/or implementation of territorial policy.
A1.6.1	The primary sector/s it covers	Check the primary sector that is covered, as per the drop-down menu: Water; Transport; Regional Development; Environment; Climate; Spatial Planning; Education; Housing; Mobility Infrastructure; Health; Social Welfare; Agriculture; etc.
A1.6.2	The secondary sector/s it covers	Check the secondary sector that is covered, as per the drop-down menu: Water; Transport; Regional Development; Environment; Climate; Spatial Planning; Education; Housing; Mobility Infrastructure; Health; Social Welfare; Agriculture; etc.
A1.6.3	Covered sectors (others)	If applicable, list all other sectors that are covered by this policy: Water; Transport; Regional Development; Environment; Climate; Spatial Planning; Education; Housing; Mobility Infrastructure; Health; Social Welfare; Agriculture; etc. Do not mention again the sectors assigned in A1.6.1 and A1.6.2. The list shall be written as follows: Water; Transport; Agriculture. Please maintain the same order of elements listed.
A2	Type of policy	Indicate the type of policy (as mentioned in the official policy document). Available options are: strategy, regulation, national law, recommendation, directive, EU treaty, decision, opinion, other (in case of ambiguity).
A3	Main objectives of this policy	<u>Briefly</u> describe/summarise what this policy is primarily about. Try not to exceed 100 words.
A4	Enforcement level	Indicate whether this policy is <u>mandatory</u> or <u>optional</u> .



A5	Relation to your country/region	Briefly describe how this policy is related to your country/region i.e., why in your country/region and what particular contextual factors and needs it addresses. Try not to exceed 100 words.
A6	Related "Green" sectors (Pillars of the WB Green Agenda)	List the green sectors to which the policy is related (number according to relevance). Drop-down menu includes: Decarbonisation: Climate Change; Decarbonisation: Clean Energy Transition; Decarbonisation: Smart and sustainable Mobility; Circular Economy: Resources, Production and Innovation; Circular Economy: Waste and Plastics; Depollution: air; Depollution: water; Depollution: soil; Sustainable Food Systems and Rural Areas; Biodiversity: Protection and Restoration of Ecosystems.
A6.1	Relation to Decarbonization	Describe how this policy is related to the Pillar from the Green Agenda. Say whether it is specifically designed for aspects within the pillar or it contributes to it. Try not to use more than 100 words. Say "No Relation" if the case.
A6.2	Relation to Circular Economy	Describe how this policy is related to the Pillar from the Green Agenda. Say whether it is specifically designed for aspects within the pillar or it contributes to it and how. Try not to use more than 100 words. Say "No Relation" if the case.
A6.3	Relation to Depollution	Describe how this policy is related to the Pillar from the Green Agenda. Say whether it is specifically designed for aspects within the pillar or it contributes to it and how. Try not to use more than 100 words. Say "No Relation" if the case.
A6.4	Relation to Sustainable food systems and rural areas	Describe how this policy is related to the Pillar from the Green Agenda. Say whether it is specifically designed for aspects within the pillar or it contributes to it and how. Try not to use more than 100 words. Say "No Relation" if the case.
A6.5	Relation to Biodiversity	Describe how this policy is related to the Pillar from the Green Agenda. Say whether it is specifically designed for aspects within the pillar or it contributes to it and how. Try not to use more than 100 words. Say "No Relation" if the case.
A7.1	Primary Mechanism of implementation	Select the main mechanism of implementation built upon chapter 7 of the WB Green Agenda. <ul style="list-style-type: none"> <li>· Greening the current framework</li> <li>· Public Administration Reform</li> <li>· Public Finance Management</li> <li>· Emissions Trading Scheme</li> <li>· Greening Economic Reform Programmes</li> <li>· Environmental governance, implementation and enforcement</li> <li>· Western Balkans Just Transition Mechanism</li> <li>· Involving Local and Regional Governments</li> <li>· Smart Specialisation</li> <li>· Research and Innovation</li> <li>· Regional Cooperation Programmes</li> <li>· Regional Cooperation Council</li> </ul>





		<ul style="list-style-type: none"> <li>· Transport Community</li> <li>· Energy Community</li> <li>· Capacity Building</li> <li>· EU level networks</li> <li>· Education and awareness raising</li> </ul>
A7.2	Secondary Mechanisms of implementation	<p>Select the secondary mechanism of implementation built upon chapter 7 of the WB Green Agenda.</p> <ul style="list-style-type: none"> <li>· Greening the current framework</li> <li>· Public Administration Reform</li> <li>· Public Finance Management</li> <li>· Emissions Trading Scheme</li> <li>· Greening Economic Reform Programmes</li> <li>· Environmental governance, implementation and enforcement</li> <li>· Western Balkans Just Transition Mechanism</li> <li>· Involving Local and Regional Governments</li> <li>· Smart Specialisation</li> <li>· Research and Innovation</li> <li>· Regional Cooperation Programmes</li> <li>· Regional Cooperation Council</li> <li>· Transport Community</li> <li>· Energy Community</li> <li>· Capacity Building</li> <li>· EU level networks</li> <li>· Education and awareness raising</li> </ul>
A7.3	Mechanism of implementation (other)	<p>List all other mechanism of implementation that are applicable, as per chapter 7 of the WB Green Agenda. Do not mention again the mechanisms assigned in A7.1 and A7.2. The list shall be written as follows: <u>x; y; z</u>. Please maintain the same order of elements listed in A7.1 and A7.2</p>
A8.1	Primary Financing instruments	<p>Select the primary financing instrument employed/proposed by the policy, choosing from the options below (built upon chapter 8 of the WB Green Agenda).</p> <ul style="list-style-type: none"> <li>· National funding</li> <li>· IPA (III)</li> <li>· IPARD</li> <li>· European Investment Bank</li> <li>· WBIF</li> <li>· GGF</li> <li>· REEP</li> </ul>



		<ul style="list-style-type: none"> <li>· EIC</li> <li>· Horizon 2020 (Europe)</li> <li>· WBGF</li> <li>· Other</li> </ul>
A8.2	Secondary Financing instruments	<p>Select the secondary financing instrument employed/proposed by the policy, choosing from the options below (built upon chapter 8 of the WB Green Agenda).</p> <ul style="list-style-type: none"> <li>· National funding</li> <li>· IPA (III)</li> <li>· IPARD</li> <li>· European Investment Bank</li> <li>· WBIF</li> <li>· GGF</li> <li>· REEP</li> <li>· EIC</li> <li>· Horizon 2020 (Europe)</li> <li>· WBGF</li> <li>· Other</li> </ul>
A8.3	Financing Instruments (other)	<p>List all other financial instruments that are applicable, as per chapter 8 of the WB Green Agenda. Do not mention again the mechanisms chosen in A8.1 and A8.2. The list shall be written as follows: <u>x, y, z</u>. Please maintain the same order of elements listed in A8.1 and A8.2</p>
A9	Level of impact	<p>Provide your own self-assessment on the level of impact this policy has had or is expected to have on your country/region. The available options are 1-Low, 2-Medium, 3- High.</p>
A10	Capitalisation	<p>Briefly describe whether and how this policy can be positively capitalised for developing the research, or if creates any obstacles. Not more than 100 words.</p>
A11	Limitations	<p>Mention whether there are any limitations regarding the application of this policy e.g., limited time-frame, limited scope of the policy, public acceptance etc. Not more than 100 words.</p>
A12	Sources of information	<p>List the sources of information employed for filling in this template. These may refer to websites, institutional documents and reports, media releases etc. Use the Harvard referencing style for listing your sources.</p>
A13	Further clarifications	<p>If necessary, add any further details or clarifications to the information provided in this template.</p>



*Mapping table for Green Transition related actors:*

ID	Name/Title	Description and Guidelines
B1	Name of actor	Insert the name of the actor in English. Please mention its full name, as well as popular abbreviation in brackets.
B1.1	Link to the actor's website	Insert the link to the actor's website.
B1.2	Regional, national, or local actor	Indicate whether this actor is <u>regional, national or local</u> . Refer to the scope of actions the actor is involved with.
B2	City/Municipality	Insert the name of the city or municipality (or village if necessary) where the actor is located.
B3	Quadruple Helix type	Indicate in which Quadruple helix category the actor belongs to. The available options are: 1) <b>Academia/Research</b> , 2) <b>Industry/Company/ Business organisation</b> , 3) <b>Government actor</b> , 4) <b>Civil society representative</b> (e.g., NGO, community), 6) <b>Other</b> in case of ambiguity. <i>Other</i> may encompass the following: Donor, Consulting Company/Cultural Centre/Public Body/Start-up etc.
B4.0.1	Related Main 'Green' Sector	Select from the drop-down menu the main sector to which the actor is related (according to relevance).
B4.0.2	Related Secondary 'Green' Sector	Select from the drop-down menu the secondary sector to which the actor is related (according to relevance).
B4.1	Relation to Decarbonization	Describe how this actor is related to the decarbonization aspirations. No more than 100 words. Say "No Relation" if the case.
B4.2	Relation to Circular Economy	Describe how this actor is related to circular economy (e.g., relevant objectives, activities, future aspirations etc.). No more than 100 words. Say "No Relation" if the case.
B4.3	Relation to Depollution	Describe how this actor is related to depollution (e.g., relevant objectives, activities, future aspirations etc.). No more than 100 words. Say "No Relation" if the case.
B4.4	Relation to Sustainable food systems and rural areas	Describe how this actor is related to agriculture / sustainable food systems (e.g., relevant objectives, activities, future aspirations etc.). No more than 100 words. Say "No Relation" if the case.
B4.5	Relation to Biodiversity	Describe how this actor is related to biodiversity (e.g., relevant objectives, activities, future aspirations etc.). No more than 100 words. Say "No Relation" if the case.
B5	Core Specialisation of the actor	Indicate the core specialisation of the actor. In case of research-oriented actors, this could be a specialisation on specific scientific fields. In case of industry-oriented actors, this could refer to a specialisation on specific areas e.g., digital innovation.



B6.1	Influence in the region (description)	Describe the kind of influence that this actor exhibits in the region. For justifying your answer, try to answer the following question: "Why is this actor considered important for the region?". No more than 100 words.
B6.2	Influence in the region (rating)	Rate the actor's influence as 1-Low, 2-Medium, 3- High.
B7.1	Importance of engagement	Rate the importance of involving this actor in your research initiative. Available options are 1-Low, 2-Medium, 3 -High.
B7.2	Potential engagement/contribution	Describe how this actor could be involved in the research in terms of a) co-design procedures; b) implementation procedures; c) generally addressing the indicated challenges. No more than 100 words.
B8	Indicative relevant research topic where the actor may be engaged	List a few indicative relevant projects (project name, website, grant agreement number if possible) in which the actor has been involved. These may be EU, national, regional projects etc.

*Mapping table for Green Transition related practices and initiatives:*

ID	Name/Title	Description and Guidelines
C1	Name of the practice/initiative	Write the (official) name of the practice/initiative.
C1.1	Link to the practice's website	Insert the link to a website describing or presenting the practice.
C1.2	Type of practice/initiative	Indicate the type of the practice. Available options in the drop-down menu are: Institutional/organisational development practices; Institutional Policy Instruments; Actions; Events and Other.
C2	Brief description of the practice initiative	Briefly describe the practice. What was the problem/challenge it addressed? How? No more than 200 words.
C3.1	Main actor responsible for the practice	Mention the main actor (full name and popular abbreviation) implementing the practice.
C3.2	Other actors involved in the implementation of the practice	Mention any other actors (full name and popular abbreviation) involved in the implementation of this practice initiative.
C3.3	Funding institution/s	Provide the full official name/s of the funding institution/s
C3.4	Funding mechanism	Describe the funding mechanism. No more than 100 words
C3.5	Impacts in Green Transition	Expected and/or occurred. Describe with no more than 100 words.
C4	Target audience of the practice	Briefly mention which was the target audience of this practice. The target audience can be any stakeholders from the Quadruple Helix. Please be specific when specifying the target audience/s



C5.0.1	Related main “Green” sectors (Pillars of the WB Green Agenda)	Choose the main green sector to which the practice is related. Drop-down menu includes: Decarbonisation: Climate Change; Decarbonisation: Clean Energy Transition; Decarbonisation: Smart and sustainable Mobility; Circular Economy: Resources, Production and Innovation; Circular Economy: Waste and Plastics; Depollution: air; Depollution: water; Depollution: soil; Sustainable Food Systems and Rural Areas; Biodiversity: Protection and Restoration of Ecosystems.
C5.0.2	Related secondary “Green” sectors (Pillars of the WB Green Agenda)	Choose the secondary green sector to which the practice is related (number according to relevance). Drop-down menu includes: Decarbonisation: Climate Change; Decarbonisation: Clean Energy Transition; Decarbonisation: Smart and sustainable Mobility; Circular Economy: Resources, Production and Innovation; Circular Economy: Waste and Plastics; Depollution: air; Depollution: water; Depollution: soil; Sustainable Food Systems and Rural Areas; Biodiversity: Protection and Restoration of Ecosystems.
C5.1	Relation to Decarbonization	Describe how this practice is related to the Pillar from the Green Agenda. Say whether it is specifically designed for aspects within the pillar or it contributes to it. Try not to use more than 100 words. Say “No Relation” if the case.
C5.2	Relation to Circular Economy	Describe how this practice is related to the Pillar from the Green Agenda. Say whether it is specifically designed for aspects within the pillar or it contributes to it. Try not to use more than 100 words. Say “No Relation” if the case.
C5.3	Relation to Depollution	Describe how this practice is related to the Pillar from the Green Agenda. Say whether it is specifically designed for aspects within the pillar or it contributes to it. Try not to use more than 100 words. Say “No Relation” if the case.
C5.4	Relation to Sustainable food systems and rural areas	Describe how this practice is related to the Pillar from the Green Agenda. Say whether it is specifically designed for aspects within the pillar or it contributes to it. Try not to use more than 100 words. Say “No Relation” if the case.
C5.5	Relation to Biodiversity	Describe how this practice is related to the Pillar from the Green Agenda. Say whether it is specifically designed for aspects within the pillar or it contributes to it. Try not to use more than 100 words.
C6	Time frame of the practice	Insert year enforced and final year of being in force, i.e., 20xx – 20yy, if the case. Say “permanently established in an institution” and include the year of initiation, if the case. Say “organised regularly and how often,



		and include the year of initiation if the case. Say “organised once and include date”, if the case.
C7	Territorial scope	Choose in the menu: local; regional; national; WB; multiple territories; other
C7.1	Territorial scope - specific	Include the name of the relevant territory/ies.
C8	Capitalisation on this practice	Describe how this practice can be 'exploited' further for GT and for your research case. For example, can it function as an inspiration point? Can it support/back up the activities you will try to apply during the research, etc.? No more than 200 words.
C9	Sources of information	List the sources of information employed for filling in this database with reference to the specific practices/initiatives. These may refer to websites, institutional documents and reports, media releases, EU projects etc. Use the Harvard referencing style for listing your sources.
C10	Clarifications	If necessary, add any further details or clarifications to the information provided in this template.

